



NOTICE OF SPECIAL MEETING WORKSHOP

DUBLIN SAN RAMON SERVICES DISTRICT
Board of Directors

TIME: 5:00 p.m.
PLACE: Dublin San Ramon Services District Boardroom
7051 Dublin Boulevard
Dublin, California

DATE: Tuesday, April 21, 2015

AGENDA

Our mission is to efficiently provide high quality wastewater and water services to the communities we serve in an environmentally and fiscally responsible manner.

BUSINESS:

REFERENCE

ACTION

1. CALL TO ORDER
2. PLEDGE TO THE FLAG
3. ROLL CALL – Members: Benson, Duarte, Halket, Howard, Vonheeder-Leopold
4. PUBLIC COMMENT (MEETING OPEN TO THE PUBLIC)

At this time those in the audience are encouraged to address the Board on any item of interest that is within the subject matter jurisdiction of the Board and not already included on tonight’s agenda. Comments should not exceed five minutes. Speakers’ cards are available from the District Secretary and should be completed and returned to the Secretary prior to addressing the Board. The President of the Board will recognize each speaker, at which time the speaker should proceed to the lectern, introduce him/herself and then proceed with his/her comment.

- | | | | |
|----|--|------------------------------|--|
| 5. | <u>BOARD BUSINESS</u> | | |
| | A. Long Term Alternative Water Supply Study Workshop | Engineering Services Manager | Receive Presentation & Provide Direction |
| 6. | <u>ADJOURNMENT</u> | | |

All materials made available or distributed in open session at Board or Board Committee meetings are public information and are available for inspection at the front desk of the District Office at 7051 Dublin Blvd., Dublin, during business hours, or by calling the District Secretary at (925) 828-0515. A fee may be charged for copies. District facilities and meetings comply with the Americans with Disabilities Act. If special accommodations are needed, please contact the District Secretary as soon as possible, but at least two days prior to the meeting.



Reference Engineering Services Manager	Type of Action Receive Presentation and Provide Direction	Board Meeting of April 21, 2015
Subject Long Term Alternative Water Supply Study Workshop		
<input type="checkbox"/> Motion	<input type="checkbox"/> Minute Order	<input type="checkbox"/> Resolution
<input type="checkbox"/> Ordinance	<input type="checkbox"/> Informational	<input checked="" type="checkbox"/> Other
REPORT:	<input type="checkbox"/> Verbal	<input checked="" type="checkbox"/> Presentation
	<input checked="" type="checkbox"/> Staff	D. McIntyre
		<input type="checkbox"/> Board Member

Recommendation:

Staff recommends the Board of Directors receive a presentation on the District’s Long Term Alternative Water Supply Study and, by Consensus, provide policy level direction to staff.

Summary:

The District’s water supply reliability continues to demonstrate vulnerability, as illustrated by the 2014 and 2015 Drought. The District’s sole potable water supply provider, Zone 7, imports approximately 80% of the Tri-Valley’s potable water supply from the State Water Project (SWP). The District’s long term water supply contract with Zone 7 expires in 2024; that contract may need to be amended earlier than that time frame to provide funding for improvements to the SWP. The currently unknown cost for those improvements will be borne by local ratepayers. The resultant reliability of the SWP after the various improvements have been made is unknown. Furthermore, the complexity of the contemplated facilities and anticipated legal challenges may delay improvements to water supply reliability for District customers for years, if not decades.

The District undertook a Long Term Alternative Water Supply Study (Study) to conduct a high-level evaluation on how the District could, on its own or in cooperation with regional agencies, sustainably meet customer water demands and reduce its reliance on a single vulnerable water source such as the SWP. On February 17, 2015 the Board held its first workshop to review concepts for alternative water supply sources and agreed upon a tentative policy framework to guide the Study. For details please see the Special Board Meeting Minutes of February 17 in Attachment 2. In this second workshop, the Board will review possible water supply options and how those options may be combined to make up water supply portfolios to meet the Board’s policy framework.

The options and portfolios presented will provide the Boardmembers reference points as they participate in future valley-wide discussions associated with water supply reliability. The workshop is timely as the next Tri-Valley Water Policy Roundtable will be held on May 13.

After this meeting, the Study will be finalized. The Study will guide the District in (a) the preparation of its 2015 Urban Water Management Plan; (b) formulating the position it may choose to take (if any) on the BDPC plan; (c) consideration of any amendment to or extension of its water supply contract with Zone 7; (d) developing a more diversified water supply portfolio that would enhance the District’s water supply reliability; and (e) creating appropriate water supply capital projects and initiating preliminary design and environmental review of projects.

Committee Review			Legal Review	Staff Review		
COMMITTEE ---	DATE ---	RECOMMENDATION ---	Not Required	ORIGINATOR R. Biagtan	DEPARTMENT Engineering	REVIEWED BY
ATTACHMENTS <input type="checkbox"/> None						
<input type="checkbox"/> Resolution	<input type="checkbox"/> Minute Order	<input type="checkbox"/> Task Order	<input type="checkbox"/> Staff Report	<input type="checkbox"/> Ordinance		
<input checked="" type="checkbox"/> Cost \$0	<input type="checkbox"/> Funding Source A. B.		Attachments to S&R 1. Workshop Outline and Presentation 2. Special Board Meeting Minutes of February 17, 2015 3.			

DSRSD Alternative Water Supply Study

Supply Options Overview



**Dublin San Ramon
Services District**
Water, wastewater, recycled water



April 21, 2015

Workshop Outline

- Introduction
- Demand Projections
- Alternative Water Supply Options
- Screened Water Supply Options
- Policy Framework
- Alternative Water Supply Portfolio

Introduction

California's Drought Worsens

- "San Francisco Sees Record-Dry January While Snowpack Dwindles," The Weather Channel
- "California Obliterates Record for Lowest Snowpack Ever," Live Science
- "California Imposes First Mandatory Water Restrictions to Deal with Drought," New York Times



Study Purpose

- Conduct High Level Assessment of District's Long-Term Alternative Water Supply Options
- Develop Policy Framework for District Goals
- Identify Next Steps to Enhance District's Water Supply Reliability
- Provide Input Information for 2015 Urban Water Management Plan (UWMP) Update

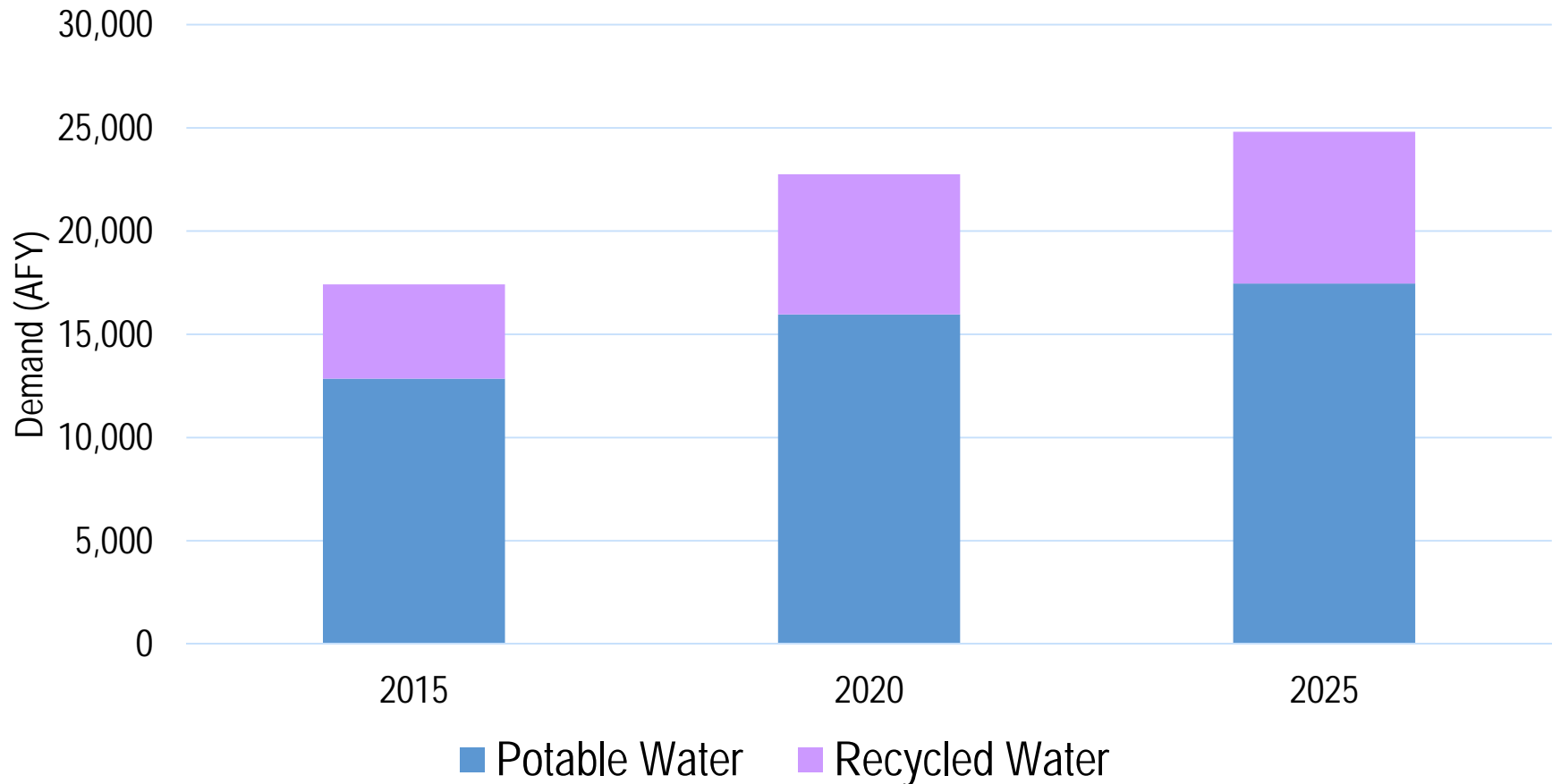
Policy Level Framework

- Reduce Demand
- Increase Reuse
- Increase Reliability
- Decrease Variability
- Reduce Dependence on Imported Supplies
- Reduce “Concentration Risk”

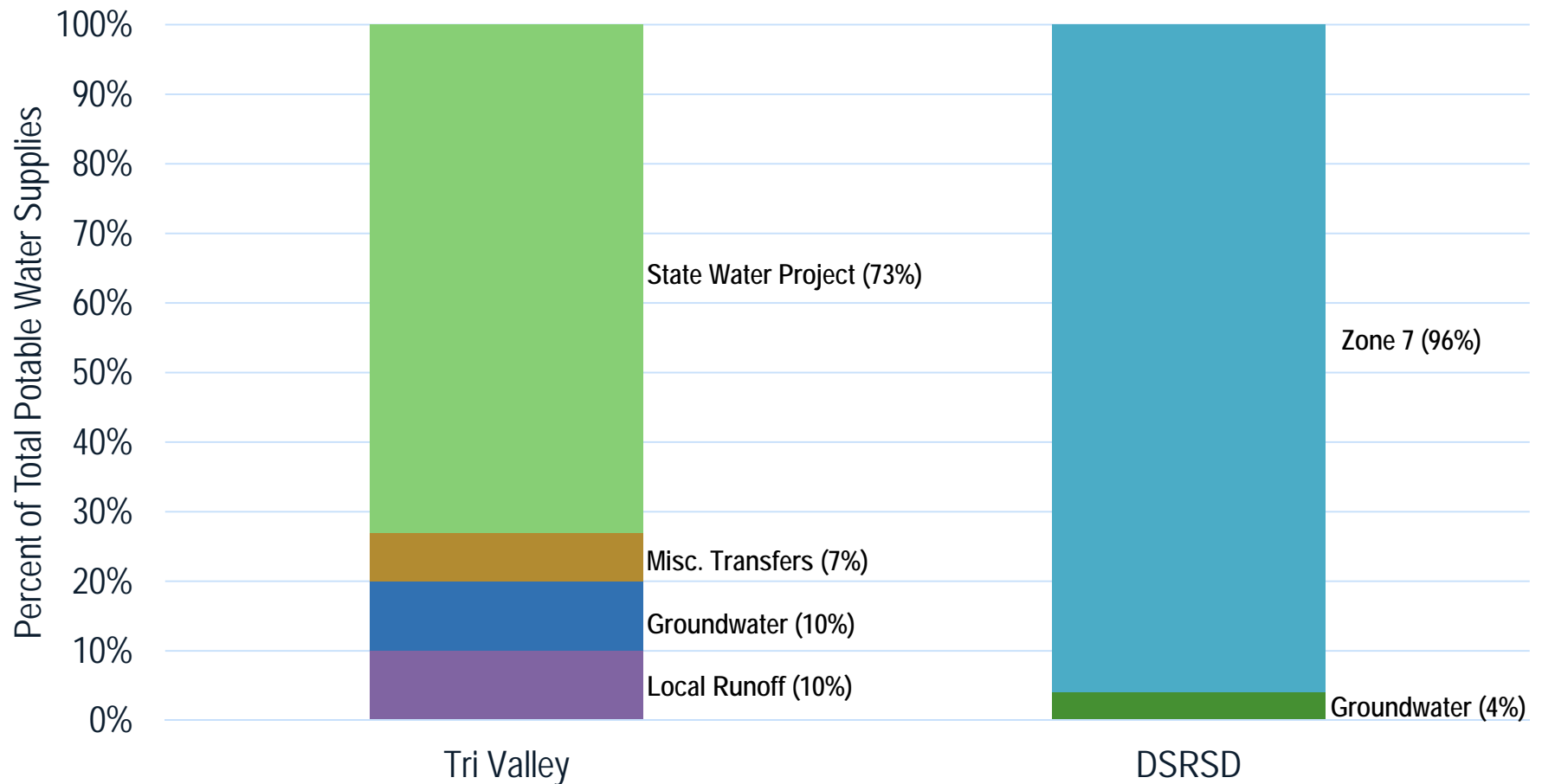
APPROACH = DIVERSIFICATION

Demand Projections

Water Demand Projections (2010 UWMP Projections)



Current Potable Water Supplies in the Tri-Valley



Alternative Water Supply Options

Water Supply Options Overview

Supply Option	
Non-Potable Recycled Water	Selected for further analysis
Indirect Potable Reuse	Selected for further analysis
Fringe Basin Groundwater	Limited potable supply potential; may provide additional non-potable supply
District-wide Stormwater	Not selected, limited supply potential
Direct Potable Reuse	Selected for further analysis
Regional Desalination	Selected for further analysis
Transfers & Exchanges	Selected for further analysis
Demand Management	Elements selected for further analysis

Screened Water Supply Options

Option 1: Demand Management

- Demand Management strategies include:
 - Enhanced Conservation
 - Recycled Water Direct to Customers
 - Rainwater
 - Greywater
- Combined, these strategies can reduce demand by 660 AFY (2.5% reduction), but these strategies alone will not meet supply needs
- Pairing these strategies with various supply options will help reduce demands and meet supply needs in the future

Option 1a: Enhanced Conservation

- From May-December 2014, DSRSD processed 477 rebates at a total cost of \$16,000.
- If DSRSD processes four times the rebates it currently processes, it could save up to 70 AF in 2025 at a total cost of \$48,500 or \$700/acre-foot.



Option 1b: Recycled Water Direct to Customers

Retrofits

- 50 homes irrigating front lawns with recycled water will offset potable use by 5 AFY at a cost of \$300,000/AF



New Developments

- If 25% of new connections between 2015 and 2025 included recycled water, 200 AFY of potable water could be offset
- If put in at time of development, cost to DSRSD would be \$0

Option 1c: Rainwater and Greywater

Retrofits

- If 3% of residential connections in 2025 had a rain barrel or installed a greywater system, 55 AFY of potable water could be offset
- At \$500 per barrel and assuming DSRSD offers a 50% rebate, total program costs would be \$191,000 or \$3,400/acre-foot

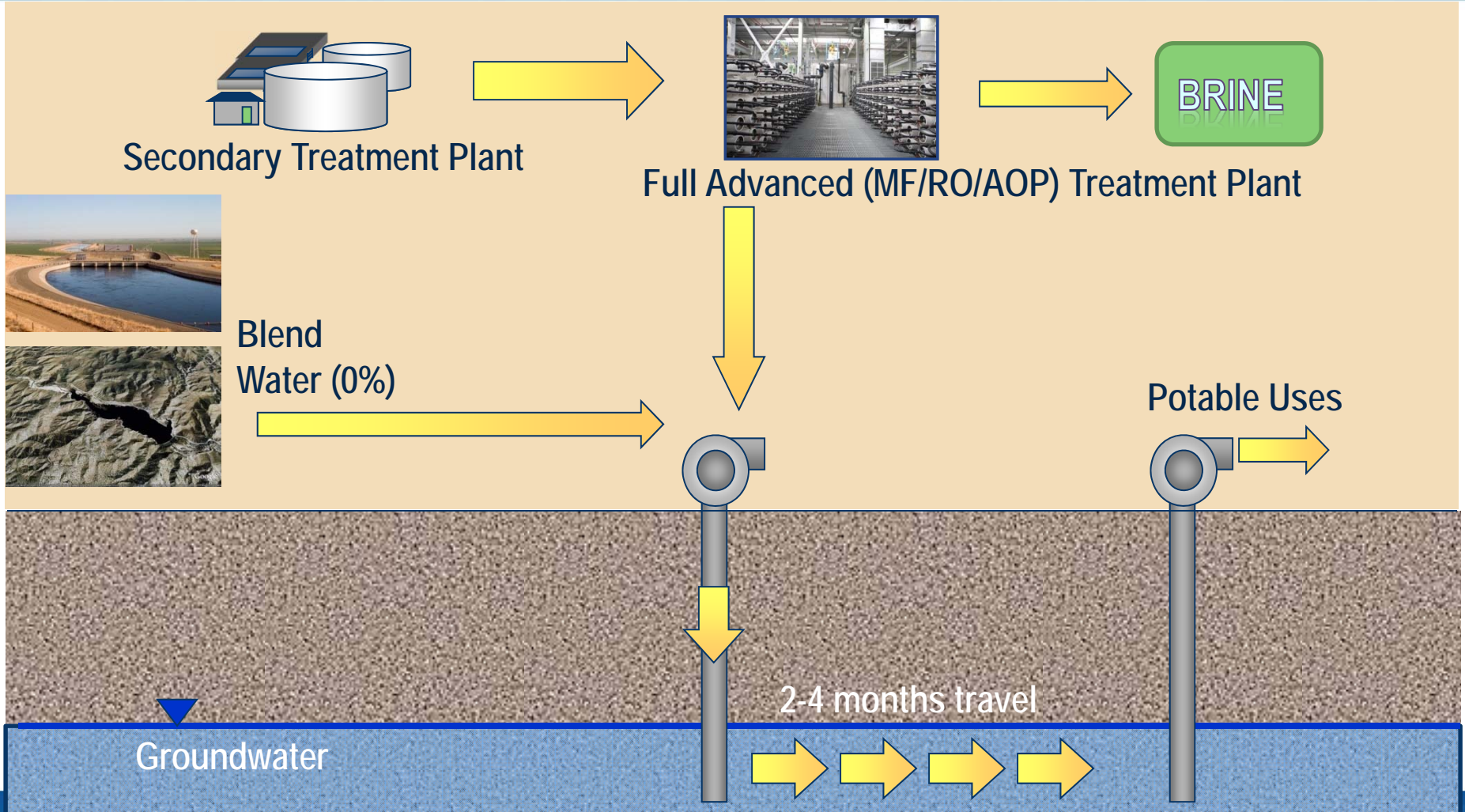
New Developments

- If 75% of new connections between 2015 and 2025 installed rain barrels or greywater systems, 390 AFY of potable water could be offset
- If put in at time of development, cost to DSRSD would be \$0

Option 1: Demand Management Summary

- 660 AFY reduction in demand is possible from:
 - Enhanced rebates = 70 acre-feet
 - Recycled water direct to new residences = 200 acre-feet
 - Rainwater/greywater with new residences = 390 acre-feet
660 acre-feet
- Reliability up to 100%; dependent on precipitation, customer compliance, etc.
- Cost is \$700/acre-foot for enhanced rebates and \$0 for DSRSD for new development strategies

Option 2a: Indirect Potable Reuse (IPR) with Groundwater Recharge

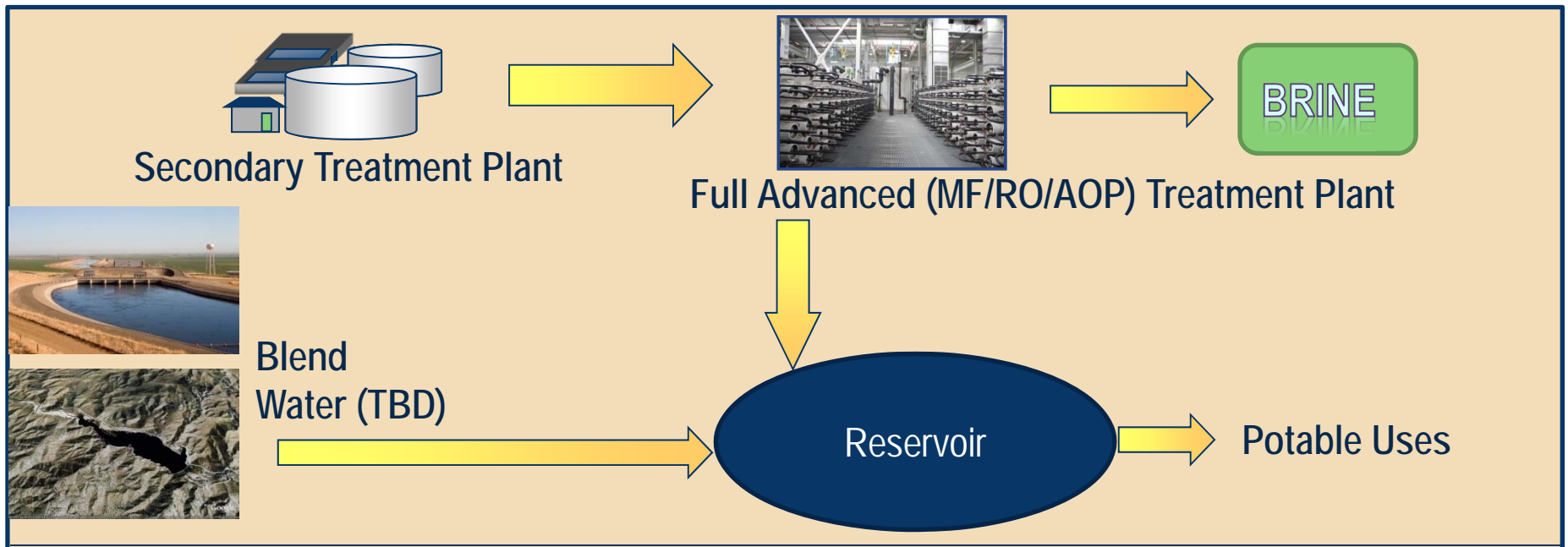


Option 2a: IPR with Groundwater Recharge

- Use of DSRSD flows typically sent to LAVWMA for discharge (approx. 3,500 AFY)
- Advanced water treatment at DSRSD RWTF
- Separate injection and recovery wells
- 90% recovery from the GW basin
- Yield: 2,825 AFY
- Capital Cost*: \$54M - \$67M
- Cost per Acre-Foot: \$2,000 - \$2,200/ AF
- Cost assumes no outside funding or cost sharing

** Does not include costs for nitrification-denitrification prior to FAT*

Option 2b: IPR with Reservoir Augmentation



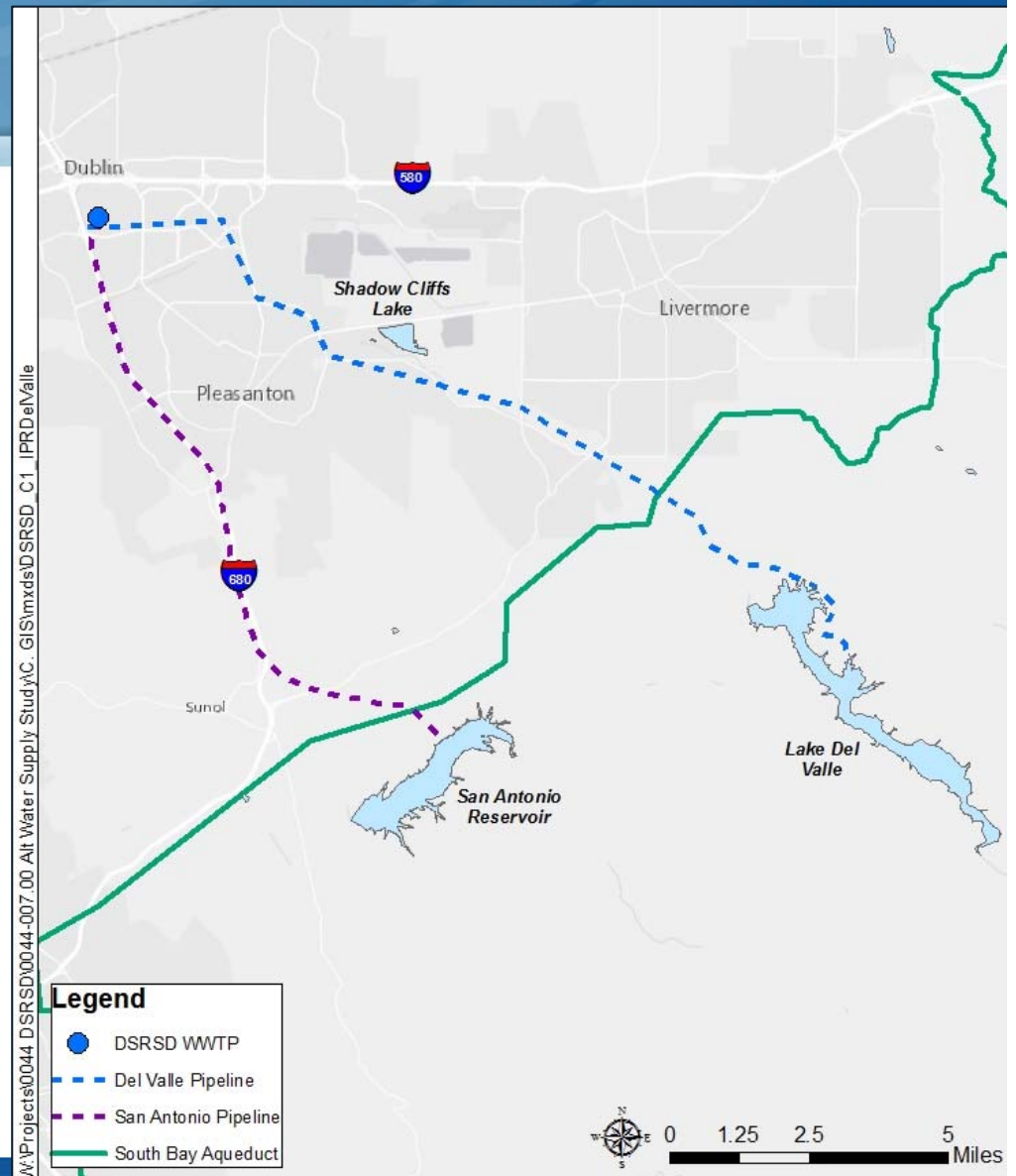
Option 2b: IPR with Reservoir Augmentation

- Use of DSRSD flows typically sent to LAVWMA for discharge (approx. 3,500 AFY)
- Advanced water treatment at DSRSD RWTF
- Construct pipeline to Lake Del Valle or San Antonio Reservoir
- Water becomes part of Zone 7/SFPUC supply, which is distributed to Zone 7/SFPUC contract agencies (DSRSD and others)

Option 2b: IPR with Reservoir Augmentation

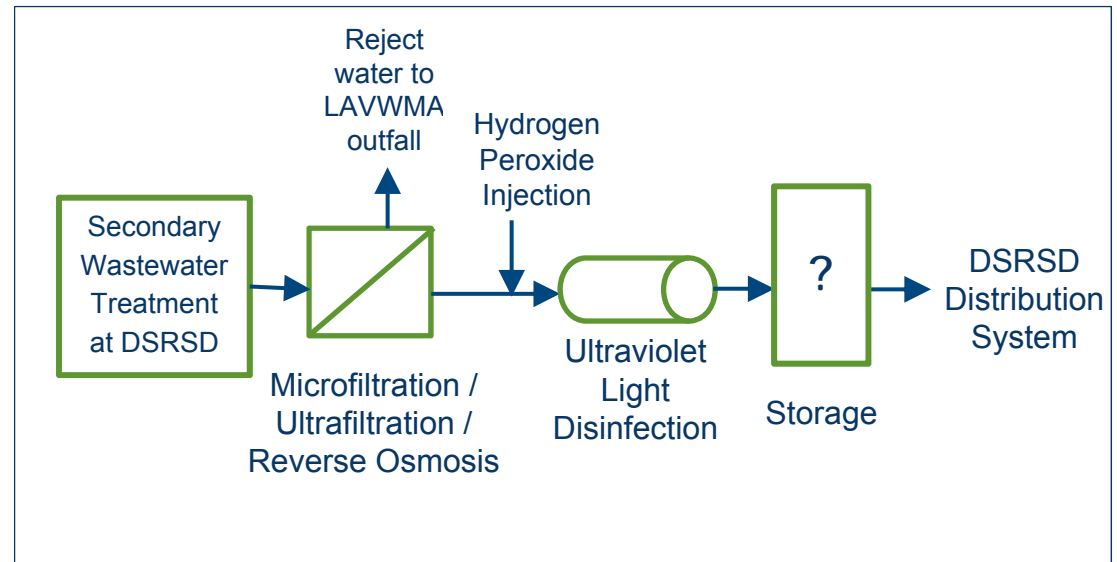
- Yield: 2,825 AFY
- Capital Cost*: \$94M - \$117M
- Cost per Acre-Foot: \$2,700 - \$3,100/ AF
- Cost assumes no outside funding or cost sharing

* Does not include costs for nitrification-denitrification prior to FAT



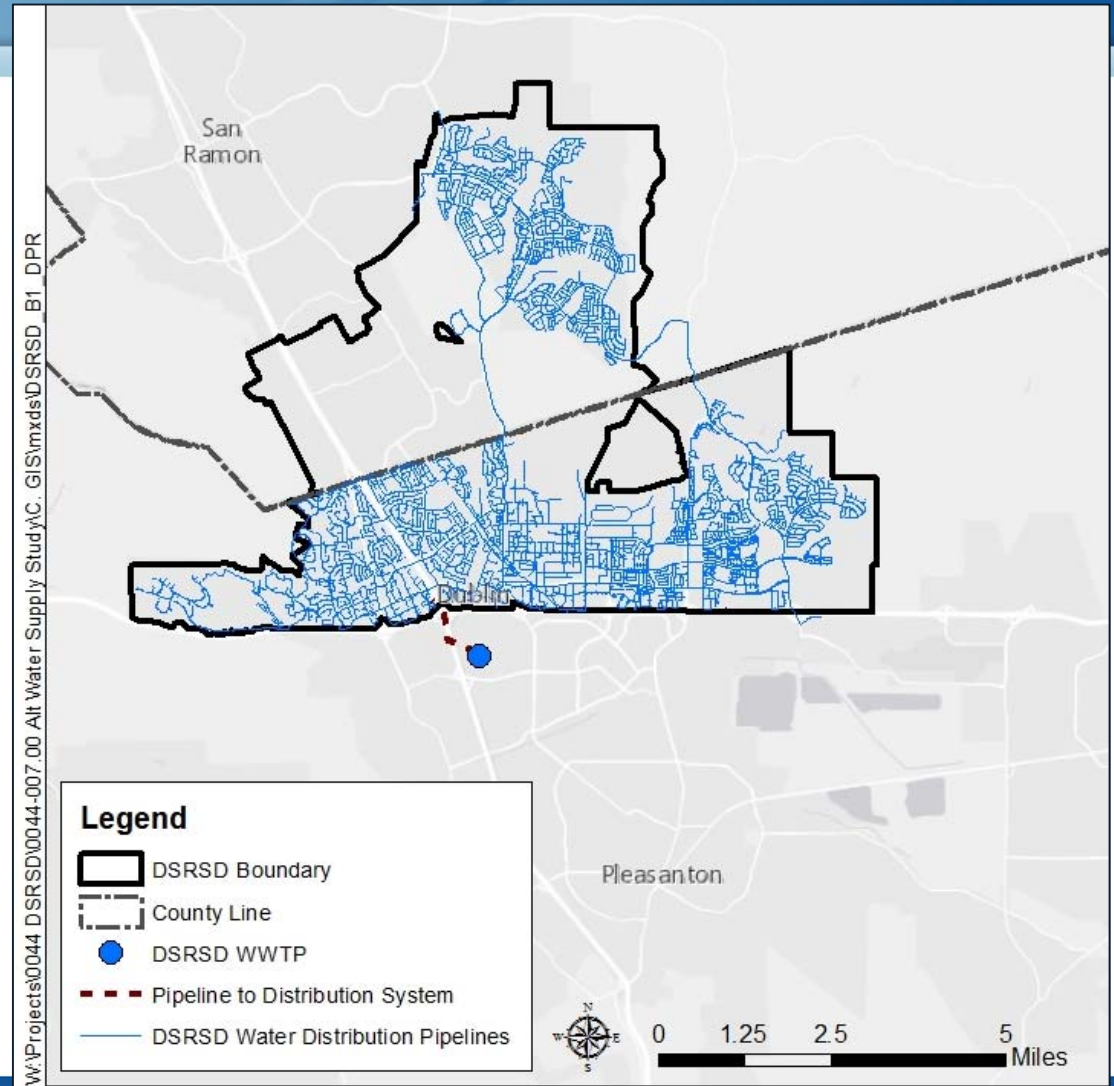
Option 2c: Direct Potable Reuse

- Use of DSRSD flows typically sent to LAVWMA for discharge (approx. 3,500 AFY)
- Advanced water treatment at DSRSD RWTF
- Construct storage to provide health and safety buffer
- Distribute water through existing DSRSD system



Option 2c: Direct Potable Reuse

- Yield: 2,825 AFY
- Capital Cost: \$61M - \$76M
- Cost per Acre-Foot: \$1,700 - \$2,000/AF
- Cost assumes no outside funding or cost sharing



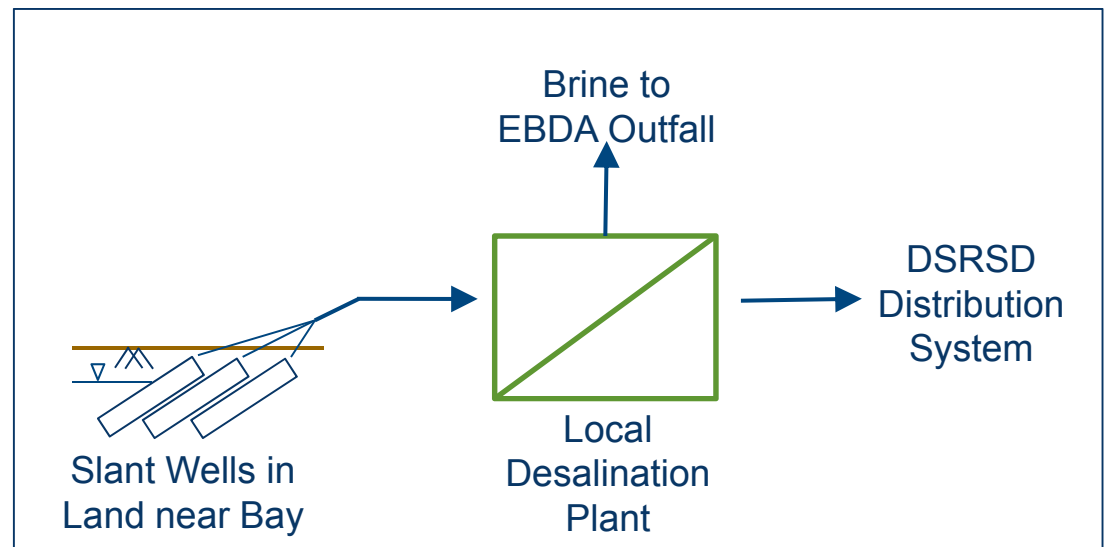
Option 2: IPR/DPR Summary

- 2,825 AF available and could be used as:
 - Indirect potable reuse to groundwater basin
 - Indirect potable reuse to local reservoir
 - Direct potable reuse to distribution system
- Reliability is 100%
- \$1,700 - \$3,100/AFY



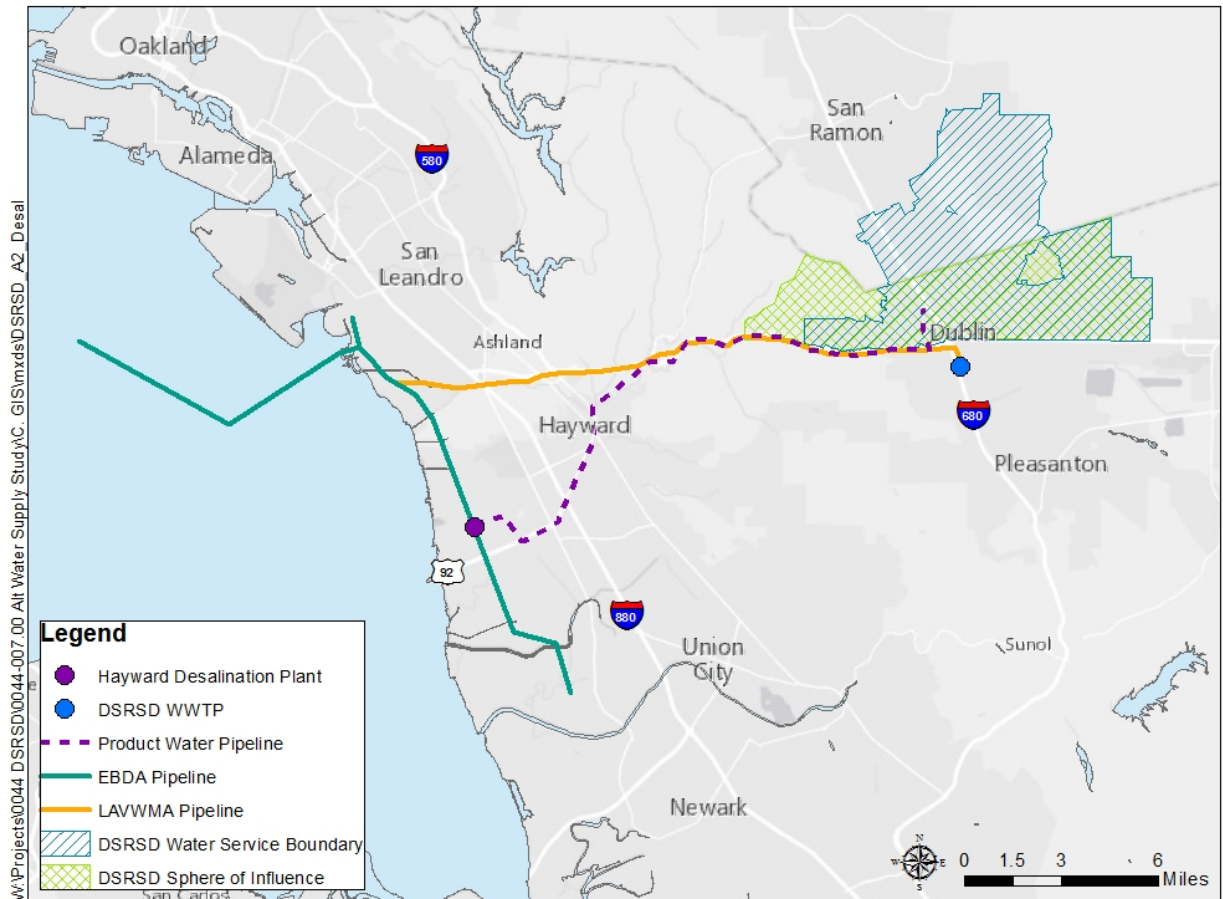
Option 3: Bay Desalination

- Desalination Facility located in Hayward adjacent to Hayward Treatment Plant
- Brine discharged through EBDA with constructed pipeline from the plant to DSRSD service area



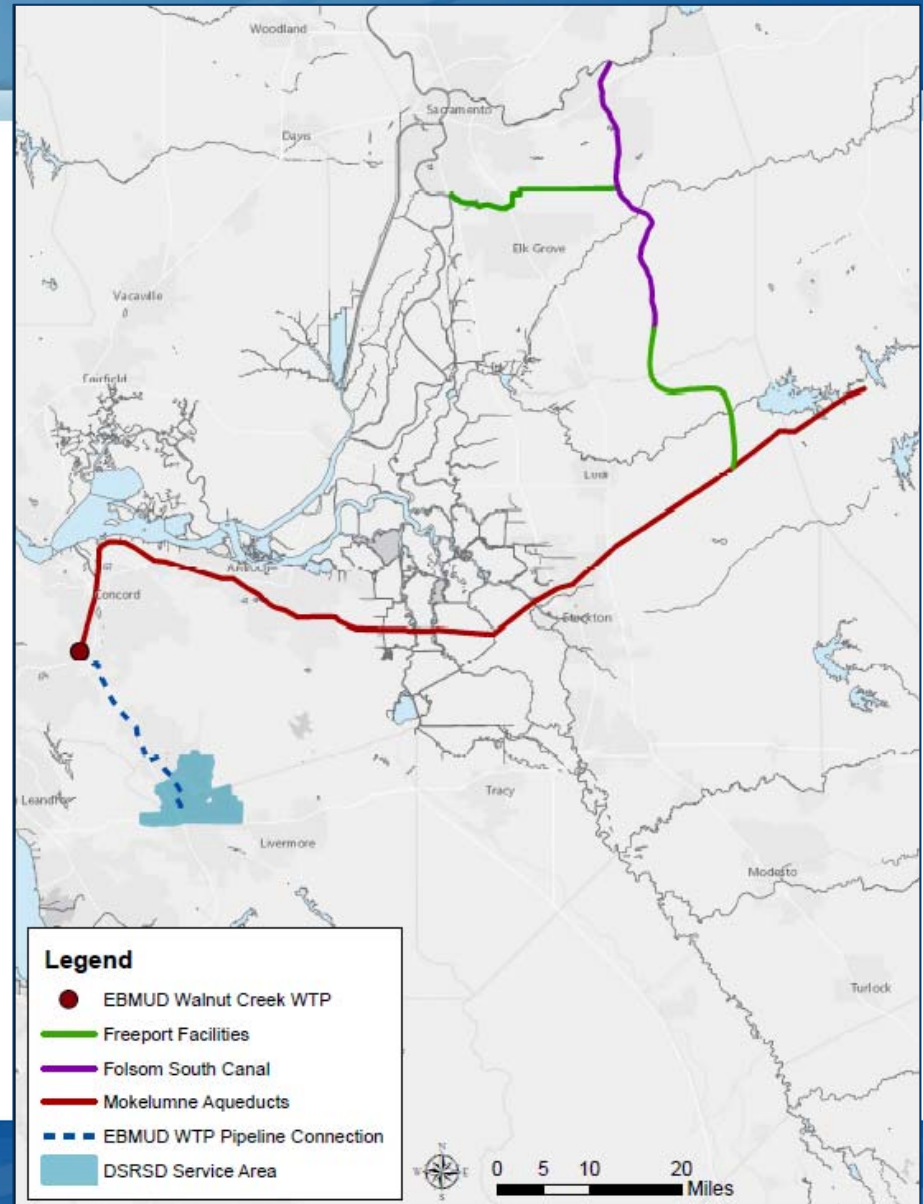
Option 3: Bay Desalination

- Yield: 4,265 AFY
- Capital Cost: \$212M
- \$264M
- Cost per Acre-Foot:
\$4,700 - \$5,300/AF
- Cost assumes no
outside funding or
cost sharing
- Reliability is 100%



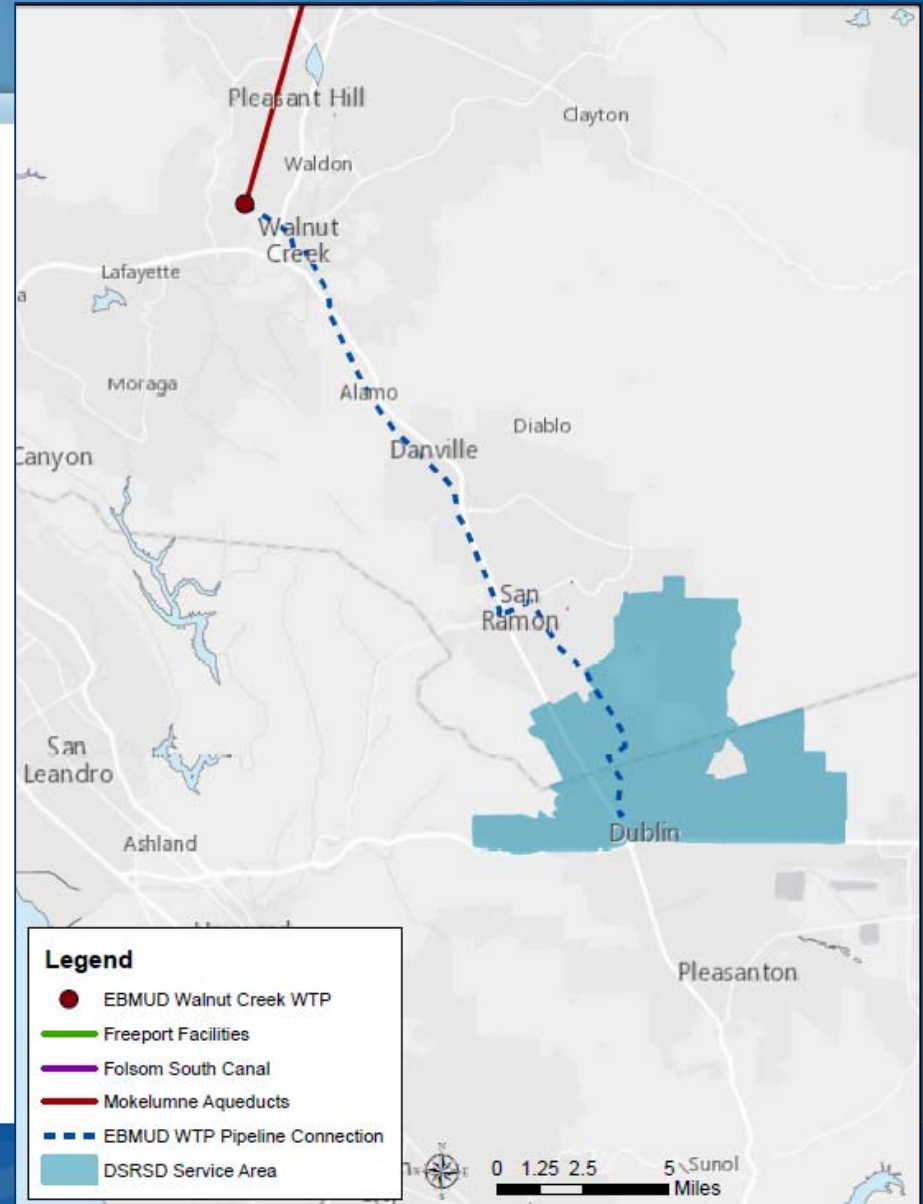
Option 4: North of Delta Transfers

- Purchase water from north of Delta water suppliers and wheel through EBMUD system
- Assumes EBMUD will upgrade Walnut Creek Plant to treat Freeport water
- Construct pipeline from Walnut Creek Treatment Plant to DSRSD service area
- Connect pipeline to connect to current DSRSD distribution system
- Could also use Los Vaqueros



Option 4: North of Delta Transfers

- Yield: variable
- Costs: \$1,800/AF + new conveyance pipeline from EBMUD to DSRSD
- Cost assumes no outside funding or cost sharing
- Reliability is dependent on the contract secured; likely better reliability than through Delta water supplies



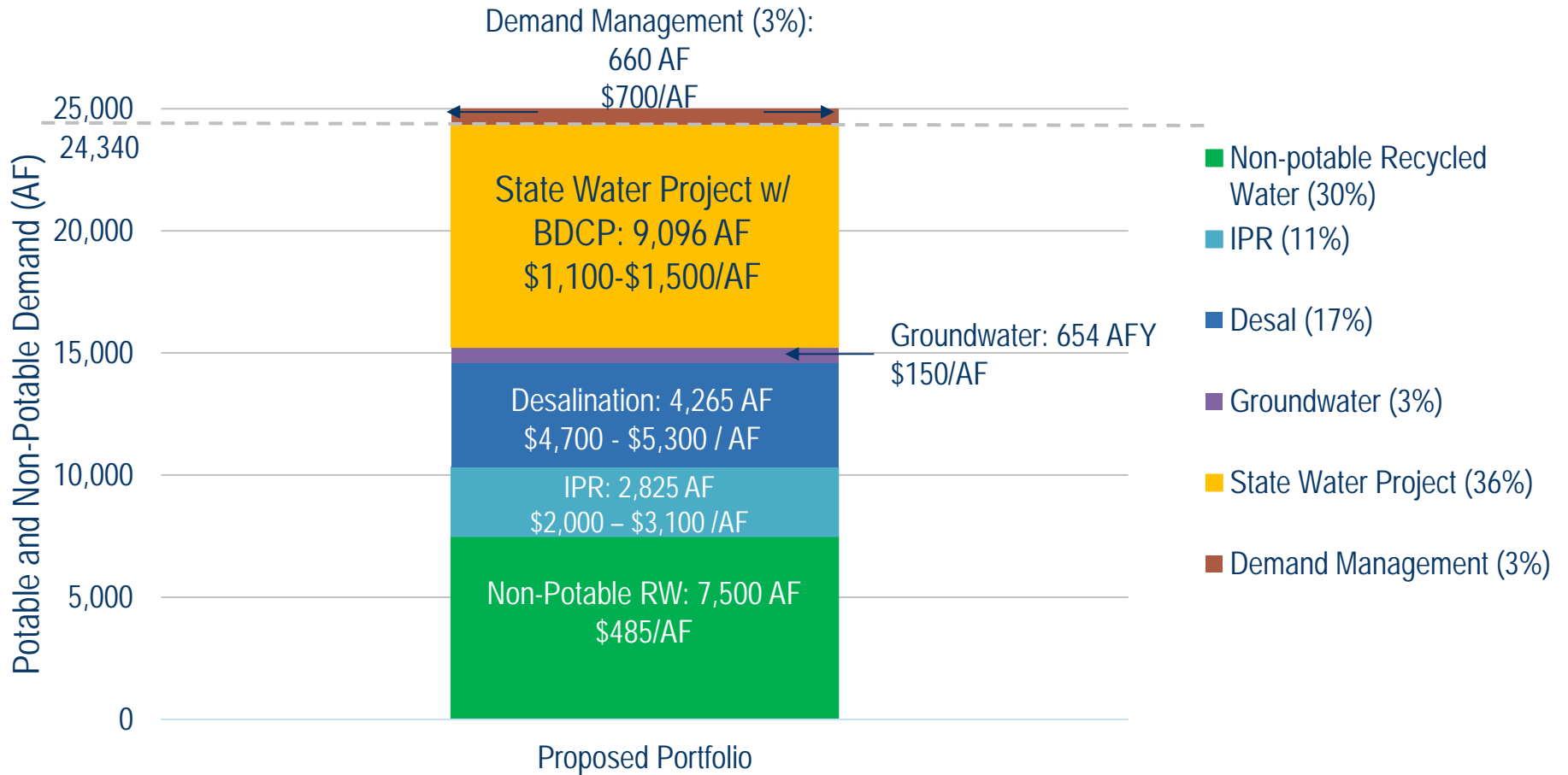
Policy Framework

Recommended District Goals

- Reduce Potable Demand
 - 70 gallons per person per day
- Increase Reuse
 - No discharge to Bay 300 days per year (functionally equivalent to 90% effluent reuse)
- Increase Supply Portfolio Reliability & Variability
 - 85% deliveries once every 10 years; and
 - 70% deliveries once every 30 years
 - This would be 97.5% reliability on average with a standard deviation of +/- 7%)*
- Increase Local Control
 - At least 60% of demand satisfied by local and regional supplies
- Reduce Concentration Risk
 - No more than 40% of supply originates from one source

Alternative Water Supply Portfolio

Water Supply Portfolio (UWMP 2025 Demand Projections)



Portfolio Compared to Policy Goals

	Tentative Goal	Proposed Portfolio
Potable Demand	70 gpcd	150 gpcd <i>(based on UWMP 2025 demand projections)</i>
Increased Reuse	300 days (90%)	365 days (100%)
Reliability	97.5% average	85% average
Local Control	>60%	63%
Concentration Risk	<40%	37%
Cost	\$1,200 AFY (status quo)	\$1,600-2,000 AFY

DSRSD Alternative Water Supply Study



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Water, wastewater, recycled water

Supply Options Overview

Questions?

**DUBLIN SAN RAMON SERVICES DISTRICT
MINUTES OF A SPECIAL MEETING OF THE BOARD OF DIRECTORS**

February 17, 2015

A special meeting of the Board of Directors was called to order at 5:00 p.m. by President Edward R. Duarte. Boardmembers present: President Edward R. Duarte, Vice President D.L. (Pat) Howard, Director Richard M. Halket, Director Dawn L. Benson, and Director Georgean M. Vonheeder-Leopold. District staff present: Bert Michalczyk, General Manager; Rhodora Biagtan, Interim Engineering Services Manager; John Archer, Administrative Services Manager/Treasurer; Dan Gallagher, Operations Manager; Carl P.A. Nelson, General Counsel; and Nancy Gamble Hatfield, District Secretary.

1. CALL TO ORDER
2. PLEDGE TO THE FLAG
3. ROLL CALL - Members: Benson, Duarte, Halket, Howard, Vonheeder-Leopold
4. PUBLIC COMMENT (MEETING OPEN TO THE PUBLIC) – 5:01 p.m. – No members of the public addressed the Board.
5. BOARD BUSINESS
 - A. Long Term Alternative Water Supply Study Workshop

General Manager Michalczyk stated at this evening's workshop the Board would receive a presentation from RMC Water and Environment (RMC) consultants and be discussing the District's long term water supply study and options. Examining long term water supply options became readily apparent and important when the State Water Project was shut down and water service was severely curtailed to District customers in 2014 during the current drought. The Board added a project to the Capital Improvement Program budget to study the District's long term water supply this fiscal year. A series of Tri-Valley Water Policy Roundtable meetings have begun and discussions at those meetings are covering much of the same material as tonight's discussion. The study, being discussed at this meeting however, is to focus solely on the District. Mr. Michalczyk stated the Board is not set to make any decisions tonight, but rather staff is looking for guidance on long term water supply considerations for this District.

No members of the public addressed the Board.

Before the presentation, Directors collectively agreed this effort is not intended to usurp water reliability discussions and planning being done Valley-wide, but rather to focus the issue specifically on the District's situation and water portfolio.

Engineering Services Manager Biagtan introduced presenters Mr. Randy Raines and Ms. Carrie Del Boccio from RMC who gave the remainder of the presentation which covered the following topics. The Board provided policy input to each topic area as noted:

- Project Drivers
- Identify Policy Framework for Project
 - Reduce Demand
 - Increase Reuse
 - Increase Reliability
 - BOD: Reliability needs to be comparable to nearby agencies
 - Decrease Variability
 - Reduce Dependence on Imported Supplies
 - Reduce “Concentration Risk”
- Possible Portfolio Elements
 - Existing Water Supply Conditions
 - Future Water Supply Needs
 - Demand Management
 - BOD: Focus should be on potable water demand management
 - BOD: Any targets should be on a system-wide, rather than individual basis
 - BOD: Any targets should be based on the total of indoor plus outside potable water use
 - BOD: Include demand management in the commercial and institutional sectors
 - Water Supply Options
 - BOD: Look at mandating rainwater capture and gray water systems for new development
- Evaluation Process
 - BOD: Add water quality impacts to evaluation criteria
 - BOD: Add rate impacts to evaluation criteria
- Project Schedule

Following the presentation, the Board concurred with the direction of the study and tentatively endorsed the following policy framework around which the portfolios to be evaluated for this study will be formed:

Reduce Potable Demand	70 gallons per person per day
Increase Reuse	No discharge to Bay 300 days per year
Increase Supply Portfolio Reliability & Variability	<ul style="list-style-type: none"> • 85% deliveries once every 10 years • 70% deliveries once every 30 years
Increase Local Control	At least 60% of demand satisfied by local and regional supplies

Reduce Concentration Risk	No more than 40% of supply originates from one source
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The Board requested that a second workshop be held on this topic in the April 2015 timeframe when the portfolios are developed with more specificity.

No formal action was taken.

6. ADJOURNMENT

President Duarte adjourned the meeting at 6:25 p.m.

Submitted by,

Nancy Gamble Hatfield
District Secretary