PALMDALE WATER DISTRICT

A CENTURY OF SERVICE

February 23, 2022

AGENDA FOR REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT TO BE HELD AT 2029 EAST AVENUE Q, PALMDALE OR VIA TELECONFERENCE

FOR THE PUBLIC: VIA TELECONFERENCE ONLY

DIAL-IN NUMBER: 571-748-4021 ATTENDEE PIN: 717-066-385#

Submit Public Comments at: https://www.gomeet.com/717-066-385

MONDAY, FEBRUARY 28, 2022

6:00 p.m.

NOTES: To comply with the Americans with Disabilities Act, to participate in any Board meeting please contact Dawn Deans at 661-947-4111 x1003 at least 48 hours prior to a Board meeting to inform us of your needs and to determine if accommodation is feasible.

Additionally, an interpreter will be made available to assist the public in making **comments** under Agenda Item No. 4 and any action items where public input is offered during the meeting if requested at least 48 hours before the meeting. Please call Dawn Deans at 661-947-4111 x1003 with your request. (PWD Rules and Regulations Section 4.03.1 (c))

Adicionalmente, un intérprete estará disponible para ayudar al público a hacer **comentarios** bajo la sección No. 4 en la agenda y cualquier elemento de acción donde se ofrece comentarios al público durante la reunión, siempre y cuando se solicite con 48 horas de anticipación de la junta directiva. Por favor de llamar Dawn Deans al 661-947-4111 x1003 con su solicitud. (PWD reglas y reglamentos sección 4.03.1 (c))

Agenda item materials, as well as materials related to agenda items submitted after distribution of the agenda packets, are available for public review at the District's office located at 2029 East Avenue Q, Palmdale (Government Code Section 54957.5). Please call Dawn Deans at 661-947-4111 x1003 for public review of materials.

PUBLIC COMMENT GUIDELINES: **The prescribed time limit per speaker is three-minutes. Please refrain from public displays or outbursts such as unsolicited applause, comments, or cheering. Any disruptive activities that substantially interfere with the ability of the District to carry out its meeting will not be permitted, and offenders will be requested to leave the meeting. (PWD Rules and Regulations, Appendix DD, Sec. IV.A.)**

Each item on the agenda shall be deemed to include any appropriate motion, resolution, or ordinance to take action on any item.

1) Pledge of Allegiance/Moment of Silence.

2) Roll Call.

3) Adoption of Agenda.

4) Public comments for non-agenda items.

5) Presentations:

5.1) Presentation of plaque to Director Merino. (President Dizmang)

6) Action Items - Consent Calendar (The public shall have an opportunity to comment on any action item on the Consent Calendar as the Consent Calendar is considered collectively by the Board of Directors prior to action being taken.)

6.1) Approval of minutes of Regular Board Meeting held February 14, 2022.

6.2) Payment of bills for February 28, 2022.

6.3) Approval of Resolution No. 22-2 being a Resolution of the Board of Directors of the Palmdale Water District Proclaiming a Local Emergency Persists, Ratifying the Proclamation of a State of Emergency by the Governor Issued March 4, 2020, and Re-Authorizing Remote Teleconference Meetings of the Legislative Bodies of the Palmdale Water District for the Period Beginning March 1, 2022 and Ending March 30, 2022 Pursuant to Brown Act Provisions. (No Budget Impact – Assistant General Manager Ly)

6.4) Approval to authorize the General Manager to execute Change Order No. 1 to the contract with Toro Enterprises, Inc. for the water main replacement in 3rd Street East, Stanridge Avenue, 2nd Street East, Carolside Avenue, Avenue P-12, and Division Street. ($149,470.07-Additional Costs Related to Unplanned Utilities – Budgeted – Budget Item No. 12-606 – Engineering Manager Rogers)

6.5) Approval to authorize the General Manager to execute Change Order No. 3 to the contract with Christensen Brothers General Engineering, Inc. for the water main replacement in Sierra Highway. ($62,572.57-Additional Costs Related to Unplanned Utilities – Budgeted – Budget Item No. 20-605 – Engineering Manager Rogers)

7) Action Items – Action Calendar (The public shall have an opportunity to comment on any action item as each item is considered by the Board of Directors prior to action being taken.)

7.1) Consideration and possible action on authorizing staff to negotiate and enter into contracts with Stantec Consulting Services, Inc. for Professional Engineering Services for the Program Management of the Palmdale Regional Water Augmentation Program. (Not-to-exceed annual amount of $3,000,000 each for three years with two optional one-year renewals – Budgeted – Work Order No. 20-417 – Engineering Manager Rogers)

7.2) Consideration and possible action on reallocation of Antelope Valley State Water Contractors Association $10,000 sponsorship from the cancelled Home Show and SMART Water Expo to the Antelope Valley Rural Museum for a water feature. (No Budget Impact-transfer existing allocated funds – Resource and Analytics Director-Antelope Valley State Water Contractors Association General Manager Thompson II)

7.3) Consideration and possible action on an additional stipend for Directors opting out of the District's medical insurance plan. (Director Dino/Human Resources Director Barragan-Garcia/Personnel Committee)

7.4) Consideration and possible action on authorization of the following conferences, seminars, and training sessions for Board and staff attendance within budget amounts previously approved in the 2021 Budget:

a) None at this time.

8) Information Items:

8.1) Finance Reports:

a) Status report on Cash Flow Statement and Current Cash Balances as of December 2021. (Financial Advisor Egan/Finance Committee)

b) Status report on Financial Statements, Revenue, and Expense and Departmental Budget Reports for December 2021. (Finance Manager Hoffmeyer/Finance Committee)

c) Status report on committed contracts issued. (Finance Manager Hoffmeyer/Finance Committee)

d) Other financial reports. (Finance Manager Hoffmeyer/Finance Committee)

1) The effect of COVID-19 event.

2) Revenue projections.

3) Payment transactions by type.

4) Accounts receivable aging report.

5) Rate Assistance Program status.

6) Billing and collection statistics.

8.2) Reports of Directors:

a) Standing Committees; Organization Appointments; Agency Liaisons:

1) Antelope Valley East Kern Water Agency (AVEK) – February 8, 9, and 22. (Director Dino/Director Mac Laren-Gomez, Alt.)

2) Outreach Committee – February 16. (Director Mac Laren-Gomez, Chair/Director Merino)

3) Finance Committee – February 22. (Director Wilson, Chair/President Dizmang)

b) General Meetings Reports of Directors.

8.3) Report of General Manager.

a) February 2022 written report of activities through January 2022.

8.4) Report of General Counsel.

9) Board members' requests for future agenda items.

10) Adjournment.

Dennis D. LaMoreaux

DENNIS D. LaMOREAUX, General Manager
DDL/dd

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE: February 17, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Adam Ly, Assistant General Manager

VIA: Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 6.3 – CONSIDERATION AND POSSIBLE ACTION ON RESOLUTION NO. 22-2 BEING A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT PROCLAIMING A LOCAL EMERGENCY PERSISTS, RATIFYING THE PROCLAMATION OF A STATE OF EMERGENCY BY THE GOVERNOR ISSUED MARCH 4, 2020, AND RE-AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE PALMDALE WATER DISTRICT FOR THE PERIOD BEGINNING MARCH 1, 2022 AND ENDING MARCH 30, 2022 PURSUANT TO BROWN ACT PROVISIONS. (NO BUDGET IMPACT – ASSISTANT GENERAL MANAGER LY)***

Recommendation:

Staff recommends the Board approve Resolution No. 22-2 being a Resolution of the Board of Directors of the Palmdale Water District Proclaiming a Local Emergency Persists, Ratifying the Proclamation of a State of Emergency by the Governor Issued March 4, 2020, and Re-Authorizing Remote Teleconference Meetings of the Legislative Bodies of the Palmdale Water District for the Period Beginning March 1, 2022 and Ending March 30, 2022 Pursuant to Brown Act Provisions.

Alternative Options:

The Board can choose not to approve Resolution No. 22-2.

Impact of Taking No Action:

Teleconference options for the District's publicly noticed meetings will end.

Background:

With the issuance of the Governor's State of Emergency Executive Order due to the COVID-19 pandemic, the Brown Act was modified regarding agenda postings, Board member attendance from remote locations via teleconference, public attendance, and participation at publicly noticed meetings via teleconference. These modifications were rescinded by the Governor effective September 30, 2021; however, agencies and special districts have the option to continue remote teleconferencing options under the provisions of newly enacted AB 361. AB 361 provides agencies the ability to meet remotely during proclaimed state emergencies under modified Brown Act requirements beyond September 30, 2021.

The criteria to rely on the provisions of AB 361 are as follows:

1) The local agency is holding a meeting during a proclaimed state of emergency, and state or local officials have imposed or recommended measures to promote social distancing; or

2) The local agency is holding a meeting during a proclaimed state of emergency for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees; or

3) The local agency is holding a meeting during a proclaimed state of emergency and has determined, by majority vote, that, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

Resolution No. 22-2 addresses these criteria and will remain in effect for a period of 30 days. If the District wishes to continue meeting under modified Brown Act requirements under AB 361 after 30 days, Resolution No. 22-2 must be renewed.

Strategic Plan Initiative/Mission Statement:

This item is under Strategic Initiative No. 5 – Regional Leadership.

This item directly relates to the District's Mission Statement.

Budget:

There is no budget impact.

Supporting Documents:

- Resolution No. 22-2 being a Resolution of the Board of Directors of the Palmdale Water District Proclaiming A Local Emergency Persists, Ratifying the Proclamation of a State of Emergency by the Governor Issued March 4, 2020, and Re-Authorizing Remote Teleconference Meetings of the Legislative Bodies of the Palmdale Water District for the Period Beginning March 1, 2022 and Ending March 30, 2022 Pursuant to Brown Act Provisions

RESOLUTION NO. 22-2

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT PROCLAIMING A LOCAL EMERGENCY PERSISTS, RATIFYING THE PROCLAMATION OF A STATE OF EMERGENCY BY THE GOVERNOR ISSUED MARCH 4, 2020, AND RE-AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE PALMDALE WATER DISTRICT FOR THE PERIOD BEGINNING MARCH 1, 2022 AND ENDING MARCH 30, 2022 PURSUANT TO BROWN ACT PROVISIONS.

WHEREAS, the Palmdale Water District is committed to preserving and nurturing public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of Palmdale Water District's ("District") legislative bodies are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code 54950 – 54963), so that any member of the public may attend, participate, and watch the District's legislative bodies conduct their business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition is that a state of emergency is declared by the Governor pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District's boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing, or, the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, such conditions now exist in the District, specifically, a State of Emergency has been proclaimed by the Governor of the State of California on March 4, 2020 in response to the global outbreak of the novel Coronavirus disease ("COVID-19"); and

WHEREAS, meeting in person would present an imminent risk to the health and safety of attendees due to the continued impact of the COVID-19 pandemic; and

WHEREAS, the Board of Directors does hereby find that a State of Emergency has been proclaimed as a result of the threat of COVID-19 and the contagious nature of COVID-19 have caused, and will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and facilities of the District, and desires to proclaim a local emergency and ratify the proclamation of state of emergency by the Governor of the State of California; and

WHEREAS, as a consequence of the local emergency, the Board of Directors does hereby find that the legislative bodies of the Palmdale Water District shall conduct their meetings without compliance with paragraph (3) of subdivision (b) of Government Code section 54953, as authorized by subdivision (e) of section 54953, and that such legislative bodies shall comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of section 54953; and

WHEREAS, the Palmdale Water District offers the option of teleconferencing to ensure access for the public to attend meetings.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Proclamation of Local Emergency. The Board hereby proclaims that a local emergency now exists throughout the District, and meeting in person would present imminent risks to the health and safety of attendees due to the serious and contagious nature of COVID-19.

Section 3. Ratification of Governor's Proclamation of a State of Emergency. The Board hereby ratifies the Governor of the State of California's Proclamation of a State of Emergency, effective as of its issuance date of March 4, 2020.

Section 4. Remote Teleconference Meetings. The staff, General Manager, and legislative bodies of the Palmdale Water District are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution including conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act.

Section 5. Effective Date of Resolution. This Resolution shall take effect on March 1, 2022 and shall be effective until the earlier of (i) March 30, 2022, which is 30 days from the adoption of this Resolution, or (ii) such time the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the legislative bodies of the Palmdale Water District may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

PASSED AND ADOPTED by the Board of Directors of the Palmdale Water District this 28th day of February, 2022, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
President, Board of Directors

ATTEST:

_____
Secretary, Board of Directors

APPROVED AS TO FORM:

_____
Aleshire & Wynder, LLP, General Counsel

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 22, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Scott Rogers, Engineering Manager

VIA: Mr. Adam Ly, Assistant General Manager
Mr. Dennis LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 6.4 – APPROVAL TO AUTHORIZE THE GENERAL MANAGER TO EXECUTE CHANGE ORDER NO. 1 TO THE CONTRACT WITH TORO ENTERPRISES, INC. FOR THE WATER MAIN REPLACEMENT IN 3RD STREET EAST, STANRIDGE AVENUE, 2ND STREET EAST, CAROLSIDE AVENUE, AVENUE P-12, AND DIVISION STREET. ($149,470.07-ADDITIONAL COSTS RELATED TO UNPLANNED UTILITIES – BUDGETED – BUDGET ITEM NO. 12-606 – ENGINEERING MANAGER ROGERS)***

Recommendation:
Staff recommends that the Board approve and authorize the General Manager to execute Change Order No. 1 to the contract with Toro Enterprises, Inc.

Alternative Options:
There is no alternative option.

Impact of Taking No Action:
Financial harm to the contractor would result from taking no action.

Background:
During the past few weeks of construction for the water main replacement in 3rd Street East, Stanridge Avenue, 2nd Street East, Carolside Avenue, Avenue P-12, and Division Street, Toro Enterprises, Inc. encountered several unplanned utilities such as sewer and high-pressure gas mains. Staff prepared design revisions to accommodate the unplanned utilities, while meeting District's standards. Change Order No. 1 includes the additional labor, materials, and equipment necessary to lower and realign the new water main in Stanridge Avenue, 2nd Street East, Carolside Avenue, Avenue P-12, and Division Street due to unplanned utilities. Additional fittings were needed to avoid and maintain clearance from the existing utilities.

Summary of Change Orders:

20-606 Water Main Replacement in 3rd Street East, etc. Summary of Costs	
Items	Cost
Original Contract Amount	$2,093,892.00
*Change Order #1	$149,470.07
Contract Price with Approved Change Orders:	$2,243,362.07

BOARD OF DIRECTORS
PALMDALE WATER DISTRICT
VIA: Mr. Adam Ly, Assistant General Manager
Mr. Dennis LaMoreaux, General Manager February 22, 2022

Strategic Plan Initiative/Mission Statement:
This item is under Strategic Initiative No. 1- Water Resource Reliability.
This item directly relates to the District's Mission Statement.

Budget:
This item is under Specification 12-606.

Supporting Documents:
- Change Order No. 1
- Toro Enterprises, Inc. Change Order Request dated February 9, 2022.

CHANGE ORDER NO. 1

DATE OF ISSUANCE	February 15, 2022
EFFECTIVE DATE	Upon Execution
OWNER's Contract No.	Specification No. 12-606
CONTRACTOR:	Toro Enterprises, Inc.
OWNER:	Palmdale Water District
ENGINEER:	Scott Rogers/Jaron Hollida

Contractor is directed to make the following changes in the Contract Documents.

Description: *Water Main Replacement in 3rd Street E, Stanridge Avenue, 2nd Street E, Carolside Avenue, Avenue P-12 and Division Street (12-606)*

Reason for Change Order: *Additional labor, equipment, and materials due to unplanned utilities.*

Attachments: *Contractor's Cost Proposals dated 02/09/2022.*

CHANGE IN CONTRACT PRICE: Original Contract Price	CHANGE IN CONTRACT TIMES: Original Contract Times
$2,093,892.00	**90 Days**
Net Changes from previous Change Orders	Net Changes from previous Change Orders
$0	**0 days**
Contract Price prior to this Change Order	Contract Times prior to this Change order
$2,093,892.00	**90 days**
Contract Price prior to this Change Order:	Contract Times prior to this Change order
$2,093,892.00	**90 days**
Net Increase (decrease of this Change Order)	Net Increase (decrease of this Change Order)
$149,470.07	**10 days**
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders
$2,243,362.07	**100 days**

RECOMMENDED	APPROVED	ACCEPTED
By:_____	By:_____	By: sean castillo
Engineering Manager	PWD, General Manager	Contractor, President
Date:_____	Date:_____	Date: 02-16-22

Signature: Sean Castillo

Email: sean@toroenterprises.com

Signature:

Email: dlamoreaux@palmdalewater.org

Signature:

Email: srogers@palmdalewater.org

12-606 Change Order Request Review												
Item Number	**Description**	**Pipe Size**	**Bid Unit Price**	**Pipe Unit Price**	**Minimum Depth**	**Pipe Area**	**Bedding Depth**	**Avg Depth**	**Price per Foot**	**Additional Depth Cost**	**Length of Pipe (LF)**	**Total**
A	Added Depth on 3rd St. 2.5' Sta. 9+92-10+89	12- INCH	156	43.74	3.5	1	0.5	5	$ 22.45	$ 56.13	97	$ 5,444.61
B	Added 2" Air-Vac on 3rd Street											$ 8,894.00
C	Added Depth on Stanridge St. 2.25' Sta. 9+92-10+89	8-INCH	116	28.56	3.5	0.67	0.5	4.67	$ 18.74	$ 42.16	100	$ 4,215.86
D	Added Depth on 2nd St Avg. 2' Sta. 10+00-22+72	8-INCH	116	28.56	3.5	0.67	0.5	4.67	$ 18.74	$ 37.47	1272	$ 47,667.29
E	Added Depth on Carolside Avg. 1.5' Sta. 9+98-11+80	8-INCH	116	28.56	3.5	0.67	0.5	4.67	$ 18.74	$ 28.11	182	$ 5,115.24
F	Added Depth on Carolside Avg. 1.25' Sta. 11+50-22+13	8-INCH	116	28.56	3.5	0.67	0.5	4.67	$ 18.74	$ 23.42	1063	$ 24,896.98
G	Added 1" AirVac on Carolside	1"										$ 7,450.00
H	Added Depth on P-12 and Stanridge 3.5' Sta. 15+00-11+00	12- INCH	156	43.74	3.5	1	0.5	5	$ 22.45	$ 78.58	400	$ 31,432.80
I	P-12 and 3rd	12-inch	156	43.74	3.5	1	0.5	5	$ 22.45	$ 22.45	25	$ 561.30
J	Added 8" 45 deg fittings w/hardware											$ 6,366.72
K	Added 12" 45 deg fittings w/hardware											$ 7,425.27
											New Total	$ 149,470.07
											Change Order Request	$ 163,003.04
											% Difference	8%

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 22, 2022 **February 28, 2022**

TO: Board of Directors **Board Meeting**

FROM: Mr. Scott Rogers, Engineering Manager

VIA: Mr. Adam Ly, Assistant General Manager
Mr. Dennis LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 6.5 – APPROVAL TO AUTHORIZE THE GENERAL MANAGER TO EXECUTE CHANGE ORDER NO. 3 TO THE CONTRACT WITH CHRISTENSEN BROTHERS GENERAL ENGINEERING, INC. FOR THE WATER MAIN REPLACEMENT IN SIERRA HIGHWAY. ($62,572.57-ADDITIONAL COSTS RELATED TO UNPLANNED UTILITIES – BUDGETED – BUDGET ITEM NO. 20-605 – ENGINEERING MANAGER ROGERS)***

Recommendation:
Staff recommends that the Board approve and authorize the General Manager to execute Change Order No. 3 to the contract with Christensen Brothers General Engineering, Inc.

Alternative Options:
There is no alternative option.

Impact of Taking No Action:
Financial harm to the contractor would result from taking no action.

Background:
Christensen Brothers General Engineering, Inc. required additional equipment, labor, and materials in the construction of the water main replacement in Sierra Highway project (Specification 20-605) based on unplanned utilities and additional pavement sections on Sierra Highway.

Change Order No. 1 was previously executed by the General Manager on October 4, 2021 and included labor, materials, and equipment necessary to remove and dispose of additional pavement sections in Sierra Highway. The District worked with the City of Palmdale to ensure proper replacement of trench sections that met their standard and maintained the existing pavement's structural integrity.

Change Order No. 2 was previously executed by the General Manager on October 12, 2021 and included labor, materials, and equipment necessary to complete the remaining work in Sierra Highway, such as placing additional 3" (AC) asphalt concrete and additional 16" of base to meet the City of Palmdale's standard. In addition, Change Order No. 2 included labor, materials, and equipment necessary to realign the water main in Harold 1st Street and Harold Ash Avenue due to unplanned utilities. Additional fittings were needed to avoid and maintain clearance from the existing utilities.

Change Order No. 3 includes the remaining labor, materials, and equipment necessary to complete the remaining work in Sierra Highway, such as removing additional materials to meet the desired depth of pipe to avoid the unplanned utilities and meet District's standards. Additional fittings were needed to avoid and maintain clearance from the existing utilities.

Summary of Change Orders:

20-605 Water Main Replacement in Sierra Highway Summary of Costs	
Items	Cost
Original Contract Amount	$447,036.60
Change Order #1	$95,571.07
Change Order #2	$127,278.49
*Change Order #3	$62,572.57
Contract Price with Approved Change Orders:	$732,458.73

Strategic Plan Initiative/Mission Statement:
This item is under Strategic Initiative No. 1- Water Resource Reliability.
This item directly relates to the District's Mission Statement.

Budget:

This item is under Specification 20-605.

Supporting Documents:
- Change Order No. 1 (Executed)
- Change Order No. 2 (Executed)
- Change Order No. 3
- Christensen Brothers General Engineering, Inc. Change Order Request dated February 10, 2022.

CHANGE ORDER NO. 1

DATE OF ISSUANCE	September 30, 2021
EFFECTIVE DATE	Upon Execution
OWNER's Contract No.	Specification No. 20-605
CONTRACTOR:	Christensen Brothers General Engineering, Inc.
OWNER:	Palmdale Water District
ENGINEER:	Scott Rogers/Jaron Hollida

Contractor is directed to make the following changes in the Contract Documents.

Description: *Water Main Replacement in Sierra Highway Project (20-605)*

Reason for Change Order: *Concrete/Asphalt removal and disposal in Sierra Highway.*

Attachments: *Contractor's Cost Proposals dated 09/30/2021.*

CHANGE IN CONTRACT PRICE: Original Contract Price	CHANGE IN CONTRACT TIMES: Original Contract Times
$447,036.60	**90 Days**
Net Changes from previous Change Orders	Net Changes from previous Change Orders
$0	**0 days**
Contract Price prior to this Change Order	Contract Times prior to this Change order
$447,036.60	**90 days**
Contract Price prior to this Change Order:	Contract Times prior to this Change order
$447,036.60	**90 days**
Net Increase (decrease of this Change Order)	Net Increase (decrease of this Change Order)
$95,571.07	**62 days**
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders
$542,607.67	**152 days**

RECOMMENDED

By: Scott Rogers

Engineering Manager

Date: 9/30/2021

APPROVED

By: Dennis LaMoreaux

PWD, General Manager

Date: 10/4/21

ACCEPTED

By: Caleb Christensen

Contractor, President

Date: 10/4/2021

Signature: Caleb Christensen
Caleb Christensen (Oct 5, 2021 08:41 PDT)

Email: zach@christensenbrothers.net

CHANGE ORDER NO. 2

DATE OF ISSUANCE	October 5, 2021
EFFECTIVE DATE	Upon Execution
OWNER's Contract No.	Specification No. 20-605
CONTRACTOR:	Christensen Brothers General Engineering, Inc.
OWNER:	Palmdale Water District
ENGINEER:	Scott Rogers/Jaron Hollida

Contractor is directed to make the following changes in the Contract Documents.

Description: *Water Main Replacement in Sierra Highway Project (20-605)*

Reason for Change Order: *Additional materials due to unplanned utilities, additional trench section materials, and materials for existing pipe conditions.*

Attachments: *Contractor's Cost Proposals dated 09/30/2021.*

CHANGE IN CONTRACT PRICE: Original Contract Price	CHANGE IN CONTRACT TIMES: Original Contract Times
$447,036.60	**90 Days**
Net Changes from previous Change Orders	Net Changes from previous Change Orders
$95,571.07	**62 days**
Contract Price prior to this Change Order	Contract Times prior to this Change order
$542,607.67	**152 days**
Contract Price prior to this Change Order:	Contract Times prior to this Change order
$542,607.67	**152 days**
Net Increase (decrease of this Change Order)	Net Increase (decrease of this Change Order)
$127,278.49	**0 days**
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders
$669,886.16	**152 days**

RECOMMENDED	APPROVED	ACCEPTED
By: Scott L Rogers	By: Dennis LaMoreaux	By: Caleb Christensen
Engineering Manager	PWD, General Manager	Contractor, President
Date: 10-12-2021	Date: 10-12-2021	Date: 10/12/2021

Christensen Brothers

General Engineering Inc.

P.O. Box 1286, Apple Valley, CA 92307

Phone: FAX: (760) 961-2307

Lic. No. 893188 From: Caleb Christensen Date: 9/30/2021

To: Palmdale Water District

Quote No : 1767
Fax No :
Phone : (760) 246-2300

We propose to furnish you labor and material in strict accordance with the plans and specifications as follows:

Sierra Hwy Water Main Replacement (Changes)

Palmdale

Item No.	Description	Quantity	U/M	Unit Price	Total Price
1	COR 1 T&M		1 LS	$17,386.66	$17,386.660
	Total for COR 1:				**$17,386.660**
2	COR 2 Additional Potholes Unplanned Utilities		1 EA	$16,262.38	$16,262.380
	Total for COR 2:				**$16,262.380**
3C	COR 3C Place Additional 3" AC Section	6,000	SF	$5.49	$32,940.000
3D	COR 3D Place Additional 16" Base Section	6,000	SF	$7.98	$47,880.000
	Remaining Total for COR 3:				**$80,820.000**
4	COR 4 Existing Conditions Harold 1St		1 LS	$12,809.45	$12,809.450
	Total for COR 4:				**$12,809.450**
	Total Proposal Price:				**$127,278.49**

Details Report For : Sierra Hwy Water Main Replacement (Changes)

Caleb Christensen 09/30/2021

Ph. 03	Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 1		1.00	LS	$17,386.66	$17,386.66	0.00	$17,386.66	$17,386.66
Description	COR 1 T&M							

Activity 9/13/2021 **Crew** Miscellanious Crew **Activity Qty** 1.00 LS

Rate:		Days:			
Day:	1.00 LS	Labor	1.00	**Total Cost:**	$14,480.21
Hour:	0.13 LS	Equipment	1.00	**Unit Cost:**	$14,480.21
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	8.50 HR	1.00	111.26	$945.74
OP8	Operator DIR	2.00	6.25 HR	1.00	108.05	$1,350.64
PL4	Pipelayer LB4 DIR	2.00	8.50 HR	1.00	85.50	$1,453.45
LB1	Laborer LB1 DIR	3.00	7.00 HR	1.00	79.45	$1,668.43
MU	15% Mark up	1.00	1.00 HR	1.00	822.87	$822.87
	The total contains overtime cost of:		67.57		Total	$6,308.70

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	8.50 HR	1.00	39.38	$334.73
EX140	140 Excavator	1.00	8.50 HR	1.00	55.00	$467.50
LDR950	950 Wheel Loader & Forks	1.00	8.50 HR	1.00	83.32	$708.22
WT4000	Water Truck 4000 Gallon	1.00	2.00 HR	1.00	46.88	$93.76
BH410	Backhoe 84-113HP	1.00	4.00 HR	1.00	50.04	$200.16
MU	15% Mark up	1.00	1.00 HR	1.00	270.65	$270.65
					Total	$2,075.02

Material		Quantity	Unit Cost	
MAT1	Material Only 1	1.00	5,301.30	$5,301.30
MU	15% Mark up	1.00	795.19	$795.19
			Total	$6,096.49

Act
Note:

Activity 9/16/2021 **Crew** Miscellanious Crew **Activity Qty** 1.00 LS

Rate:		Days:			
Day:	1.00 LS	Labor	1.00	**Total Cost:**	$346.47
Hour:	0.00 LS	Equipment	1.00	**Unit Cost:**	$346.47
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	2.00 HR	1.00	111.26	$222.53
MU	15% Mark up	1.00	1.00 HR	1.00	33.37	$33.37
	The total contains overtime cost of:		0.00		Total	$255.90

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	2.00 HR	1.00	39.38	$78.76
MU	15% Mark up	1.00	1.00 HR	1.00	11.81	$11.81
					Total	$90.57

Act
Note:

CHRISTENSEN BROTHERS GENERAL ENG. INC

PO BOX 1286
APPLE VALLEY, CA 92307
Phone: (760)240-5236
Fax:760-961-2307

P.O No. 521-2021-02

PURCHASE ORDER

To: Southland Pipe Corporation
Atten: Clayton Douglass Phone: 909-873-3820

DATE: Thursday August 26, 2021
DELIVERY:

PROJECT : Sierra Hwy Water Main Replacement PROJECT #: 521

Item	Description	Qty	Unit	Unit Price	Total
1	8" STD 45 BEND 150#FLGXFLG, CMLXCMC.	4	EA	370	$ 1,480.00
2	8" X 173"LG .250"WALL STEEL SPOOL 150#FLGXFLG, CMLXCMC	1	EA	1110	$ 1,110.00
3	8" X 17 3/4"LG .250"WALL STEEL SPOOL 150#FLGXFLG, CMLXCMC.	1	EA	420	$ 420.00
4	8" X 117 9/16"LG .250"WALL STEEL SPOOL 150#FLGXFLG, CMLXCMC	1	EA	870	$ 870.00
5	8" X 13 1/2"LG .250"WALL STEEL SPOOL 150#FLGXFLG, CMLXCMC.	1	EA	405	$ 405.00
6	8" X 66"LG .250"WALL STEEL SPOOL 150#FLGXFLG WITH	1	EA	635	$ 635.00
	(1)2"THREADED OUTLET 43" FROM ONE END, CMLXCMC.				$
					$
					$
					$ -
					$ -
					$ -
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					$ -
					$ -
					$ -
					$ -
					$ -

Subtotal $ 4,920.00
Tax $ 381.30
Total $ 5,301.30

Signature *Zachary Hisey*

Details Report For : Sierra Hwy Water Main Replacement (Changes)

Caleb Christensen 09/30/2021

Ph. 03	Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 1		1.00	LS	$17,386.66	$17,386.66	0.00	$17,386.66	$17,386.66

Description COR 1 T&M

Activity 9/20/2021 Crew Miscellanious Crew Activity Qty 1.00 LS

Rate:		Days:			
Day:	1.00 LS	Labor	1.00	Total Cost:	$2,559.98
Hour:	0.00 LS	Equipment	1.00	Unit Cost:	$2,559.98
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	4.00 HR	1.00	111.26	$445.06
PL4	Pipelayer LB4 DIR	1.00	4.00 HR	1.00	85.50	$341.99
LB1	Laborer LB1 DIR	2.00	4.00 HR	1.00	79.45	$635.59
MU	15% Mark up	1.00	1.00 HR	1.00	213.39	$213.39
	The total contains overtime cost of:		0.00		Total	$1,636.03

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	4.00 HR	1.00	39.38	$157.52
BH410	Backhoe 84-113HP	1.00	4.00 HR	1.00	50.04	$200.16
WT4000	Water Truck 4000 Gallon	1.00	4.00 HR	1.00	46.88	$187.52
MU	15% Mark up	1.00	1.00 HR	1.00	81.78	$81.78
					Total	$626.98

Material		Quantity	Unit Cost	
MAT1	Material Only 1	1.00	258.24	$258.24
MU	15% Mark up	1.00	38.73	$38.73
			Total	$296.97

Act
Note:

WESTERN WATER WORKS
SUPPLY COMPANY
12247 LAKELAND RD SANTA FE SPRINGS, CA - 90670
PHONE: (909)597-7000 | FAX: (626)579-1389

PROPOSAL

PROPOSAL ID	QUOTE NO.	DATE
PALMDALE QUOTE	67920	09/27/21

LN#	PRODUCT AND DESCRIPTION		QTY	UM	PRICE	TOTAL
1		PALMDALE				
2	BGV-100	1 BRZ GATE VLV	1	EA	21.40	21.40
3	BRL90-01	1 BRZ 90	1	EA	8.83	8.83
4	KS60-100	1 K SOFT COPPER TUBING 60FT COIL	14	FT	7.93	111.02
5	BRN-0106	1X6 BRZ NIPPLE	1	EA	10.73	10.73
6	BRN-0120#	1X20 BRZ NIPPLE	1	EA	44.31	44.31
7	SCH40-08	8 SCH40 PVC PIPE BE	5	FT	12.39	61.95
8					SUBTOTAL	258.24
9					BID TOTAL	258.24

NOTE: THIS PROPOSAL DOES NOT INCLUDE SALES TAX.

Last Page

Smooth Running Jobs

Caleb Christensen 09/30/2021

Ph. 03	Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 3		1.00	EA	$16,262.38	$16,262.38	0.00	$16,262.38	$16,262.38

Description COR 2 Additional Potholes Unplanned Utilities

Activity 8/10/21 **Crew** Miscellanious Crew **Activity Qty** 1.00 EA

Rate:		Days:			
Day:	1.00 EA	Labor	1.00	**Total Cost:**	$926.61
Hour:	0.00 EA	Equipment	1.00	**Unit Cost:**	$926.61
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	2.00 HR	1.00	111.26	$222.53
OP8	Operator DIR	1.00	2.00 HR	1.00	108.05	$216.10
LB1	Laborer LB1 DIR	1.00	2.00 HR	1.00	79.45	$158.90
MU	15% Mark up	1.00	1.00	1.00	89.77	$89.77
	The total contains overtime cost of:		0.00		Total	$687.30

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	2.00 HR	1.00	39.38	$78.76
BH410	Backhoe 84-113HP	1.00	2.00 HR	1.00	50.04	$100.08
CONES	Cones (Reflective 100 Ea)	1.00	2.00 HR	1.00	14.63	$29.26
MU	15% Mark up	1.00	1.00 HR	1.00	31.21	$31.21
					Total	$239.31

Act
Note:

Activity 8/11/21 **Crew** Miscellanious Crew **Activity Qty** 1.00 EA

Rate:		Days:			
Day:	1.00 EA	Labor	1.00	**Total Cost:**	$3,486.20
Hour:	0.00 EA	Equipment	1.00	**Unit Cost:**	$3,486.20
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	4.50 HR	1.00	111.26	$500.69
OP8	Operator DIR	2.00	4.50 HR	1.00	108.05	$972.46
LB1	Laborer LB1 DIR	2.00	4.50 HR	1.00	79.45	$715.04
MU	15% Mark up	1.00	1.00	1.00	328.37	$328.37
	The total contains overtime cost of:		0.00		Total	$2,516.56

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	4.50 HR	1.00	39.38	$177.21
BH410	Backhoe 84-113HP	1.00	4.50 HR	1.00	50.04	$225.18
LDR950	950 Wheel Loader & Forks	1.00	4.50 HR	1.00	83.32	$374.94
CONES	Cones (Reflective 100 Ea)	1.00	4.50 HR	1.00	14.63	$65.84
MU	15% Mark up	1.00	1.00 HR	1.00	126.47	$126.47
					Total	$969.64

Act
Note:

Caleb Christensen 09/30/2021

Ph. 03 Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 3	1.00	EA	$16,262.38	$16,262.38	0.00	$16,262.38	$16,262.38

Description COR 2 Additional Potholes Unplanned Utilities

Activity 8/16/21 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 EA

Rate: ***Days:***

Day: 1.00 EA Labor 1.00 ***Total Cost:*** $5,520.81

Hour: 0.00 EA Equipment 1.00 ***Unit Cost:*** $5,520.81

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	6.00 HR	1.00	111.26	$667.58
OP8	Operator DIR	1.00	6.00 HR	1.00	108.05	$648.31
PL4	Pipelayer LB4 DIR	1.00	6.00 HR	1.00	85.50	$512.98
LB1	Laborer LB1 DIR	4.00	6.00 HR	1.00	79.45	$1,906.78
MU	15% Mark up	1.00	1.00	1.00	561.24	$561.24
	The total contains overtime cost of:		0.00		Total	$4,296.89

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	6.00 HR	1.00	39.38	$236.28
AZP400	Asphalt Zipper 400	1.00	6.00 HR	1.00	40.05	$240.30
LDR950	950 Wheel Loader & Forks	1.00	6.00 HR	1.00	83.32	$499.92
CONES	Cones (Reflective 100 Ea)	1.00	6.00 HR	1.00	14.63	$87.78
MU	15% Mark up	1.00	1.00 HR	1.00	159.64	$159.64
					Total	$1,223.92

Act Note:

Activity 8/17/21 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 EA

Rate: ***Days:***

Day: 1.00 EA Labor 1.00 ***Total Cost:*** $634.89

Hour: 0.00 EA Equipment 1.00 ***Unit Cost:*** $634.89

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	1.00 HR	1.00	111.26	$111.26
OP8	Operator DIR	1.00	1.00 HR	1.00	108.05	$108.05
PL4	Pipelayer LB4 DIR	1.00	1.00 HR	1.00	85.50	$85.50
LB1	Laborer LB1 DIR	1.00	1.00 HR	1.00	79.45	$79.45
MU	15% Mark up	1.00	1.00	1.00	57.78	$57.78
	The total contains overtime cost of:		0.00		Total	$442.04

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	1.00 HR	1.00	39.38	$39.38
EX85M	85 Mid Mini Excavator	1.00	1.00 HR	1.00	45.00	$45.00
LDR950	950 Wheel Loader & Forks	1.00	1.00 HR	1.00	83.32	$83.32
MU	15% Mark up	1.00	1.00 HR	1.00	25.15	$25.15
					Total	$192.85

Act Note:

Caleb Christensen 09/30/2021

Ph. 03 Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 3	1.00	EA	$16,262.38	$16,262.38	0.00	$16,262.38	$16,262.38

Description COR 2 Additional Potholes Unplanned Utilities

Activity 9/2/2021 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 EA

Rate: ***Days:***

Day: 1.00 EA — Labor 1.00 — ***Total Cost:*** $1,958.83

Hour: 0.00 EA — Equipment 1.00 — ***Unit Cost:*** $1,958.83

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	1.75 HR	1.00	111.26	$194.71
OP8	Operator DIR	2.00	2.00 HR	1.00	108.05	$432.20
PL4	Pipelayer LB4 DIR	2.00	2.00 HR	1.00	85.50	$341.99
LB1	Laborer LB1 DIR	3.00	2.25 HR	1.00	79.45	$536.28
MU	15% Mark up	1.00	1.00	1.00	225.92	$225.92

The total contains overtime cost of: 0.00 Total $1,731.10

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	2.25 HR	1.00	39.38	$88.61
VACTLR	Vaccuume Trailer	1.00	2.25 HR	1.00	29.00	$65.25
CONES	Cones (Reflective 100 Ea)	1.00	2.25 HR	1.00	14.63	$32.92
TCSGN	TC Sign / Stand Combo	5.00	2.25 HR	1.00	1.00	$11.25
MU	15% Mark up	1.00	1.00 HR	1.00	29.70	$29.70
					Total	$227.73

Act
Note:

Activity 9/9/2021 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 EA

Rate: ***Days:***

Day: 1.00 EA — Labor 1.00 — ***Total Cost:*** $3,735.04

Hour: 0.00 EA — Equipment 1.00 — ***Unit Cost:*** $3,735.04

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	3.50 HR	1.00	111.26	$389.42
OP8	Operator DIR	2.00	3.50 HR	1.00	108.05	$756.36
PL4	Pipelayer LB4 DIR	2.00	3.50 HR	1.00	85.50	$598.48
LB1	Laborer LB1 DIR	3.00	3.50 HR	1.00	79.45	$834.21
MU	15% Mark up	1.00	1.00	1.00	386.92	$386.92

The total contains overtime cost of: 0.00 Total $2,965.39

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	3.50 HR	1.00	39.38	$137.83
BH710	Backhoe 97-130 HP	1.00	3.50 HR	1.00	75.82	$265.37
VACTLR	Vaccuume Trailer	1.00	3.50 HR	1.00	29.00	$101.50
MU	15% Mark up	1.00	3.50 HR	1.00	75.70	$264.95
					Total	$769.65

Act
Note:

Caleb Christensen 09/30/2021

Ph. 03	Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 6		6,000.00	SF	$5.49	$32,945.36	-0.02	$5.49	$32,940.00

Description COR 3C Place Additional 3" AC Section

Activity Asphalt Paving Crew ***Crew*** Asphalt Paving Crew ***Activity Qty*** 120.00 TO N

Rate:

Day: 24.00 TO N

Hour: 12.00 TO N

Days:

Labor 5.00

Equipment 5.00

Actual: 5.00

Total Cost: $32,945.36

Unit Cost: $274.54

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	2.00 HR	5.00	111.26	$1,112.64
OP8	Operator DIR	3.00	2.00 HR	5.00	104.96	$3,148.92
DR4	Teamster DR4	2.00	2.00 HR	5.00	84.77	$1,695.32
PL4	Pipelayer LB4 DIR	1.00	2.00 HR	5.00	82.79	$827.88
LB1	Laborer LB1 DIR	1.00	2.00 HR	5.00	79.45	$794.49
MU	15% Mark up	1.00	1.00	1.00	1,137.03	$1,137.03
	The total contains overtime cost of:		0.00		Total	$8,716.28

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	2.00	2.00 HR	5.00	39.38	$787.60
LBOYPVR	Lee Boy Paving Machine	1.00	2.00 HR	5.00	110.00	$1,100.00
RLR3-4	36"-48" Roller Double Smooth	2.00	2.00 HR	5.00	34.10	$682.00
SKP210	Skip Loader 210	1.00	2.00 HR	5.00	37.15	$371.50
TKPOT	Tack Pot Trailer	1.00	2.00 HR	5.00	5.00	$50.00
SWPRTR	Sweeper Truck BARE	1.00	2.00 HR	5.00	41.72	$417.20
W120F	Wrighten Grinder	1.00	2.00 HR	5.00	300.00	$3,000.00
RST	Rental Superten	6.00	2.00 HR	5.00	95.00	$5,700.00
SKDSTR	Skid Steer	1.00	2.00 HR	5.00	32.95	$329.50
SKDACH	Skid Steer Attachments	1.00	2.00 HR	5.00	16.09	$160.90
LDR950	950 Wheel Loader & Forks	1.00	2.00 HR	5.00	83.32	$833.20
MU	15% Mark up	1.00	1.00 HR	1.00	2,014.78	$2,014.78
					Total	$15,446.68

Material		Quantity	Unit Cost	
ACHM	ACHM - Vulcan Materials Company	120.00	61.23	$7,347.60
TACK	TACK - Vulcan Materials Company	200.00	0.14	$28.40
MU	15% Mark up	1.00	1,106.40	$1,106.40
			Total	$8,482.40

Other		Quantity	Unit Cost	
DUMP 2	Dump Fee LA	1.00	170.00	$170.00
			Total	$170.00

Act Note:

Quotation

Vulcan Materials Company and Subsidiaries

Attn: ZACH

Quote Name: SIERRA HWY WATER MAIN REPLACEMENT /
Quote #: 897823

CHRISTENSEN BROTHERS GEN ENG
21834 BEAR VALLEY RD
APPLE VALLEY, CA 92308
Acct#: 218835

SIERRA HWY & BARRELL SPRINGS RD / PALI

PALMDALE, CA 93550

Date:	Thursday, April 29, 2021	**Sales Rep :**	Joelle Donaldson
Quote Created:	Wednesday, April 28, 2021		16013 Foothill Blvd
			IRWINDALE, CA 91702
Effective From:	Thursday, April 29, 2021	**Phone:**	951-316-4069
Quote Expiration:	Friday, May 28, 2021	**Fax :**	
Price Expiration:	Thursday, September 30, 2021	**Email:**	donaldsonj@vmcmail.com

Special Instructions:

** No Specifications have been submitted; quoting conventional mix with RAP and 70-10 oil.

**Due to the natural effects of segregation and the effects of post-delivery handling, Vulcan Materials Company guarantees that its aggregate products will meet the specifications on our submittal AT THE POINT OF DELIVERY ONLY, and when sampled in accordance with ASTM D75.

SAND & GRAVEL

					FOB	Estimated	Haul	Delivered *Estimated*
[redacted]								

ASPHALT

Plant	Product Name	Product #	Qty	U/M	FOB Plant	Estimated Tax	Haul Rate	Delivered *Estimated Tax Included*
PALMDALE HMA	203 B PG70-10	201501	100	Tons	$49.45	$5.07	6.71	$61.23
		Truck Type	STD FRT RATE					
[redacted]								
PALMDALE HMA	COLD MIX 3/8 SC8	457301	100	Tons	$82.50	$8.46	6.71	$97.67
		Truck Type	STD FRT RATE					
[redacted]								

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Caleb Christensen 09/30/2021

Ph. 03	Schedule 3	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 7		6,000.00	SF	$7.98	$47,899.06	-0.04	$7.98	$47,880.00

Description COR 3D Place Additional 16" Base Section

Activity Light Grading Crew ***Crew*** Grading Light ***Activity Qty*** 6,000.00 SF

Rate:

Day: 2,000.00 SF
Hour: 250.00 SF

Days:

Labor 3.00
Equipment 3.00
Actual: 3.00

Total Cost: $47,899.06
Unit Cost: $7.98

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	8.00 HR	3.00	111.26	$2,670.24
OP8	Operator DIR	2.00	8.00 HR	3.00	108.05	$5,186.40
PL4	Pipelayer LB4 DIR	1.00	8.00 HR	3.00	85.50	$2,052.00
DR4	Teamster DR4	1.00	8.00 HR	3.00	87.32	$2,095.68
MU	15% Mark up	1.00	1.00	1.00	1.800.79	$1,800.79
	The total contains overtime cost of:		0.00		Total	$13,805.11

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	8.00 HR	3.00	39.38	$945.12
WT4000	Water Truck 4000 Gallon	1.00	8.00 HR	3.00	46.88	$1,125.12
LDR950	950 Wheel Loader & Forks	2.00	8.00 HR	3.00	83.32	$3,999.36
SKP210	Skip Loader 210	1.00	8.00 HR	3.00	37.15	$891.60
RLR3-4	36"-48" Roller Double Smooth Rental	2.00	8.00 HR	3.00	34.10	$1,636.80
RST	Superten	4.00	8.00 HR	3.00	95.00	$9,120.00
MU	15% Mark up	1.00	1.00 HR	1.00	2,657.70	$2,657.70
					Total	$20,375.70

Material		Quantity	Unit Cost	
CL2	Class 2 Base	375.00	21.00	$7,875.00
MU	15% Mark up	1.00	1,181.25	$1,181.25
			Total	$9,056.25

Sub		Quantity	Unit Cost	
COMPT	Compaction Testing	24.00	185.00	$4,440.00
MU	5% Mark up	1.00	222.00	$222.00
			Total	$4,662.00

Act
Note:

Materials Group - Southern California

Inland Empire, High Desert & Inland Valley Locations

Oro Grande - 19409 National Trails Hwy, Oro Grande; **(760) 269-1118**

Mojave - 9350 Oak Creek Road, Mojave; **(760) 269-1118**

Scheerer - 18400 Falchion Road, Apple Valley; **(760) 895-6890**

Kevin Raleigh, Sales Representative

Phone: (760) 694-5159; email: *kraleigh@calportland.com*

Material Price Quotation

Date: 7/15/21

Prepared By: SA

Customer: CHRISTENSEN BROTHERS .

Attn: ZACHARY HISEY

Acct #: 1026202

Phone: (760) 240-5236

Email: ZACH@CHRISTENSENBROTHERS.NET

Job Address: Water Main Replacement in Sierra Hwy

Sierra Hwy & Barrell Springs Rd

City: Palmdale, 93550

Map Page:

Zone: DC-56

Quantity (Tons)	Product Code	Product Description	FOB Material Per Ton		Haul Rate Transfers	Haul Rate Bottoms	Material & Delivery Per Ton Price Transfers	Material & Delivery Per Ton Price Bottoms	Plant Location
200	90001253	CLASS II BASE	$6.50		$14.50		$21.00		SQ

Comments: **Delivery price is based on 25 ton load minimum.**

Environmental Fee: $.18 per ton

Price Expires On: December 31, 2021

All applicable sales tax will be added to above price. Waiting and unloading time is $115.00 per hour. (15 minutes allowed).

Prices quoted above are net. and material is subject to availability. Haul rates subject to change without notice.

CONDITIONS

1) Quotation is based upon the most reasonably direct route to delivery site.

2) Supplier will not be responsible for street cleaning in the vicinity of the disposal site.

3) Prices are based upon delivery during regular hours on normal work days to readily accessible points on the jobsite.

4) Any agreement made or contract accepted is subject to contingencies of manufacture. strikes. embargoes. fire. governmental regulations, delays in transit or any other contingencies beyond our control.

5) Supplier will have no equipment at the job site except trucks making deliveries.

6) Materials to be delivered to the site shall be designated and tested at suppliers plant prior to delivery.

Payment terms are net 10th of the month following. All applicable sales taxes will be added to price. All invoices are due and payable within 30 days of the original billing date. A Finance Charge of 1% per month on a pro-rated portion thereof (12% Annual Percentage Rate) will be charged upon all balances not paid within 30 days or first appearance on a Statement.

TESTING: Any tests required to confirm material acceptance for a given application shall be the sole responsibility of the Purchaser. Samples will be collected from the material point of origin which will be the designated point of acceptance.

The materials quoted are not warranted to be acceptable for any particular use. purpose or application. nor are they warranted to be acceptable for use in any particular environment or in conjunction with any particular soil conditions. Buyer's selection of the quoted materials unless otherwise acknowledged in writing by CalPortland Co.. will be deemed without the advice. consultation. recommendation or suggestion of CalPortland Co. and buyer assumes all risk related to the selection of quoted product for any particular application.

Accepted By: Date:

Caleb Christensen 09/30/2021

Ph. 05	Schedule 5	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 1		1.00	LS	$12,809.45	$12,809.45	0.00	$12,809.45	$12,809.45

Description COR 4 Existing Conditions Harold 1St

Activity 9/14/2021 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 LS

Rate: ***Days:***

Day: 1.00 LS Labor 1.00 ***Total Cost:*** $3,986.56

Hour: 0.00 LS Equipment 1.00 ***Unit Cost:*** $3,986.56

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	3.50 HR	1.00	111.26	$389.42
OP8	Operator DIR	1.00	3.50 HR	1.00	108.05	$378.18
PL4	Pipelayer LB4 DIR	2.00	3.50 HR	1.00	85.50	$598.48
LB1	Laborer LB1 DIR	1.00	3.50 HR	1.00	79.45	$278.07
MU	15% Mark up	1.00	1.00	1.00	246.77	$246.77
	The total contains overtime cost of:		0.00		Total	$1,890.92
Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	3.50 HR	1.00	39.38	$137.83
BH410	Backhoe 84-113HP	1.00	3.50 HR	1.00	50.04	$175.14
MU	15% Mark up	1.00	1.00 HR	1.00	46.94	$46.94
					Total	$359.91
Material				Quantity	Unit Cost	
MAT1	Material Only 1			1.00	838.46	$838.46
MU	15% Mark up			1.00	75.74	$75.74
					Total	$914.20
Sub				Quantity	Unit Cost	
WELD	Welding Sub Contractor			8.00	137.50	$1,100.00
MU	5% Mark up			1.00	55.00	$55.00
					Total	$1,155.00

Act
Note:

Ticket No. _____

Christensen Brothers General Engineering Inc.

21834 Bear Valley Road P.O. Box 1286 Apple Valley, CA. 92307
Phone: (760) 240-5236 Fax: (760) 961-2307 Lic. No.893188

EXTRA WORK ORDER

Day & Date Work Performed:	Sep/14/2021	**Weather:**	Hot
To:	Palmdale water district	**Job No.**	521
ATTN:		**Project:**	Sierra highway

What agency is financially responsible to Christensen Brothers for this extra work:

REPORT: (Make sure your report is complete as possible, include such items; Itemization of work done, station No.'s, soil conditions, trench depths, utilities crossings, traffic control, ETC).

1. Around 11:40 i see water coming from the ground on the connection point at the sta 4+13.23 .
"Yesterday I connect the new 8" cml to the existing tee 8"x6" C.I. "
2. I dig and find the tee broke on the top because it's old and rust.

3. I dig bag 30" and cut the existing 8"cml and welding a flange ton put a temporary blow off just to keep the House on the corner whit water "1120 Harold ash ave Palmdale ca 93550"

LABOR

Labor Class	Employee Name	Reg Hrs.	OT Hrs.	SB
Foreman operator	Jorge J Avila	3.5		
Pipelayer	Cesar Arana	3.5		
Pipelayer	Oscar Arambula	3.5		
Labor	Hector Mendez	3.5		
Operator	Jesus Serrano	3.5		

EQUIPMENT

Equipment	Hrs.	SB
410 JD backhoe	3.5	
Tool truck	3.5	

Material Supplied by Christensen Brothers

Qty	Description
1	8" welding flange

Material Supplied by Others

Vendor	Ticket No.	Description

Owner Operator / Contract Labor / Rental Equipment

Vendor	Ticket No.	Description
Jk welder		Weld 8" flange on existing cml

Signature verifies time, labor, equipment & material to be correct. Payment for this extra work will be established when a document authorizing the extra work has been executed by the owner or their authorized agent. Signature also verifies that the extra work was completed and that this report was received.

Owners Representative.

Signature Date

Foreman

Signature Date

CHRISTENSEN BROTHERS GENERAL ENG. INC

PO BOX 1286
APPLE VALLEY, CA 92307
Phone: (760)240-5236
Fax:760-961-2307

P.O No. 521-2021-03

PURCHASE ORDER

To: Southland Pipe Corporation
Atten: Clayton Douglass Phone: 909-873-3820

DATE: Thursday September 30, 2021
DELIVERY:

PROJECT : Sierra Hwy Water Main Replacement

PROJECT #: 521

Item	Description	Qty	Unit	Unit Price	Total
1	8" 150# SLIP ON Weld Flanges	4	EA	45	$ 180.00
2	8"x6" CML Tee PLAIN ENDS	1	EA	195	$ 195.00
3	8" STEEL PIPE PEXPE CML X BARE	3	LF	58.33	$ 174.99
4	6" STEEL PIPE PEXPE CML X BARE	3	LF	46.66	$ 139.98
5	6" 150# SLIP ON Weld Flanges	3	EA	30	$ 90.00
					$
					$
					$
					$
					$ -
					$ -
					$ -
					$ -
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					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
					$ -
				Subtotal	$ 779.97
				Tax	$ 58.49
				Total	$ 838.46

Signature Zachary Hisey

PERAZZO'S WELDING
Lic# 1029871
DIR# 1000051985

HOURLY RATE -

$ 137.50 PER. HR MONDAY THRU FRIDAY 8 HRS PER DAY

$ 162.50 PER HR OVERTIME RATES APPLY AFTER 8 HRS., NIGHT WORK AND ALL DAY SATURDAY.

$ 187.50 PER HR. DOUBLETIME RATE AFTER 12 HRS. SUNDAYS, AND HOLIDAYS

TRAVEL TIME OF 1 HR CHARGER FOR EACH DAY WORKED

THERE IS A 6 HR LABOR MIN. PER DAY.

Aluminum & Stainless welding is an additional $ 25.00 per hr.

There will be a $ 2.50 per hr increase on July 1, 2020 due to laborers predetermined increases.

PO Box 310569 | Fontana, CA 92331
P. 909-226-1371 | perazzosweldinginc@yahoo.com

Caleb Christensen 09/30/2021

Ph. 05	Schedule 5	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 1		1.00	LS	$12,809.45	$12,809.45	0.00	$12,809.45	$12,809.45

Description COR 4 Existing Conditions Harold 1St

Activity 9/15/2021 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 LS

Rate: ***Days:***

Day: 1.00 LS Labor 1.00 ***Total Cost:*** $4,432.31

Hour: 0.00 LS Equipment 1.00 ***Unit Cost:*** $4,432.31

Actual: 1.00

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	4.00 HR	1.00	111.26	$445.06
OP8	Operator DIR	1.00	4.00 HR	1.00	108.05	$432.20
PL4	Pipelayer LB4 DIR	2.00	4.00 HR	1.00	85.50	$683.98
LB1	Laborer LB1 DIR	2.00	4.00 HR	1.00	79.45	$635.59
MU	15% Mark up	1.00	1.00	1.00	329.67	$329.67
	The total contains overtime cost of:		0.00		Total	$2,526.50

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	4.00 HR	1.00	39.38	$157.52
BH410	Backhoe 84-113HP	1.00	4.00 HR	1.00	50.04	$200.16
WT4000	Water Truck 4000 Gallon	1.00	1.00 HR	1.00	46.88	$46.88
MU	15% Mark up	1.00	1.00 HR	1.00	81.78	$81.78
					Total	$486.34

Material		Quantity	Unit Cost	
MAT1	Material Only 1	1.00	229.98	$229.98
MU	15% Mark up	1.00	34.49	$34.49
			Total	$264.47

Sub		Quantity	Unit Cost	
WELD	Welding Sub Contractor	8.00	137.50	$1,100.00
MU	15% Mark up	1.00	55.00	$55.00
			Total	$1,155.00

Act
Note:

Ticket No. _____

Christensen Brothers General Engineering Inc.

21834 Bear Valley Road P.O. Box 1286 Apple Valley, CA. 92307

Phone: (760) 240-5236 *Fax: (760) 961-2307* Lic. No.893188

EXTRA WORK ORDER

Day & Date Work Performed:	Sep/15/2021	**Weather:**	Hot
To:	Palmdale water district	**Job No.**	521
ATTN:		**Project:**	Sierra highway

What agency is financially responsible to Christensen Brothers for this extra work:

REPORT: **(Make sure your report is complete as possible, include such items; Itemization of work done, station No.'s, soil conditions, trench depths, utilities crossings, traffic control, ETC).**

1. Dig and expose the existing tee again to install a new tee and gate valve.

2. Install a new tee cml and this tee its long so i need to cut the line again and welding 3 more flanges to make Work.

3. Make a spool 30" long new 6" gate valve and its late and I don't have time to finish because the existing 6" cml for the FH it's on bud condition to welding another flange.

LABOR

Labor Class	Employee Name	Reg Hrs.	OT Hrs.	SB
Foreman /operator	Jorge J Avila	4		
Pipelayer	Cesar Arana	4		
Pipelayer	Oscar Arambula	4		
Operator	Jesus Serrano	4		
Labor	Manuel Becerra	4		
Labor	Hector Mendez	4		

EQUIPMENT

Equipment	Hrs.	SB
Tool truck 454	4	
410 JD BACKHOE	4	
Water truck	1	

Material Supplied by Christensen Brothers

Qty	Description
3	8" welding flanges
1	8"x6" cml tee
3'	Cml pipe

Material Supplied by Others

Vendor	Ticket No.	Description

Owner Operator / Contract Labor / Rental Equipment

Vendor	Ticket No.	Description
Jk welder 3 hr		Weld 3 flanges

Signature verifies time, labor, equipment & material to be correct. Payment for this extra work will be established when a document authorizing the extra work has been executed by the owner or their authorized agent. Signature also verifies that the extra work was completed and that this report was received.

Owners Representative.

_____
Signature Date

Foreman

_____
Signature Date

Caleb Christensen 09/30/2021

Ph. 05	Schedule 5	Quantity	U/M	Unit Cost	Total Cost	Margin%	Unit Price	Total Price
Item 1		1.00	LS	$12,809.45	$12,809.45	0.00	$12,809.45	$12,809.45

Description COR 4 Existing Conditions Harold 1St

Activity 9/20/2021 ***Crew*** Miscellanious Crew ***Activity Qty*** 1.00 LS

Rate:		***Days:***			
Day:	1.00 LS	Labor	1.00	***Total Cost:***	$4,390.58
Hour:	0.00 LS	Equipment	1.00	***Unit Cost:***	$4,390.58
		Actual:	1.00		

Labor		Quantity	Hours	Days	Unit Cost	
FORE	Foreman	1.00	4.00 HR	1.00	111.26	$445.06
OP8	Operator DIR	1.00	4.00 HR	1.00	108.05	$432.20
PL4	Pipelayer LB4 DIR	2.00	4.00 HR	1.00	85.50	$683.98
LB1	Laborer LB1 DIR	2.00	4.00 HR	1.00	79.45	$635.59
MU	15% Mark up	1.00	1.00	1.00	330.12	$330.12
	The total contains overtime cost of:		0.00		Total	$2,526.95

Equipment		Quantity	Hours	Days	Unit Cost	
CT	Crew Truck (1 Ton)	1.00	4.00 HR	1.00	39.38	$157.52
BH410	Backhoe 84-113HP	1.00	4.00 HR	1.00	50.04	$200.16
LDR950	950 Wheel Loader & Forks	1.00	2.00 HR	1.00	83.32	$166.64
WT4000	Water Truck 4000 Gallon	1.00	1.00 HR	1.00	46.88	$46.88
MU	15% Mark up	1.00	1.00 HR	1.00	85.68	$85.68
					Total	$656.88

Material		Quantity	Unit Cost	
MAT1	Material Only 1	1.00	45.00	$45.00
MU	15% Mark up	1.00	6.75	$6.75
			Total	$51.75

Sub		Quantity	Unit Cost	
WELD	Welding Sub Contractor	8.00	137.50	$1,100.00
MU	5% Mark up	1.00	55.00	$55.00
			Total	$1,155.00

Act
Note:

Signature: Scott Rogers

Email: srogers@palmdalewater.org

Signature: Dennis LaMoreaux

Email: dlamoreaux@palmdalewater.org

Signature: Caleb Christensen
Caleb Christensen (Oct 12, 2021 16:47 PDT)

Email: zach@christensenbrothers.net

Ticket No. _____

Christensen Brothers General Engineering Inc.

21834 Bear Valley Road P.O. Box 1286 Apple Valley, CA. 92307

Phone: (760) 240-5236 Fax: (760) 961-2307 Lic. No.893188

EXTRA WORK ORDER

Day & Date Work Performed:	Sep/20/2021	**Weather:**	Hot
To:	Palmdale water district	**Job No.**	521
ATTN:		**Project:**	Sierra highway

What agency is financially responsible to Christensen Brothers for this extra work:

REPORT: (Make sure your report is complete as possible, include such items; Itemization of work done, station No.'s, soil conditions, trench depths, utilities crossings, traffic control, ETC).

1. Set up traffic control to Dig the existing hydrant on the sta 4+13.23.

2. Dig and. And cut 3' to the south to weld another flange on the existing 6" cml and make spool 3' long to tiee in the fire hydrant

Back pour the trust block and backfill the hole clean the area.

LABOR

Labor Class	Employee Name	Reg Hrs.	OT Hrs.	SB
Foreman/Operator	Jorge J Avila	4		
Pipelayer	Cesar Arana	4		
Pipelayer	Oscar Arambula	4		
Operator	Jesus Serrano	4		
Labor I	Hector Mendez	4		
Labor	Manuel Becerra	4		

EQUIPMENT

Equipment	Hrs.	SB
410 JD BACKHOE	4	
454 TOOL TRUCK	4	
WATER TRUCK	1	
LOADER CAT	2	

Material Supplied by Christensen Brothers

Qty	Description
3'	3' off 6" cml pipe
3	6" welding flanges

Material Supplied by Others

Vendor	Ticket No.	Description

Owner Operator / Contract Labor / Rental Equipment

Vendor	Ticket No.	Description
JK welding		Weld 3 6"flanges

Signature verifies time, labor, equipment & material to be correct. Payment for this extra work will be established when a document authorizing the extra work has been executed by the owner or their authorized agent. Signature also verifies that the extra work was completed and that this report was received.

Owners Representative.

Signature Date

Foreman

Signature Date

20-605 CO 2-Items 1-2-3C-3D-4-For Signature

Final Audit Report 2021-10-12

Created:	2021-10-12
By:	Jennifer Villa (jv@palmdalewater.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAJ7RU6CI8Z_jlUgskuYAvfEHWZXPTsoez

"20-605 CO 2-Items 1-2-3C-3D-4-For Signature" History

Document created by Jennifer Villa (jv@palmdalewater.org)
2021-10-12 - 10:41:10 PM GMT

Document emailed to Scott Rogers (srogers@palmdalewater.org) for signature
2021-10-12 - 10:42:21 PM GMT

Email viewed by Scott Rogers (srogers@palmdalewater.org)
2021-10-12 - 11:01:34 PM GMT- IP address: 198.99.76.2

Document e-signed by Scott Rogers (srogers@palmdalewater.org)
Signature Date: 2021-10-12 - 11:02:25 PM GMT - Time Source: server- IP address: 198.99.76.2

Document emailed to Dennis LaMoreaux (dlamoreaux@palmdalewater.org) for signature
2021-10-12 - 11:02:27 PM GMT

Email viewed by Dennis LaMoreaux (dlamoreaux@palmdalewater.org)
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Document e-signed by Dennis LaMoreaux (dlamoreaux@palmdalewater.org)
Signature Date: 2021-10-12 - 11:05:31 PM GMT - Time Source: server- IP address: 198.99.76.2

Document emailed to Caleb Christensen (zach@christensenbrothers.net) for signature
2021-10-12 - 11:05:34 PM GMT

Email viewed by Caleb Christensen (zach@christensenbrothers.net)
2021-10-12 - 11:10:03 PM GMT- IP address: 137.27.247.94

Document e-signed by Caleb Christensen (zach@christensenbrothers.net)
Signature Date: 2021-10-12 - 11:47:42 PM GMT - Time Source: server- IP address: 137.27.247.94

Agreement completed.
2021-10-12 - 11:47:42 PM GMT

CHANGE ORDER NO. 3

DATE OF ISSUANCE	February 16, 2022
EFFECTIVE DATE	Upon Execution
OWNER's Contract No.	Specification No. 20-605
CONTRACTOR:	Christensen Brothers General Engineering, Inc.
OWNER:	Palmdale Water District
ENGINEER:	Scott Rogers/Jaron Hollida

Contractor is directed to make the following changes in the Contract Documents.

Description: *Water Main Replacement in Sierra Highway Project (20-605)*

Reason for Change Order: *Additional materials due to unplanned utilities, additional trench section materials, and additional pipe fittings.*

Attachments: *Contractor's Cost Proposals dated February 14, 2022.*

CHANGE IN CONTRACT PRICE: Original Contract Price	CHANGE IN CONTRACT TIMES: Original Contract Times
$447,036.60	**90 Days**
Net Changes from previous Change Orders	Net Changes from previous Change Orders
$222,849.56	**152 days**
Contract Price prior to this Change Order	Contract Times prior to this Change order
$669,886.16	**152 days**
Contract Price prior to this Change Order:	Contract Times prior to this Change order
$669,886.16	**152 days**
Net Increase (decrease of this Change Order)	Net Increase (decrease of this Change Order)
$62,572.57	**0 days**
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders
$732,458.73	**152 days**

RECOMMENDED	APPROVED	ACCEPTED
By:_____	By:_____	By: Caleb Christensen
Engineering Manager	PWD, General Manager	Contractor, President
Date:_____	Date:_____	Date: 2/16/22

Signature: Caleb Christensen
Caleb Christensen (Feb 17, 2022 15:57 PST)

Email: zach@christensenbrothers.net

Signature:

Email: srogers@palmdalewater.org

Signature:

Email: dlamoreaux@palmdalewater.org

Christensen Brothers

General Engineering Inc.

P.O. Box 1286, Apple Valley, CA 92307

Phone: FAX: (760) 961-2307

Lic. No. 893188 From:Caleb Christensen Date: 2/10/2022

To:

Palmdale Water District

Quote No : 1970
Fax No :
Phone : (760) 246-2300

We propose to furnish you labor and material in strict accordance with the plans and specifications as follows:

Sierra Hwy Water Main Replacement (Changes)

Palmdale

Sch No.	Item No.	Description	Quantity	U/M	Unit Price	Total Price
		COR 5 Extra Depth Sierra Hwy	1,583	LF	$19.09	$30,219.470
		COR 6 Inverts	1	LS	$21,504.53	$21,504.530
		COR 9 Additional Air Vac STA 59+60	1	LS	$5,527.92	$5,527.920
		COR 10 Rental Items Extension Due To Extras	1	LS	$913.16	$913.160
		COR 11 Bond Reimbursement For Extras	1	LS	$4,407.49	$4,407.490
	Total for:	**05 Schedule 5**				**$62,572.57**
		Total Proposal Price:				**$62,572.57**

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 22, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Scott Rogers, Engineering Manager

VIA: Mr. Adam Ly, Assistant General Manager
Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 7.1 – CONSIDERATION AND POSSIBLE ACTION ON AUTHORIZING STAFF TO NEGOTIATE AND ENTER INTO CONTRACTS WITH STANTEC CONSULTING SERVICES, INC. FOR PROFESSIONAL ENGINEERING SERVICES FOR THE PROGRAM MANAGEMENT OF THE PALMDALE REGIONAL WATER AUGMENTATION PROGRAM. (NOT-TO-EXCEED ANNUAL AMOUNT OF $3,000,000 EACH FOR THREE YEARS WITH TWO OPTIONAL ONE-YEAR RENEWALS – BUDGETED – WORK ORDER NO. 20-417 – ENGINEERING MANAGER ROGERS)***

Recommendation:

Staff recommends that the Board authorize staff to negotiate and enter into contracts with Stantec Consulting Services Inc. for Professional Engineering Services for the Program Management of the Palmdale Regional Water Augmentation Program (PRWAP) with each in the not-to-exceed annual amount of $3,000,000 for three years with two optional one-year renewals.

Alternative Options:

The alternative is to not award professional services for the District's Water Augmentation Program.

Impact of Taking No Action:

The potential impact from taking no action would result in delays in the utilization of the District's 5,325 acre-feet of recycled water from the LACSD 20.

Background:

The District entered into an agreement in 2016 to purchase 5,325 acre-feet of tertiary water from Palmdale Water Reclamation Plant owned and operated by Sanitation Districts of Los Angeles County, District 20 (LACSD 20). Initially, the District was pursuing a recharge and recovery project, and in 2020, completed the drilling of a test well at the recharge area which resulted in recharge rates much lower than previously modeled. Based on the information collected for the project, the recharge and recovery project has been pushed to the future and the water augmentation project has been determined to be more suitable for fully utilizing tertiary water.

BOARD OF DIRECTORS
PALMDALE WATER DISTRICT
VIA: Mr. Adam Ly, Assistant General Manager
Mr. Dennis D. LaMoreaux, General Manager February 22, 2022

District staff hired Stantec Consulting Services Inc. to evaluate the feasibility of utilizing tertiary water from the Palmdale Regional Water Reclamation Plant of LACSD 20. The Feasibility Study examined the treatment train systems that make up the Advanced Water Purification Facility (AWPF). The Feasibility Study examined the utilization of tertiary water for either groundwater or surface water augmentation.

Staff advertised the Request for Proposals (RFP) on December 8, 2022 for Professional Engineering Services for the Program Management of the PRWAP. The District received three proposals from Hazen and Sawyer, P.C., Stantec Consultants Services, Inc., and Woodard and Curran, Inc. The selection committee evaluated the firms and scored the firms from highest to lowest (see scoring summary below). The scores are based on the following:

- Proposal,
- Interview of the firm's proposed team,
- Fee estimate,
- Program manager and key staff experience,
- Firm's advanced treatment, and groundwater project experience, and
- Firm, program manager and key staff client references.

Evaluation Scoring Summary

Vendor	Evaluator 1	Evaluator 2	Evaluator 3	Evaluator 4	Total Score
Stantec Consulting Services Inc.	176	212.2	182.8	172	185.75
Hazen and Sawyer, P.C.	161.9	190.1	177.1	155.3	171.1
Woodard and Curran, Inc.	144.5	180.3	176.12	146.1	161.75

Strategic Plan Initiative/Mission Statement:

This item is under Strategic Initiative No. 1 – Water Resource Reliability, and No. 3 – Systems Efficiency. This item directly relates to the District's Mission Statement.

Budget:

This item is budgeted and will be covered as part of Work Order No. 22-417

Supporting Documents:

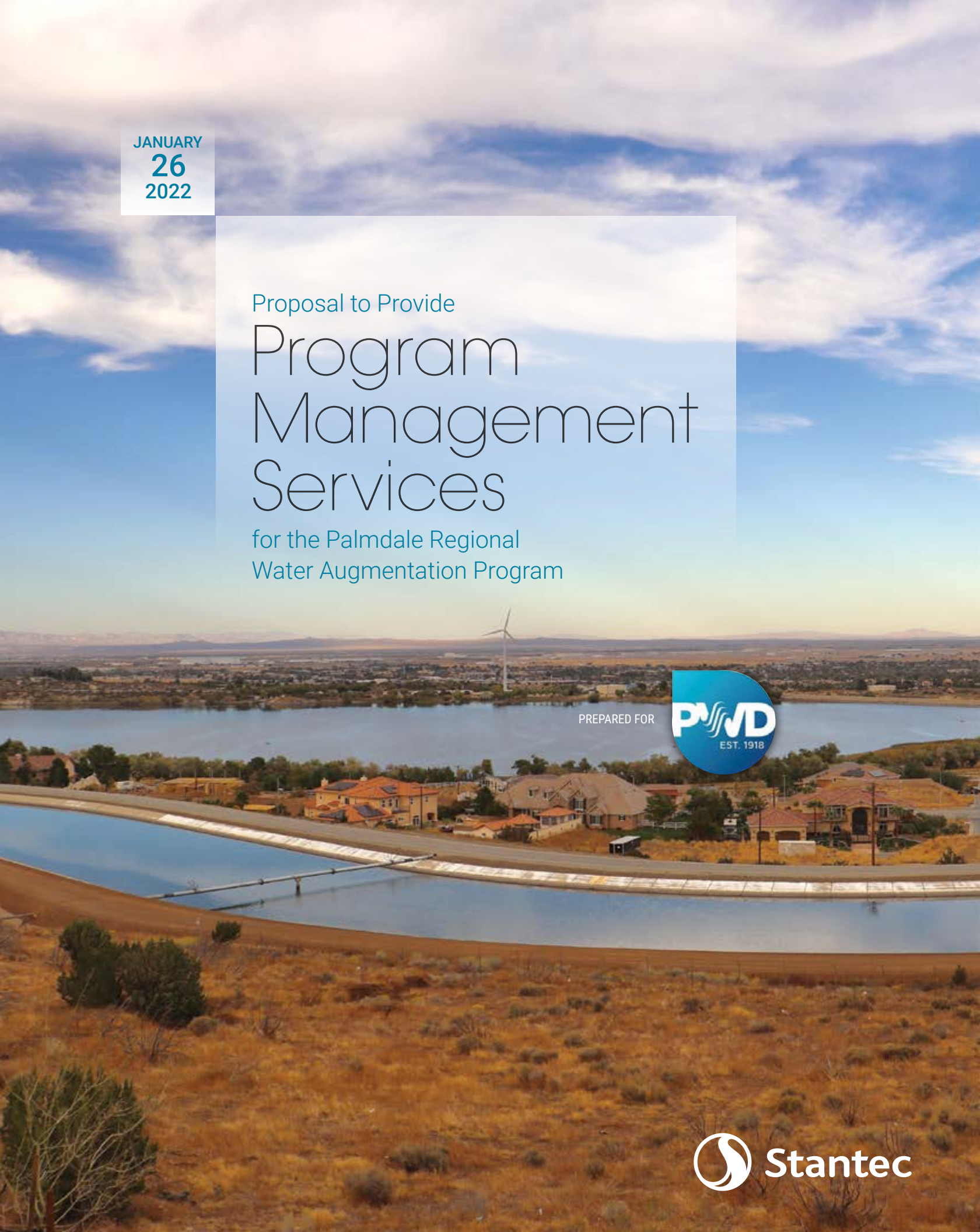
Stantec Consulting Services, Inc. Proposal

JANUARY
26
2022

Proposal to Provide

Program Management Services

for the Palmdale Regional Water Augmentation Program



PREPARED FOR

PWD EST. 1918

Stantec

STANTEC

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Table of **Contents**

Resumes

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SECTION
A Letter of Introduction

January 25, 2022

SCOTT ROGERS
Engineering/Grants Manager
2029 East Ave Q | Palmdale, CA 93550

Reference: Response to Request for Proposal for 20-417A, Program Management Services for the Palmdale Regional Water Augmentation Program (PRWAP)

Dear Mr. Rogers,

Palmdale Water District (District) is embarking on an exciting new regional water augmentation program to utilize available tertiary treated water from Los Angeles County Sanitation Districts' (LACSD) Palmdale Water Reclamation Plant (PWRP). This new sustainable water supply will help the District meet future drinking water needs by utilizing a valuable local resource. Stantec has helped many of our clients in Southern California with programs to expand their water supply portfolios through reuse and we are confident we will exceed your expectations in converting your vision to an operating reality.

The successful delivery of the PRWAP requires an experienced team with strong program management experience, proven public outreach, specialized technical capabilities, specialized knowledge of the latest recycled water regulations; as well as relationships with the Bureau of Reclamation, regulators, funding agencies, and local agencies and stakeholders. In addition to knowledge and relationships, the PRWAP's success requires a team with a proven history and personal commitment to represent the best interests of the District. Stantec's Team brings the diverse array of expertise, services, and history with the District to help achieve your goals in a streamlined and expedited manner. Our Team offers the District several unique benefits and a proven approach to successfully support your program goals and objectives:

WE REPRESENT YOU: Stantec will be the District's trusted partner and advisor for all aspects of the PRWAP. We have experts to successfully deliver all facets of the PRWAP and have structured our Team such that the Program's critical components—hydrogeological modeling, gaining regulatory compliance, community outreach, designing the demonstration facility, and preparing the bridging documents—are performed by subconsultants we know and trust. In addition, our Program Management/Planning Team is independent of the Design Team, providing a clear line of delineation that will provide proven and reliable results you can trust. Your success is our success.

OUR TEAM - THE BEST IN CLASS: Stantec has brought together local top talent with key industry-recognized subconsultants in water reuse that have a history of working together on similar projects. Our Team brings unmatched experience in California on all aspects of the scope of work and are prepared to quickly create and implement the Rapid Program Readiness Assessment to clearly define the roadmap for the PRWAP. From top to bottom, everyone who will be involved are well-qualified experts with a proven track record of performing the same type of work and are truly passionate about what they do. We are honored by the opportunity to continue to work with the District as you embark on the significant program and leverage our Team's expertise in delivering similar programs in California over the last 40+ years.

Our key staff are **ready to serve you**


Tama Snow
Program Manager


Zakir Hirani
Deputy Program Manager


Don Bassett
Planning Lead


Tim Leo
Groundwater Modeling and Testing Lead


Keel Robinson
Demonstration Facility Lead


Jim Borchardt
AWPF Full-scale Design Criteria Package


Mike Watson
Project Delivery Methodology


Bryan Trussell
Regulatory Compliance


Shane Trussell
Process/Regulatory Technical Advisor


Victor Harris
Independent Reviewer for Groundwater Modeling and Injection Well Design

Our industry-recognized subconsultant experts are Trussell, M&A, GEI Consultants, H&H Water Resources, Kleinfelder, K&A, and MWA Architects

GROUNDWATER MODELING
We understand that the direction of the PRWAP depends on the outcomes of the groundwater modeling efforts. We have selected Montgomery and Associates (M&A) as our subconsultant for this effort. **Added value:** M&A, as part of Stantec's Team, is currently performing hydrogeological services for the Antelope Valley East Kern (AVEK) Agency and is familiar with the groundwater basins the District would rely upon.

REGULATORY APPROACH
Once the program direction is defined, the next crucial step is to receive approval from the regulators. Trussell Technologies Inc., (Trussell) another principal subconsultant, has been instrumental in driving the potable reuse regulations in California. They have presented to numerous Independent Advisory Panels (IAPs) and prepared multiple Engineering Reports for similar potable reuse programs, including the City of San Diego's Pure Water Program Phase 1 and Monterey One Water's Pure Water Monterey Program, to name a few. **Added value:** Trussell's expertise in potable reuse would facilitate timely regulatory approval of the PRWAP and help maintain the schedule.

BRINE MANAGEMENT
Our Team has devised brine management solutions for other similar inland utilities, including the recent Padre Dam MWD's East County Advanced Water Purification Program. **Added value:** We are familiar with high-recovery reverse osmosis (RO) technologies and advancements in brine evaporation ponds and will help devise an optimum brine management solution for the District.

PUBLIC OUTREACH
Success of any potable reuse program depends on garnering public support. With that objective in mind, we have selected Katz & Associates (K&A) as our subconsultant for public outreach. **Added value:** K&A's familiarity with the District and 25 years of experience in potable reuse outreach projects will facilitate public understanding and acceptance of the PRWAP. In addition, our Program Manager, Tama Snow, was the public outreach technical spokesperson for the planning phase of the Orange County Water District's Groundwater Replenishment System and fully understands and appreciates the need for this critical role in reuse programs and projects.

FUNDING
Stantec's Financial Services Team (FST) has a dedicated and proven grant writing team that has secured more than $800 million in funding for water projects and more than $4 billion in grants and loans for large infrastructure projects. **Added value:** With a proven method for tracking and securing funds, our FST will prepare a detailed funding plan and support the District every step of the way.

After careful review and time spent better understanding the PRWAP's drivers, Stantec's Team has drafted an approach that will provide substantial cost and schedule savings to the District, while delivering high-quality products and ultimately an operational facility the District will appreciate for years to come.

Increase the Level of Confidence in the Groundwater Model: Our proposed groundwater modeling approach uses a tracer test at a smaller scale to increase confidence in projecting the groundwater retention time and defers the full-scale injection and tracer testing to Phase 2. **Added value:** This would allow the District to downsize the demonstration facility, if desired, and defer the permitting process to after the demonstration testing is complete.

Reconsider the Delivery Method and Scale of the Demonstration Facility: We understand that the District plans to eventually convert the demonstration facility into a production facility and we stand ready to support such effort. **Added value:** Reducing the scale of the demonstration facility would allow the District to significantly reduce the testing cost and expedite the project delivery schedule by deploying alternative delivery methods such as performance-specification-based procurement.

OUR COMMITMENT: We will be the District's trusted advisor and partner for all aspects of the PRWAP. Having worked on over 50% of the reuse programs in California, our Team brings unmatched program management and advanced water treatment design expertise that will prove valuable as the District moves the PRWAP forward. **Our Team fully appreciates the opportunity to support this important program from our local Pasadena office, which is a short one-hour drive from the District.** We acknowledge that we can accept the District's professional services agreement without modifications and acknowledge receipt of Addendum 1. Should you have any questions regarding our proposal, please contact Tama Snow.

Sincerely,

Tama Snow, PE
Senior Principal, Operations Leader; Program Manager
858.633.4231 | Mobile: 949.533.7736
tama.snow@stantec.com

Zakir Hirani, PE
Vice President, Water Reuse Practice Leader Deputy; Program Manager
626.568.6093 | Mobile: 626.375.6780
zakir.hirani@stantec.com

SECTION

B Profile of Firm

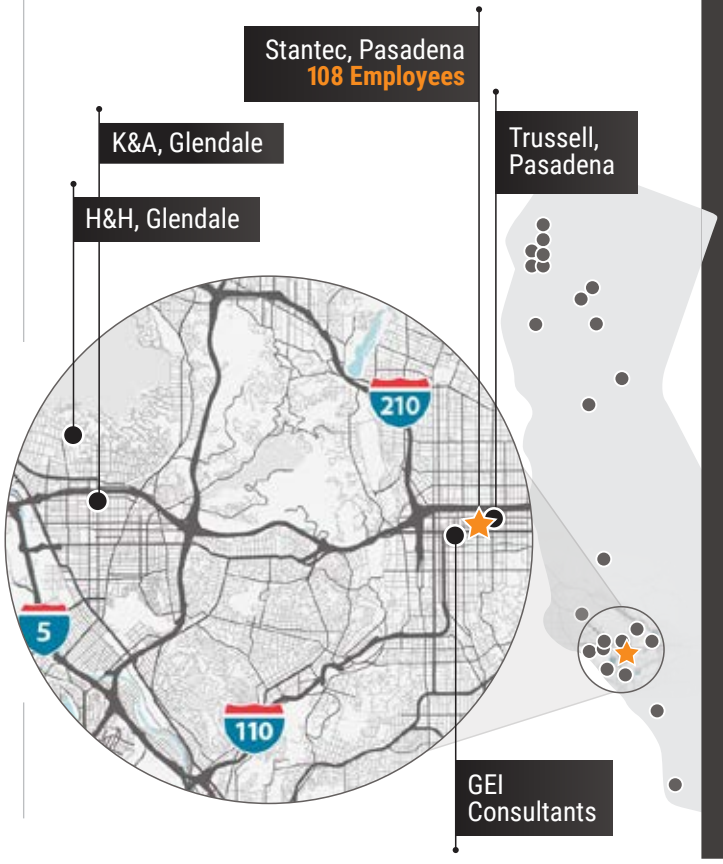
The Stantec community unites approximately **25,000 employees** working in over **400 locations** across **6 continents**, including **8 offices** in Southern California.

We care about the communities we serve and about maintaining long-term client relationships. As such, we have brought together a proven Team of trusted staff as well as subconsultants including Trussell Technologies (Trussell), Montgomery & Associates (M&A), Katz & Associates (K&A), H&H Water Resources (H&H), and GEI Consultants (GEI)—all with local experience, history, relationships, and who have played key roles in implementing AWT/potable reuse programs in Southern California. The depth of our company's resources, Team's expertise, and local experience will allow us to provide optimal solutions to the District, saving both time and money.

Stantec's **world-class experts in program management and advanced water treatment (AWT) technologies** will develop a flexible and reliable Palmdale Regional Water Augmentation Program (PRWAP) that meets the District's goals.

With over 40 years of demonstrated program management and owner's agent experience, Stantec has delivered more than 100 capital programs around the world, resulting in roughly $195B in completed projects. This experience has taught us that program management is all about clearly defining the program goals, understanding the client's expectations, identifying the risks and financial implications, and developing the proper roadmap at the PRWAP's onset.

Stantec is one of the premier consulting firms in the field of program management, owner's agent, and owner's engineer services for all delivery methods, particularly specializing in AWT projects. As evidenced by our Team's work on AWT programs throughout California—including the City of Santa Monica's Sustainable Water Infrastructure Project, City of San Diego's Pure Water Program, Metropolitan's Regional Recycled Water Program, and City of Los Angeles' Hyperion Advanced Water Purification Facility—the District can be confident that our Team exceeds the minimum qualifications in all areas of program management and delivery to responsibly execute the PRWAP.



Several of our teaming partners are located in Pasadena—within an hour of the District.

Our **strong presence in Southern California** provides the depth you need to successfully deliver this project

8 Stantec Offices

8 Subconsultants

500+ Stantec Employees

Main Project Office
Pasadena

Stantec's Team includes the industry's top AWT engineers who have been involved with **over 50%** of potable reuse projects in California

Delivering on **Programs of All Sizes** Using Our Team's AWT **Bench Strength in Southern California**

Our involvement with a wide range of AWT programs in Southern California speaks not just to our AWT expertise, but our commitment to our clients. Both Stantec's and Trussell's teams are based in Southern California, an attribute that few teams can claim. Our strong local presence, program experience, and deep bench of technical experts have allowed us to deliver exceptional service to our clients in Southern California, irrespective of project size and complexity. The District will benefit from our unmatched AWT expertise and recent successes running similar programs.

SOUTHERN CALIFORNIA

CA/AZ		CALIFORNIA	
Stantec	8 offices \ 535 staff	Trussell Technologies Inc	2 offices \ 32 staff
K&A	2 offices \ 31 staff	Kleinfelder	7 offices \ 374 staff
GEI	5 offices \ 240 staff	H&H Water Resources	1 offices \ 2 staff
Montgomery & Associates	5 offices \ 70 staff	mwa architects	1 offices \ 20 staff

Financial Stability, Capacity, and Resources

Stantec Inc. is a publicly traded entity listed on the New York Stock Exchange (Symbol: STN) and the Toronto Stock Exchange (Symbol: STN). We are required to be financially stable in order to maintain these listings and we are required to adhere to the 'Internal Control - Integrated Framework' issued by the Committee of Sponsoring Organizations of the Treadway Commission "(2013 framework)" (the COSO criteria). We are subject to ongoing independent audits that prove our financial stability and credit worthiness. For a complete view of our audited financial statements, visit the Investors section of our website at www.stantec.com/about-us/investors.html. Please note that Stantec Inc.'s operating subsidiaries and affiliates (e.g., Stantec Consulting Ltd., Stantec Consulting Services Inc., etc.) are not publicly traded, but are owned and/or controlled by Stantec Inc. Stantec Inc.'s financial statements are consolidated to include its subsidiaries and structured entities that are controlled, but do not necessarily include all affiliates.

With more than 500 personnel in Southern California, Stantec has the necessary immediate and sustainable capacity to accomplish all required work through the duration of this contract. As evidenced by our long-term client relationships, dedicated staff, and deep bench of resources, we have the capacity required to fully implement the PRWAP.

Litigation History

There are no unsatisfied judgments or arbitration awards outstanding against Stantec. Stantec does have some legal proceedings, lawsuits, or claims pending. These are a normal part of professional services industries. All have been reported to Stantec's insurers who are in the process of adjusting/managing them. None will have a material effect on the financial position of the company or its ability to undertake this assignment. Perhaps of greater comfort, Stantec seeks to deal with client concerns and claims promptly and fairly through its Risk Management group. As a public company, Stantec has substantial assets and maintains a high professional liability insurance limit. Stantec's claims history has resulted in relatively low insurance premiums when compared to firms of similar size and character.

Kleinfelder's litigation history is included in Appendix B. None of our other subconsultants has any pending litigation on any public projects.

	Minimum Qualifications	Our Team Exceeds All of Your Required Qualifications
1	Experience with Indirect Potable Reuse permitting	*The Stantec Team has extensive experience with Indirect Potable Reuse permitting, including the following example projects.* ✓ Surface Water Augmentation Feasibility Study, Palmdale Water District, Palmdale, CA ✓ Santa Monica Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA ✓ San Diego Pure Water Program, City of San Diego, San Diego, CA ✓ Hyperion 2035 Program, City of Los Angeles, Los Angeles, CA ✓ Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA ✓ Pure Water Monterey Program, Monterey One Water, Monterey, CA ✓ East County Advanced Water Purification Program, Padre Dam Municipal Water District, Santee, CA
2	Proposed team members shall have design experience for a minimum of three advanced water purification facilities in the last 10 years	*Stantec's key personnel have all been involved in the design of three or more advanced water purification facilities and/or facilities utilizing AWT processes in the last 10 years. Brief overviews are provided below and further described in the corresponding sections and resumes.*  **Tama Snow** Program Manager 1. Surface Water Augmentation Feasibility Study, Palmdale Water District, Palmdale, CA (completed 2021) 2. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024) 3. Hyperion Advanced Water Purification Facility, Los Angeles Bureau of Sanitation, Los Angeles, CA (design completed 2021)  **Zakir Hirani** Deputy Program Manager 1. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024) 2. San Diego Pure Water Program, North City Pure Water Facility, City of San Diego, San Diego, CA (design completed 2017) 3. Hyperion Advanced Water Purification Facility, Los Angeles Bureau of Sanitation, Los Angeles, CA (design completed 2021)  **Don Bassett** Planning Lead 1. Hyperion Advanced Water Purification Facility, Los Angeles Bureau of Sanitation, Los Angeles, CA (design completed 2021) 2. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024) 3. Hyperion MBR Pilot Facility, City of Los Angeles, El Segundo, CA (estimated completion 2022)  **Shane Trussell** Process/ Regulatory Technical Advisor 1. San Diego Pure Water Program, City of San Diego, San Diego, CA (estimated completion 2035) 2. Pure Water Monterey Program, Monterey One Water, Monterey, CA (completed 2019) 3. East County Advanced Water Purification Program, Padre Dam Municipal Water District, Santee, CA (estimated completion 2025)

2 - Continued

Proposed team members of the proposer shall have design experience for a minimum of three advanced water purification facilities in the last 10 years

Keel Robinson
Demonstration Facility Lead

1. Pure Water Monterey Program, Monterey One Water, Monterey, CA (completed 2019)
2. Progressive Design-Build Services for the Pure Water Soquel Program, Soquel Creek Water District, Soquel, CA (estimated completion 2022)
3. Terminal Island Advanced Water Purification Facility Expansion Technical Support, Los Angeles Sanitation & Environment, Los Angeles, CA (completed 2017)

Jim Borchardt
Full-Scale Design Criteria Package Lead

1. Santa Monica Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA (completed 2017)
2. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024)
3. San Fernando Groundwater Remediation Project, Los Angeles Department of Water and Power, San Fernando, CA (design completed 2021)

Michael Watson
Project Delivery Methodology

1. San Fernando Groundwater Remediation Project, Los Angeles Department of Water and Power, San Fernando, CA (design completed 2021)
2. Santa Monica Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA (completed 2017)
3. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024)

Bryan Trussell
Regulatory Compliance

1. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA (estimated completion 2024)
2. Donald C. Tillman Advanced Water Purification Facility, Los Angeles Sanitation & Environment, Los Angeles, CA (estimated completion 2026)
3. Terminal Island Advanced Water Purification Facility Expansion Technical Support, Los Angeles Sanitation & Environment, Los Angeles, CA (completed 2017)

3

Experience with groundwater augmentation and/or surface water augmentation in the past 10 years.

Surface Water Augmentation

Groundwater Augmentation

*The Stantec Team has been involved with **groundwater and/or surface water augmentation in the last 10 years**. Sample projects are listed below.*

1. Donald C. Tillman Advanced Water Purification Facility, Los Angeles Sanitation & Environment, Los Angeles, CA
2. Santa Monica Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA
3. San Diego Pure Water Program, North City Pure Water Facility, City of San Diego, San Diego, CA
4. Regional Recycled Water Program, Planning and Technical Services, Metropolitan Water District of Southern California, Carson, CA
5. Progressive Design-Build Services for the Pure Water Soquel Program, Soquel Creek Water District, Soquel, CA
6. Pure Water Monterey Program, Monterey One Water, Monterey, CA
7. East County Advanced Water Purification Program, Padre Dam Municipal Water District, Santee, CA
8. Hyperion 2035 Program, City of Los Angeles, Los Angeles, CA

SECTION
C Qualification of the Firm

Institutional Knowledge and Our Experience in Antelope Valley

Stantec (formerly MWH) provided design services for the Leslie O' Carter Water Treatment Plant, and our own Jim Borchardt designed the first leg of the Palmdale Ditch conversion in 2007 and prepared the Water Supply Master Plan in 2016. Our Program Manager, Tama Snow, has served the District over the past two years and was instrumental in developing the feasibility study that formed the basis for the Palmdale Reional Water Augmentation Program (PRWAP). We have also worked in the Antelope Valley for decades, including our recent involvement on the Antelope Valley East Kern Water Agency's (AVEK) High Desert Water Bank project. Such institutional knowledge and established relationships will allow our Team to mobilize quickly for the important PRWAP.

Our Subconsultants

Trussell Technologies brings unmatched expertise in indirect potable reuse/direct potable reuse (IPR/DPR) and the recycled water regulatory environment, specifically in California, and brings unmatched knowledge of the evolving regulatory challenges we face on this project.

Montgomery & Associates has provided hydrogeologic consulting services on several advanced water purification facility projects in California, including the Pure Water Soquel Project and Roseville IPR Pilot Study.

Katz & Associates brings more than 25 years of experience developing outreach programs for potable reuse projects. K&A team members have supported the District with outreach and public participation for the initial Groundwater Recharge and Recovery Project.

H&H Water Resources staff bring over 50 years of combined experience in water resources planning, hydrology, and specialized groundwater studies. H&H staff are working with Stantec on AVEK's High Desert Water Bank and LADWP's water banking in the Antelope Valley.

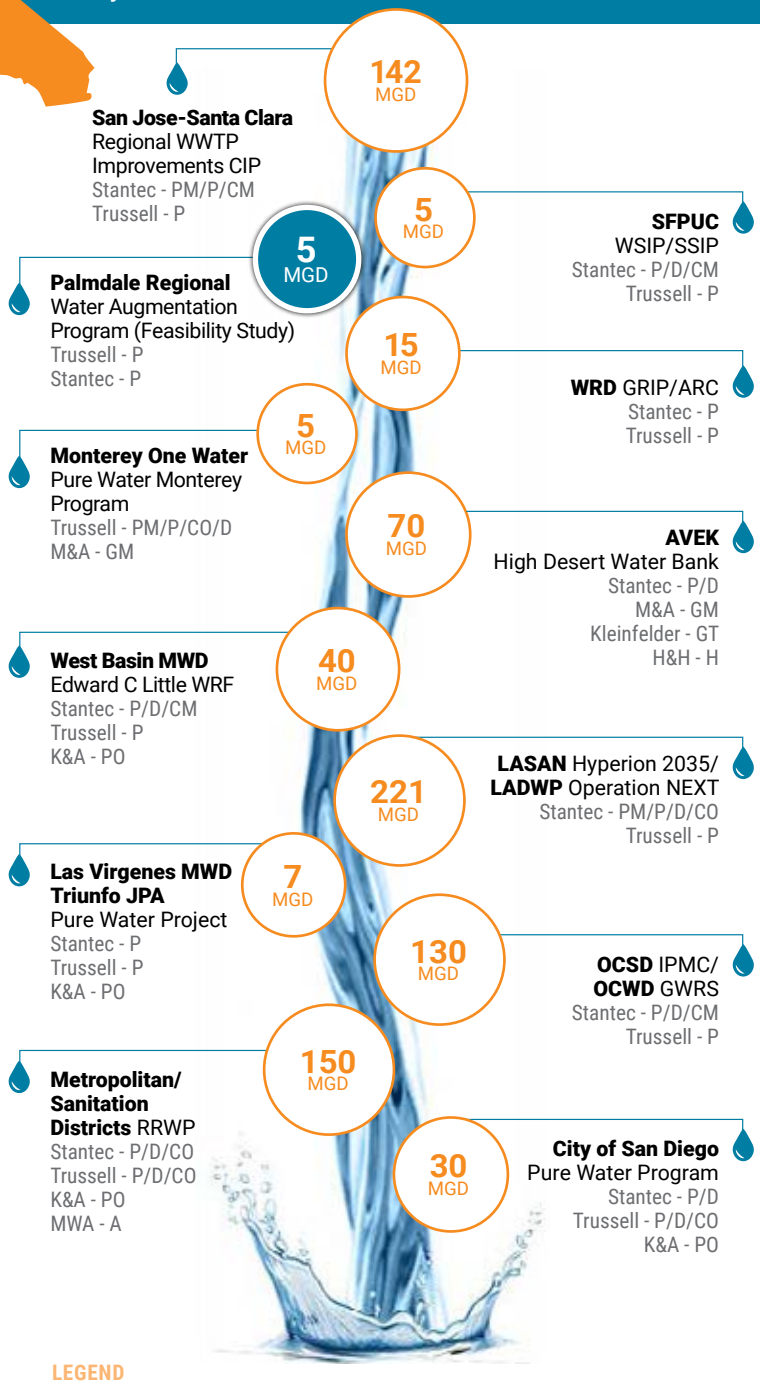
GEI has provided planning, feasibility studies, design, and construction management on aquifer storage and recovery (ASR) projects throughout California. The firm has successfully partnered with Stantec on 14 projects since 2014, including the recent Kern Fan Groundwater Storage project with the Groundwater Banking Joint Powers Authority.

Kleinfelder has provided geotechnical consulting services for water utility clients and public agencies in southern California for 35 years. The firm has worked with Stantec on several recent projects, including the High Desert Water Bank and Lake Forest Pump Station.

MWA Architects specializes in the planning and design of public infrastructure throughout California. The firm has worked with Stantec on multiple projects, including Metropolitan's Regional Recycled Water Program (RRWP).

History of Successful Partnerships

Stantec has brought together a team with key subconsultants and thought leaders in water and advanced water treatment (AWT) - program management, planning, design, engineering, construction, operations, groundwater modeling and injection well testing and design, and public relations for advanced water treatment (AWT) projects. The figure below highlights our past partnerships over the last 10 years.



LEGEND

PM - Program Management | **P** - Planning/Regulatory | **PO** - Public Outreach
CM - Construction Management | **CO** - Commissioning/Operations | **D** - Design
GM - Groundwater Modeling | **A** - Architecture | **GT** - Geotechnical | **H** - Hydrogeology

You Can Trust Our Team to Deliver

Over the last 10 years, the Stantec Team has served as a trusted consultant to provide Program Management/ Owner's Engineering services on dozens of programs throughout California. Our proposed Team for the District's PRWAP includes the industry's top AWT engineers who have been involved with over 50% of potable reuse projects in California.

Relevant projects from the past 5 years are shown on the following pages. The matrix below provides additional relevant project experience.

	REFERENCE PROJECTS	CAPACITY	PROCESS TRAIN	PROGRAM MANAGEMENT / PLANNING / DESIGN SERVICES															
				Groundwater/Surface Water Augmentation /IPR **in last 10 Years**	Program Management/Planning/Owner's Engineer/Technical Review for Owner	Funding Application/Support	Alternative Project Delivery	IAP / DDW Meetings Participation	Procurement RFQ/RFP Development	Public Outreach	Cost Estimating & Scheduling	Environmental Studies (CEQA/NEPA) & Regulatory Support/Compliance	Demonstration Facility Design, Construction, Testing, Operation	Groundwater Modeling, Tracer Study, Injection/Monitoring Wells	Conceptual Design/ Design Criteria Package	Advanced Treatment	Brine Minimization/Evaporation Ponds	Conveyance Planning/Design	Engineering/Construction Management Services During Construction
Described on the following pages	**City of Santa Monica's** Sustainable Water Infrastructure Project (SWIP)	1 MGD	MBR+RO+UV/AOP	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
	Monterey One Water Pure Water Monterey Program	5 MGD	O_3+MF+RO+UV/AOP	✓	✓	✓		✓	✓			✓	✓	✓		✓			✓
	Metropolitan's Regional Recycled Water Program Planning and Technical Services	150 MGD	MBR+RO+UV/AOP	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
	City of San Diego's Pure Water Program	34 MGD (North City)	O_3/BAC+MF+RO+UV/AOP (North City) MBR+O_3/BAC+MF+RO/High Recovery RO+UV/AOP (Phase 2 Demo)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Las Virgenes–Triunfo JPA Pure Water Program	6 MGD	MF+RO+UV/AOP	✓	✓		✓			✓	✓	✓		✓	✓	✓		✓	
	City of Anaheim's Water Recycling Demonstration Facility	0.1 MGD	MBR+O_3							✓	✓	✓	✓		✓	✓			✓
	Metropolitan's Advanced Purification Center	0.5 MGD	MBR+RO+UV/AOP	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓			✓
	City of Los Angeles' Hyperion 2035 Program	220 MGD	MBR+O_3/BAC+MF+RO+UV/AOP	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓			
	Australia Pacific LNG's Water Treatment Facilities	10.5 MGD	DF+IX+MF+RO+ High Recovery RO								✓					✓	✓		✓
	Soquel Creek Water District's Progressive Design-Build Services for the Pure Water Soquel Program	1.3 MGD	MF+RO+UV/AOP	✓			✓					✓			✓	✓			
	City of Los Angeles' Hyperion MBR Pilot Facility	1 MGD	MBR+RO+UV/AOP	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓			✓
	Padre Dam Municipal Water District's East County Advanced Water Purification Program	15 MGD	Cl_2+MF+RO+UV/AOP	✓	✓	✓		✓	✓			✓	✓		✓	✓	✓		✓
	City of Los Angeles' Terminal Island WRP Advanced Water Purification Facility	12 MGD	MF+RO+UV/AOP	✓	✓				✓			✓				✓			
	Antelope Valley-East Kern Water Agency's Hydrogeological Services for High Desert Water Bank	NA	NA			✓					✓			✓	✓				✓
	City of Los Angeles' Hyperion Advanced Water Purification Facility	1.5 MGD	MBR+RO+UV/AOP	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓			✓
	Palmdale Water District's Surface Water Augmentation Feasibility Study	12 MGD	MF+RO+UV/AOP	✓	✓						✓			✓	✓	✓	✓	✓	
	City of Los Angeles' San Fernando Basin Groundwater Remediation Project	75 MGD	UV/AOP+GAC				✓			✓	✓	✓		✓	✓	✓		✓	✓
	San Francisco Public Utilities Commission's Westside Recycled Water Project	4.5 MGD	MF+RO+UV								✓	✓			✓	✓			✓
	City of Los Angeles' (LADWP) DPR Demonstration Facility	1 MGD	Multiple	✓	✓							✓				✓			
	City of Buckeye's Broadway Road Water Campus	8 MGD	Oxidative Filtration+ RO, High Recovery RO (Pilot)				✓				✓					✓	✓		✓
	City of Los Angeles' DC Tillman Advanced Water Purification Facility	22 MGD	MF+RO+UV/AOP	✓	✓		✓		✓			✓	✓	✓	✓	✓			✓
	Palmdale Water District's Groundwater Recharge and Recovery Outreach and EIR	NA	NA	✓						✓		✓							
	City of Tucson's Conceptual Design of Recharge & Recovery Facilities	NA	NA											✓	✓				

Santa Monica
Sustainable Water Infrastructure Project

The Sustainable Water Improvement Project (SWIP) is a multi-benefit, integrated water resources project for both non-potable and potable reuse. Our team worked with the City of Santa Monica through siting and facility planning, securing funding including State Revolving Fund and grant applications, permitting coordination, and developing conceptual design of above and below-ground facilities to accommodate multiple stakeholders and multiple City projects. Stantec is now working with the City as the Owner's Engineer on the Progressive Design-Build (PDB) implementation of the project.

Stantec's team investigated the treatment technologies, defined project criteria, prepared cost estimates for construction and operation of the facility, and recommended a permitting timeline. The project included underground storage of 1.5 MG of stormwater, design and expansion of a 0.5 MGD urban runoff/storm water treatment facility, and a new 1.0-MGD municipal wastewater and stormwater recycling facility including membrane bioreactor (MBR), reverse osmosis (RO), and ultraviolet light/advanced oxidation process (UV-AOP). Several benefits provided to Santa Monica include:

- Improved beach water quality
- Compliance with stormwater pollution control requirements
- A reliable local water supply for the City

Our team has provided comprehensive services as Owner's advisor for this client with limited staff and limited alternative delivery experience. We assisted with the RFQ/RFP documents and evaluation process for progressive design-build, reviewed groundwater modeling and injection and monitoring well design, and prepared the Engineering Report and Anti-Degradation Study for IPR. Our multilayer and broad technical review team has allowed for quick review of all technical submittals.

Stantec has adhered to the schedule and budget for this project.

Local water supply sustainability through the unique, integrated reuse of 3 water sources:

- ✓ Wastewater
- ✓ Stormwater
- ✓ Brackish groundwater

Total Project Cost
(Our Services/Overall)
$2.5M/$79M

Work Completion Period
2016-2022

Percentage of Work Performed

100%
Stantec

Pure Water Monterey
Advanced Water Purification Facility

The First Potable Reuse Project in Northern California

Total Project Cost
(Our Services/Overall)
$5M/$120M

Work Completion Period
2012-2019

Percentage of Work Performed

55%
Trussell

3%
M&A

Trussell was involved in the inception of the Pure Water Monterey, beginning with source water quality and blending studies. From there, a treatment train of ozonation, membrane filtration (MF), RO, UV/AOP with hydrogen peroxide (H_2O_2), and post-treatment stabilization with a decarbonator and liquid lime was determined to be the best treatment process. Trussell piloted the treatment train, generated a basis of design and served as the process lead for the design of the ozonation system, UV/AOP system, and post-treatment stabilization system and led the preselection of the ozonation and UV/AOP equipment.

Trussell assisted the client with permitting efforts providing CEQA support, development of the Title 22 Engineering Report, and obtaining the Waste Discharge Requirements and Water Recycling Requirements permit. Trussell worked with M&A, who developed a groundwater flow and transport model to evaluate permitting and alternative project configurations. The model was used to support the Title 22 Engineering Report for compliance with underground retention time and establishing boundaries for primary and secondary zones of controlled drinking water well construction, and to help design and establish a monitoring well network. Trussell also assisted with geochemical leaching analysis to assess injected groundwater quality.

Trussell and M&A have adhered to the schedule and budget for this project.

Regional **Recycled Water Program**

The RRWP is destined to become in this century what the aqueducts of the State Water Project represented in the last.

Metropolitan Water District of Southern California (Metropolitan) and Los Angeles County Sanitation Districts (LACSD) are planning a Regional Recycled Water Supply Program (RRWP) to provide a high-quality, drought-resistant new water source to Metropolitan's member agencies. From the beginning of full-scale planning and demonstration design to today, Stantec's team has been the trusted consultant to support Metropolitan with planning, design, testing, and permitting for the entire program.

Stantec's Team, including Trussell Technologies, planned and designed the 0.5-MGD Advanced Purification Center (APC) demonstration facility (MBR-RO-UV/AOP) for testing, public outreach, and full-scale planning. We helped develop the testing and monitoring plans, and performed the operation, maintenance, and testing for over 18 months. Over the course of the project, we have prepared presentations and had meetings with the Independent Advisory Panel (IAP) and California's Division of Drinking Water for potable reuse planning and permitting evaluation.

As part of the full-scale planning, Stantec has developed conceptual site planning, pre-design, and cost estimation (capital, operations and maintenance, net present worth) for the 150-MGD full-scale AWT facility. This was done in 3D BIM design and incorporated the Demonstration Facility into the full-scale facility. We performed multiple planning studies for evaluation phasing, alternative treatment trains, nitrogen and boron management, and both indirect and direct potable reuse. We have supported alternative delivery model discussions and evaluations and are supporting the Programmatic Environmental Impact Report's (PEIR's) development for the 150-MGD, full-scale AWT Facility. Our Team will also be designing the direct potable reuse facilities for the demonstration plant.

Stantec has adhered to the schedule and budget for this project.

Total Project Cost
(Our Services/Overall)
$2.5M/$21M APC, with future $2B for full scale projected

Work Completion Period
2016-Ongoing

Percentage of Work Performed

33%	30%	5%
Stantec	Trussell	K&A

San Diego **Pure Water Program**

The First Surface Water Augmentation Project in California

Total Project Cost
(Our Services/Overall)
$94.1M/$3B

Work Completion Period
2015-Ongoing

Percentage of Work Performed

34%	9%	5%
Stantec	Trussell	K&A (to date)

The City retained Stantec as the prime consultant to provide as-needed technical support and program management services for the $3B Pure Water San Diego Program. The Stantec Team, including Trussell Technologies, Katz & Associates, and other consultants, has worked for over seven years to help the City plan, define, manage and execute a first of-its-kind potable reuse project in California.

Stantec is providing programmatic services include risk and change management, regulatory support, design and construction procurement support, and environmental/CEQA study support. Stantec has also provided project delivery, funding, and detailed design review support services. Public outreach has been led by Katz & Associates, including the Annual Pure Water Open House, public tours, and water tasting.

As part of the Stantec Team, Trussell Technologies led the operations and testing for the Phase 1 demonstration facility. Our Team assisted with development of testing and monitoring plans, technical presentations to the IAP and regulatory agencies, and development of the process train and full-scale design criteria. The Stantec Team is now also designing the new Phase 2 demonstration facility, including evaluation of high recovery RO for brine management.

The Stantec Team performed preliminary design on the Phase 1 North City conveyance and treatment projects, including 30% design for the 34-MGD North City Pure Water Facility (an advanced treatment facility that uses O_3/biologically activated carbon (BAC), MF, RO, UV/AOP). The project secured a first-of-its-kind National Pollutant Discharge Elimination System (NPDES) permit from the California Division of Drinking Water to add purified water to the Miramar Reservoir.

Stantec is working under a MSA and Task Order contract for a fixed duration and not to exceed fee, and we operate within those parameters.

SECTION D

Project Leaders, Team Experience, and Availability

Our Commitment to the District

Stantec's Team has been instrumental in almost every advanced water treatment (AWT) project in California due to the depth and breadth of technical expertise we bring to our clients. Such involvement has also allowed us to develop a deep bench of treatment/design experts in our Southern California offices that none of our competitors can claim. Whether it is a 1.5-MGD AWT facility for the City of Santa Monica or a 150-MGD AWT Program for Metropolitan, our commitment and dedication to our projects have stayed the same. We will leverage our unparalleled, local staff strength to help ensure successful implementation of the District's program. Our Task Leads will be actively involved in all phases to facilitate successful project delivery.

Tama Snow TS | Zakir Hirani ZH | Don Bassett DB | Jim Borchardt JB | Bryan Trussell BT | Keel Robinson KR | Tim Leo TL | Mike Watson MW

Shane Trussell ST

Rodrigo Tackaert RT

Aviv Kolakovsky AK

David Hokanson DH

Tyler Hadacek TH

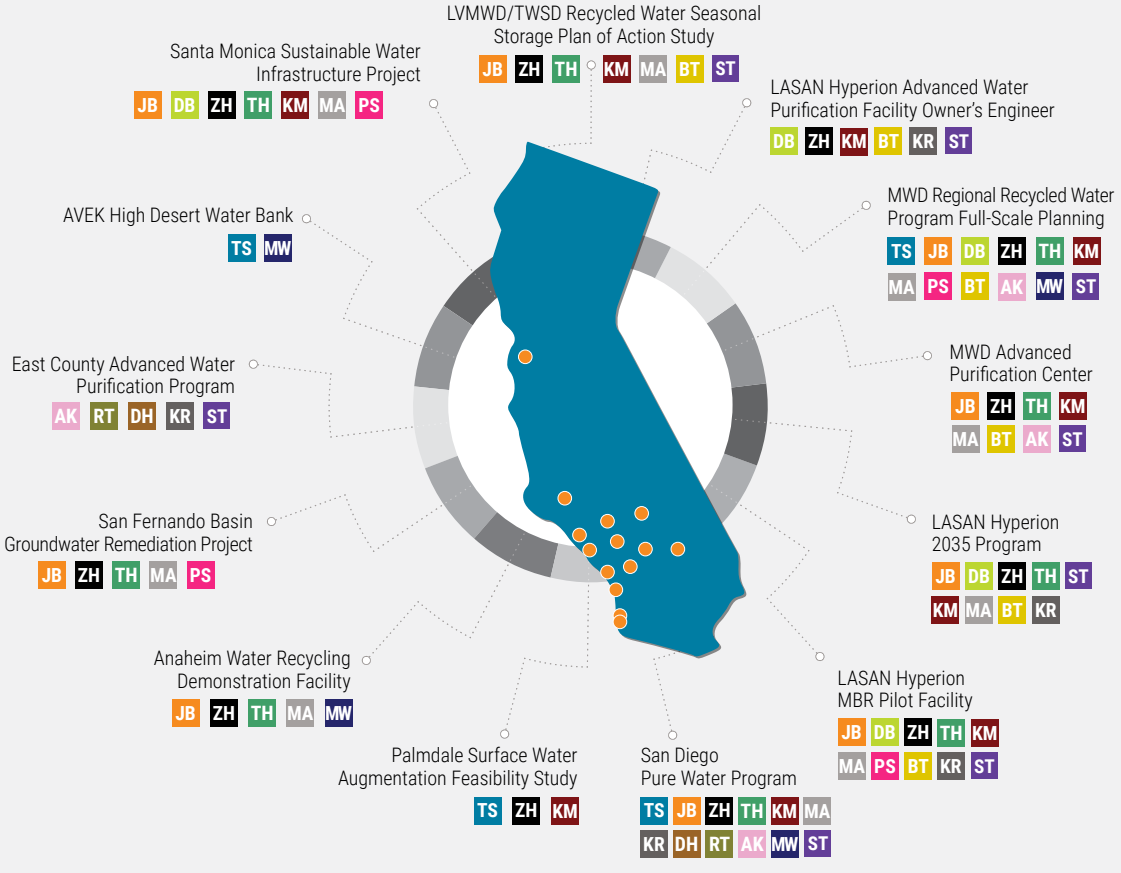
Kyleen Marcella KM

Michael Adelman MA

Pooja Sinha PS

10+ years of working together enables our Team to support the District with unparalleled efficiency.

The Stantec Team is a broadly experienced collection of AWT and groundwater modeling experts and local staff that have worked together on numerous similar projects, as demonstrated in the figure below. Our strong local presence with **140+ employees within an hour drive to Palmdale** will enable us to support the District at all times on the Palmdale Regional Water Augmentation Program (PRWAP).



ORGANIZATIONAL CHART

NWRI INDEPENDENT ADVISORY PANEL

PROGRAM DELIVERY SUPPORT

COST CONTROL
Jim Loucks, CCP

DOCUMENT MANAGEMENT
Tasmin Brown

CHANGE MANAGEMENT
April Victorino

SCHEDULE MANAGEMENT
Adarsh Katiyar

RISK MANAGEMENT
April Victorino

PROGRAM MANAGEMENT

Tama Snow, PE (PM)
Zakir Hirani, PE, BCEE (Deputy PM)

SEPARATION BETWEEN TEAMS

PLANNING/PROJECT MANAGEMENT

PLANNING
Don Bassett, PE, BCEE

PROJECT DELIVERY METHODOLOGY
Mike Watson, PE, DBIA

FUNDING SUPPORT
Amy Broughton

PUBLIC OUTREACH
Patricia Tennyson [5]

BUREAU OF RECLAMATION FEASIBILITY REPORT
Mary Paasch, PMP, PE

ENVIRONMENTAL STUDIES/CEQA
Sarah Garber, PMP, CPP

REGULATORY COMPLIANCE
Bryan Trussell, PE, BCEE [1]

BRINE MANAGEMENT
Michael Adelman, PE

TREATMENT
David Hokanson [1]

ECONOMIC IMPACT ANALYSIS
Ben Stewart, PE

GROUNDWATER MODELING / TESTING
Tim Leo, PG, CHG [2]

GROUNDWATER MODELING
Cameron Tana, PE [2]

PILOT INJECTION TESTING & GROUNDWATER MONITORING
Bryan Trussell, PE, BCEE [1]

DESIGN REVIEWERS / TECHNICAL ADVISORS

PROCESS / REGULATORY
Shane Trussell, PhD, PE, BCEE [1]

MECHANICAL
George Tey, PE

GROUNDWATER MODELING/ INJECTION WELL DESIGN
Victor Harris, PG, CEG, ChG [3]

STRUCTURAL
Craig Wilcox, PE, SE, LEED AP

ELECTRICAL
Doug Reed, PE

INSTRUMENTATION AND CONTROL
Dave Wilcoxson, PE

CIVIL
George Triebel, PE

DESIGN

DEMONSTRATION FACILITY
Keel Robinson

DESIGN MANAGER
Tyler Hadacek, PE

TESTING
Yan Qu, PhD, PE [1]

OPERATIONS SUPPORT/ TRAINING
Aviv Kolakovsky [1]

FULL-SCALE DESIGN CRITERIA PACKAGE
Jim Borchardt, PE

AWPF
Mike Priest, PE

EVAPORATION PONDS
Cris Swain

CONVEYANCE
Ray Fakhoury, PE

INJECTION WELLS
Erik Gaiser, PG [7]

DESIGN CRITERIA REPORT
Kyleen Marcella

DISCIPLINE LEADS

MECHANICAL
Sean Neprud, PE

STRUCTURAL
Simon Lin, PE

ELECTRICAL
Long Hoang, PE

CIVIL
Matt Carpenter, PE

INSTRUMENTATION AND CONTROL
Sankaran Nadarajan, PE

GEOTECHNICAL
Jeff Walker, PE, GE

UTILITY SURVEY / POTHOLING
Greg Sebourn

ARCHITECTURAL
Greg Robley, AIA, LEED, AP [6]

BIM DESIGN
Bill Vogel

EQUIPMENT PREQUALIFICATION
Rodrigo Tackaert [1]

ENGINEERING SERVICES DURING CONSTRUCTION
Pooja Sinha

SUBCONSULTANTS

Trussell Technologies [1] | Montgomery & Associates [2] | H&H Water Resources [3]
Kleinfelder [4] | Katz & Associates [5] | MWA Architects [6] | GEI Consultants [7]

Maintaining Clear Separation Between Planning/ Program Management and Design Teams

We have intentionally organized our Stantec Team and subconsultants to create a clear and concise delineation between our Program Management/Planning group—who will be operating as the extension of District staff to provide program support and independent technical reviews—and the Design and Delivery Team that will design the demonstration facility and prepare the full-scale design criteria package. Technical reviews for the modeling and design components and bridging documents will be conducted by our most seasoned design professionals in their fields of expertise, as well as **Victor Harris** of H&H Water Resources, who will provide technical review of all groundwater components.

Program Managers and Support Staff

Our management team is comprised of **Tama Snow** (Program Manager), who has been working with the District over the two years, and **Zakir Hirani** (Deputy Program Manager), who has provided similar services to clients in Southern California over the last 18 years. Tama will serve as the primary point of contact for the District and Zakir will be an internal liaison between our Planning/Program Management and Design teams. Tama's institutional knowledge and organizational skills executing similar projects, combined with Zakir's AWT planning and design expertise, will help ensure smooth project execution and timely production of high-quality deliverables.

Planning/Project Management Team

Our Planning/Program Management Team will be led by **Don Bassett**, who has more than 40 years of experience leading such efforts for AWT programs in Southern California. He led teams for a 1.5-MGD Hyperion Advanced Water Purification Facility as well as a 260-MGD Hyperion 2035 Program. Don will be supported by **Tim Leo** from M&A on groundwater modeling efforts; Tim has intimate knowledge of basins in Antelope Valley and is currently working with Stantec on a groundwater project for AVEK.

Design Team

Our Design Team for the demonstration facility will be led by **Keel Robinson**, who was instrumental in sucessfully implementing the Pure Water Monterey Program. He will be supported by **Tyler Hadacek** from Stantec, who works in our Pasadena office and has been leading our Owner's Engineering team for the City of Santa Monica's SWIP – a 1.5-MGD AWT and groundwater recharge project. **Jim Borchardt**, with over 40 years of experience, will lead our efforts for the full-scale design criteria package. He will be supported by **Mike Priest** from Stantec. Both Jim and Mike have designed numerous AWT facilities ranging from 0.5 to 30 MGD in capacity using different delivery methods—including progressive design-build.

Interactions with Regulators and Independent Advisory Panel

Bryan Trussell, from Trussell Technologies, will lead the efforts related to interactions with regulators and the Independent Advisory Panel. Bryan has worked with the Stantec Team on similar efforts for the Metropolitan Water District of Southern California and City of Los Angeles.

Community Outreach

Community outreach is a significant and critical component of the program management team. **Patricia Tennyson** of K&A will lead the community outreach. Her approach is informed by experience working with the District on the Groundwater Recharge Program. K&A will support the District in developing the necessary education materials so all community members can understand the importance of this significant program to fulfill the District's mission of providing a local, reliable water supply.

& Program Funding and Economic Impacts

Our Team includes **Amy Broughton** and **Ben Stewart**, both from Stantec's Financial Services Team. Amy will lead the efforts to strategically identify funding opportunities and prepare and track funding applications. She recently prepared a grant application for another District project. Ben will lead the effort to prepare an input/output analysis using modeling software to prepare an economic impact analysis that will be used by the District's consultant to prepare a rate study.

TAMA Snow, PE

PROGRAM MANAGER

30 YEARS of experience

LOCATION
Pasadena*, CA

AVAILABILITY
50%

Having the opportunity earlier in her career to **manage West Basin's recycled water program**, Tama developed a deep understanding and passion for water reuse. She sought opportunities to work on recycled water projects throughout her career, including at the Orange County Water District (OCWD), where she **managed the planning phase for OCWD's Groundwater Replenishment Program** and served as the lead technical spokesperson for the public outreach program. Tama is appreciative of the opportunity to collaborate with the District to **leverage her management skills and the unmatched technical capabilities of the Stantec Team to see the PRWAP through to successful completion.**

REPRESENTATIVE PROJECTS

1 City of Lemoore's Water Treatment Plants Project – Progressive-Design-Build
2 IRWD's Lake Forest Zone B to C Recycled Water Pump Station
3 OCWD's Groundwater Replenishment System

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$150K/$2.8M	$1.1M/$5.2M	$10M/NA (planning)
Initial Fee Estimate/ Final Fee Cost	$2.8M/$2.8M	$750K/$1.1M	NA (planning)
Reasons for Fee Increases	NA	Amended analysis & pump selection; client added scope	Managed and oversaw multiple consultant contracts
Construction Cost	$38M	$5.2M	NA (planning phase)
Change Order Costs	NA	NA	NA
Reasons for Change Orders	NA	NA	NA

Why Tama? Tama has worked alongside the District over the past two years to see this program come to fruition and has a vested interest in seeing that a successful roadmap for the PRWAP is developed and expedited. As Program Manager, Tama will be responsible for overall program coordination, resourcing, and ensuring that prescriptive procedures are followed on independent reviews for all deliverables.

*If successfully awarded, Tama is committed to working out of Stantec's Pasadena office—within an hour's drive of District offices.

ZAKIR Hirani, PE, BCEE

DEPUTY PROGRAM MANAGER

18 YEARS of experience

LOCATION
Pasadena*, CA

AVAILABILITY
50%

Zakir has over 18 years of experience **managing and leading treatment and process design for water, wastewater, and AWT projects** including microfiltration/ultrafiltration (MF/UF) membranes, membrane bioreactor (MBR), reverse osmosis (RO), O_3, ultraviolet light (UV) disinfection, and advanced oxidation processes (AOPs) including UV/H_2O_2 and O_3/H_2O_2. He is experienced with **pilot/demonstration studies, regulatory approval, conceptual process design, modeling, detailed design, engineering services during construction, start-up/ commissioning, and process troubleshooting.** He has worked on AWT projects with capacities ranging from 0.5 to 260 MGD, including the City of Santa Monica's 1.5-MGD AWT facility; Metropolitan's 150-MGD Regional Recycled Water Program including a 0.5-MGD AWT demonstration facility; the City of Los Angeles' 260-MGD Hyperion 2035 Program including 1.0-MGD AWT demonstration and 1.5-MGD AWT production facilities; and the City of San Diego's 34-MGD Pure Water Program's 1.0-MGD AWT demonstration facility.

REPRESENTATIVE PROJECTS

1 City of Santa Monica's Sustainable Water Infrastructure Project
2 Metropolitan's Regional Recycled Water Program, Advanced Purification Center
3 City of San Diego's Pure Water Program, North City Pure Water Facility

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$1.4M/$1.3M	$1.6M/$0.9M	$4.1M/$0
Initial Fee Estimate/ Final Fee Cost	$2.7M/$2.7M	$2.5M/$2.5M	$4.1M/$0
Reasons for Fee Increases	NA	NA	Client added scope
Construction Cost	$100M	$21M	$357M
Change Order Costs	NA	NA	$0.4M
Reasons for Change Orders	NA	Not disclosed by client	Pre-procurement of MF and UV

Why Zakir? Zakir will partner with the Program Manager, Tama Snow, to understand the District's needs and provide optimal solutions. He is an industry-recognized expert in advanced water treatment and potable reuse and has assisted several clients in Southern California on similar projects. Zakir has learned valuable lessons over the past 18 years and will leverage his experience and expertise to successfully deliver the PRWAP.

DON BASSETT, PE, BCEE

PLANNING LEAD

47 YEARS of experience

LOCATION
Pasadena, CA

AVAILABILITY
50%

Don has 47 years of experience in civil and environmental engineering of wastewater treatment and reuse systems. His background includes pilot testing, planning, design, construction oversight, and operations. His **planning experience includes more than 10 facilities plans** requiring coordination with environmental clearance document preparation. He has managed designs of treatment and reuse systems with values ranging from $10M to $1B, several of which have employed alternative delivery methods. Don served as the **engineering planning lead for Metropolitan and County Sanitation Districts of Los Angeles County's Advanced Water Treatment Facilities** (environmental planning phase) for their Regional Recycled Water Program. His experience also includes serving as the consultant Project Manager for developing the Joint Outfall System Master Facilities Plan for the Sanitation Districts.

REPRESENTATIVE PROJECTS

1. City of Los Angeles' Hyperion Advanced Water Purification Facility
2. Metropolitan's Regional Recycled Water Program, Advanced Purification Center
3. City of Santa Clara's Santa Clarita Valley Facilities Plan

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$10.5M/$18M (MBR Pilot); $3.5B (Hyperion 2035 Program)	$1.6M/$0.9M	$1.36M (Facilities Plan)
Initial Fee Estimate/ Final Fee Cost	$2.8M/$TBD - Ongoing	$2.5M/$2.5M	$1.36M/ $1.44M
Reasons for Fee Increases	Additional review required by MBR Pilot Partners	NA	Client added scope
Construction Cost	MBR Pilot Facility: $18M; Hyperion 2035: $3.5B	$21M	$50M (estimated)
Change Order Costs	$800K	NA	NA
Reasons for Change Orders	Neighboring construction project impacts	Not disclosed by client	NA

Why Don? Don's background and expertise includes planning, design, and program management. While serving as the Planning Lead, he will draw upon his comprehensive experience in facilities and master planning, as well as his technical knowledge of water reuse technologies to ensure the planning recommendations reflect sound engineering—consistent with the goals and objectives set forth by the District for the PRWAP.

TIM LEO, PG, CHG

GROUNDWATER MODELING/ TESTING LEAD

34 YEARS of experience

LOCATION
Tucson, AZ

AVAILABILITY
50%

Tim has 34 years of consulting hydrogeology experience with the past 15 years focused on managing multidisciplinary water resources projects, including developing groundwater sustainability plans, characterizing groundwater basin hydrogeologic conditions, developing groundwater flow and transport models, assessing the feasibility and implementing managed aquifer recharge projects, designing wells and wellfields, and conducting pumping and tracer tests. **Tim has developed, reviewed, and advised on dozens of groundwater models and designed and evaluated results from numerous hydrogeologic testing programs.** He routinely interacts with diverse stakeholder groups on water resource projects—presenting technical information to advisory committees, Boards of Directors, regulatory agencies, and the public.

REPRESENTATIVE PROJECTS

1. Antelope Valley-East Kern Water Agency's Managed Aquifer Recharge & Recovery Study
2. The Boeing Company's Groundwater Restoration Program
3. Tulare Irrigation District and Mid-Kaweah Groundwater Sustainability Agency's Groundwater Management Projects

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$1.2M	$6.5M	$346K
Initial Fee Estimate/ Final Fee Cost	$740K/$1.2M	$6.5M	$346K
Reasons for Fee Increases	Additional well construction oversight cost required due to schedule extension	NA	NA
Construction Cost	$735K (oversight of well construction)	$1M (oversight of well construction)	NA
Change Order Costs	$460K	NA	NA
Reasons for Change Orders	Additional well construction oversight cost required due to schedule extension	NA	NA

Why Tim? Tim brings valuable, applicable experience in the Antelope Valley, including evaluating funding options, assessing feasibility; providing groundwater recovery well installation and testing; groundwater modeling studies for the development of a regional groundwater bank for the Antelope Valley-East Kern Water Agency; and, technical oversight of work at the Rio Tinto Borax Mine.

KEEL ROBINSON

DEMONSTRATION FACILITY LEAD

26 YEARS of experience

LOCATION
Oakland, CA

AVAILABILITY
50%

Keel has over 26 years of experience in solving water treatment challenges. His background as a chemical engineer coupled with his accomplished career working as both a technology supplier and consulting engineer give him a unique skill set as a project manager, process engineer, and field engineer. He **has designed, manufactured, and commissioned over 50 pilot-scale and full-scale treatment systems during his career.** He is a recognized expert and thought leader for potable reuse and advanced treatment solutions. He developed the process design components for the pilot, demonstration, and full-scale facilities at the Terminal Island and Donald C. Tillman Water Reclamation Plants along with the City of San Diego Pure Water Demonstration Facility. Keel was integral to the design and commissioning of the Pure Water Monterey AWFP and continues to provide Monterey One Water with ongoing operational and process optimization support.

REPRESENTATIVE PROJECTS

1 Monterey One Water's Pure Water Monterey Program
2 SCWD's Progressive Design-Build for the Pure Water Soquel Program
3 LASAN's Terminal Island Advanced Water Purification Facility Expansion Technical Support

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$4.6M/$0	$2.1M/$0	$700K/$100K
Initial Fee Estimate/ Final Fee Cost	$4.6M/$4.6M	$2.1M/$2.1M	$800K/$800K
Reasons for Fee Increases	NA	NA	NA
Construction Cost	$120M	$90M	$45M
Change Order Costs	NA	NA	NA
Reasons for Change Orders	NA	NA	NA

Why Keel? Keel will use his real-world field experience with commissioning and optimization along with his technology and process design expertise to inform the best design of the demonstration facility to meet the District's goals for the PRWAP. Furthermore, his experience working with regulators to permit advanced water purification facilities (AWPFs) and with training operators and engineers will ensure that the demonstration facility is a useful tool that establishes a positive legacy for the PRWAP.

JIM BORCHARDT, PE

FULL-SCALE DESIGN CRITERIA PACKAGE LEAD

43 YEARS of experience

LOCATION
Pasadena, CA

AVAILABILITY
50%

Jim has 43 years of experience in project management and engineering of water facilities. **He is an award-winning treatment expert and a contributing author of the MWH/Stantec Water Treatment Principles and Design Textbook used to teach water treatment in universities across the country.** He has managed the planning, design, construction, and start-up of water facilities totaling more than $3B in construction costs, including over 150 individual projects. His recent experience includes AVEK's $90M PDB Control Project, Santa Monica's $100M Sustainable Water Infrastructure Project, and LADWP's $463M Progressive-Design-Build San Fernando Groundwater Remediation Project. **Jim has been directly responsible for the completion of more than two dozen water and potable reuse treatment projects in Southern California in the last 10 years.**

REPRESENTATIVE PROJECTS

1 City of Santa Monica's Sustainable Water Infrastructure Project
2 Metropolitan's Regional Recycled Water Program, Advanced Purification Center
3 City of San Diego's Pure Water Program, North City Purification Facility

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$1.4M/$1.3M	$1.6M/$0.9M	$4.1M/$0
Initial Fee Estimate/ Final Fee Cost	$2.7M/$2.7M	$2.5M/$2.5M	$4.1M/$0
Reasons for Fee Increases	NA	NA	Client added scope
Construction Cost	$100M	$21M	$357M
Change Order Costs	NA	NA	$0.4M
Reasons for Change Orders	NA	Not disclosed by client	Pre-procure-ment of MF and UV

Why Jim? Jim has managed facility planning, design, and construction services on numerous water projects valued up to more than $3B, including more than 150 treatment facilities projects throughout his career. He has recently completed preliminary design packages similar to the draft and final criteria packages for the AWPF, groundwater injection wells, and pipeline alignment.

MIKE WATSON, PE, DBIA

PROJECT DELIVERY METHODOLOGY

33 YEARS of experience

LOCATION
Sacramento, CA

AVAILABILITY
30%

Mike has 33 years of experience and is Stantec's Director of Alternative Project Delivery. He draws on the global resources and talents at Stantec **to create high-performing design teams who partner with contractors and developers to successfully deliver Progress-Design-Build, Design-Build and P3 water and wastewater treatment, water resources, and conveyance projects across North America.** He has been instrumental in building Stantec's design-build delivery systems, processes and quality management plans to **maximize innovation, increase design efficiency, and reduce project risk.** In 2021, Mike served as the President of the Water Collaborative Delivery Association (formerly Water Design Build Council), the only national organization focused on advancing best practices and education of collaborative delivery in the water and wastewater sector. Mike is a registered professional engineer and a certified DBIA professional.

REPRESENTATIVE PROJECTS

1 LADWP's San Fernando Basin Groundwater Remediation Project
2 City of Santa Monica's Sustainable Water Infrastructure Project
3 Metropolitan's Regional Recycled Water Program, Advanced Purification Center

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$22.5M/$6.5M	$1.4M/$1.3M	$1.6M/$0.9M
Initial Fee Estimate/ Final Fee Cost	$29M/$29M	$2.7M/$2.7M	$2.5M/$2.5M
Reasons for Fee Increases	NA	NA	NA
Construction Cost	S463M	$100M	$21M
Change Order Costs	~$6M	NA	NA
Reasons for Change Orders	Owner requested changes	NA	Not disclosed by client

Why Mike? Mike's nuanced understanding of alternative delivery models will provide the PRWAP team with thorough analysis of the advantages and disadvantages of various project delivery models. Mike's analysis will further inform a sound recommendation for the District Board of the delivery method for each program component.

BRYAN TRUSSELL, PE, BCEE

REGULATORY COMPLIANCE

18 YEARS of experience

LOCATION
Pasadena, CA

AVAILABILITY
50%

Bryan has nearly 20 years of engineering experience, including **almost 10 years with the City of Los Angeles' Bureau of Sanitation (LASAN)**, giving him invaluable insight and perspective to the many challenges facing today's utilities. Most recently, he has worked on reuse projects with advanced treatment, including the Advanced Purification Center (APC) demonstration plant for Metropolitan and providing regulatory support for the Inland Empire's Chino Basin Groundwater Recharge Program. Bryan was principal investigator for WRF 4600, where he investigated the benefits of soil aquifer treatment for reuse projects. He was also co-principal investigator for WRF 5016, which developed a groundwater tracer test plan for the Tujunga Spreading Grounds.

REPRESENTATIVE PROJECTS

1 Metropolitan's Regional Recycled Water Program, Advanced Purification Center
2 LASAN's Terminal Island Advanced Water Purification Facility Expansion Technical Support
3 WRF 5016 – Tujunga Spreading Grounds Tracer Test

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$1.6M/$0.9M	$700K	$60K/$0 (Study)
Initial Fee Estimate/ Final Fee Cost	$2.5M/$2.5M	$800K/$800K	$60K/$60K
Reasons for Fee Increases	NA	NA	NA
Construction Cost	$21M	$45M	NA
Change Order Costs	NA	NA	NA
Reasons for Change Orders	Not disclosed by client	NA	NA

Why Bryan? Bryan will skillfully apply his knowledge of regulations, groundwater tracer test protocols development, and advanced treatment to oversee the plans and execution of environmental studies, reviews, monitoring, and report preparation across the PRWAP, as well as ensure the successful permitting of the PRWAP for the District.

SHANE TRUSSELL
PHD, PE, BCEE

PROCESS/REGULATORY TECHNICAL ADVISOR

22 YEARS of experience

LOCATION
San Diego, CA

AVAILABILITY
30%

Dr. R. Shane Trussell is the President and Chief Executive Officer of Trussell Technologies, Inc. Shane is a registered Civil Engineer in the State of California with more than 22 years of hands-on experience with the processes used to treat water, wastewater, and potable reuse. **Shane has extensive involvement in numerous potable reuse projects throughout the state, ranging from feasibility studies and pilot testing to design and regulatory permitting.** Most recently, the State Water Board selected Shane to co-lead a state-funded project to evaluate strategies for dealing with peaks of chemical contaminants. The State Board is now using the findings from this research to develop statewide regulations for direct potable reuse (DPR). Shane is an industry leader in potable reuse and developing water supplies, leading innovative, effective engineering and research projects.

REPRESENTATIVE PROJECTS

1 City of San Diego's Pure Water Program
2 Monterey One Water's Pure Water Monterey Program
3 Padre Dam MWD's East County Advanced Water Purification Program

	Project 1	Project 2	Project 3
Total Budget Managed: Engineering/Construction	$16M/$0	$4.6M/$0	$8.4M/$0
Initial Fee Estimate/ Final Fee Cost	$16M/$16M	$4.6M/$4.6M	$8.4M/$8.4M
Reasons for Fee Increases	NA	NA	NA
Construction Cost	$1.4B	$120M	$600M
Change Order Costs	NA	NA	NA
Reasons for Change Orders	NA	NA	NA

Why Shane? Shane will draw from his deep understanding of potable reuse in California to ensure a successful and effective potable reuse program for the District. Shane's depth of highly-applicable experience will help the Program Manager and the District detect and mitigate potential problems at the conceptual level rather than in the field. As a leading expert in the technical aspects of this work, he can provide objective opinions and alternative viewpoints on key technical decisions.

Support from our technical experts will facilitate the success of this project

NAME/ROLE	RESPONSIBILITIES
 **Amy Broughton** Funding Support	Amy will lead the preparation of funding applications as requested by the District. She is Stantec's Western US Leader for the 150-person Financial Management Consulting group that has identified, secured, and managed funding for projects ranging from $10,000 to over $1B. Recently, Amy led the grant application preparation for another District project and has helped nine applicants successfully apply for over $800M in US Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Authority (WIFIA) funding.
 **Patricia Tennyson** Public Outreach	Patricia will lead the public outreach for the PRWAP. Her experience includes supporting the outreach and public participation for the District's initial Groundwater Recharge and Recovery Project, and supervising the award-winning public education and outreach program for the San Diego Pure Water Demonstration Facility. Patricia has also developed public outreach strategies and materials for potable reuse projects for the Las Virgenes Municipal Water District, Orange County Water District, and Santa Clara Valley Water District, among others.
 **Victor Harris, PG, CEG, ChG** Design Reviewer/Technical Advisor - Groundwater Modeling/Injection Well Design	Victor will provide independent review for the groundwater modeling and injection well testing design. He has local and worldwide experience with managed aquifer recharge, indirect potable reuse, and conjunctive use of groundwater and surface water. He has designed and supervised construction of over 200 high-capacity production, injection, or monitoring wells. He is currently leading a team of hydrogeologists to design and construct the High Desert Water Bank Project for the Antelope Valley East Kern Water Agency.

Support from our technical experts will facilitate the success of this project

NAME/ROLE	RESPONSIBILITIES
 **Tyler Hadacek, PE** Design Manager	Tyler will coordinate Stantec's interdisciplinary design team to deliver the demonstration facility design package for construction. He has been extensively involved in many integrated water resource and reuse projects, with experience in both traditional and alternative delivery methods. Tyler's experience includes serving as process engineer for the Metropolitan Water District's Advanced Water Treatment Plant Demonstration Facility, City of Los Angeles' Hyperion Demonstration Facility, and City of Anaheim's Water Recycling Demonstration Plant.
 **Michael Adelman, PE** Brine Management	Michael will develop the PRWAP's brine management strategy, including determining which combination of treatment (optimal RO recovery) and disposal (evaporation ponds) will be technically feasible and economically viable. He has significant experience with scaling chemistry and RO recovery optimization, including >90% recovery applications, novel high-velocity arrays, and reuse systems governed by phosphate scale. He presented "Navigating the Path to Brine Management for Potable Reuse in Arid Regions" as a framework for addressing these issues at WateReuse California's 2021 conference.
 **Kyleen Marcella** Design Criteria Report	Kyleen will lead the development of the Basis of Design Report. Kyleen brings experience in a variety of multidisciplinary projects, including process modeling, potable and non-potable water distribution systems, and advanced treatment. Her integral role on the District's Surface Water Augmentation Feasibility Study gives her an intimate understanding of the District's goals for the Regional Water Augmentation Program, along with knowledge of the District's system and possible constraints to consider during design and construction.
 **Greg Robley, AIA, LEED AP** Architecture	Greg will lead the design of the Visitors/Learning Center. Greg brings several years of experience in the planning and design of public infrastructure, specializing in water and wastewater facilities. His experience includes serving as lead architect for the Padre Dam Municipal Water District's East County Advanced Water Purification Project (Progressive-Design-Build). He is also lead architect for the Soquel Creek Pure Water Facility.
 **Mary Paasch, PMP, PE** Bureau of Reclamation Feasibility Report	Mary will lead the preparation of the Bureau of Reclamation Feasibility Report. Mary led the development of the feasibility report for Shasta Dam Raise, the first Reclamation feasibility study to be reviewed and approved by Reclamation and OMB in nearly 15 years. She has also supported numerous multi-objective Federal feasibility studies and developed alternatives that aligned with specific agency goals and achieved project objectives for Reclamation.
 **Erik Gaiser, PG** Injection Wells	Erik will develop the design criteria for the injection wells. Erik led the design of an 18-inch-diameter recycled water injection well and two triple-nested Title 22 compliance monitoring wells to depths of 1,100 feet for the Water Replenishment District's Leo J. Vander Lans Water Treatment Facility Inland Injection Well Project. Erik also reviewed the design of four injection wells and five observation wells for LADWP's West Coast Basin Barrier Expansion.
 Sarah Garber, PMP, CPP Environmental Studies/CEQA	Sarah will develop and implement the PRWAP's environmental review strategy and lead the preparation of documents according to CEQA (and any NEPA) requirements. In addition to CEQA and NEPA documentation, she specializes in permit acquisition from a wide range of regulatory agencies. Sarah has served as project manager for more than 140 task orders under LADWP's Environmental Assessment and Air Quality Services contract, including the preparation of numerous CEQA Initial Studies and EIRs.
 Ray Fakhoury, PE Conveyance	Ray will develop the design criteria for the pipeline. Ray has planned and/or designed more than 100 miles of pipelines ranging in diameters from 8 inches to 114 inches and more than 30 pump and lift stations ranging from 0.5 MGD to 100 MGD. His experience includes the Water Replenishment District's Groundwater Reliability Improvement Program – AWTF Design-Build Owner's Engineer project, and the City of San Luis Obispo's Water Reuse Project Engineering and Preliminary Design project.

SECTION E

Project Understanding and Approach

1 Project Understanding

Originally founded as the Palmdale Irrigation District, the Palmdale Water District (the District) has been providing water to its customers since 1918. The District has conducted a number of studies starting in the 1990s to evaluate the water resources necessary to meet future supply needs. A 2010 Strategic Water Resources Study projected that the water demands in the District's service area would double by 2035. Water reuse options were evaluated in the 2015 Recycled Water Facilities Master Plan. The Littlerock Creek Groundwater Replenishment and Recovery Project (LCGRRP) Feasibility Study was undertaken in 2015, followed by an Environmental Impact Report (EIR). Since then, the District has been conducting pilot studies to determine the recharge locations. Less than favorable results from the pilot studies have led the District to evaluate the feasibility of groundwater recharge (GWR) via direct injection and/or surface water augmentation (SWA).

Stantec was retained by the District in 2021 to assess the feasibility of using recycled water from the Los Angeles County Sanitation Districts' (LACSD) Palmdale Water Reclamation Plant (PWRP) for GWR via direct injection and/or SWA at Palmdale Lake – both considered forms of indirect potable reuse (IPR) in California's Division of Drinking Water (DDW) regulations. Stantec summarized the regulatory requirements for IPR and developed conceptual design and cost estimates for a 4.8-MGD advanced water purification facility (AWPF) and associated conveyance and injection infrastructure. The study found that GWR via direct injection would be the most economical option, if deemed feasible based on groundwater modeling results.

The District plans to utilize treated wastewater available from the PWRP (5 MGD) with the potential to add available wastewater from LACSD's Lancaster Water Reclamation Plant (LWRP) for a total capacity of 10 MGD. Based on our understanding of the Palmdale Regional Water Augmentation Program's (PRWAP's) needs, our Team needs to address the following topics:

- **Feasibility of Direct Injection via Groundwater Modeling:** Is IPR via direct injection feasible? If so, how much water can be recharged via direct injection and are there any impacts on the AWPF design due to the need for additional pathogen reduction credits associated with shorter retention time? **(Section 2.2.3)**
- **Regulatory Approach:** Considering that groundwater modeling results may not be immediately available, how should the District prepare for alternative treatment scenarios and what are the associated regulatory approval requirements? **(Sections 2.3.1, 2.4.2 and 2.4.3)**
- **Feed Water Quality and Flow:** What is the anticipated feed water quality from the PWRP and LWRP and can any enhancements be made to improve the treatment achieved at the AWPF? Is flow equalization needed to moderate diurnal and seasonal flow variability? **(Section 2.2.1)**
- **Demonstration Testing:** What should the scale, process train, and delivery method be for the demonstration facility and should it be converted into a production facility in the future? **(Section 2.5)**
- **Full-scale Facility Delivery Method:** What delivery method is appropriate for treatment and conveyance (including brine disposal) components of the full-scale facility? **(Section 2.2.2)**
- **Brine Management:** What combination of treatment (high-recovery reverse osmosis [RO]) and disposal (evaporation ponds) would be technically feasible and economically viable for brine management? **(Section 2.1.4)**
- **Public Outreach and Funding:** What level of effort and strategies are required to gain public acceptance and support as well as secure state and/or federal funding? **(Sections 2.7.1 and 2.7.2)**
- **Economic Impact:** How would the PRWAP positively impact the local economy? **(Section 2.1.3)**

2 Approach

Our approach **(Figure 1)** fully addresses the above-stated questions and provides a framework to implement the PRWAP in the most cost-effective manner and using an expedited schedule, all while producing high-quality deliverables. The sections that follow provide a concise summary of task objectives and approaches, as well as corresponding deliverables. We have shown task numbers from the RFP next to each corresponding task in the figure. We have structured the work into five primary groups (boxes) and two support tasks (arrows to the right), whereas the arrow at the left shows the sequence of tasks. The Program Management (PM)/Planning tasks shown in blue boxes will be conducted by our PM/planning staff and those in black will be conducted by our design staff, thereby maintaining clear separation as desired by the District.

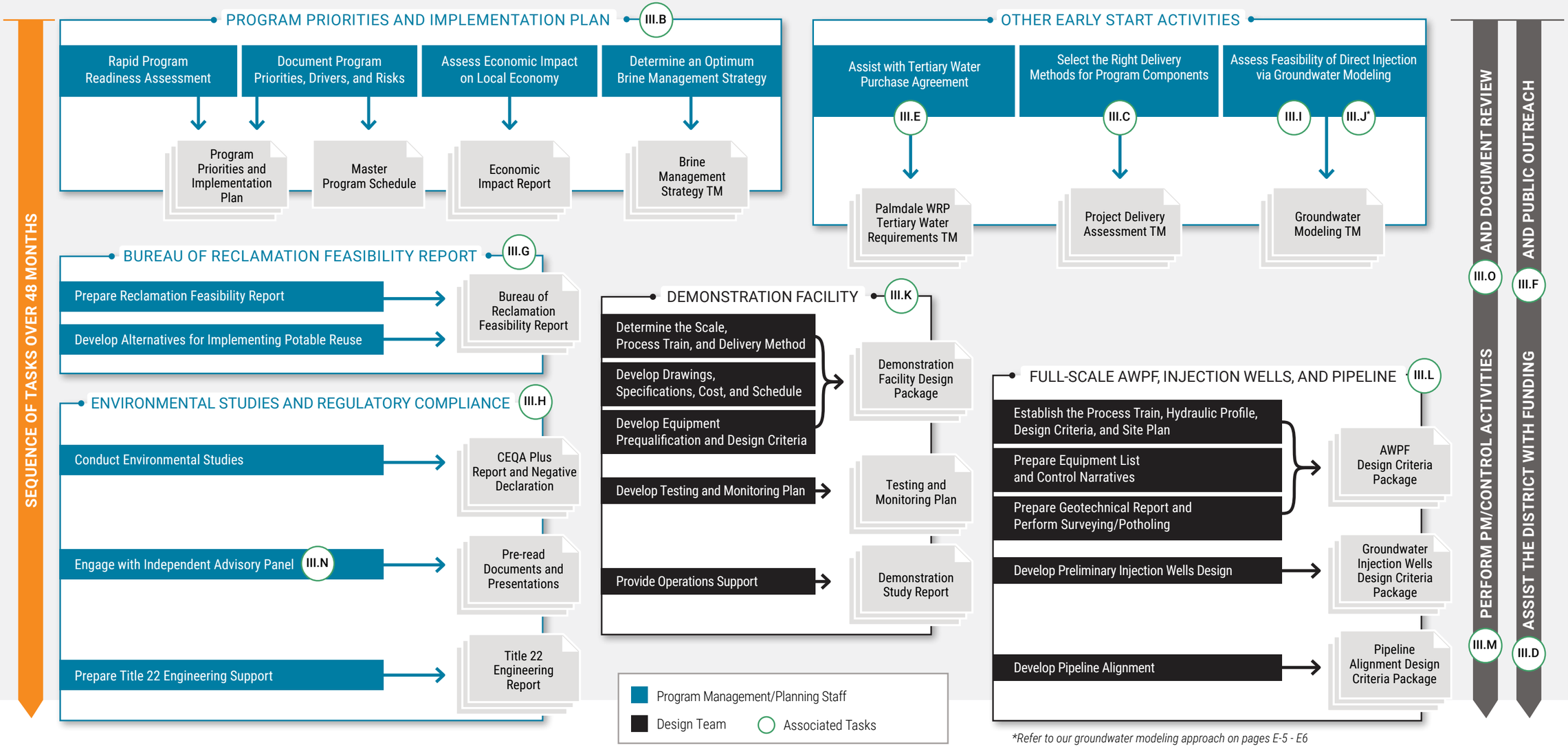


Figure 1 – Overall Approach

**Refer to our groundwater modeling approach on pages E-5 - E6*

2.1 Develop Program Priorities and Implementation Plan (Task III.B)

The Program Priorities and Implementation Plan documents the PRWAP's priorities, drivers, risk, and schedule. The findings from four key subtasks will be summarized in this Plan. We will complete those four subtasks, as described in the following sections, in the first six months to develop the Program Priorities and Implementation Plan.

2.1.1 Rapid Program Readiness Assessment

We will review previous studies and identify data gaps for efficient program execution, including the tracer studies, process train review of the PWRP, and others stated in the RFP. We will present a summary of findings during our first workshop **(Workshop 1: Program Priorities and Implementation Plan)**.

2.1.2 Document Program Priorities, Drivers, and Risks

We will work with the District to determine PRWAP priorities, drivers, and risks and document them in the Program Priorities and Implementation Plan. We will also develop a Master Program Schedule using Smartsheet.

Deliverables:
1) Program Priorities and Implementation Plan and
2) Master Program Schedule

2.1.3 Assess Economic Impact on Local Economy

The economic impacts analysis will focus on the effects of the proposed infrastructure program and will include economic indicators such as output, value added / gross domestic product, labor income, jobs, etc. Some of the inputs for such analyses include estimated construction costs as well as estimated full-time equivalent employment and approximate salaries for jobs created during different phases of the PRWAP's life.

Stantec will use the Regional Input-Output Modeling System (RIMS II) to assess the economic impact.

Input-output models are designed to estimate the direct impact (investment in materials, job, etc.), indirect impact (on industries supporting the project), and induced impact (due to increased economic activity) of the Program, both during the construction period and for ongoing operations through the projected life of the Program. Findings from this analysis will be summarized in a report and presented to the District and to the public, if requested.

Deliverables: Economic Impact Report

2.1.4 Determine an Optimum Brine Management Strategy

Brine management is a key issue for the overall cost, conceptual viability, and operability of any potable reuse project in an arid inland region. This is a critical consideration if a brine line is not available nearby, as is the case here. One way of reducing the cost of brine disposal – which is reflected in the facility's footprint, construction cost, and operating cost of evaporation ponds – is to select the highest practical reverse osmosis (RO) recovery to reduce the brine volume **(Figure 2)**. This requires consideration of the chemistry of the RO concentrate and the saturation levels of potential scaling compounds, including silica, calcium carbonate, and calcium phosphate. With typical feed water quality for reuse systems, conventional RO arrays can be designed for up to 90% recovery.

Once a minimum target RO recovery is established, passive evaporation ponds should be sized as a planning baseline for the overall Program. New high-recovery RO technologies, such as Closed-circuit Desalination (CCD) or Flow Reversal RO (FR-RO), have the capability to increase RO recoveries while minimizing the membrane scaling. Our Team designed and operated a CCD system for the East County Advanced Water Purification Program and designed a demonstration-scale FL-RO system for the City of San Diego. The costs associated with the baseline evaporation pond design can be used to determine the optimal mix of high-recovery RO systems and brine disposal concepts.

Deliverable: Brine Management Strategy TM

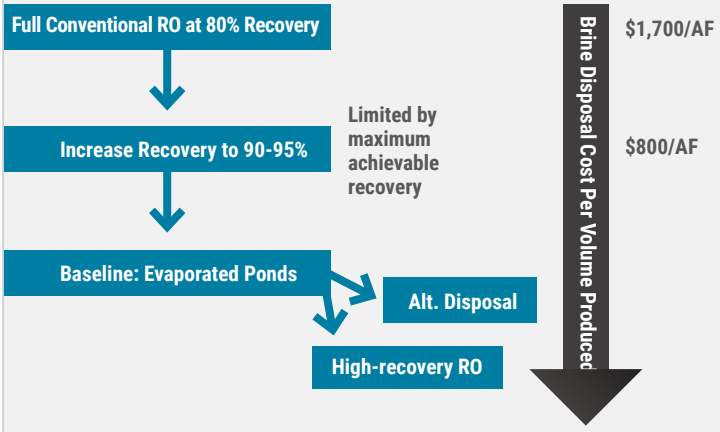


Figure 2 – Approach to Analyze Brine Management Alternatives

2.2 Initiate Other Early Start Activities

Our Team will initiate three additional, key early activities to further define the PRWAP: PWRP tertiary water requirements evaluation, program delivery method evaluation, and groundwater model development.

2.2.1 Assist with Tertiary Water Purchase Agreement (Task III.E)

Our Team will support the District in all elements of a Purchase Agreement. From past experience, one of the most important elements is consistent and reliable feed water. An example is the relationship between TOC and sustainable flux rates through membrane filtration **(Figure 3)**: secondary or tertiary effluent of higher quality (lower TOC) leads to lower membrane fouling and higher design flux. As part of the regulatory compliance strategy and basis of design, our Team will characterize the influent water quality using available historical water quality data, and recommend a new sampling plan to address any data gaps. Parameters of importance that are not routinely measured include TOC, silica, phosphorous, NDMA, and nitrite. These parameters impact membrane flux rates, fouling, and cleaning cycles along with chemical usage (acid, chloramine, and antiscalant addition upstream of RO), and ultraviolet light/advanced oxidation process (UV/AOP) sizing (UVT, scavenging demand). We will also analyze diurnal and seasonal flow variability to assess the need for flow equalization.

Deliverable: Palmdale WRP Tertiary Water Requirements TM

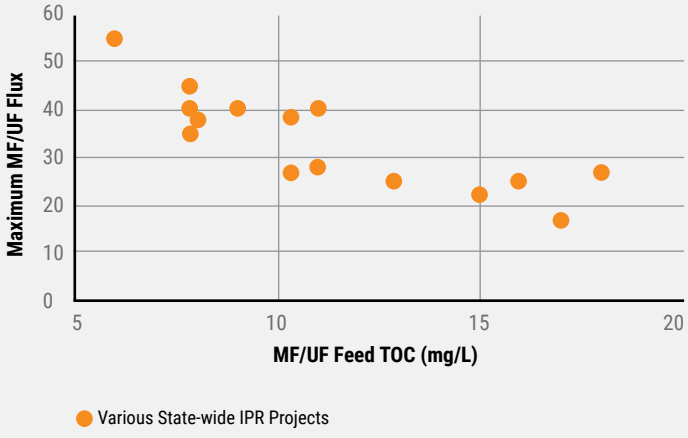


Figure 3 – Impact of Tertiary Effluent TOC on MF/UF Membrane Design Flux

2.2.2 Select the Right Delivery Methods for Program Components (Task III.C)

Our Team has experience in all types of project delivery methods, understands their advantages and disadvantages, and will help the District prepare a concise evaluation by assessing the complexity, time constraints, and risk **(Figure 4)** to each Program component. With this information, the potential benefits of alternative project delivery will be determined.

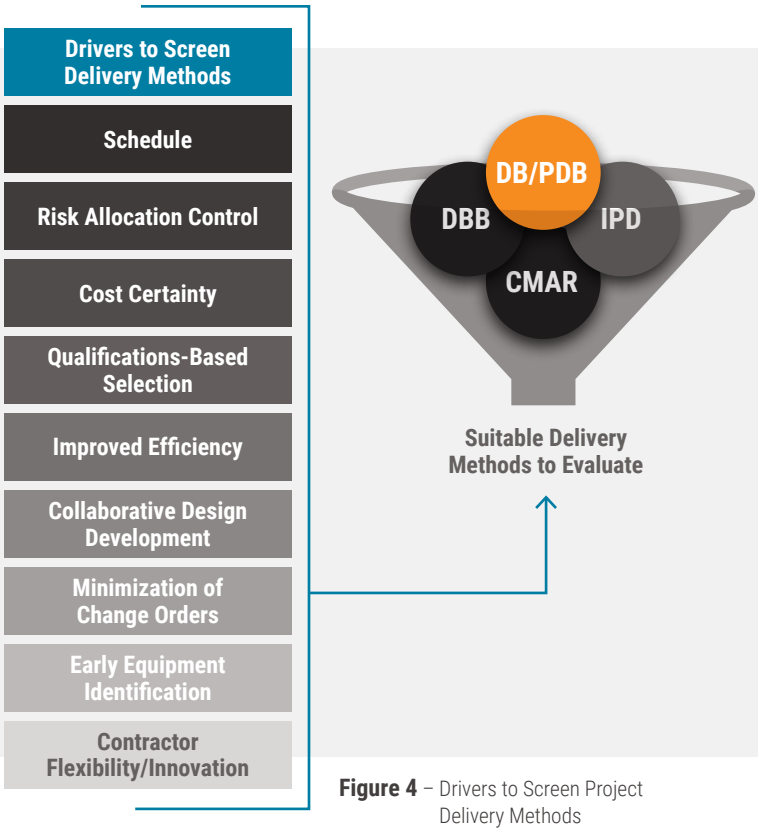


Figure 4 – Drivers to Screen Project Delivery Methods

During the proposed project delivery workshop (**W4 – Project Delivery Methodology**), we would present tradeoffs for different options **(Figure 5)**, work with the District to select the right method for each component (AWPF, pipeline, pump-stations, visitor's center, etc.),. The details of the design criteria package also depend on the delivery method. For example, if progressive-design-build (PDB) method was selected, the District should limit the level of design to less than 20%. This will allow the Design-Build-Entity (DBE) to revise the design with innovative and cost-saving improvements due to their expertise in construction. **We have assisted other clients like City of Santa Monica, LADWP, and Colorado Springs with their first alternative project delivery projects, and we will be there for the District through every step of the process with industry knowledge, relationships, and expertise.**

Deliverable: Project Delivery Assessment TM

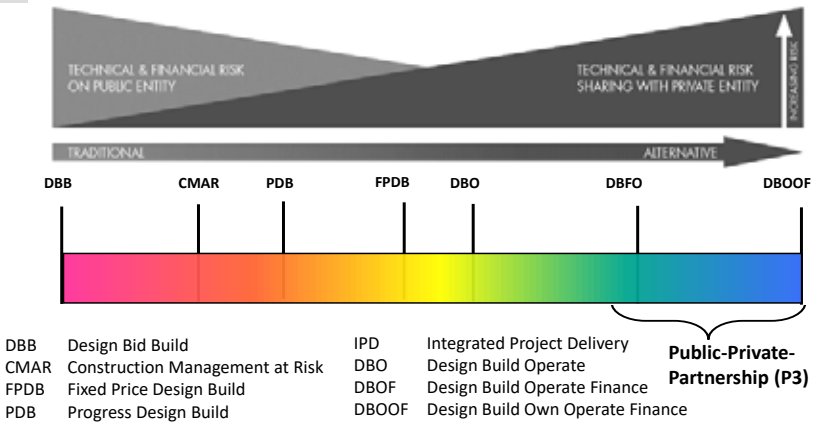


Figure 5 – Alternative Project Delivery Allows Transfer of Risk to the Design-Build Entity

2.2.3 Assess Feasibility of Direct Injection via Groundwater Modeling (Tasks III.I and III.J)

Stantec's Final Technical Memorandum "Recycled Waters Evaluation – Surface Water and Groundwater Augmentation Feasibility Study" dated April 30, 2021 concluded that groundwater injection is the most cost-effective implementation approach. To obtain regulatory approval for groundwater injection, the response retention time must be a minimum of two months. Based on our re-evaluation of the travel time analysis conducted for the 2021 feasibility study, the estimated travel time (i.e., retention times) between conceptually located injection well sites and the District's drinking water wells near the planned AWPF is on the order of 10 months.

Per the GWR regulations, travel times need to be adjusted based on the accuracy of the method used to estimate groundwater retention. Because the current estimate is based on Darcy's Law, it qualifies for a 25% response time credit, meaning that the 10-month retention time would receive 2.5 months of credit. This result is favorable because it is greater than the method-adjusted credit time of 8 months to meet a 2-month response retention time for permitting. We will refine the travel-time estimate using a numerical groundwater flow and transport model, which receives a 50% response time credit under the GWR regulations. This increased retention time credit would in turn provide for greater pathogen control since DDW assigns 1-log of virus inactivation for each month of credited retention time.

Groundwater modeling will consist of the following three steps. We will present a detailed modeling approach and how it would be used for the regulatory approval process during the second workshop (**W2 - Regulatory Approval Approach and Public Outreach Strategy**).

2.2.3.1 Data Analysis

Available data will be analyzed to identify critical data gaps that should be addressed to improve representativeness and confidence in the numerical model results and to plan the field program outlined in Task 2.2.3.3. A priority objective of the data analysis will be to understand groundwater flow directions and gradients in the project area. The data analysis will be used to apply analytical equations to confirm the Darcy's law travel time estimate and guide numerical model development.

2.2.3.2 Numerical Groundwater Flow and Transport Model Development

The Stantec Team investigated several existing groundwater models for use on this program, including models developed by the U.S. Geological Survey and other consultants. None of the existing models are appropriate for direct use without substantial modification, but all of them contain useful information for model development. Therefore, a project-specific groundwater flow, particle tracking, and solute transport model will be developed and calibrated. The model will use pertinent information from previous models to the extent beneficial for the PRWAP.

Bryan Trussell was a Co-principal investigator in WRF 5016, which looked at executing a tracer test prior to the commencement of having AWPF water at the Tujunga Spreading Grounds for LADWP.

After selecting the most appropriate model code, we will incorporate hydrogeologic data through at least 2020, design a high-resolution model grid and apply advanced well simulation modules so that our model adequately simulates local groundwater flow conditions, pumping and injection well impacts and estimated injected water flow directions, dilution rates, and travel times to nearby pumping wells. The model will be capable of studying alternate injection wellfield and monitoring network designs that meet regulatory requirements. The initial numerical model development would begin immediately after notice to proceed and take about 6 months to complete. The initial model will be refined/calibrated using the data from the field program described in the following section.

Our proposed approach delays installation of full-scale injection wells until Phase 2 of the project.

2.2.3.3 Pilot Testing for Groundwater Injection and Groundwater Monitoring (if needed)

A well-calibrated groundwater flow and transport model will improve confidence in meeting the required retention time and will facilitate the regulatory approval process. Preliminary data analysis suggests that the following two data gaps should be addressed through a targeted field exploration and testing program.

1. **Preferential pathways:** The potential presence of high-conductivity zones within the groundwater system should be assessed to better simulate the potential for rapid flow of treated water between the injection and recovery wells.
2. **Transport parameters:** Site-specific estimates of effective porosity and dispersivity would notably improve confidence in model-derived travel time estimates.

To address the preferential pathway data gap, we propose to coordinate with the District to conduct spinner logging in at least one of these District's supply wells: 2A, 3A, 4A, 7A, 8A, and 23A. This effort typically requires removing the permanent pump and installing a temporary test pump to allow access for the logging tool into the well screen and replacing the permanent pump. Results of spinner logging would indicate whether preferential flow pathways exist and be used to refine the model layering, if needed.

M&A, as part of Stantec's Team, is conducting hydrogeologic services for the design and construction of a regional groundwater bank for the Antelope Valley East Kern Water (AVEK) Agency.

To address the transport parameter data gap, we propose to conduct a short-term tracer test. The tracer test will support the modeling but will not be sufficient for 100% response time permitting credit. A small diameter well will be installed near the District's water supply wells in the project area to introduce the tracer. If possible, the new well will be located and designed to serve in the future as one of the required operational monitoring wells. Lithologic and geophysical logging (including the nuclear borehole magnetic resonance method if possible) will be conducted during well construction to characterize subsurface conditions. Data from the tracer test will be analyzed to estimate effective porosity and dispersivity. The particle tracking and transport model will be updated and recalibrated, if necessary, with the site-specific parameter estimates.

Our proposed approach postpones installation of full-scale injection wells until Phase 2 of the program, either after the demonstration or full-scale AWPF is permitted and operational. The advantage of this approach is that only one permit will be required to inject the advanced treated water for the required operational tracer test. Cost for the future operational tracer test is not included in this proposal and will be provided before Phase 2. Preliminary results from the modeling efforts will be presented during a workshop (**W5 – Groundwater Modeling: Preliminary Findings and Implications**).

Deliverable: Groundwater Modeling TM

2.3 Update / Prepare Bureau of Reclamation Feasibility Report (Task III.G)

The preparation of the feasibility study report includes analyzing program alternatives and summarizing them, along with the other pertinent information, in a report. The following subsections describe our approach to preparation of the report.

2.3.1 Develop Alternatives for Implementing Potable Reuse

While the pumping well performance data indicate that groundwater recharge via direct injection is feasible, we recommend evaluating alternative reuse scenarios **(Figure 6)** simultaneously with the groundwater modeling efforts. This approach provides a contingency in the event that groundwater recharge does not prove feasible and, meets the requirements for the Bureau of Reclamation Feasibility Study Report to evaluate and compare multiple options as well.

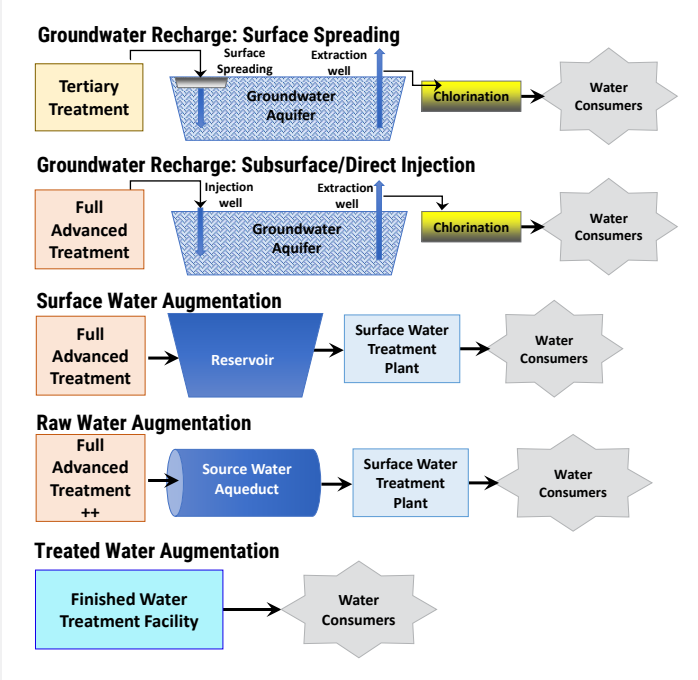


Figure 6 – Various Forms of Potable Reuse

SWA at Palmdale Lake offers the District either an alternative implementation or additive solution to GWR. Our Team will develop operational scenarios designed to meet retention time and dilution requirements in the regulations. Scenarios that include a combination of groundwater injection and surface water augmentation will be considered to maximize District's flexibility with future water supplies. Furthermore, our Team will evaluate the Leslie O' Carter Water Treatment Plant's ability to provide additional pathogen reduction credits. Both the additional pathogen reduction credits needed and the requirements of the California Toxics Rule for discharging to Palmdale Lake will dictate the evaluation of treatment and monitoring strategies for the design and operation of demonstration- and full-scale facilities.

Stantec's Team has more direct experience with DPR regulations than any other consultant in the State.

While the regulations for direct potable reuse (DPR) are not finalized yet, definitive regulations are on the near-term horizon. Our Team is more familiar with the pending regulatory content and DDW's intended implementation plan than any other consultant because our Team was selected by DDW to lead many of the research topics that addressed knowledge gaps related to protecting the public from chemical and microbial contaminants for DPR. We will conceive a pathway for the District to implement DPR in the future that includes additional treatment steps and regulatory requirements compared to IPR. Our Team recently completed a similar effort for the Metropolitan Water District of Southern California's Regional Recycled Water Program.

2.3.2 Update / Prepare Bureau of Reclamation Feasibility Report

Stantec has unparalleled experience with Reclamation's Federal Feasibility Study process, including development of engineering designs and cost estimates consistent with Reclamation's standards. By meeting with Reclamation early, confirming specific goals and objectives, and confirming the implementation strategy, we can help expedite the approval process and bring the added-value necessary to navigate and successfully achieve the Federal approvals needed for this program. Our lead for this effort, Mary Paasch, has recently prepared six feasibility study reports, including reports for projects under Section 4007 of the Water Infrastructure Improvements for the Nation (WIIN) Act and 2021 Infrastructure Funding and Jobs Act.

Deliverable: Bureau of Reclamation Feasibility Report

2.4 Conduct Environmental Studies and Regulatory Compliance Efforts (Task III.H)

2.4.1 Conduct Environmental Studies

We will conduct the necessary program environmental studies. Our Team has conducted such studies for numerous infrastructure projects, including the City of San Diego's Pure Water Program, and have a comprehensive understanding of documentation needs. To meet the State Revolving Fund (SRF) environmental review requirements (CEQA-Plus), the Program's environmental impact report (EIR) will include federal agencies in the review process and document compliance with Section 7 of the Federal Endangered Species Act, Clean Air Act conformity, and Section 106 of the National Historic Preservation Act. Stantec has successfully completed CEQA-Plus documentation for Metropolitan's Carson Regional Water Reclamation Facility Phase II B Project for the West Basin Municipal Water District and the Graves Reservoir Project for the City of South Pasadena. We will discuss and finalize our approach to environmental studies during a workshop **(W7 – Environmental Compliance Needs and Approach)**.

Deliverables: CEQA-Plus Report and Negative Declaration

2.4.2 Engage with Independent Advisory Panel (IAP)

After the Program Implementation Plan and some of the other early activities are complete, our Team will contact NWRI to initiate the process of convening an IAP with the technical expertise needed. Our Team will organize and supply the IAP with "pre-read materials" related to our evaluation and designs and then lead multiple workshops at critical milestones of the planning phase to focus on challenging topics and brainstorm innovative ideas to integrate. The logistics of the IAP process will be closely coordinated with DDW and the Regional Water Quality Control Board (RWQCB), both of whom will be encouraged to participated throughout the process. It is anticipated that one of the first steps with the IAP will be to evaluate the groundwater model for retention time for groundwater injection.

Deliverables: Pre-read Documents and Workshop Presentations

Our Team has led and participated in numerous IAPs for multiple potable reuse projects in California:

- Las Virgenes–Triunfo JPA's Pure Water Program
- City of San Diego's Pure Water Program
- Padre Dam MWD's East County Advanced Water Purification Program
- Metropolitan's Regional Recycled Water Program
- Monterey One Water's Pure Water Monterey Program
- City of Los Angeles' Hyperion 2035 Program

2.4.3 Prepare Title 22 Engineering Report

A key step for obtaining a permit for a potable reuse project is the development of the Title 22 Engineering Report. If a Progressive-Design-Build (PDB) delivery method is selected, the final regulatory approval of the Title 22 Engineering Report for the full-scale facility may not be obtained prior to engagement of a DBE. This is because the design will only be about 15% complete when the bid package is finalized, and additional design details will be required for finalization of the Engineering Report and regulatory approval. Under such a scenario, we would engage DDW through frequent communications to obtain a conceptual approval for the PRWAP, while developing only a draft Engineering Report prior to engagement with the DBE. This will save money and time by not waiting for a regulatory review of the Title 22 Engineering Report that will ultimately be modified and/or updated once the detailed design begins. Our Team has prepared Title 22 Engineering Reports for City of San Diego's Pure Water Program Phase 1, Monterey One Water, and City of Oceanside's Pure Water Oceanside project.

Deliverable: Title 22 Engineering Report

2.5 Conduct Demonstration Facility Related Efforts (Task III.K)

Our Team has designed and operated more AWT demonstration facilities than any other consultant (see **Section G - Unique Qualifications**), including the City of San Diego, Metropolitan Water District of Southern California, Monterey One Water, and East County AWPF Demonstration Facilities, as well as developed testing and monitoring plans for most of these facilities. Our approach to demonstration facility-related efforts is described in this section.

2.5.1 Develop Demonstration Facility Design Package

Our Team has unmatched experience with the design of both large- and small-scale **(Figure 7)** reuse demonstration facilities and can utilize this experience to size a 'just right' facility for the District. Such experience provides us an understanding of the specific needs for the design of a demonstration facility including:

- Treatment flexibility to optimize process parameters
- Design features for public outreach
- Remote monitoring and control for ease of operations
- Consideration of sampling points and selection of analyzers to ensure accurate collection of water quality and process parameters

The size of the demonstration facility directly affects the cost, schedule, and delivery method. Using a performance specification-based procurement method can drastically lower the design fees and expedite the construction of the

Figure 7 - City of Anaheim's Water Recycling Demonstration Facility designed by Stantec 's Team, led by Zakir Hirani.

demonstration facility. During Workshop No. 3 **(W3 – Demonstration Facility Needs and Design Standards)**, we will present different approaches to demonstration facility design and determine appropriate scale, process train, and delivery method to maximize cost and schedule benefits to the District.

Deliverable: Demonstration Facility Design Package

2.5.2 Develop Testing and Monitoring Plan

Our Team will develop and help execute a test plan to optimize the full-scale design criteria and support regulatory acceptance of the full-scale facility. The test plan will be developed with the following core objectives in mind:

- Demonstrate performance of the system in complying with potable reuse requirements
- Optimize design and operating parameters for the AWPF (i.e. sustainable flux, RO recovery, etc.)
- Educate the public on potable reuse
- Provide a training facility for District's operators
- Develop criteria for regulatory approval to support preparation of the Title 22 Engineering Report

Deliverable: Testing and Monitoring Plan

2.5.3 Provide Operations Support

Stantec's Team has five AWT certified operators in Southern California.

Operations of advanced water treatment (AWT) facilities require unique expertise and our Team has more certified AWT operators than any of our competitors. Our operations support team will work in conjunction with our process engineers for efficient operation, timely execution of the test plan, and training of the District's staff. We also understand the operations and maintenance needs that are unique to AWT processes, such as calibrating the RO permeate TOC analyzers and optimizing the UV and oxidant doses for the advanced oxidant process (AOP).

Deliverable: Demonstration Study Report

2.6 Develop Full-scale AWPF, Injection Wells and Pipeline Design Criteria Package (Task III.L)

Once a delivery method is established, we will work towards developing full-scale design criteria packages for the AWPF, injection wells, and pipeline. While many elements of the AWPF package will be refined following the results from the demonstration testing, other aspects can be developed in parallel. Having worked on over 70% of the potable reuse projects in California, our Team brings unique design expertise for each Program component. After our draft submittal, but before District's review comments are due, we will walk the District through each submittal during a workshop **(W6 – Design Criteria Package)**. Our Team completed the 30% design for City of San Diego's 30-MGD Phase 1 of the Pure Water Program and conceptual design of Metropolitan's 150-MGD Regional Recycled Water Program. We have developed design packages for different project delivery methods:

- Progressive-Design-Build Design Criteria Package for the City of Santa Monica's 1.5-MGD Sustainable Water Infrastructure Project
- Design-Bid-Build Design Package for Metropolitan's 0.5-MGD Advanced Purification Center
- Furnish-Install Design Package for City of Los Angeles' Hyperion MBR Pilot Facility

Deliverables:
1) AWPF Design Criteria Package
2) Groundwater Injection Wells Design Criteria Package
3) Pipeline Alignment Design Criteria Package

2.7 Assist District with Other Program Tasks

2.7.1 Assist District in Securing Funding (Task III.D)

Our funding support efforts will be led by Amy Broughton from Stantec's Financial Management Consulting group, who has identified, secured, and managed funding for projects ranging from $10,000 to over $1 billion. In recent years, the SRF has been the key source of funding for recycled water projects in California. Through the Western Water Act, the Infrastructure Investment and Jobs Act (IIJA) allocates $610 million to recycled water projects in the western United States (2022-2026). The IIJA funding will be administrated by the US Bureau of Reclamation. The adoption of DPR regulations may prompt the State to direct even more funding to potable reuse projects. Amy Broughton, our funding expert, is well-versed on the requirements for these funding sources and will help secure the maximum funding possible.

Stantec brings unmatched experience in securing State and Federal funds:

- **30+ projects funded via California State Revolving Fund (SRF)**
- **$1.5B+ in EPA Water Infrastructure Finance and Innovation Authority (WIFIA) funding**
- **$1B+ in Proposition 1 funding from CA Department of Water Resources (DWR)**

2.7.2 Conduct Public Outreach Efforts with the District (Task III.F)

While technical and engineering challenges are always essential considerations for developing alternative water supplies, public acceptance and support has proven to be critical to the success of potable reuse projects. Many potable reuse projects have been delayed or even derailed due to lack of public support. However, an informed community that understands the importance of a resilient, reliable, and sustainable water supply is an integral part of successfully implementing a potable reuse project. Our subconsultant, Katz & Associates (K&A), approaches this challenge with a wealth of specific experience in engaging audiences for this type of project. K&A has served the District in the past and will build on their institutional knowledge to assist the District and our Team again on this Program.

Patricia Tennyson (K&A) was co-principal investigator for "Model Communication Plans for Increasing Awareness and Fostering Acceptance of DPR (WRF 13-02)".

2.7.3 Perform Program Control Functions (Task III.O)

Our Program Managers will be supported by our program controls staff who will monitor the PRWAP's costs and schedule while providing effective risk management. Our proposed groundwater modeling approach, as well as alternative delivery method and scale for the demonstration facility, can lower the PRWAP's cost substantially while expediting program delivery.

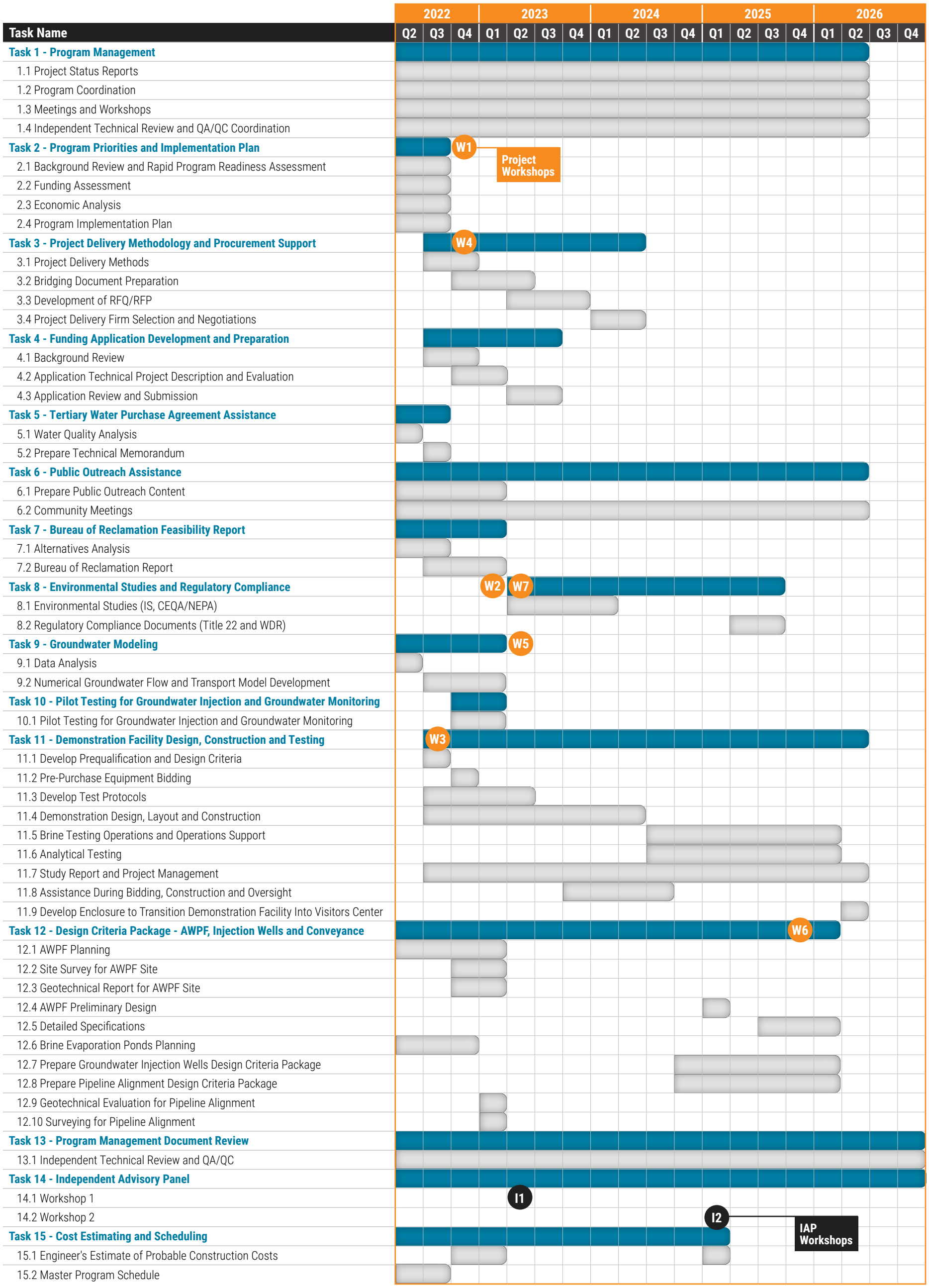
Our program controls staff has worked on several previous programs including Santa Monica and San Diego. They bring decades of experience providing cost control, schedule management and risk management and will bring proven tools to help keep the PRWAP on track.

Quality Control: We understand that the District expects the highest of quality deliverables, and we expect the same from every member of our Team. Each deliverable produced by our Team, whether it is as simple as meeting minutes or as complex as a design package, will undergo rigorous QA/QC before being delivered to the District. Our technical experts from our Program Management/Planning staff will participate in necessary workshops/ meetings to understand the District's expectations and will be involved in all QA/QC reviews.

Schedule: Our proposed schedule with key milestones and workshops is shown in Figure 7. This schedule will be presented during final scope negotiations and populated into Smartsheet at selection. Our approach allows for timely completion of key program activities with at least six months of float, providing flexibility to the PRWAP. We are 100% committed to the District and will leverage our deep bench of local staff to complete the PRWAP on schedule.

Workshops

- W1 – Program Priorities and Implementation Plan
- W2 – Regulatory Approval (including groundwater modeling) Approach and Public Outreach Strategy
- W3 – Demonstration Facility Needs and Design Standards
- W4 – Project Delivery Methodology
- W5 – Groundwater Modeling: Preliminary Findings and Implications
- W6 – Design Criteria Package
- W7 – Environmental Compliance Needs and Approach



SECTION
F Scope of Work

We understand that the Scope of Work presented in the Request for Proposals dated December 8, 2021 are general primary tasks expected to be included. Stantec has reviewed and accepts the scope of work presented in the RFP. We have accepted the scope in the RFP and have prepared a Scope of Work for Phase 1 of the Palmdale Regional Water Augmentation Program (PRWAP) based on our understanding of the project drivers and critical outcomes from the hydrogeological modeling that will set the direction for the balance of the program. Once the project direction is defined, the next crucial step is to gain the support and approvals of the regulators. Trussell, our major subconsultant, has been instrumental in driving the potable reuse regulations in California. They have presented to numerous Independent Advisory Panels (IAPs) and prepared multiple Engineering Reports for similar potable reuse projects including City of San Diego's Pure Water Program Phase 1 and Monterey One Water's Pure Water Monterey Program, to name a few. Such expertise would deliver timely regulatory approval of the PRWAP.

After carefully reviewing the project drivers, we have drafted an approach and scope of work that will provide substantial cost and schedule savings to the District, all while maintaining the high quality of the deliverables. Our scope of work is based on the following approach:

- **Maintain Separation between Program Management (PM) Staff and Design Team:** As demonstrated in our organization chart, we have structured our Team to maintain clear separation between our PM/planning staff and our design team. Such organization addresses District's biggest concern.
- **Increase the Level of Confidence in Groundwater Model:** Our proposed groundwater modeling approach uses a tracer test at a smaller scale to increase confidence in projecting the groundwater retention time and defers the full-scale injection and tracer testing to Phase 2. This would allow the District to downsize the demonstration facility, if desired, and defer the permitting process to after the demonstration testing is complete.
- **Reconsider the Delivery Method and Scale of the Demonstration Facility:** We understand that the District plans to eventually convert the demonstration facility into a production facility and we stand ready to support such an effort. However, reducing the scale of the demonstration facility would allow the District to drastically reduce the cost and expedite the project delivery schedule by deploying alternative delivery methods such as performance-specification based procurement.
- **Systematic Geotechnical Investigations:** Our geotechnical consultant, Kleinfelder, through preparation of this proposal, has indicated that there is substantial seismic activity in the area and thorough geotechnical evaluations must be completed at both the proposed demonstration and full-scale Advanced Water Purification Facility (AWPF) site as well as along the pipeline route to determine the best methods for design. This will be a critical component of the PRWAP that must be completed up front to determine final location of the demonstration and AWPF as well as establish a final pipeline alignment.

Our Scope of Work is as follows:

Task 1: Program Management III.A

Stantec will conduct thorough Program Management services to oversee and manage the PRWAP as an extension of District staff that adheres to the scope, schedule and budget; provide efficient and frequent communication with the District, subconsultants and other project stakeholders; and provide independent technical oversight and quality assurance and quality control of the tasks being completed by the design teams. The scope of services for Program Management includes the following items:

1. **Preparation of Project Status Reports** – Stantec will prepare bi-weekly and monthly project status reports for the District's management team. The bi-weekly status reports will consist of a brief email report summarizing work activities completed the previous two weeks, along with activities planned for the upcoming two weeks, as well as an updated project schedule. Monthly status reports will provide more detail and will summarize work for the previous and upcoming month. The monthly reports will include an updated schedule to be prepared in the District's preferred Smartsheet platform and a summary of budget expenditures to date per task and budget remaining. In addition to the status reports, Stantec's Program team will maintain strong lines of communication with District and stakeholders via email and telephone. Stantec will copy District staff on all emails to and from project stakeholders.
2. **Program Coordination –** Stantec will coordinate deliverables and activities between the District's management team, the District's public outreach staff, Stantec's public outreach consultant Katz & Associates, legal team and financial advisor (NHA), rate case consultant (RDN), District's economic consultant (to be determined). Project construction costs, program schedule, graphics and maps shall be provided as necessary to support the PRWAP.
   - **Meetings and Workshops –** Stantec will schedule and lead meetings with District's team and other team members to ensure that the District has the necessary information to make informed decisions on project and design related issues. Stantec will provide agendas of upcoming coordination meetings in advance of the meeting and prepare meeting minutes and action items within five working days subsequent to the meetings. These efforts are intended to ensure that all programmatic and technical issues are being addressed and that the PRWAP remains on schedule. Stantec will prepare materials for board presentations and attend board presentations as needed.

For the purposes of budgeting, Stantec anticipates the following meetings and workshops as part of the Program Management task:

- Kickoff Meeting
- Workshop 1 - Program Priorities and Implementation Plan
- Workshop 2 – Regulatory Approval (including groundwater modeling) Approach and Public Outreach Strategies
- Workshop 3 – Demonstration Facility Needs and Design Standards
- Workshop 4 – Project Delivery Methodology
- Workshop 5 – Groundwater Modeling – Preliminary Findings and Implications
- Workshop 6 – Design Criteria Package
- Workshop 7 – Environmental Compliance Needs and Approach
- Review Draft TM on Purchase Agreement Task 5
- Monthly Progress Meetings (58 meetings)
- Board Presentations (4)

3. **Quality Assurance and Quality Control (QA/QC) Coordination –** Stantec has structured the PRWAP such that staff on the planning and program management team will not be involved in the design and vice versa to provide a clear delineation between the design and program teams. This task includes the program management time to coordinate the independent technical reviews between multiple disciplines and multiple subconsultants. Effort for independent technical reviews by the PRWAP team is included in Task 13.

Deliverables:

- Bi-Weekly Progress Reports
- Monthly Status Reports
- Meeting Agendas and Meeting Minutes
- Attendance and Coordination for Monthly In-Person Meetings with District Staff (56)
- Attendance and Coordination at Seven (7) In-Person Workshops with District Staff (Full-Day)
- Attendance and Provide Materials for In-Person Board Meetings (4)

Task 2 – Program Priorities and Implementation Plan III.B

Stantec will review background documents provided by the District to establish the PRWAP's priorities and develop a Program Implementation Plan (PIP) that will provide the foundation for future decision-making. The PIP will include a master program schedule with priorities linked to financial obligations. Items to be performed under this task include:

1. **Background Review –** The Stantec Team will review existing reports and data provided by the District that are necessary to perform a complete assessment of the status of the PRWAP and identify current status of work, additional studies or analyses needed in order to establish program priorities and develop a master program schedule. Background documents shall include, but not be limited to, environmental reports, groundwater modeling reports, existing and future well locations and production rates, plans and process information for the LACSD 20 Palmdale Water Reclamation Plant, financial information including grants and loans, and existing funding available for the project. Upon receiving notice to proceed, Stantec will prepare a comprehensive data request for the District.
2. **Rapid Program Readiness Assessment –** Following review of available background information, Stantec will evaluate and identify additional studies, data and/or analyses needed to supplement the existing studies, data and analyses to fully implement the PRWAP. Identified items shall be documented, prioritized and discussed with the District and, upon reaching a consensus, items will be incorporated into the Program Implementation Plan (PIP) and master schedule.
3. **Funding Assessment –** Stantec's in-house integrated team of financial consultants, led by Amy Broughton, includes grant writers and administrators that will review existing funding programs for relevance to the PWAP and evaluate likelihood of success and develop and prioritize a loan and grant application schedule. Stantec shall coordinate and moderate strategy sessions for District staff and Board of Directors, funding agencies and elected officials. Upon securing funding, the Stantec funding team shall drive compliance, track progress, provide necessary reports and empower District staff to execute a coordinated and streamlined approach to securing maximum funding.
4. **Economic Impact Analysis –** Stantec's Financial Services Team (FST), led by Ben Stewart, will work with the broader PRWAP support team to identify the necessary economic inputs to include estimated construction costs, estimated full-time equivalents (FTEs), and approximate salaries for jobs created during different phases over the project's life in order to conduct an economic analysis. We will conduct an "input-output" analysis using a Leontif the IMPLAN economic input-output model (e.g., IMPLAN, the Regional Input-Output Modeling System (RIMS II), or a comparable model) to calculate the estimated economic impact of the project on local commercial and industrial activities. Input-output models are designed to estimate the direct, indirect, and induced effects of projects, both during construction periods and for ongoing operations through the projected life of the infrastructure or project.

Stantec has a fully functional Financial Services Team capable of conducting the necessary rate study for the District —alleviating the need to obtain a separate consultant. (if desired)

- Direct impacts include the investment in materials as well as jobs and associated salaries.
- Indirect effects include the effects of the investment on other supporting industries supporting the project (e.g., manufacture and transportation of construction components).
- Induced effects include the "ripple" effects of increased economic activity in a region, leading to an increase in demand for other goods and services that increase other jobs and the earnings of those providing goods and services to the workforce associated with the project.

For purposes on preparing the scope of work and budget estimate, we have assumed that the AWPF and other program facilities will be constructed on previously vacant land that is not being used for other economic purposes. Consequently, we are not conducting a "highest and best use" study of the PRWAP nor are we estimating the net effects of replacing other economic benefits as part of this analysis which is consistent with the functioning of input/output models. The results and findings of the regional economic analysis will be presented in a Technical Memorandum and submitted to the District for review and comment. Our FST will attend and conduct a presentation for the board as requested.

5. **Program Implementation Plan –** Working with District staff and utilizing the information from the rapid readiness assessment, Stantec shall prepare a comprehensive PIP that identifies drivers, risks, and critical milestones and defines projects and studies necessary to fully and successfully implement the PWAP. The PIP shall be presented in a memorandum or report format and include a master schedule to be prepared in Smartsheet that ties together critical path items, funding, program budget needs and project expenditures. It is envisioned that the master schedule will be a living document and updated as milestones have been accomplished and critical path items are surpassed.

Deliverables:

- Data Request
- Program Priorities and Implementation Plan
- Economic Impact Report
- Master Program Schedule
- Brine Management Strategy TM (Draft and Final)

Task 3 – Project Delivery Methodology and Procurement Support (III.C)

Stantec's in-house certified alternative project delivery expert, Mike Watson—who sat on the advisory committee for the Design-Build Institute of America (DBIA) in 2021—shall lead this task to evaluate alternative project delivery methods for the PRWAP to provide the District with the information needed to make an informed decision on selecting a project delivery method. Leveraging Stantec's in-house expertise, the following tasks shall be completed:

1. **Evaluate Project Delivery Methods –** Stantec will prepare a Technical Memorandum (TM) that provides a description of each project delivery method, identifies the percent of design completion required for each delivery method, and conduct a comprehensive analysis of the advantages and disadvantages of the various project delivery methods as they relate to the PRWAP. The Stantec PM team will coordinate and moderate a workshop for District staff to educate staff on different delivery methods and pros and cons. Prior to the workshop with District staff, Stantec will prepare a spreadsheet that details projects, delivery methods, alternative evaluation criteria based on the pros and cons, and weighting factors so that a Multi-Objective Decision Analysis (MODA) can be conducted during the workshop. The purpose of this value-added task is to get an unbiased assessment based on criteria that is weighted and may have varying importance to each District staff. The MODA will assist the District and PM team with selecting the preferred project delivery method. Following the workshop with District staff, Stantec's PM team will attend a meeting with the District board of directors to recommend the preferred delivery method for each component of the PRWAP. Delivery methods that will be evaluated include but are not limited to:
   - Traditional Design-Bid-Build (100% Design Plans),
   - Construction Management At-Risk (CMAR),
   - Progressive-Design-Build (PDB),
   - Fixed-Price Design-Build (FPDB),
   - Design-Build-Operate, and
   - Public-Private Partnership
2. **Design Criteria Package -** Based on our Team's extensive experience in preparing bridging documents for design-build projects, the design team will prepare a preliminary design with sufficient detail to serve as bridging documents. This level of design is typically 10-20% to establish the design criteria and equipment performance that must be met by the DBE but does not restrict the DBE team from developing alternative equipment layouts and selecting alternative equipment vendors so that competitive bids can be obtained.
3. **Pre-Bid, Bid and DBE Award Assistance -** The Stantec PM team will assist the District in the pre-bidding, bidding and award phases to select the DBE. The following items will be completed as part of this task and will include collaborating with, and incorporating comments from, District staff, board and legal team:
   - Establish process for and evaluation criteria for selecting a DBE
   - Assist District and District's legal counsel with development of a contract for delivery by the DBE
   - Develop and prepare Request For Qualifications (RFQ) and Request For Proposal (RFP)
   - Assist in administering RFQ and evaluate submittals from perspective DBE; make recommendation on shortlist of DBE to be invited to submit proposals
   - Assist in administering the RFP and evaluate proposals from perspective DBE; Stantec suggests that the District consider conducting interviews with perspective DBE
   - Stantec Team members will attend DBE interviews and make a recommendation on selection
   - Assist District and legal counsel with negotiation of contract terms with recommended DBE

VALUE ADD
Perform an unbiased assessment of critical program components to assist the District in making defensible and trustworthy decisions

*Deliverables:

- Project Delivery Assessment TM (Draft and Final)
- Request for Qualifications
- Request for Proposal
- Design-Build Contract

**Assumes design-build is selected as the delivery method and may be adjusted and vary for each project component following the delivery method analysis.*

Task 4 – Funding Application Development and Preparation III.D

HOT OFF THE PRESS
just released by Department of the interior 1/20/22 - Three funding opportunities available to help create or expand clean, new water sources – Applications are due 3/15

In the Interagency Stakeholder Webinar on State Budget Water Investments held January 1, 2022, the administration acknowledged a greater need for recycled water funding. In recent years, the SRF has been the key source of funding for recycled water projects in California. Through the Western Water Act, the Infrastructure Investment and Jobs Act (IIJA) allocates $610 million to recycled water projects in the western United States (2022-2026). The IIJA funding will be administrated by the US Bureau of Reclamation. Even with this new IIJA funding, there isn't nearly enough public funding designated to advancing important recycled water projects.

The adoption of direct potable reuse (DPR) regulations (before December 31, 2023) may prompt the State to direct more funding to water augmentation projects. Today, the District should strive to strengthen and maintain relationships with the Bureau of Reclamation and State agencies and administrators to ensure the Groundwater Augmentation Program is competitively positioned to secure additional funding as it becomes available. Stantec's financial management team can assist the District with strengthening relationships to position the District for future funding.

The Stantec Financial Services Team (FST) has a dedicated proven grant writing team that has secured more than $700 Million in funding for water projects and more than $4 billion in grants and loans for large infrastructure projects and will provide the necessary application services for obtaining funding through State and Federal government agencies for the following funding applications:

- Water Recycling Funding Program (WRFP) Grants and Loans
- Bureau of Reclamation Title XVI WIIN Funding
- Water Infrastructure Finance and Innovation Act (WIFIA)
- Additional funding that may be made available from the Investment and Jobs Act (IIJA)

At the onset of the project, the Stantec FST will prepare a detailed funding plan that will identify the funding agency, application requirements, detailed schedule that will identify milestones and who will be the responsible lead and information that will be needed from the District to support the application. In addition, the plan will identify the strategies that should be taken by the District and District's Board to best position the District to successfully capture funding. The Stantec Team will develop and write the technical content and prepare graphics to support each package. The following tasks shall be performed to secure funding for the PWAP:

1. **Funding Plan –** The Stantec FST will prepare an overall funding plan for the District that will identify the funding agency, application requirements, detailed schedule that will identify milestones and who will be the responsible lead and information that will be needed from the District to support the application process. A draft of the Funding Plan will be submitted to the District for review and comments received will be incorporated in the Final Plan. This plan will be the initial funding roadmap for the District and will be updated periodically as new funding opportunities are identified. This information will support the economic analysis discussed in Task 2.
2. **Application Technical Project Description and Evaluation Criteria Narrative Development –** Based on the Funding Plan and due dates for each application, the Stantec Team will provide the technical content and graphics for use by the FST to complete the application.
3. **Application Review and Submission –** Stantec's PM will coordinate and schedule regular meetings with District to gather the necessary information to expedite each application. A draft of each application will be submitted to District for review and revised as necessary prior to submission. Stantec's FST will submit applications on behalf of the District and track application status.

Deliverables:

- Funding Plan
- Meeting Coordination for Each Application
- SRF Application and Attachments
- WRFP Application and Attachments
- BOR Title XVI WIIN Application and Attachments
- WIFIA Letter of Interest, Application, and Attachments
- IIJA Application and Attachments

Task 5 – Assistance with Tertiary Water Purchase Agreement III.E

District has an existing agreement with LACSD 20 to receive approximately 5 MGD of tertiary treated water from the Palmdale WRP that needs to be revised to establish

Stantec has worked with LACSD for over thirty years - we have existing relationships and know LACSD's expectations which will expedite this program component.

the water quality expectations and frequency of recycled water delivery needed to operate the AWPF. Stantec's PM team will complete the following tasks to assist the District with revisions to the water purchase agreement with LACSD 20:

1. **Water Quality Analysis –** Stantec will review LACSD 20 source control program, process, waste discharge permit (WDR), historical water quality from the Palmdale WRP and conduct a water quality analysis to identify process improvements that may be needed at the Palmdale WRP to increase reliable operation of the AWPF. Stantec shall establish water quality parameters that will serve to support the design of the AWPF.
2. **Cost Savings Analysis –** Based on review of the process and water quality analysis discussed in Task 5.1, Stantec will prepare a cost analysis to determine if the recommended improvements to the Palmdale WRP to support reliable operation of the AWPF provides a cost savings to LACSD 20.
3. **Prepare Technical Memorandum –** Following review and analyses as discussed in tasks 5.1 and 5.2, Stantec will prepare a draft and final TM summarizing the findings and make recommendations for improvements to the process at the Palmdale WRP as well as recommendations for amendments to the agreement with LACSD 20. The draft TM will undergo an independent technical review prior to submission to the District and comments from the technical review will be incorporated. The final draft will be submitted together with the comment and response log to the District for review. Comments received from the District will be added to the comment and response log and incorporated into the TM as appropriate and the final submitted to the District

Deliverables:

- PWRP Tertiary Water Requirements TM (Draft and Final)

Task 6 – Public Outreach III.F

Many a potable reuse project has been delayed or even derailed due to lack of public support. Sometimes the "yuck factor" discourages public acceptance; other times a general lack of information—or the propagation of misinformation—has ended a project before it has even begun. But it has also been demonstrated that an informed community that understands the importance of a resilient, reliable, and sustainable water supply is an integral part of successfully implementing a potable reuse project. Our subconsultant, Katz & Associates (K&A) approaches this challenge with a wealth of experience in engaging audiences for just that purpose.

Palmdale Water District (the District) already conducts extensive outreach and communication regarding the value of water, water scarcity, and drought. Yet, while the need for addressing water supply challenges is not new to the public, this project provides a renewed opportunity to show the District's commitment to fulfilling its mission of providing local, reliable water sources for the community. Particularly with climate variability and ongoing water allocation concerns, the District can use its outreach and education program to highlight how innovative projects that use water purification technology are key to long-term water resiliency.

K&A will bring forward the latest and best practices that can be applied to stakeholder engagement and public acceptance.

Based on an approach informed by experience, leaning on lessons learned, implementing innovative and creative strategies together with a team of experienced practitioners to put your vigorous and thoughtful planning to work in developing and implementing a robust public outreach and engagement program. K&A will bring forward the latest and best practices that can be applied to stakeholder engagement and public acceptance. They will help guide District staff and assist with designing and implementing strategies to help raise awareness and overcome obstacles that may arise. K&A pride themselves on being an extension of the staff at agencies they support. They will focus assisting in the introduction, education, and implementation of potable reuse, not just for your community, but also for your internal audiences – your employees need to feel confident about the purity of the water that will be produced by a water purification process.

K&A's experience leading, supporting, and implementing communication strategies for potable reuse projects across the state and throughout the country has led to the following framework. These key components are a foundation upon which goals, strategies, and tactics will be built in coordination with District outreach professionals.

- **Listen –** Utilize existing research to ascertain perceptions, existing knowledge, and communication preference so we can meet them.
- **Involve –** Key community leaders who can be introduced to the PRWAP early on often become champions for the project or "message carriers" to their constituents or community members. This is especially important

for various demographic groups, such as the Latino population, as research in many areas has shown a lack of trust in water quality among this demographic.

- **Message –** Learn what messages work best in sharing the purpose, need, and benefit of the project so we can quell concerns and generate interest.
- **Present –** Use creative and culturally-competent content and visuals to communicate information about the purpose, need, benefits, and safety of the project.
- **Participate –** In this business, seeing is believing – and tasting is really believing! We will apply our experience working with citizen academies and designing and leading demonstration facility tours – both in-person and virtual – along with developing educational curricula for elementary education and presentations for college classes and community groups, to explain the water purification process in Palmdale. The District's plan to operate a demonstration facility that will transition to a learning center is an excellent one and can bolster the community outreach program immeasurably.

The K&A team is also at the vanguard of research into new techniques and in developing new tools for public outreach and education. They have been actively involved in the DPR initiative in California and have worked on several potable reuse projects throughout the United States. K&A will build upon their previous work with the District on the Groundwater Recharge and Recovery Outreach and EIR, which included development of a public engagement plan, preparation of extensive informational materials, numerous public outreach and community engagement activities conducted in both English and Spanish, and creation of outreach objectives that may serve as a baseline for the PRWAP.

1. **Kick-off Meeting -** A kickoff team meeting/planning session will confirm project priorities, approaches, and general messages. This task will include the preparation for and participation in a two-hour outreach kickoff meeting, including preparation, materials development, and a summary. This task also includes attending and documenting project meetings; coordination with public outreach and other team members including participation in regular updates; maintaining a comprehensive stakeholder list; strategic counsel and issues management; contract compliance; and preparation of monthly progress reports. Assumes participation in up to two (2) project coordination meetings per year, for a total of 12 project coordination meetings with the project team. Assumes participation in four (4) project updates per year for a total of 24. Assumes a limited level of effort for strategic counsel and issues management. Assumes preparation and maintenance of an updated stakeholder list in coordination with District staff, and coordination of up to six (6) outreach-associated updates to stakeholders. Assumes a total of 48 monthly activity summaries.

While technical and engineering challenges are always essential considerations for developing alternative water supplies, public acceptance has proven to be especially critical to the success of potable reuse projects.

2. **Assistance with Public Outreach –** Building on the District's existing outreach activities and leveraging the prior efforts for the Groundwater Recharge and Recovery efforts, the following tasks will be provided to assist the District:
   - Programmatic Communications Plan and Talking Points: This task includes supporting the District with public outreach for the PRWAP, including the preparation of a communication/public engagement plan to cover programmatic outreach for the duration of the program including outreach roles/responsibilities, tactics and timing, a rapid response plan, and a media plan. It also assumes support of public outreach through preparation of a project presentation, speaking points for team members, a PowerPoint script, and spokesperson training. It also includes a base level of strategic counsel on speakers bureau formation, scheduling, and maintenance, as well as coordination with PWD staff on additional community event participation and partnerships specific to the augmentation project. Given the duration of this program, this task also assumes strategic support throughout the project lifecycle.
   - Content for Web, Newsletter and Social Media Content: Outreach support also assumes development of a message plan, supporting facts, and public-focused information that would then become the basis for all collateral and public information (Spanish and English) including that described under RFP III.F.C flyers and handouts. We recommend preparation of an annual social media and "editorial" calendar to align with project schedule and milestones and maximize existing content and graphics to inform up to four (4) newsletter entries, six (6) website updates, and six (6) social media posts per year. All graphics for these updates are included under RFP Item III.F.C with minimal social media post and website graphic modification included under this task.

- In-Person Tour Development and Support: For purposes of scope development, we assume that the RFP terms "flyer" and "handout" are broad terms to describe informational materials that support understanding and education for diverse audiences. Specifics will be identified in coordination with District staff, but our foundational recommendations include development of a project fact sheet, FAQ, tour brochure, project infographic, tour survey, a youth activity handout, and a post-tour survey handout. For scope estimation, we these or other identified collateral materials will be incorporated into preparation of up to eight (8), 8 ½ x 11, two-sided, full color flyers along with eight (8), 11x17, full color handouts with up to 10 project and technical specialized graphics (such as treatment train, etc.). All will be translation into Spanish and English. For a successful and organized tour program, we recommend preparation of a tour script for general and youth audiences, a tour manual for staff, a tour presentation, and one tour guide training sessions.
- **Virtual Tour:** To expand the reach of information and expose a wide audience to the demonstration facility and ultimate learning center, this task assumes creation of one virtual "real-time" walkthrough video with graphic support, and creation of up to eight (8), 30-second subject matter expert videos that can meet multiple uses including website and social media posting.
- **Water Ambassador Academy:** As part of District activities, a range of technical and general information will be prepared and can assembled to form the basis of an in-depth module for the District's Water Ambassador Academy. We assume existing materials covered in other tasks will be used for this module.
- **Community Meetings:** Finally, community meetings, whether in person or virtual or in a hybrid approach, will be important means to engage community members and encourage productive discussions. This task assumes support of four (4) community meetings and assumes that two of these will be CEQA-focused meetings to support Task III.H in the RFP, including one scoping meeting and one Draft EIR meeting in open house formats. To ensure thorough public engagement that meets CEQA requirements, this task assumes development of a draft and final public participation logistics plan; scoping and DEIR notification content; one (1) scoping meeting fact sheet with a DEIR update; scoping meeting posters (4) with DEIR updates (4); one (1) CEQA FAQ with a DEIR update; and a dry run agenda and materials to prepare subject matter experts for public engagement and risk communications. The majority of materials and design will be prepared under previous tasks. Though we are assuming both in open house formats for all meetings, K&A has extensive experience managing logistics and options for virtual meetings and can do so in coordination with the District's communications staff. The two remaining meetings will be designed in coordination with staff and assumes updates to the program PowerPoint, preparation of a project spokesperson, and onsite support by one K&A staff member.

All materials assume up to two revision rounds before finalization. Assumes the District will pay for costs of postage, printing, and distribution.

Deliverables:

- Summary notes from project coordination meetings and update meetings
- Summary report of kickoff meeting
- Comprehensive stakeholder list
- Monthly activity summaries to be include with Program team monthly update
- Communication/public engagement plan including a rapid response plan and media plan
- Project presentation and script
- Speaking points for team members
- Project message plan
- Social media, newsletter, and website content
- Up to eight flyers
- Up to eight handouts
- Tour script
- Tour manual
- Tour presentation
- Virtual tour video
- Subject matter expert video clips
- Community meeting materials

Through a strategic effort in which the outreach team works closely with technical experts throughout the process, clear, concise, and consistent information and visuals will be developed early on and then applied through trained spokespersons and across multiple formats to raise awareness, invite and respond to input, and even raise enthusiasm about this hallmark project and learning opportunity for the District and the community and customers you serve.

Additional Optional Scope Items

- Research (One-on-one listening sessions with community leaders to raise awareness, gauge perceptions, and build future ambassadors)
- Quantitative Research (Community Survey for baseline and future updates)
- Branding (Creating project identity, style guide, name and tagline)
- Tour Signage (Creating posted visuals to accompany tour materials and match branding)
- Input on education display/design (Provide strategic counsel on educational displays, content and interactivity)
- Microsite (Prepare project microsite with branding to serve as central location for all current and future updates including into construction)

Assumes that additional budget would be needed for these additional potential activities.

Task 7 – Bureau of Reclamation Feasibility Report III.G

Stantec is a trusted advisor to the Bureau of Reclamation (BOR) and works with BOR on many projects and is very experienced and familiar with BOR's expectations, directives and standards. We are confident that Stantec's experience working with BOR will expedite the approval of the Title XVI Feasibility Report and comments will be minimal. Stantec will perform the following tasks to complete the BOR Title XVI Feasibility Report:

1. Background and Alternatives Analysis – Stantec shall review the existing BOR Title XVI Report that was prepared for the Groundwater Recharge Program and prepare a new BOR Title XVI feasibility report for the PWAP . The alternatives to be evaluated shall include:
   - Groundwater augmentation (5 MGD)
   - Surface Water augmentation (5 MGD)
   - Combination of both groundwater and surface water augmentation (10 MGD)
   - Expansion of an Antelope Valley regional water augmentation project by utilizing tertiary water from Lancaster Reclamation Plant.
   - Direct Potable Reuse

The Stantec Team shall consider the siting locations of the AWPF utilizing existing vacant parcels that will be adequate to accommodate a 5 MGD plant and an expansion for 10 MGD full build out. Stantec will submit a draft report to the District for review. Comments from the District shall be incorporated into the Draft report and submitted to BOR for review. Comments from BOR will be addressed and incorporated into the report until accepted by BOR.

Deliverables:

- BOR Feasibility Report (Draft and Final)

Stantec's Mary Paasch recently prepared six feasibility reports including reports under Section 4007 of the WIIN and 2021 Infrastructure Funding and Jobs Act.

Task 8 – Environmental Studies and Regulatory Compliance III.H

In order to be competitive for grant and loan funding, environmental studies must be completed prior to submitting applications and to support regulatory permits. Specifically, CEQA-Plus documents for State Revolving Fund (SRF) environmental review must demonstrate compliance with Section 106 of the National Historic Preservation Act, Section 7 of the federal Endangered Species Act, and the Federal Clean Air Act. Stantec is well-versed in the preparation of CEQA-Plus documents having prepared environmental documents for successfully-funded projects for the City of South Pasadena (Graves Reservoir Project) and the West Basin Municipal Water District (Carson Regional Water Recycling Facility Expansion). We understand this is an immediate and urgent task for the District and this task will be expedited to provide the most opportunities to secure funding for the PRWAP The following studies and tasks shall be completed:

1. **Prepare Strategy Plan –** At the onset of the PRWAP, Sarah Garber, Stantec's environmental and permitting lead will review background documents and prepare a strategy plan to identify the best path forward to give the District the best chance at securing funding and meeting regulatory permitting requirements. Upon review and approval by the District, the strategy plan will be implemented and tied to the PRWAP schedule and application deadlines. An environmental review of the PRWAP will be completed in accordance with the requirements of the California Environmental Quality Act (CEQA). Potential triggers for compliance with the National Environmental Policy Act (NEPA) will be identified. The Environmental Compliance Strategy Plan will identify the appropriate CEQA process for the project, including review of the benefits of a project-level or programmatic environmental document. However, for the purposes of this scope of work, it is assumed that the CEQA process for the project will be a project-level Initial Study and Mitigated Negative Declaration (IS/MND) for the treatment and groundwater injection project

(to include construction of a treatment plant, repurposing of existing ponds for brine disposal, and pipeline and injection well installation).

2. **Environmental constraints analysis -** Based on proposed project facilities, locations, and the special studies conducted in item 3, below, Stantec will prepare an environmental constraints analysis for the various elements of the PRWAP. The constraints analysis will focus on environmental issues that present a fatal flaw to successful regulatory permitting or that could become major schedule constraints. A brief Technical Memorandum will be prepared to document the results of the constraints analysis.

3. **Initial Study (IS) -** Special studies will be required to support preparation of the environmental document for the project. The extent and complexity of these studies will depend on the locations of project facilities and the maximum areas of potential construction disturbance, including for proposed pipeline alignments. Stantec proposes to conduct initial environmental assessment for the treatment plant site, up to 40 acres of brine disposal ponds and up to 10 miles of pipeline alignments.

   Supporting assessments for the IS will include:

Topic	Initial Study Evaluation
Air Quality	Stantec will estimate construction-related air pollutant and greenhouse gas emissions based on the construction information provided by project engineers. Worst-case, peak-day emissions estimates will be prepared. Operations-related air pollutants will include consideration of energy needs for the project. Emission estimates will be compared to thresholds of significance established by the Antelope Valley Air Quality Management District and published in their CEQA and Federal Conformity Guidelines (August 2016).
Biological Resources	Initial database searches, reconnaissance-level field surveys and existing document reviews for the treatment plant site, up to 40 acres of brine disposal ponds and up to 10 miles of pipeline alignments will be conducted to identify potential significant biological resources impacts. **Research.** To assess the potential for special-status species and/or their habitat and/or regulated aquatic resources to occur on the project areas, Stantec will obtain and review existing reports and unpublished data to determine the nature and scope of additional work required to adequately characterize environmental conditions. Stantec will conduct a desktop review including review of aerial imagery/KMZ files, topographic maps, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory online maps, USFWS database of federally listed species and critical habitat, CDFW California Natural Diversity Database (CNDDB), and California Native Plant Society (CNPS) rare plant database. **Survey.** Stantec biologists will conduct reconnaissance-level survey of the project areas to identify native and non-native plant species, existing vegetation communities, avian and wildlife use, and the potential for any special-status plants or animals to be present on the project areas. The presence of tree species covered by local ordinance will be noted. **Reporting.** The results of the surveys will include identification of necessary protocol level surveys for specific species and/or jurisdictional delineation of aquatic areas, as relevant. The results of the initial biological resources assessment will be documented in a report and incorporated into the IS. Up to one round of comments will be addressed prior to finalization of the report. Protocol or other additional surveys could be conducted under an amended or subsequent scope of work.

Topic	Initial Study Evaluation
Cultural Resources	Initial database searches, reconnaissance-level field surveys and existing document reviews for the treatment plant site, up to 40 acres of brine disposal ponds and up to 10 miles of pipeline alignments will be conducted to identify potential significant cultural resources impacts. **Research.** Project archaeologists will request from the South Central Coastal Information Center (SCCIC) at California State University Fullerton a records search of these project areas to identify known cultural resources (historic and archaeological). The Native American Heritage Commission (NAHC) will be contacted and a request made for a Sacred Lands File Search and Tribal Contact. The results of the Sacred Land File search will inform the results of the literature review. Tribal contact information will be provided to the District for their AB 52 consultation obligations. If requested, Stantec is available to provide support, but no meetings or consultations with Native American entities or historical interest groups are included in this scope of work. A Stantec paleontologist meeting the standards of the Society of Vertebrate Paleontology (2010) as a Qualified Professional Paleontologist will conduct a desktop evaluation of the project areas to describe existing conditions and to assess whether the project could directly or indirectly adversely impact a unique paleontological resource or site or unique geologic feature. **Field Survey.** Stantec Team archaeologists, under the direction of a professional Secretary of the Interior qualified Principal Investigator, will conduct a non-collection pedestrian survey of the project areas. Pedestrian survey will consist of transects (parallel where possible) no greater than 20-meters apart, as feasible. It is assumed that no artifacts will be identified or require recordation on California DPR 523 forms. If sites are identified, Stantec will recommend an assessment process to the District. **Reporting.** After completion of the field survey, a cultural resource inventory report will be prepared. The report will conform to the California Office of Historic Preservation's Archaeological Resource Management Reports (ARMR) standards, and will include the following sections: introduction, purpose, project description, the natural and cultural setting, archaeological and paleontological records search results, Native American consultation results, field methodology, survey findings and documentation, management recommendations, and references cited. The report will include recommendations for resource management, and provide a professional opinion as to whether formal evaluation and further study of any resources is required. The report will also include color digital photographs and project location maps. Up to one round of comments will be addressed prior to finalization of the report. After finalization, a copy of the report will be filed at the SCCIC.

Topic	Initial Study Evaluation
Noise	Stantec will assess construction-related noise on adjacent receptors based on construction equipment necessary for installation of the project. On-site noise measurements and modeling are not anticipated to be necessary.
Water Resources	The IS will incorporate the results of groundwater modeling conducted for the project.
Traffic	Stantec will assess potential traffic impacts based on project construction characteristics and facility locations. Site-specific traffic counts and traffic modeling are not anticipated to be necessary.
Cortese List	The results of Cortese list environmental database searches will be incorporated into the IS.

4. **Administer Statutory Process -** Stantec will assist the District with processing of the MND, including preparation of required notices, electronic filings with the State CEQA clearinghouse and reviewing comments received on the IS. Since formal responses to comments are not required for MNDs, Stantec assumes none would be prepared.
5. **Staff Support –** Stantec will provide project maps and/or presentation and attend up to one Board meeting to support District staff in recommending adoption of the CEQA document by the District Board.
6. **Identify Permits –** Stantec will prepare a comprehensive permit matrix for the PRWAP including a brief description of the permit, permitting agency, contact information, schedule and estimated cost to obtain.
7. **Evaluate Existing Chlorination Practices –** The program team will evaluate LACSD's existing chlorination practice(s) and identify any potential changes to improve efficiency and impact on the AWPF equipment, while maintaining compliance with existing regulatory requirements.
8. **Title 22 Engineering Report –** Stantec's subconsultant Trussell Technologies will work with the program team to prepare a Title 22 Engineering Report for both the demonstration facility and full scale project, in compliance with the requirements of the California Code of Regulations, for the PRWAP in coordination with District staff and other District consultants for supporting documentation.
9. **Waste Discharge Requirements –** The Stantec Team will evaluate the waste discharge requirements and prepare the permit application for brine discharge with the Lahontan Regional Water Quality Control Board.

Deliverables:

- Environmental Strategy Plan
- CEQA Plus IS/MND (Draft and Final)
- Mitigated Negative Declaration Documents (notices and mailing lists)
- Title 22 Engineering Report (Draft and Final)
- Waste Discharge Permit Application

Task 9 – Groundwater Modeling (III.I)

The Stantec Team will conduct data analysis and groundwater modeling to support project permitting, locate and design injection and monitoring wells, comply with Title 22 regulations, and assist in future treatment and discharge optimization.

As part of our proposal preparation, the Stantec Team compiled readily available data and evaluated the 2021 FS travel time analysis. This evaluation indicated estimated travel time (i.e., retention times) between conceptually located injection well sites and the District's drinking water wells near the planned advanced water treatment facility (AWTF) on the order of 10 months. This travel time estimate is based on Darcy's Law and would qualify for a 25% response time credit (i.e., the estimate needs to be at least 8 months to meet the minimum 2-month underground retention time for permitting). The estimated travel time is favorable for permitting but will need to be refined using the proposed numerical groundwater flow and transport model. A retention time estimated by numerical modeling qualifies for a 50% response time credit, which will help increase the log virus reduction credits provided by underground retention time.

Groundwater modeling will consist of the following two tasks.

1. **Data Analysis -** Available data will be analyzed to identify critical data gaps that should be addressed to improve representativeness and confidence in the numerical model results and to plan the field program outlined in Task 10. A priority objective of the data analysis will be to understand groundwater flow directions and gradients in the project area. Results of the data analysis will also be used to apply analytical equations to confirm the Darcy's law travel time estimate. These analytical estimates will help guide numerical model development.
2. **Numerical Groundwater Flow and Transport Model Development –** The Stantec Team evaluated several existing groundwater models for use on the project, including models developed but the U.S. Geological Survey and other consultants. None of the existing models are appropriate for direct use without substantial modification, but all of them contain useful information for the water augmentation project. Therefore, a project-specific groundwater flow, particle tracking, and solute transport model will be developed and calibrated to meet project objectives. The model will use pertinent information from previous models to the extent beneficial for the project.

   Our modeling approach will start with an evaluation of recent MODFLOW versions (e.g., MODFLOW-USG or MODFLOW 6) to select the most appropriate model code and leverage new features that enhance achieving project objectives. This includes improved model grid design, advanced well simulation modules, and reduce computational time. Our approach will ensure that the model grid and layering are optimized for project simulations, which conceptually includes adequately reproducing local groundwater flow conditions in the project area, pumping and injection well impacts, and estimating injected water flow directions, dilution rates, and travel times to nearby pumping wells. Further, the model will be designed to study alternate injection wellfield and monitoring network designs that meet regulatory requirements. The model will include a refined evaluation of available hydrogeologic data and groundwater pumping data through at least 2020. The model will be calibrated to transient groundwater conditions over an appropriate period developed based on the Task 1 data analysis.

   The initial numerical model development would begin immediately after notice to proceed and take about 6 months to complete. Initial modeling would occur concurrently with the field program outlined in Section III.J below. The model will be refined using data from the field program.

   The model and draft TM will be independently reviewed by Victor Harris of H&H. The final TM will be backchecked to ensure that all comments were incorporated.

Task 10 – Pilot Testing for Groundwater Injection and Groundwater Monitoring (III.J)

Based on available pumping well performance data and aquifer property estimates, it appears that injection at expected operational rates near the planned advanced water treatment (AWT) facility is feasible. Further, preliminary travel time estimates are conceptually favorable to permit the project. However, the travel time estimates will need to be further evaluated using the numerical groundwater flow and transport model to permit and design the injection wellfield and monitoring network.

Preliminary data analysis suggest that the following two data gaps should be addressed through a targeted field data collection program to support model development.

1. **Preferential pathways –** the potential presence of high conductivity zones within the groundwater system should be assessed to better simulate the potential for rapid flow of treated water between the injection and recovery wells.
2. **Transport parameters –** site-specific estimates of effective porosity and dispersivity would notably improve confidence in model-derived travel time estimates.

To address the preferential pathway data gap, we propose to coordinate with the District to conduct spinner logging in at least one of the following District supply wells: 2A, 3A, 4A, 7A, 8A, and 23A. This effort typically requires temporarily removing the permanent pump, installing a test pump to allow access for the logging tool into the well screen, and then replacing the permanent pump. Spinner logging results would profile groundwater production zones in the well, indicate potential preferential flow pathways exist. and be used to refine the model layering if needed.

To address the transport parameter data gap, we propose to conduct a short-term tracer test. This tracer test will support the modeling but is not considered sufficient for 100% response time permitting credit. A small diameter well would be installed near the District's water supply wells in the project area to introduce the tracer. If possible, the new well would be located and designed to serve in the future as one of the required operational monitoring wells. Lithologic and geophysical logging (including the nuclear borehole magnetic resonance method if possible) would be conducted during well construction to characterize subsurface conditions.

A tracer test plan will be prepared. Conceptually, the tracer test would include the addition of tracer into the new well and monitoring in the nearby District water supply wells. Tracer would be introduced to the well under ambient hydraulic gradients without injection. Data from the tracer test would be analyzed to estimate effective porosity and dispersivity. The particle tracking and transport model would be updated and recalibrated, if necessary, with the site-specific transport parameter estimates.

Compared to using the District's Well 10 as a tracer delivery well, the proposed tracer test will be shorter, more efficient and economical, and will improve the likelihood of testing success. Further, our proposed approach delays installation of full-scale injection wells until Phase 2 of the project either after the demonstration or full-scale Advanced Water Purification Facility (AWPF) is permitted and operational. This is a more typical and favorable approach because only one permit will be required to inject the advanced treated water for the required operational tracer test. Cost for the future operational tracer test and additional permit modeling support is not included in this proposal and will be provided before Phase 2.

Deliverables:

- Draft and Final TM

Task 11 – Demonstration Facility Design, Construction and Testing (III.K)

To establish the design and operational criteria for the full-scale AWPF and support getting regulatory approvals, a 1 MGD demonstration facility will be constructed. The Stantec Design team for the demonstration facility will prepare the initial layout, design and bid package for the one million gallon per day (MGD) demonstration facility. This task also includes equipment selection for evaluation and to pre-qualify reverse osmosis (RO) and membrane filtration (MF) equipment manufacturers. The demonstration study will evaluate and test the selected treatment system to determine the effective treatment, brine disposal, and required log removal to meet the Title 22 requirements for indirect potable reuse and direct potable reuse. The design will include the necessary modifications to the demonstration facility for it to transition from testing facility to the District's AWPF's learning facility. The following minimum tasks shall be completed:

1. **Pre-Purchase Equipment Bid -** Develop the equipment specifications and bid documents for prep-purchase of the MF and RO equipment based on the pre-qualification and design criteria task. Equipment shall be purchased such that the equipment is ready for installation by the contractor.
2. **Test Protocol Development -** A detailed test protocol shall be developed identifying the treatment process trains, 12-month test schedule, analytical testing and sampling schedule. The draft protocol will be provided for review by the Independent Advisory Panel (IAP). Stakeholder and regulatory comments will be incorporated into the final testing protocol. The study will include review of water quality data and previous sampling from the Palmdale WRP to identify constituents with likelihood of exceeding Safe Drinking Water Act (SDWA) primary MCLs, secondary MCLs, California Notification Levels, NPDES permit levels, or other regulated limits through an anticipated AWPF. The test protocol will include testing for target constituents that would be effective at evaluating and comparing the potable reuse treatment train that would impact public health. Special attention will be given for sampling those contaminants likely to persist through a given treatment process with the potential risk of exceeding maximum contaminant levels or notification levels. Towards the end of the 24-month test period, a treatment train will be tested that is capable of addressing DDW's concerns with reliability that will inform the District on a strategy for direct potable reuse. A proposed treatment train, together with the logic in how this will address DDW concerns, shall be provided.

3. **Demonstration Design, Layout, and Construction -** The demonstration facility, proposed to be located on the eastern side of the District's Main Office site, with the primary public entrance fronting East Avenue Q shall be designed so that it is suitable for public tours and interested stakeholders. A thorough geotechnical evaluation will be needed prior to any layouts or design related to this task. There are significant geotechnical concerns with strong ground shaking potential as well as secondary effects such as settlement and liquefaction that accompany a design-level earthquake and smaller seismic events.

   Our geotechnical consultant, Kleinfelder will conduct a desktop study that will review relevant and readily available reports, aerial photographs and geologic maps and reports that may contribute to the understanding of the site. The findings from the desktop study will be summarized in a technical memorandum together with recommendations for the work that will be needed to support the design of the demonstration facilities and, ultimately, the full-scale design of the AWPF. Following confirmation of the location of the demonstration facility and full-scale facility, Kleinfelder will complete a full geotechnical investigation that will include permitting from the Los Angeles County Department of Public Health (LACDPH) which is required for borings at a depth greater than 10 feet below the ground surface. A workplan and application will also be required to accommodate the permit. Prior to site visits and field exploration, a project specific health and safety plan will be completed. For purposes of this proposal, we have assumed that at the AWPR site, six (6) borings at a depth of 30 to 50 feet will be performed. Soil cuttings from the borings will be drummed and disposed offsite. Temporary storage of the drums will be coordinated with the District. Laboratory testing of the soil samples will be performed focusing on identification and classification as well as evaluating the shear strength of the in-situ site soils. Laboratory testing will include moisture content and dry density determinations, sieve analyses, Atterberg Limits, direct shear, consolidation, maximum density determination, and R-value. The tests selected and the frequency of testing will be based on the subsurface conditions encountered. A site-specific response spectra will be developed per the requirements of ASCE 7-16. Site-specific ground motion criteria will be developed in terms of peak ground accelerations and response spectral accelerations for the subject site by using the current seismic source model for California and subsurface soil conditions at the site. A geotechnical report will be prepared that summarizes the results of the field and laboratory investigation and presents conclusions and recommendations related to the geotechnical aspects of the project. Following a final decision on the location of the AWPF, surveying will be conducted. The scope of work and level of effort for surveying as well as getting power to the site is site specific and can vary in scope and effort depending on if a boundary survey is required and power available in the vicinity of the site.

   Following selection of site for the AWPF, a scope of work and estimate of effort for surveying will be provided to the District for review. The next critical component will be getting power to the site to operate the demonstration facility as well as full-scale facility. The amount of power required to operate the demonstration facility will be dependent on the size of the demonstration facility. The Stantec Team is proposing a smaller demonstration facility to expedite the program schedule and save the District substantial expense. Upon reaching a consensus on the size of the demonstration facility and location of the full-scale AWPF, the design team will coordinate with Southern California Edison (SCE) to identify available power supply and options for getting power and remote access to obtain operational status of the facility.

   Design and layout of the demonstration facility shall be developed and carefully coordinated with District staff, architect and K&A to ensure there is adequate space for tours and educational posters. The Stantec design team will work with the District to develop the layout of the facility and obtain consensus prior to proceeding with the design drawing and specifications. Upon completion of the draft construction documents, the package will be submitted for District's review and comment. Comments from the District will be discussed and incorporated as appropriate. The testing will be completed using effluent from the PWRP. The Stantec Team will coordinate procurement and oversee installation of the demonstration equipment.

4. **Demonstration Testing Operation -** The demonstration facility will be operated jointly by the District staff on a 24-hour per day basis and supported by The Stantec Team. The Stantec Team will train District operations staff and provide operational instructions, trouble shooting and guidance for all demonstration equipment. District staff will assist with routine operations during the day shift and will maintain the plant in operation during other shifts as coordinated by the Stantec Team. The Stantec Team will conduct all special sampling and provide a 24-hour per day contact for the District's operations staff in the event of abnormal events or emergencies. Joint operations by Stantec and the District will be provided for a period of twenty-four (24) months.

5. **Brine Testing Operation –** Data from the demonstration facility will provide information to establish the design criteria necessary for inland brine management. Stantec's design team shall utilize the data from the demonstration facility to evaluate RO recovery, zero liquid discharge, and the equipment to enhance evaporation to establish the most cost-effective solutions for brine management and sizing the evaporation ponds. Data from this task shall be utilized in Task 12 below to develop the construction plans and specifications of the brine facilities. Results and recommendations for brine management shall be summarized in a technical memorandum complete with cost estimates for the District's review and consensus.
6. **Analytical Testing –** The Stantec Team will collect samples for one monthly sampling event and will send samples for analysis. Following the initial sampling, sampling will be performed by the District or contracted out. Stantec will work with the District to establish days for sampling and include the schedule for sampling and constituents to be analyzed in the demonstration test protocol as discussed in item 2 above.
7. **Study Report and Project Management –** Monthly status meetings summarizing the demonstration facility operational performance will be held with the District to review facility performance and address any concerns or issues. The Stantec Team will prepare the agenda, presentation and lead the monthly meeting with the District as well as submit draft and final meeting minutes. In addition, a quarterly status report will be prepared to document plant operations and performance. Upon completion of the 24 month test period, the Stantec design team will prepare a final test report including the analytical results, analysis, conclusions of the demonstration testing and recommendations on equipment selection. The draft report shall be submitted to the District, the IAP, DDW and other stakeholders for review. Comments received will be incorporated into a final report and the Stantec Team will meet with the District to discuss equipment selection. Specific decisions to select one treatment unit over another for continued testing shall only be made after a presentation is made to District staff for their consideration.
8. **Assistance during Bidding, and Construction Oversight.** The consultant shall assist the District during bidding and construction and respond to requests for information and clarification submitted by the Contractor. Stantec will provide oversight during construction of the demonstration facility. Stantec will review daily reports, work progress and requests for payment from the contractor.

Deliverables:

- Monthly Agenda (24 months)
- Quarterly Report (8 quarters)
- Presentations (Two Fourth Quarter and Testing Phase Conclusion)
- Initial Layout, Transition to Learning Center, and Equipment Selection
- Equipment Request for Qualifications
- Equipment Purchase Bid
- Bid Package (Draft and Final)
- Testing and Monitoring Plan (Draft and Final)
- Demonstration Study Report (Draft and Final)

Task 12 – Design Criteria Package – AWPF, Injection Wells, and Conveyance III.L

Following selection of the location of the AWPF, geotechnical investigations, and surveying, as well as delivery method for each project component, the Stantec Team will develop full-scale design criteria packages for the AWPF, injection wells and pipeline up to approximately 15% completion. For purposes of preparing the scope and budget, it is assumed that all packages will be progressive design-build and will include measurable, performance-oriented criteria, schematic drawings and specifications that will define the project enough for the DBE team(s) to complete the design and construction. 15% construction drawings will be completed for all disciplines (civil, structural, mechanical, architectural, process, electrical, plumbing, I&C). A cost loaded schedule, utilizing P6 software, used by most contractors will be prepared for each package such that the District can use it to form the basis of payment. In addition, specifications will include details to prepare site-specific safety plans and requirements for start-up and testing plan to be developed by the DBE. The following minimum tasks will be completed as part of this scope of work:

1. **AWPF Criteria Package –** To complete the design criteria package for the AWPF and the brine evaporation, the design team will review relevant background documents for the proposed AWPF, define key process design criteria and size the AWPF unit processes, prepare preliminary mass balances, prepare a process flow diagram for the overall AWPF as well as for each individual process including MF, RO, UV/AOP, finished product water pump station, and chemical systems, equipment lists, develop P&ID's, develop preliminary process narratives, complete surveying and prepare geotechnical studies (see note below), site plan and yard piping plans, surveying, hydraulic profile and confirm the adequacy of topographical and boundary mapping, evaluate legal, City permitting and zoning constraints,

and identify permits required. Construction plans and detailed construction specifications will be completed for all disciplines such that the project is well defined for completion by the selected DBE.

2. **Groundwater Injection Wells Design Criteria Package –** To complete the design criteria package for the injection wells, our subconsultant, GEI and the Stantec design team will review relevant background information, review the geotechnical report(s) for the well site(s), and findings from the hydrogeological modeling to develop technical specifications and 15% construction drawings to define the project for use for bidding and selection of the DBE.
3. Pipeline Alignment Design Criteria Package – To complete the design criteria package for the recycled water pipeline, Stantec's conveyance team till review the pipeline alignment, existing utility record drawings, geotechnical report and prepare 15% drawings that will identify pipeline alignment, existing utilities and establish pipeline depth for bidding and selection of the DBE.

Note that investigations completed for this proposal by our geotechnical subconsultant Kleinfelder indicated that there is an active seismic fault along portions of the conveyance alignment. Based on Kleinfelder's initial investigation, this may require a fault rupture hazard evaluation which would likely require fault trenching which will be a significant expense to the District and has not been included in our scope or fee. We have included in our scope of work, the geotechnical desktop study, investigation, lab testing, permitting, traffic control, engineering analysis that will support the pipeline design and summarized in a geotechnical report for use by the design and DBE team. We recognize the need to complete the surveying for a complete project, additional information to prepare a relevant scope of work and reasonable estimate to complete for the surveying will require that the specific pipeline alignment, well site(s) and site for the demonstration facility, AWPF and visitors center be determined as this will determine the limits of construction and if boundary surveys will be required. Once the project is further defined, Stantec's surveying group will prepare a detailed scope and fee for the surveying portion of the work and submit to the District for review.

Deliverables:

- AWPF Design Criteria Package (Draft and Final)
- Groundwater Injection Wells Design Criteria Package (Draft and Final)
- Pipeline Alignment Design Criteria Package (Draft and Final)

Task 13 – Program Management Document Review III.M

Stantec has structured the PRWAP such that staff on the planning and program management team will not be involved in the design deliverables to provide a clear separation between the design and program teams. The following items will be completed under this task:

1. **Independent Technical Review –**Stantec will implement its rigorous QA/QC program based on the ISO 9001 certification that is required on all of Stantec's projects. Per this system, every project deliverable must undergo an independent technical review from members on the PRWAP team that are not involved or providing technical oversight on the design. All deliverables including studies, permit and funding applications, models, reports, cost estimates, bridging documents and design deliverables prepared by subconsultants as well as Stantec staff will be independently reviewed by experts in their disciplines. Reviews will focus on missing information, adherence to regulatory requirements, and constructability. Comments on documents and redlines from the independent reviewers will be maintained in a comment log and backchecked that they have been incorporated. Stantec will provide the District with redlines, redline back-checks and the comment and response log.

Deliverables:

- Comment and Response Log
- Redlines and redline back-checks (as requested)

Task 14 – Independent Advisory Panel III.N

Stantec will coordinate with the District and NWRI to identify a team of academics and industry experts with relevant water augmentation experience to form an independent advisory panel (IAP) to evaluate the technical, scientific, and regulatory aspects of the demonstration project, approve the demonstration test plan and provide input during demonstration testing and ultimately, the Project Plan. The IAP shall meet at critical junctures of the project where decisions or conclusions are being determined for next steps. Stantec's priorities within this task include:

1. **Identify Panelists –** The Stantec PM team will work with NWRI and District to identify and propose a preliminary team to participate in the IAP and work with NWRI to coordinate and enlist panel members.
2. **Workshop 1 –** The Stantec PM and design teams shall prepare and provide the pre-read documents to prepare the IAP in advance of Workshop 1 to review the results of the alternatives analysis as included in the feasibility study

for the preliminary, groundwater modeling, results, and the demonstration facility design and test plan. The Stantec Team will work with the District to prepare and develop content for a full, one-day workshop to present the project alternatives, groundwater modeling results, demonstration facility and associated test plan. Meeting participants shall include the IAP, District, LACSD 20, DDW, RWQCB and the Stantec Team. Stantec shall lead the workshop and answer technical questions from meeting participants. Direction and recommendations received in writing from the IAP will be incorporated into the project as appropriate.

3. **Meeting –** A conference call or workshop shall be held mid-way through the demonstration testing to solicit input on technical and/or regulatory hurdles. Content prior to the call/workshop shall be provided by the Stantec Team to the IAP. Stantec shall coordinate the call/workshop with NWRI, work with District to develop content and lead the call/workshop. Direction and recommendations received in writing from the IAP will be incorporated into the project as appropriate.
4. **Workshop 2 –** Working with the District, the Stantec Team will prepare and provide the pre-read documents to prepare the IAP in advance of Workshop 3 to review the results of the demonstration facility and final groundwater modeling results (including pilot tracer testing refinement). The Stantec Team will work with the District to prepare and develop content for a full, one-day workshop to present the results. Meeting participants shall include the IAP, District, LACSD 20, DDW, RWQCB and the Stantec Team. Stantec shall lead the workshop and answer technical questions from meeting participants. Direction and recommendations received in writing from the IAP will be incorporated into the project as appropriate.

Deliverables:

- Materials and Presentation for Workshop 1
- Materials and Presentation for meeting – this may be held as a conference call
- Materials and Presentation for Workshop 2 to present final findings
- Attend two one-day IAP workshops
- Attend one additional workshop or conference call midway through demonstration and pilot well testing

Task 15 – Cost Estimating and Scheduling III.O

Stantec and its subconsultants will prepare an engineer's estimate of probable construction costs for the demonstration facility, full-scale AWPF, groundwater injection wells and conveyance system. Cost estimates shall be based on the 15% design, quotes obtained from vendors and information available on current construction costs. Cost estimates shall be an AACE level x cost estimates. The master program schedule utilizing Smartsheet prepared in Task 2 shall be updated with cost loaded information as it becomes available at milestone completion.

Deliverables:

- Engineer's estimate of probable construction costs for Demonstration Facility
- Engineer's estimate of probable construction costs for AWT Facility
- Engineer's estimate of probable construction costs for Injection Wells and Conveyance
- Updated Master Program Schedule (included under Task 1)

SECTION G

Unique Qualities or Qualifications

In this section, we have highlighted a few unique qualifications of our Team that will benefit the District in many ways, as outlined in each qualification.

1 Demonstration Facility Design, Operations, and Testing

Stantec Team has been involved with design, operations, and testing of several advanced water treatment (AWT) demonstration facilities in California with capacities ranging from 0.02 to 1.0 MGD. The table below lists facilities similar to what the District is planning to construct. We understand the unique features (regulatory testing, public outreach, operational flexibility) that these facilities must have to achieve the testing objectives. Our staff has also been involved in operations of these facilities and **we have five certified AWT operators on our Team**. This unique qualification will enable the District's demonstration facility to be designed with the necessary features that will enhance the regulatory approval and public outreach outcomes.

	Demonstration Facility	Capacity (MGD)	Construction Cost ($)	Process Train
1	City of Anaheim's Water Recycling Demonstration Facility	0.1 MGD	$8M	MBR+O_3
2	MWD's Advanced Purification Center	0.5 MGD	$21M	MBR+RO+AOP
3	City of Los Angeles' Hyperion MBR Pilot Facility	1.0 MGD	$16.2M	MBR+RO+AOP
4	City of San Diego's Pure Water Demonstration Facility	1.0 MGD	$12.5M	O_3+BAC+MF+RO+AOP
5	Padre Dam's AWPF Demonstration Facility	0.14 MGD	$1.4M	Cl_2+MF+RO+AOP
6	Monterey One Water's Demonstration Facility	0.02 MGD	$0.5M	O_3+MF+RO+AOP
7	D.C. Tillman AWPF Pilot System	0.16 MGD	$1.6M	O_3+BAC+MF+RO+AOP

2 Relationships with Regulatory Agencies and Bureau of Reclamation

Our Team's track record of successfully permitting potable reuse projects for groundwater injection and surface water augmentation in California is second to none. This record hinges on the trust that DDW has in our process/treatment experts. When DDW was confronted with knowledge gaps related to protecting the public from chemical and microbial contaminants in potable reuse, they selected our partner, Trussell, to lead three of the six research efforts. These relationships and trust will benefit the District in obtaining timely regulatory approval of the Palmdale Regional Water Augmentation Program (PRWAP).

Shane Trussell presents to IAP at Padre Dam.

Mary Paasch, who will lead the effort for Reclamation Feasibility Study report preparation, has a similar reputation with the Bureau of Reclamation. She led the development of the feasibility report for Shasta Dam Raise, the first Reclamation feasibility study to be reviewed and approved by Reclamation and OMB in nearly 15 years. She has also supported numerous multi-objective Federal feasibility studies and developed alternatives that aligned with specific agency goals and achieved project objectives for Reclamation.

3 Advanced Water Treatment (AWT) Design Expertise

We understand that the majority of the scope for this project is related to Program Management/Planning activities. However, it does include two key AWT design components: 1) Detailed design of a demonstration facility, and 2) Conceptual design of the full-scale Advanced Water Purification Facility (AWPF). Having a team with strong AWT design experience in California will benefit the District. Our Team has been involved with over 70% of the potable reuse projects in California. We have been involved in AWT design elements for projects including City of San Diego's Pure Water Program, Padre Dam MWD's East County AWPF, Metropolitan's Regional Recycled Water Program, and Monterey One Water's Pure Water Monterey Program, to name a few. Our understanding of the design features unique to AWT will lay a proper foundation for efficient transition to the Design-Build-Entity that the District selects.

4 Experience with Alternative Delivery of Similar Projects

Over the past few years, many municipalities have pivoted towards alternative delivery to benefit from the cost and schedule savings that such delivery methods provide. Stantec's Alternative Delivery Group (ADG) focuses just on these types of projects. Led by **Mike Watson**, our Project Delivery Method Lead for the PRWAP, our ADG has worked on City of Santa Monica's 1.5-MGD AWT Facility (SWIP) and LADWP's 89-MGD San Fernando Groundwater Remediation Project (UV/AOP + GAC). Mike will lead our workshop W4 – Project Delivery Methodology and will walk the District through the pros and cons for each method.

The 36-MGD Bonnybrook WWTP in Alberta, Canada was delivered by Stantec using the Construction Manager at Risk (CMAR) alternative delivery method.

5 Design of Learning Centers for Public Outreach

The District's demonstration facility will allow for critical treatment process testing and evaluations to take place prior to final AWPF design and construction. Once the full AWPF is in operation, the demonstration facility will transition from a testing facility to a learning facility offering guided tours to the visiting public. Our Team includes MWA Architects (MWA), an architectural firm that specializes in designs for such facilities.

MWA developed the architectural design of the Discovery (Learning) Center and Visitor Experience Plan for the San Diego Pure Water Phase 1 AWT facility. Stantec, Trussell, and MWA worked together on San Diego Pure Water, and are also teamed on the environmental planning phase for Metropolitan's Regional Recycled Water Program. We are excited to work together once more to deliver the District's vision to the public.

3D renderings of the San Diego Pure Water Phase 1 Discovery (Learning) Center designed by MWA.

Educational sign 3D rendering for San Diego Pure Water Discovery (Learning) Center designed by MWA.

We Do What Is Right

We approach every project as a partnership because our work creates a lasting impact on our clients' communities. We are committed to representing the District and will be your trusted partner and advisor for all aspects of the PRWAP.

SECTION
H Project Team References

Firm References

PROJECT/CLIENT	REFERENCE	TEAM MEMBER
STANTEC		
Santa Monica Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA	**Sunny Wang,** Water Resources Manager Sunny.Wang@santamonica.gov 310-458-8230	Zakir Hirani, Jim Borchardt, Tyler Hadacek, Kyleen Marcella, Michael Adelman, Mike Watson, Poojah Sinha
San Diego Pure Water, City of San Diego, San Diego, CA	**Andrea Demich,** PE, Assistant Deputy Director ADemich@sandiego.gov 858-614-5741	Zakir Hirani, Jim Borchardt, Tyler Hadacek, Michael Adelman
Regional Recycled Water Program, Metropolitan Water District of Southern California, Carson, CA	**Gloria Lai-Bluml**, Project Manager glaiblumbl@mwdh2o.com 213-217-7538	Tama Snow, Zakir Hirani, Jim Borchardt, Tyler Hadacek, Kyleen Marcella, Michael Adelman, Poojah Sinha
TRUSSELL TECHNOLOGIES		
East County Advanced Water Purification Program, Padre Dam Municipal Water District, Santee, CA	**Seval Sen**, Engineer Ssen@padre.org 619-258-4631	Keel Robinson, Bryan Trussell, Shane Trussell
Pure Water Monterey Advanced Water Purification Facility, Marina, CA	**Paul Sciuto**, General Manager - Monterey One Water Paul@my1water.org 831-422-1001	Keel Robinson, Bryan Trussell, Shane Trussell
San Diego Pure Water Program, City of San Diego, San Diego, CA	**Amy Dorman**, Project Delivery Manager adorman@sandiego.gov 619-533-5248	Keel Robinson, Bryan Trussell, Shane Trussell
MONTGOMERY & ASSOCIATES		
High Desert Water Bank, Antelope Valley-East Kern Water Agency, Palmdale, CA	**Matthew Knudson,** Assistant General Manager mknudson@avek.org 661-943-3201	Tim Leo
Groundwater Sustainability Plan, County of Santa Cruz, Santa Cruz, CA	**Sierra Ryan,** Water Resource Planner Sierra.Ryan@santacruzcounty.us 831-454-3133	Cameron Tana
Groundwater Sustainability Plan, Sonoma County Water Agency, Sonoma County, CA	**Marcus Trotta,** Hydrogeologist Marcus.Trotta@scwa.ca.gov 707-526-5370	Cameron Tana
KATZ & ASSOCIATES		
Pure Water Project Las Virgenes-Triunfo, Las Virgenes Municipal Water District, Las Virgenes, CA	**David Pedersen**, General Manager dpedersen@lvmwd.com 818-251-2100	Camille Stephens
Regional Recycled Water Program, Metropolitan Water District of Southern California, Carson, CA	**Carolyn Schaffer**, Section Manager - Member Services and Public Outreach cschaffer@mwdh2o.com 213-217-6833 (office) 714-402-8434 (mobile)	Patricia Tennyson

PROJECT/CLIENT	REFERENCE	TEAM MEMBER
San Diego Pure Water Program - North City Pure Water Facility, City of San Diego, San Diego, CA	**John Helminski**, Senior Director of Water Resources, City of San Diego (former); currently with WSP John.Helminski@wsp.com 858-386-8223	Patricia Tennyson
H&H RESOURCES		
Antelope Valley Water Banking, Los Angeles Department of Water and Power, Los Angeles, CA	**Saeed Jorat**, Waterworks Engineer Saeed.Jorat@ladwp.com 213-367-1119	Victor Harris
High Desert Water Bank, Antelope Valley-East Kern Water Agency, Palmdale, CA	**Matthew Knudson**, Assistant General Manager mknudson@avek.org 661-943-3201	Victor Harris
Indirect Potable Reuse Feasibility Study, Elsinore Valley Municipal Water District, Elsinore, CA	**Parag Kalaria**, Water Resources Manager pkalaria@evmwd.net 951-674-3146 Ext. 8201	Victor Harris
KLEINFELDER		
High Desert Water Bank, Antelope Valley-East Kern Water Agency, Palmdale, CA	**Justin Livesay,** Engineering Manager jlivesay@avek.org 661-943-3201	Jeff Walker
As-Needed Geotechnical Services, Los Angeles Department of Water and Power, Los Angeles, CA	**Jianping Hu,** Manager of Planning Jianping.Hu@ladwp.com 213-367-1262	Jeff Walker
P2-128 TPAD Digester Complex, Orange County Sanitation District, Fountain Valley, CA	**Daniel Bunce,** Senior Vice President – Brown and Caldwell dbunce@brwncald.com (714) 689-4817	Jeff Walker
MWA ARCHITECTS		
Cleanwater Center, City of Sunnyvale, Sunnyvale, CA	**Allison Boyer,** Assistant City Engineer ABoyer@sunnyvale.ca.gov 408-730-7516	Greg Robley
Southeast Plant Biosolids Digester Facilities, San Francisco Public Utilities Commission, San Francisco, CA	**Carolyn Chiu Foon,** Senior Project Manager cchiu@sfwater.org 415-554-0791	Greg Robley
Las Gallinas Administration Building Site Evaluation, Las Gallinas Valley Water District, Las Gallinas, CA	**Mike Prinz,** General Manager mprinz@lgvsd.org 415-47-1734	Greg Robley
GEI		
Leo J. Vander Lands Inland Injection Well Design and Permitting, Water Replenishment District, Long Beach, CA	**Jessica Koop,** Senior Engineer jkoop@wrd.org 562-275-4219	Erik Gaiser
On-call Engineering Services – Subsurface Recharge Site Evaluations, Semitropic Water Storage District, Wasco, CA	**Jason Gianquinto,** General Manager jgianquinto@semitropic.com 661-758-5113	Erik Gaiser
Design and Construction Management for Two Replacement Production Wells, Wheeler Ridge-Maricopa Water Storage District, Bakersfield, CA	**Sheridan Nicholas,** General Manager snicholas@wrmwsd.com 661-858-2281	Erik Gaiser

Key Staff References

NAME/ROLE	PROJECT	REFERENCE
STANTEC		
Tama Snow, PE Program Manager	Palmdale Water Augmentation Feasibility Study, Palmdale Water District, Palmdale, CA	**Scott Rogers,** Engineering/Grants Manager srogers@palmdalewater.org 661-456-1020
	Stockdale West Wellhead Equipping and Conveyance Facilities, Irvine Ranch Water District, Bakersfield, CA	**Joseph McGehee,** Senior Engineer, Capital Projects mcgehee@irwd.com 949-453-5542
	El Centro Generation Station Alternatives Treatment to Eliminate Surface Water Discharge, Imperial Irrigation District, El Centro, CA	**John Acuna,** Engineer, Energy Department jaacuna@iid.com 760-339-0887 x4887
Zakir Hirani, PE, BCEE Deputy Program Manager	RRWP Advanced Purification Center, Metropolitan Water District of Southern California, Carson, CA	**Gloria Lai-Bluml**, Project Manager glaiblumbl@mwdh2o.com 213-217-7538
	Hyperion MBR Pilot Facility, City of Los Angeles, El Segundo, CA	**Nasir Emami,** Project Manager nasir.emami@lacity.org 310-648-5646
	Anaheim Water Recycling Demonstration Plant, City of Anaheim, Anaheim, CA	**Bill Moorhead**, Project Manager b.moorhead@cox.net 949-370-3040
Don Bassett, PE, BCEE Planning Lead	Hyperion 2035 Program - Recycling Spatial Feasibility Study, City of Los Angeles, El Segundo, CA	**Nasir Emami**, Project Manager nasir.emami@lacity.org 310-648-5646
	RRWP Advanced Purification Center, Metropolitan Water District of Southern California, Carson, CA	**Gloria Lai-Bluml**, Project Manager glaibluml@mwdh2o.com 213-217-7538
	Joint Outfall System Master Facilities Plan, Los Angeles County Sanitation Districts, Los Angeles, CA	**Charles E. Boehmke**, Assistant Chief Engineer cboehmke@lacsd.org 562-699-7411 ex. 2403
Tim Leo, PG, CHG Groundwater Modeling/Testing Lead	High Desert Water Bank, Antelope Valley-East Kern Water Agency, Palmdale, CA	**Matthew Knudson,** Assistant General Manager mknudson@avek.org 661-943-3201
	Groundwater Sustainability Projects, Tulare Irrigation District, Tulare, CA	**Aaron Fukuda,** General Manager akf@tulareid.org 559-686-3425
	Groundwater Restoration, The Boeing Company, Rancho Cordova, CA	**Sarah Courtney,** Remediation Project Manager sarah.e.courtney@boeing.com 562-340-1377
Keel Robinson Demonstration Facility Lead	Pure Water Monterey Program, Monterey One Water, Monterey, CA	**Paul Sciuto,** General Manager paul@my1water.org 831-422-1001
	Terminal Island Advanced Water Purification Facility Expansion Technical Support, Los Angeles Sanitation & Environment, Los Angeles, CA	**Fernando Gonzalez,** DCTWRP Plant Manager (previously plant manager of Terminal Island) fernando.gonzalez@lacity.org 818-800-8279
	Pure Water Soquel, Soquel Creek Water District, Soquel, CA	**Melanie Mow Schumacher,** Special Projects - Communications Manager melanies@soquelcreekwater.org 831-475-8500 x153

NAME/ROLE	PROJECT	REFERENCE
Jim Borchardt, PE Full-Scale Design Criteria Package Lead	San Fernando Groundwater Replenishment Project, Los Angeles Department of Water and Power, San Fernando, CA	**Jose Rubalcava**, Design Manager jose.rubalcava@ladwp.com 213-367-5264
	Weymouth WTP Filter Rehabilitation Design and Construction, Metropolitan Water District of Southern California, Los Angeles, CA	**Gloria Lai-Bluml**, Project Manager glaibluml@mwdh2o.com 213-217-7538
	Water Treatment Plant Expansion and Disinfection-By-Product Control Project, Antelope Valley East Kern Water Agency, Antelope Valley, CA	**Jon Bozigian**, Operations Manager jbozigian@avek.org 661-943-3201
Mike Watson, PE, DBIA Project Delivery Methodology	San Fernando Groundwater Replenishment Project, Los Angeles Department of Water and Power, San Fernando, CA	**Dave Christensen**, Manager of Project Construction Management Dave.Christensen@ladwp.com 213-840-4422
	North Valley Regional Recycled Water Program Design-Build Services, City of Modesto, CA	**Jeff Peel,** COO, Steve P. Rados, Inc jpeel@rados.com 916-586-0610
	Water Collaborative Delivery Association (formerly Water Design Build Council)	**Mark Alpert**, Executive Director mark.alpert@integrateddeliverysolutions.com 303-810-9008
Bryan Trussell, PE, BCEE Regulatory Compliance	Terminal Island Advanced Water Purification Facility Expansion Technical Support, Los Angeles Sanitation & Environment, Los Angeles, CA	**Fernando Gonzalez,** DCTWRP Plant Manager (previously plant manager of Terminal Island) fernando.gonzalez@lacity.org 818-800-8279
	Chino Basin Groundwater Recharge Program Regulatory Support, Inland Empire Utilities Agency, Chino, CA	**Pietro Cambiaso,** Deputy Manager of Strategic Planning & Resources pcambias@ieua.org 909-993-1639
	Regional Recycled Water Program, Metropolitan Water District of Southern California, Los Angeles, CA	**Gloria Lai-Bluml**, Project Manager glaibluml@mwdh2o.com 213-217-7538
Shane Trussell Process/Regulatory Technical Advisor	Pure Water Monterey Program, Monterey One Water, Monterey, CA	**Paul Sciuto,** General Manager paul@my1water.org 831-422-1001
	East County Advanced Water Purfication Indirect Potable Reuse Program, Padre Dam Municipal Water District, Santee, CA	**Seval Sen,** Engineer ssen@padre.org 619-258-4631
	San Diego Pure Water Program, City of San Diego, San Diego, CA	**Amy Dorman,** Senior Engineer adorman@sandiego.gov 619-533-5248

SECTION
I

Accepts District's Professional Services Agreement

Stantec accepts the District's Professional Services Agreement without changes.

Resumes

Key Staff

TAMA SNOW
PE

Program Manager

AVAILABILITY

50%

LOCATION

Pasadena*, CA

EDUCATION

MS, Cal-Poly Pomona, Pomona, CA

BA, Mathematics, University of California Riverside, Riverside, CA

BS, Civil Engineering, University of California at Irvine, Irvine, CA

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#C 056934)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Environmental Studies/ Regulatory Compliance
- ☑ Indirect Potable Reuse Permitting
- ☑ Groundwater/Surface Water Augmentation
- ☑ Program Management
- ☑ Program Priorities & Implementation Plan
- ☑ Funding Support
- ☑ Public Outreach
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning
- ☑ Conveyance

*If successfully awarded, Tama is committed to working out of Stantec's Pasadena office.

Passionate about making the most of our available water resources, Tama has immersed herself in all aspects of recycled water projects during her 30 years of experience. This has included preparing grant and funding applications, planning and feasibility studies, completing construction plans and specifications, providing engineering services during construction as well as providing project management and program management services. Tama has had the opportunity to serve as a program manager for several large, recycled water programs including the West Basin Municipal Water District's Recycled Water Program and the Orange County Water District Groundwater Replenishment System when she was on staff as a Senior Engineer with the Orange County Water District. As an active Program Manager, Tama will oversee the PRWAP to ensure that the District's needs are being met and the planning and technical teams are providing the necessary information for the District to make informed decisions.

RELEVANT EXPERIENCE

Surface Water Augmentation Feasibility Study, Palmdale Water District, Palmdale, CA

Project Manager

Tama served as the project manager to conduct a high-level evaluation of the feasibility of using recycled water from the Palmdale Water Reclamation Plant—that is owned and operated by the County Sanitation District No. 20 of Los Angeles County (CSDLAC)—for surface water augmentation at Palmdale Lake and/or groundwater injection. The scope of work included evaluating regulatory requirements and infrastructure needs and preparation of a planning level opinion of probable construction costs. A technical memorandum was completed summarizing the alternatives, which led to the District releasing an RFP for Program Management Services for the PRWAP.

As-Needed Professional Engineering Services, Palmdale Water District, Palmdale, CA

Project Manager

Tama is serving as the Project Manager for Palmdale Water District's As-Needed Professional Engineering Services Contract. To date, Stantec has completed Task Order 1, which included the timely completion of a grant application for the Bureau of Reclamation WaterSMART Water and Energy Efficiency (WEEG) grant program. This task order was completed on time under a tight deadline and completed well under budget. Task Order 2 will include staff augmentation services to provide plan review.

Permitting, Design and Construction Services for Sediment Removal at Littlerock Dam Reservoir, Palmdale Water District, Palmdale, California

Principal-in-Charge

Tama is serving as the Principal-in-Charge for the District's Sediment Removal at Littlerock Dam Reservoir Project. This is a five-year contract to annually prepare and update plans and specifications to ultimately remove over 1.2 million cubic yards of sediment from the Littlerock Dam Reservoir. Stantec is a subconsultant for this project and responsible for completing the master plan and annually updating the sediment removal plan. Tama is responsible for resourcing staff for this project and ensuring that staff are following Stantec's comprehensive QA/QC process. The first deliverable was submitted on time.

Program Management Services for the West Basin Municipal Water District's Recycled Water Program, West Basin Municipal Water District (WBMWD), Various Cities in Los Angeles County, CA

Program Manager

Tama oversaw a team that worked as an extension to the District staff during the initial phases of the WBMWD Recycled Water Program. Responsibilities included coordinating multiple pipeline design packages with design consultants to manage schedule, budget, and scope, and coordinating independent QA/QC reviews. In addition, Tama identified and contacted over 200 irrigation and industrial customers to discuss conversion to recycled water and address public concerns and water quality issues. Tasks included estimating recycled water use and conducting cost/benefit analyses to determine payback periods to install recycled water extensions, as well as estimating on-site retrofit costs. The team prepared on-site retrofit drawings and industrial engineers reports to obtain approval from State and County Department of Health Services for conversion to recycled water.

Program Management Services for the Orange County Water District's Groundwater Replenishment System, Orange County Water District and Orange County Sanitation District, Orange County, CA

Assistant Program Manager and Senior Project Engineer

As a senior project engineer while working in the planning department at the Orange County Water District (OCWD), Tama was the assistant program manager for OCWD's 100,000 acre-foot per year groundwater replenishment system project. Tama's responsibilities included overseeing preparation of environmental documents and planning and feasibility studies being prepared by engineering consultants; developing RFPs, scopes of work, economic analyses, and budgets; participating in consultant selection; coordinating activities with health and regulatory agencies; and preparing grant applications to the State Water Resources Control Board and California Energy Commission. She was also the technical spokesperson for the public outreach program.

Engineering Design and Hydrogeology Services for the High Desert Water Banking Project, Antelope Valley East Kern Water Agency, Antelope Valley, CA

Quality Assurance/Quality Control

The Stantec team is providing the planning and engineering design services for the High Desert Water Bank Project. The scope of services includes hydrogeology modeling, design and construction oversight of pilot wells, design and construction oversight for monitoring wells, design of recharge basins, design of turn-in and turnout into the California aqueduct, and design of conveyance facilities and wellhead equipment. Phase 1 planning has been completed and Phase 2 is underway. Tama is providing internal financial project oversight and QA/QC review.

Feasibility Study to Develop the Simi Valley Basin as a Potable Water Resource, City of Simi Valley, Simi Valley, CA

Project Manager

Tama evaluated using groundwater from the Simi Valley Basin, which is of naturally poor quality, high in salinity, and requires treatment or blending with imported water to make it suitable for use as a potable water supply. The study presented three alternatives to develop the Simi Valley Basin as a potable water supply. The alternatives evaluated well locations; treatment plant locations; treatment requirements; distribution system requirements; brine discharge requirements; and the capital, engineering, and annual operations and maintenance (O&M) costs. Tama helped the District prepare a successful application to obtain a grant from the United States Bureau of Reclamation to cover 50% of the costs of the Study.

Lake Forest Zone B to C Pump Station, Irvine Ranch Water District, Lake Forest, California

Design Manager

Stantec has been retained by the Irvine Ranch Water District to prepare construction plans and specifications for a new recycled water pump station. The project includes preparing a surge analysis; plans and specifications for decommissioning an existing recycled water pump station and abandoning an existing groundwater well; preliminary design report; and 60%, 90%, and 100% plans and specifications for a new recycled water pump station.

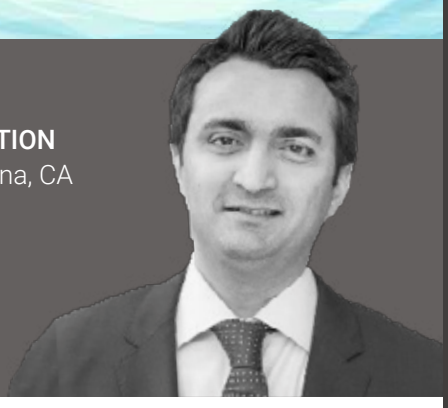
ZAKIR HIRANI
PE, BCEE

Deputy Project Manager

AVAILABILITY

50%

LOCATION
Pasadena, CA



EDUCATION

MS, Environmental Engineering, University of Southern California, Los Angeles, CA

BS, Civil Engineering, The Maharaja Sayajirao University of Baroda, Gujarat, India

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#C77284)

Board Certified Environmental Engineer (#12-10004)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Indirect Potable Reuse Permitting
- ☑ Groundwater/Surface Water Augmentation
- ☑ Program Management
- ☑ Alternative Delivery
- ☑ Public Outreach
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Demonstration Facility Design, Construction, Testing
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning

Zakir has more than 18 years of experience in managing and leading treatment and process design for water, wastewater, and advanced water treatment (AWT) projects. He has worked on over 30 treatment projects providing engineering services including pilot studies, conceptual process design, modeling, detailed design, engineering services during construction, start-up/commissioning, and process troubleshooting. He also brings process design expertise with microfiltration (MF) and ultrafiltration (UF) membranes, membrane bioreactors (MBR), reverse osmosis (RO), O_3, ultraviolet (UV) disinfection, and advanced oxidation processes (AOPs) including UV/H_2O_2 and O_3/H_2O_2. Zakir has been involved with three of the largest potable reuse programs in Southern California, including Metropolitan's Regional Recycled Water Program (RRWP), City of Los Angeles' Hyperion 2035 Program, and the City of San Diego's Pure Water Program.

He served as Process Technical Lead for the City of San Diego's Pure Water Program Phase 1 (Design-Bid-Build), the City of Los Angeles' Hyperion Advanced Water Purification Facility (Progressive Design-Build), the LADWP's San Fernando Groundwater Remediation Project (Progressive Design-Build) and the City of Santa Monica's AWTP (Progressive Design-Build). He also managed the design for Metropolitan's Advanced Purification Center (Design-Bid-Build) and the City of Los Angeles' Hyperion MBR Pilot Facility (Fixed Price Design-Build). Additionally, Zakir's skills and knowledge proved instrumental in conducting the full-scale conceptual planning studies for RRWP and the Hyperion 2035 Program.

RELEVANT EXPERIENCE

Sustainable Water Infrastructure Project (SWIP), City of Santa Monica, Santa Monica, California

Technical Reviewer

Zakir led the conceptual design of a 1.5-MGD AWT production facility including an MBR-RO-AOP process train. The AWT facility is expected to treat a blend of wastewater, stormwater, and groundwater to produce effluent for groundwater recharge. Zakir also assisted with value engineering and review of design-build entity (Kiewit/PACE) submittals.

Hyperion MBR Pilot Facility, City of Los Angeles, Bureau of Sanitation, Los Angeles, California

Project Manager

Zakir managed the detailed design of this 1.0-MGD AWT demonstration facility including an MBR-RO process train. The facility will be used to collect operational data for future modification of the 260-MGD Hyperion Water Reclamation Plant into an MBR-based AWT facility. Zakir has also worked on several planning studies for the full-scale AWT facility, including conversion studies for Hyperion's High-Purity Oxygen Activated Sludge (HPOAS) process to MBR.

Regional Recycled Water Program (RRWP), Advanced Purification Center (APC) and Full-scale Planning Studies, Metropolitan Water District of Southern California, Carson, CA

Project Manager

Zakir led the process design of the APC, a 0.5-MGD AWT demonstration facility with a MBR+RO+UV/AOP process train. Zakir assisted the site staff with commissioning and operations and process/equipment troubleshooting for the APC. He also led several planning studies for the full-scale AWT facility including the conceptual design using BIM and cost estimates, phasing strategy, nitrogen and boron removal strategies, as well as direct potable reuse (DPR) planning.

San Diego Pure Water Program, North City Pure Water Facility, City of San Diego, San Diego, CA

Process Technical Lead

Zakir served as a technical lead for membrane systems for two concurrent 30% design efforts for a 34-MGD potable reuse facility that will treat 35 MGD of tertiary, filtered effluent from the North City Water Reclamation Plant. Treatment processes for the AWT facility include O_3/BAC+MF+UF+RO+UV/AOP with H_2O_2, chemical stabilization with lime, and chlorine disinfection. Zakir also reviewed the treatment alternatives for Phase 2 of the Program that may include a 54-MGD MBR-based potable reuse train.

Hyperion Advanced Water Purification Facility, City of Los Angeles, Bureau of Sanitation, El Segundo, CA

Process Technical Lead

Zakir led the conceptual design of this 1.5-MGD AWT production facility, including an MBR+RO+UV/AOP process train. The effluent from the facility will be used at the nearby Los Angeles International Airport and for on-site use at the Hyperion WRF. Zakir also assisted in value engineering and reviewing the design-build entity's submittals.

Anaheim Water Recycling Demonstration Facility City of Anaheim, Anaheim, CA

Process Technical Lead

Zakir led the process design of a 100,000-gpd decentralized water recycling facility using MBR and O_3 to produce recycled water that meets CDPH's Title 22 requirements. Zakir completed the process design of the treatment facility from the preliminary design phase to the final design, performed the engineering services during construction, and led the plant commissioning and permitting process.

San Fernando Groundwater Remediation Project, Los Angeles Department of Water & Power, San Fernando, CA

Process Technical Lead

Zakir led the chemical dosing systems design of two groundwater treatment facilities and well collector piping for the 89-MGD, progressive-design-build project. The facilities will treat up to 140 cfs from 17 wells to remove and prevent migration of groundwater contaminants and restore beneficial use of the basin. The treatment is designed to meet 97-005 goals using UV/AOP with hydrogen peroxide and GAC to reduce groundwater contaminants (1,4 dioxane, PCE, and TCE) to below detection limits.

Western Corridor Recycled Water Program-Gibson Island AWT Plant, WaterSecure (now Seqwater), Southeast Queensland, AU

Project Engineer

Zakir evaluated the advanced water treatment of secondary effluent from the Gibson Island Wastewater Treatment Plant. The project objectives included characterizing the secondary effluent, evaluating the performance of the MF/UF and RO, assessing chemical phosphorus removal, evaluating RO to achieve low nitrogen limits, and assessing formation potential of NDMA and sister compounds.

Gold Bar WWTP MBR Conversion, Edmonton, AB, Canada

Process Design Lead

Zakir was the Process Design Lead for the conceptual design of converting Train#11 to MBR at the Gold Bar WWTP. The WWTP is designed for an average daily flow capacity of 31 MLD per train with a total of 11 trains. Due to anticipated stringent nutrient regulations and additional capacity needs, EPCOR is considering converting one of the WWTP trains to MBR. The conceptual design completed by Stantec converts one of the 11 trains to MBR and increases its capacity to 60 MLD while meeting water anticipated stringent effluent water quality goals.

DON BASSETT
PE, BCEE

Planning Lead

AVAILABILITY

50%

LOCATION
Pasadena, CA

EDUCATION

MS, Environmental Engineering, Stanford University, Stanford, CA

BS, Civil Engineering, Loyola University, Los Angeles, CA

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#26104)

Board Certified Environmental Engineer (BCEE), Issued 2014

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Environmental Studies/ Regulatory Compliance
- ☑ Indirect Potable Reuse Permitting
- ☑ Groundwater/Surface Water Augmentation
- ☑ Program Management
- ☑ Program Priorities & Implementation Plan
- ☑ Alternative Delivery
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Demonstration Facility Design, Construction, Testing
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning
- ☑ Conveyance

Don has 47 years of experience in civil and environmental engineering of large wastewater treatment and reuse systems. His background includes pilot testing, planning, design, construction oversight, and operations. His planning experience includes more than 10 facilities plans where coordination with environmental clearance document preparation was required. He has managed designs of treatment and reuse systems with values exceeding $1B. Don served as the engineering planning lead for Metropolitan and County Sanitation Districts of Los Angeles County's Advanced Water Treatment Facilities (environmental planning phase) for their Regional Recycled Water Program. His experience also includes serving as the consultant Project Manager for developing the Joint Outfall System Master Facilities Plan for the Sanitation Districts.

RELEVANT EXPERIENCE

Hyperion Advanced Water Purification Facility, City of Los Angeles, El Segundo, CA

Project Manager

Don served as the project manager for the conceptual design and PDB procurement of this $70M facility. The processes employed include fine screens, MBR, RO, and UV/AOP. Also included are product water pumping, conveyance, and storage facilities. This 1.5-MGD facility provides high-quality water to the Los Angeles World Airport as well as internal Hyperion Plant uses. Stantec, along with another consultant, is serving as the owner's agent for this project. Challenges included the siting and configuration of a new set of treatment facilities within the confines of a very constrained area. As this represents a "first" for LASAN with respect to a "progressive" design-build project, standard procurement documents were revised to reflect this delivery approach. Prequalification of key equipment was undertaken to ensure provision of quality components.

North Cape Water Treatment Plant, City of Cape Coral, Cape Coral, FL

Technical Advisor and Oversight

Don served as the governing board chairperson and the technical advisor for the $500M Cape Coral PM/CM effort. The Program included a $38M, 12-MGD initial capacity (36-MGD ultimate buildout) WTP that employed RO. Don provided technical oversight and was instrumental during the facilities design.

Advanced Wastewater Treatment Plant Membrane/ Ozonation Facilities Phases 1 & 2, Clark County Water Reclamation District, Las Vegas, NV

Project Director

Don directed design of the $110M membranes and ozone facilities expansion. The expanded facilities included fine screens, membranes, O_3 for disinfection, and support systems providing chemical storage/feed and waste wash water management. The pre-qualifications and pricing negotiations were conducted with two key process equipment suppliers–membranes and ozonators. Advanced visualization techniques, including 3D immersive facilities reviews, were employed to provide District staff a basis for design input. The processes employed include MF/UF+03.

Groundwater Reliability Improvement Program (GRIP), Water Replenishment District of Southern California and Los Angeles County Sanitation Districts, Lakewood, CA

Technical Lead

Don acted as the technical lead on the GRIP Recycled Water Project. The project's goal was to offset the use of imported water by providing up to 21,000 AFY of recharge using recycled water as a reliable source of basin replenishment. The supply source, level of treatment, conveyance alignment, and recharge methods employed were assessed. The recharge source water availability was evaluated relative to historic recharge capabilities of the system.

Joint Outfall System Master Facilities Plan, Los Angeles County Sanitation Districts, Los Angeles, CA

Technical Advisor

For this planning effort, Don served as the project manager in close collaboration with the Sanitation Districts' staff. The planning horizon is 40 years and encompasses a projected population of over six million flows exceeding 600 MGD, with seven separate treatment facilities. In connection with this project, the consultant portion of the Master Facilities Planning team co-located in the Sanitation Districts' offices to facilitate coordination and project execution. The planning effort also analyzed the planned $1B tunnel-outfall program. It was determined that the ocean outfall element was not required to accommodate projected future flows, substantially reducing the project's cost. The facilities planning effort was done in conjunction with the preparation of the supporting PEIR document and included close technical coordination with the Sanitation Districts' tunnel/ outfall conceptual design consultant.

Santa Clarita Valley Facilities Plan, City of Santa Clara, Los Angeles, CA

Project Manager

Don served as project manager for the Districts' Santa Clarita Valley Facilities Plan. The objective of this study was to assess means for chloride reduction within the corresponding watershed tributary to the Santa Clara River. The recommended approach included 3.5 MGD of MF/RO/ AOP treatment, procurement of supplemental water supplies, 12 miles of permeate pipeline, 10 extraction wells, and brine disposal by deep well injection. A wide range of alternatives were developed, assessed, and screened in arriving at this recommended plan. The facilities planning effort was done in conjunction with the preparation of a supporting EIR document. This work was carried out in joint association with another major consulting firm.

Regional Recycled Water Supply Program Feasibility Study, Metropolitan and Sanitation Districts, Los Angeles, CA

Technical Lead

Don served as one of the technical leads on an initial feasibility study assessing the potential for large-scale reuse/ replenishment in Southern California. This work was carried out in joint association with another major consulting firm. Metropolitan and Sanitation Districts assessed the viability of reuse with reclaimed water volumes as high as 200 MGD. Don was involved with separate studies evaluating the potential for both groundwater recharge as well as reservoir augmentation. This study effort provided the foundation for subsequent water reuse projects between these two agencies.

TIM (TIMOTHY) LEO
PG, CHG

Groundwater Modeling/Testing Lead

AVAILABILITY

50%

LOCATION
Tucson, AZ

EDUCATION

MS, Hydrology,
University of Arizona, Tucson, AZ

BS, Geology,
Bradley University, Peoria, IL

LICENSES/CERTIFICATIONS

Registered Professional Geologist – CA (#6163), AZ (#33257), UT (#8272244-2250)

Certified Professional Hydrogeologist – CA (#344)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Public Outreach
- ☑ Regulatory Support
- ☑ Groundwater/Reservoir Modeling/Tracer Study
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating

Tim manages large, multidisciplinary water resources projects. Recently, Tim's work has focused on developing groundwater sustainability plans, characterizing groundwater basin hydrogeologic conditions, developing groundwater models for a variety of groundwater management objectives, and assessing the feasibility and implementation of managed aquifer recharge projects. He routinely interacts with diverse stakeholder groups during implementation of regional water resource management strategies.

RELEVANT EXPERIENCE

Managed Aquifer Recharge Capacity Study, Antelope Valley-East Kern Water Agency, Palmdale, CA

Project Manager

Under subcontract to Stantec, Tim managed hydrogeologic investigations, groundwater recovery well installation and testing, and groundwater modeling studies for the development of a regional groundwater bank for the Antelope Valley-East Kern Water Agency.

Managed Aquifer Recharge Capacity Study, Tulare Irrigation District, Tulare, CA

Project Manager

Tim managed an assessment of recharge capacity that included field studies to assess lithologic conditions, including testing to determine infiltration rates.

Groundwater Sustainability Plan: Paso Robles Groundwater Basin, San Luis Obispo County, CA

Project Manager

The project included working with a multidisciplinary team to prepare the groundwater sustainability plan for the Paso Robles Subbasin. The work included updating and applying the watershed and groundwater model for use in developing the sustainable management criteria and evaluation sustainability projects and management actions.

Groundwater Sustainability Plan Implementation: Mid-Kaweah Groundwater Sustainability Agency, Tulare, CA

Project Manager

Tim provided peer review of the draft Groundwater Sustainability Plan. Montgomery & Associates was retained by the GSA to provide consulting services for GSP implementation, including strategic consultation, re-evaluating water budgets, refining the groundwater model, evaluating monitoring networks, and assisting in development of a water allocation framework and water marketing strategy. A new groundwater model will be developed in 2022 for use in long-term groundwater management.

Managed Aquifer Recharge Modeling: Santa Margarita Basin, Santa Cruz County, Santa Cruz, CA

Project Manager

Tim managed a modeling study to assess the aquifer storage and recovery projects under current and future hydrologic and climate conditions. Model results will be an important component of conjunctive use evaluations for future sustainable basin management.

Impact Analysis, City of Avondale, Avondale, AZ

Project Manager

Tim conducted a groundwater modeling study to project the impact of discharge from a proposed recycled water recharge basin in the Phoenix area. Model results supported a successful application for a permit to operate the facility.

Groundwater Resources Protection, The Boeing Company, Sacramento, CA

Project Manager/Strategic Advisor

Tim managed and provided strategic direction for a regional groundwater remedy in the Sacramento area. He directed a comprehensive hydrogeologic characterization and conceptual model development to support development of the restoration remedy; recently developed a new comprehensive regional groundwater flow model to manage restoration effectiveness and improve coordination with private water companies and municipal groundwater users. The project required frequent stakeholder communication, risk analysis, and cost containment measures; initiating evaluation of conveying treated groundwater to the Cosumnes Subbasin for agricultural uses.

Conceptual Site Model, Clark County, NV

Project Manager

Tim developed a comprehensive hydrogeologic conceptual model for a groundwater basin in the Las Vegas area. He evaluated groundwater flow conditions, groundwater quality conditions, geologic conditions, and impacted groundwater discharge potential to the Las Vegas Wash, an important tributary to the Colorado River watershed.

Conceptual and Numerical Model, Southeastern Utah

Project Manager

Tim managed the comprehensive hydrogeologic investigation, conceptual model development, numerical groundwater flow and transport model development. The modeling program included advanced evaluation of model uncertainty using a multi-conceptual model probabilistic method. Model results were robust and enabled detailed understanding of the impact of impaired groundwater on the groundwater basin.

Groundwater Restoration Models, Various Clients, AZ and CA

Project Manager

Tim developed or directed the development of groundwater flow and contaminant transport models to design, optimize, or evaluate groundwater restoration wellfields at numerous sites in California and Arizona. Models included development of detailed hydrogeologic conceptual models, advance calibration methods, and rigorous evaluation by regulatory agencies and project stakeholders. Most of the models included evaluation of potential impacts of impaired groundwater on local groundwater users; some models evaluated potential impacts to ecological resources.

Conceptual and Numerical Model Development, North Indian Bend Wash Superfund Site, Scottsdale, AZ

Senior Technical Advisor

Tim guided a modeling team in updating the hydrogeologic conceptual model for the project area. The conceptual model was used as the basis for development of a new regional groundwater model. The model was calibrated to historic hydrologic conditions, then the calibrated model was used to evaluate effectiveness of a regional groundwater remedy that is integrated into the municipal water supply in the project area. The project included frequent interaction with a large stakeholder group of state and federal regulators and water agencies.

Travel Time Analysis, Air Force Plant 44 Superfund Site, Tucson, AZ

Senior Technical Advisor

Tim conducted the senior review of an analysis of plume travel time under various remedy pumping scenarios. He reviewed the conceptual model and numerical model results. His work supported planning for negotiations between the local water agency and Air Force on remedy cost recovery.

Groundwater Model Review, Santa Clarita, CA

Senior Technical Advisor

Tim conducted the senior review of application of a groundwater model for groundwater sustainability plan development in the Santa Clarita, CA area. He reviewed the model results and assisted in guiding the groundwater modeler in analyzing model results.

Application of Airborne Electromagnetic Methods for Groundwater Model Development, in coordination with Stanford University, Stanford, CA

Consulting Collaborator

Tim is participating in a planning study to assess the use of airborne electromagnetic data to improve development of groundwater models for studying land subsidence.

KEEL ROBINSON

Demonstration Facility Lead

AVAILABILITY

50%

LOCATION
Oakland, CA

EDUCATION

BS, Chemical Engineering, University of Wisconsin, Madison, WI

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Alternative Delivery
- ☑ Funding Support
- ☑ Bureau of Reclamation Feasibility Report
- ☑ Regulatory Support
- ☑ Groundwater/Reservoir Modeling/Tracer Study
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Pilot/demonstration scale testing facilities
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning

Keel is a Principal Engineer at Trussell Technologies with over 26 years of professional experience in solving water treatment challenges. He has designed, manufactured, and commissioned over 50 pilot-scale and full-scale treatment systems during his career. Keel is a recognized expert and thought leader for potable reuse and advanced treatment solutions, including O_3/BAC, membrane filtration, RO, and UV/AOP.

RELEVANT EXPERIENCE

Advanced Water Purification Facility Expansion Design, Monterey One Water, Monterey, CA

Project Manager

Keel is leading Trussell's team as a subcontractor to expand the existing Advanced Water Purification Facility (AWPF) from 5 MGD to 7.6 MGD for potable reuse via groundwater injection. He is responsible for the process design, specifications, and control strategies of the O_3, UV/AOP, chemical storage and feed, and post-treatment stabilization systems. Keel and the Trussell team are leveraging their operations support of the current AWPF to implement optimization and improvements to the expansion design.

Progressive Design-Build Services for the Pure Water Soquel Program, Soquel Creek Water District, Soquel, CA

Project Manager

Keel is leading Trussell's team as a subcontractor for a progressive design-build project with Soquel Creek Water District to implement a 1.6-MGD AWPF for potable reuse via groundwater injection. He was responsible for the water quality analysis, basis of design, alternatives analysis, process design, control philosophy, value engineering, startup test plan, Title 22 engineering report to DDW, and NPDES waste discharge compliance assessment during the design phase of the project that will implement a new tertiary treatment facility and a new AWPF implementing O_3, MF, RO, UV/AOP, and post-treatment stabilization. Keel is now supporting engineering services during construction, commissioning and startup, the Operation Optimization Plan (OOP), and the UV/AOP challenge test during the construction phase.

Terminal Island Water Reclamation Plant Advanced Water Purification Facility, Los Angeles Sanitation & Environment, Los Angeles, CA

Project Engineer

As an AOP expert, Keel supported the successful optimization of the first-ever UV chlorine AOP process for potable reuse at the 12-MGD Terminal Island Water Reclamation Plant (TIWRP). Due to unusually high bromide levels in the wastewater at TIWRP, the UV chlorine AOP process occasionally exceeded the bromate

MCL. Keel worked closely with TIWRP staff to develop an innovative solution to mitigate the bromate formation issue and gain approval from the RWQCB and DDW. Prior to this, Keel, as an employee of Xylem, worked closely with Trussell and TIWRP to develop the basis of design and specification under a design-build delivery model for the expansion of the AWPF from 5 MGD to 12 MGD.

Donald C. Tillman Water Reclamation Plant Advanced Water Purification Facility, Los Angeles Sanitation & Environment, Los Angeles, CA

Project Manager

Keel managed the treatability testing of the O_3/BAC, MF, RO, and UV demonstration system to generate a basis of design for the planned 25-MGD full-scale AWPF. This work included an evaluation of a bromate mitigation process for the O_3 system, assessing the suitability of granular activated carbon (GAC) for TOC, PFOA, and PFAS removal, determining the efficiency of UV/AOP to remove NDMA based on different upstream water qualities. Additionally, Keel has supported the efforts of the owner and prime consultant to develop the Conceptual Design Report, RFQ, and RFP for the future progressive design-build delivery model that is part of the Los Angeles Groundwater Replenishment Project. Keel is also managing the development of the OOP for the 5-MGD Ozone Demonstration Project that will serve as pretreatment to the existing tertiary treatment system for surface spreading, along with providing start-up and process optimization support.

O_3/BAF for Potable Reuse (#4832), Water Research Foundation

Project Manager

Keel is the principal investigator for a Water Research Foundation (WRF) research project involving the removal of contaminants of emerging concern (CECs) through O_3/biologically active filtration (BAF) systems. The project team also includes Stantec and the Technical University of Munich. This team will evaluate the fate of CECs across O_3/BAF systems, establish expected treated water quality from O_3/BAF-based treatment trains, develop guidelines for design and operation of O_3/BAF systems, and create outreach tools to assist with the implementation of O_3/BAF systems for potable reuse applications.

Pure Water Monterey Program, Monterey One Water, Monterey, CA

Project Manager

Keel led Trussell's team in the development the OOP for Pure Water Monterey, a 5-MGD AWT facility consisting of O_3, MF, RO, UV/AOP, and post-treatment stabilization for potable reuse via groundwater injection. Keel also managed engineering services during construction, which included development of the O&M manuals, review of contractor submittals, resolution of design and construction challenges during installation, startup and commissioning support, and operator training. Keel provided oversight of the contractor and UV manufacturer to obtain approval of the AOP Acceptance Test Plan by the DDW. The Advanced Water Purification Facility received official approval from DDW in February 2020 to begin injecting purified water into the Seaside Groundwater Basin.

Donald C. Tillman Water Reclamation Plant Ozone Demonstration Project, Los Angeles Sanitation & Environment, Los Angeles, CA

Technical Advisor and Training Coordinator

Keel is supporting LASAN as owner's engineer to assist with oversight of contractor during construction and support the startup and optimization of a 10-MGD ozonation system that will provide pretreatment to the existing tertiary filtration and disinfection system and provide enhanced Title 22 reuse water for surface spreading by LADWP as part of the Los Angeles Groundwater Replenishment Project. Additionally, Keel is currently leading Trussell's team to develop an operator training program for LASAN staff while also working closely with LASAN and LADWP staff to develop the OOP required by DDW.

Hyperion 2035 Alternatives Analysis, City of Los Angeles Bureau of Sanitation (LASAN), Los Angeles, CA

Technical Advisor

The City of Los Angeles is embarking on a new era of potable reuse with the Mayor's goal of achieving zero effluent discharges to the ocean by 2035. As part of this effort the City of Los Angeles, Bureau of Sanitation & Environment (LASAN) retained Trussell Technologies to develop potential treatment alternatives for the conversion of the Hyperion Water Reclamation Plant's HPOAS system. The conversion will prepare the secondary effluent for downstream advanced treatment and considers combinations of conventional activated sludge with gravity clarifiers and membrane bioreactors. Trussell is performing GPS-X modeling of the existing biological basins and developing preliminary design specifications and layouts for each alternative.

JIM BORCHARDT
PE

Full-Scale Design Criteria Package Lead

AVAILABILITY

50%

LOCATION
Pasadena, CA

EDUCATION

MS, Environmental Engineering, University of North Carolina, Chapel Hill, NC

BS, Civil Engineering, Colorado State University, Fort Collins, CO

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#35819)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Alternative Delivery
- ☑ Funding Support
- ☑ Public Outreach
- ☑ Regulatory Support
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Pilot/demonstration scale testing facilities
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning
- ☑ Conveyance

Jim has 43 years of experience in project management and engineering for water treatment, conveyance, and storage facilities, and is a contributing author of the MWH/Stantec Water Treatment Principles and Design textbook used in universities. He has managed water quality studies, facility planning and design, process evaluation, construction management, and startup and operation on more than 125 treatment facilities. He has also served as a technical advisor on more than 250 treatment projects. His project experience includes the $90M DBP Control Project for AVEK, $100M Sustainable Water Infrastructure Project for the City of Santa Monica, and the $460M Progressive-Design-Build San Fernando Groundwater Remediation Project for LADWP.

RELEVANT EXPERIENCE

Sustainable Water Infrastructure Project (SWIP), City of Santa Monica, Santa Monica, CA

Project Manager

Jim managed the planning and conceptual design of the SWIP project and led Stantec's team as Owner's Engineer on this progressive design-build project. SWIP was created to help the City achieve its long-term goal of water sustainability and drought resilience by using all its local water resources, including stormwater runoff, recycled municipal wastewater, and brackish groundwater. The SWIP combines each of these sources to produce approximately 1,680 AFY of advanced treated water. When properly permitted, the water will be used for potable reuse via replenishment of the City's natural groundwater aquifers. The SWIP elements are all designed to operate as a cohesive and integrated system for the harvesting, treatment, and conjunctive reuse of non-conventional water resources.

Regional Recycled Water Program (RRWP), Advanced Purification Center (APC) Project, Metropolitan Water District of Southern California, Carson, CA

Project Manager

Jim managed the design, construction, and initial operation of the 0.5-MGD APC developed as a partnership between Metropolitan and the Sanitation Districts. The APC provides biological NdN treatment with MBR, followed by traditional RO-UV/AOP treatment on secondary effluent from the 400-MG Joint Water Pollution Control Plant to investigate treatment needs for potable reuse. The primary goal of the project is to obtain DDW approval for log removal credits for MBR. In related studies, full-scale facilities of up to 340 MGD have been modeled and cost estimates prepared to support the RRWP.

San Diego Pure Water Program, North City Pure Water Facility (NCPWF), City of San Diego, San Diego, CA

Design Lead

Jim managed the process mechanical and instrumentation and control design for this 34-MGD Pure Water Facility. Two preliminary designs (10%) of the NCPWF were completed, one for discharge of water to San Vicente Reservoir (MF/RO/UV/AOP) and one for discharge to Miramar Reservoir immediately upstream of the Miramar Water Treatment Plant (O_3/BAC/MF/RO/UV/AOP), using Title 22 effluent from the City's North City Water Reclamation Facility. Subsequently, Jim advanced the Miramar alternative to 30% design and managed the 3D BIM modeling of the full facility. Procurement documents and bidding for MF and UV equipment was also completed for use in the final design, and pilot studies conducted to determine impacts of Pure Water on WTP filter operation and corrosion control in the distribution system.

San Fernando Groundwater Basin Remediation Project, Los Angeles Department of Water & Power, San Fernando, CA

Design Manager,

Jim managed the design of two groundwater treatment facilities and well collector piping on this $460M, 89-MGD progressive-design-build project. The facilities will treat up to 140 cfs from 17 wells to remove and prevent migration of groundwater contaminants and restore beneficial use of the Basin. Treatment is designed to meet 97-005 goals using UV/AOP with hydrogen peroxide and GAC to reduce groundwater contaminants (1,4 dioxane, PCE, and TCE) to below detection limits. Work involved detailed site and facility planning, design, permitting, procurement, and construction and commissioning for well connections, purge facilities, strainers, UV/AOP facilities, GAC contractors, waste disposal, and chemical systems.

Advanced Wastewater Treatment Facilities - Phase 1, Clark County Water Reclamation District, Las Vegas, NV

Project Manager

Jim managed the detailed design of the AWT facility to provide low phosphorus and high levels of disinfection and PPCP control for secondary effluent from the District's Central Plant. The project included drum screens, UF membrane filtration, and ozonation for an initial capacity of 30 MGD average daily flow and 42 MGD peak wet weather flow. Planning for subsequent phases of the work included retrofitting the adjacent existing gravity filter structure for membranes and expanding the facility up to 150 MGD. The initial membrane process includes 12 cells of GE submerged hollow fiber PVDF membranes (three ZW500d-twin modules per cell). The initial ozone system includes three 2,000-ppd ozone generators.

Westside Recycled Water Project, San Francisco Public Utilities Commission, San Francisco, CA

Technical Advisor

Jim served as technical advisor and performed quality control on this 4.5-MGD recycled water facility. The plant is supplied with water from the City's Oceanside WPCP and is used for irrigation supply at Golden Gate Park, Lincoln Park Gold Course, the Presidio, and San Francisco Zoo. Treated water will meet state standards for unrestricted body contact and mineral and organic requirements of the various users. Treatment includes MF/RO, UV, and associated chemical systems, pumping station, and conveyance.

Water Treatment Plant Expansion and Disinfection-By-Product Control Project, Antelope Valley East Kern Water Agency Antelope Valley, California

Project Manager

Jim led the planning and pilot studies, through detailed design services, construction support, and startup for the expansion and upgrade of four WTPs. These plants ranged in size from 4 to 90 MGD. The four treatment plants (Quartz Hill, Eastside, Acton, and Rosamond) were upgraded to include intermediate ozonation, deep-bed GAC filtration, and chloramines. The work required coordination of three main contractors and more than a dozen equipment suppliers. The project emphasis on schedule control was critical to allow coordinated conversion of the distribution system residual. Standby disinfection was also provided with the addition of chlorine contact basins. In addition, the largest treatment plant was expanded to 90 MGD by the addition of plate settler modules and new sludge removal mechanisms to the existing sedimentation basins. Jim also provided final startup and commissioning services.

Recycled Water Seasonal Storage Facility Plan of Action and Basis of Design Report, Las Virgenes – Triunfo Joint Powers Authority (JPA), Calabasas, CA

Technical Director

Jim led the JPA Board, project stakeholders, and Stantec team through a facilitated public workshop process to develop and evaluate six conceptual project alternatives. The JPA Board selected two scenarios for further investigation and established a Plan of Action for development of a project. The subsequent Basis of Design Report provided detailed evaluation of the two scenarios and continued the process of stakeholder engagement, four public workshops, and technical analysis. The conceptual scenarios were refined into two specific project alternatives, each with strong stakeholder support. In August 2016, the JPA Board of Directors voted to explore Potable Reuse using surface water augmentation in the Las Virgenes Reservoir as the preferred option to address seasonal storage.

MIKE WATSON
PE, DBIA

Project Delivery Methodology

AVAILABILITY

30%

LOCATION
Sacramento, CA

EDUCATION

Graduate Studies, Environmental Engineering, California State University, Sacramento, CA

BS/BSc, Civil Engineering, California State University, Sacramento, CA

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#48630)

Design Build Institute of America, Certified Professional, 2020

Special Assessment Districts, University of California at Davis Extension, 2013

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Alternative Delivery
- ☑ Funding Support
- ☑ Bureau of Reclamation Feasibility Report
- ☑ Public Outreach
- ☑ Regulatory Support
- ☑ Water Purchasing Agreement
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Pilot/demonstration scale testing facilities
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning
- ☑ Conveyance

Mike has successfully delivered over $3B in water infrastructure projects from both the private and public sector perspective using both conventional and alternative project delivery. For the first 10 years of his over 30-year career, Mike worked for a large regional municipality where he developed and implemented a billion-dollar CIP. While working for the municipality, Mike was an early adopter of alternative project delivery and early contractor engagement using it to build a tunnel demonstration project in 1998.

For the last eight years, Mike has worked exclusively on alternative delivery projects successfully implementing well over $1.5B in constructed value. Mike has been instrumental in building Stantec's Design-Build delivery systems, processes, and quality management systems to maximize innovation, increase design efficiency, and reduce overall project risk. In 2021, Mike served as the President of the Water Collaborative Delivery Association (formerly Water Design-Build Council), the only national organization focused on advancing best practices and education of collaborative delivery in the water and wastewater sector.

RELEVANT EXPERIENCE

San Fernando Groundwater Basin Remediation Project, Los Angeles Department of Water & Power, San Fernando, CA

Design Director

Mike is serving as Design Director on two groundwater treatment facilities and well collector piping on a Progressive Design-Build project. Mike worked closely with Kiewit's project executive to develop the strategy to design and construct the project within the fast-track schedule and budget requirements. He established the design and preconstruction team organizations, ensured sufficient design staffing, and oversaw design delivery daily. His scope of work involves detailed planning, design, procurement, construction, and commissioning support of well connections, purge facilities, strainers, UV/AOP facilities, GAC contactors, waste disposal, and disinfection system to provide remediation of contaminants in the San Fernando Valley groundwater basin. The accelerated design was completed in 12 months. At its peak, design production involved more than 150 design professionals.

Santa Monica Sustainable Infrastructure Project (SWIP)–Commercial Terms of Design Build Agreement Consultation, City of Santa Monica, Santa Monica, CA

Alternative Delivery Subject Matter Expert

As part of the SWIP Project, Mike was asked to analyze and opine on self-performance of the Design-Build contractor and the level of competitive bidding necessary to achieve competitive pricing on a Progressive Design-Build project. The effort included review of the project's Design-Build agreement and the selected Design-Build entities' proposal.

Progressive Design-Build Decision Processes, Procedures, Gap Analysis and Management Standards, Metropolitan Sewer District of Greater Cincinnati (MSDGC), Cincinnati, OH

Alternative Delivery Subject Matter Expert

The MSDGC is currently implementing a capital improvement program to upgrade their existing facilities and meet consent decree requirements. A significant amount of these projects will be delivered using a Progressive Design-Build (PDB) model. As part of the programmatic services Stantec is providing for MSDGC, Mike is assessing MSDGC's PDB processes, procedures, and contracts related to execution of past/ongoing PDB projects, comparing against industry best practices, identifying gaps, recommending modifications, and providing comments to Design-Build Agreements and scopes of work for Owner's Engineer and Design-Build Entities.

Commercial Terms of Design-Build Agreement Consultation, City of San José, San José, CA

Alternative Delivery Subject Matter Expert

As part of the San José-Santa Clara Regional Wastewater Facility Upgrades Program, Mike was asked to analyze and opine on distribution of prime and subcontract costs distribution for the WRF Headworks Progressive Design-Build Project. The effort included review of the project's design-build agreement, the selected design-build entities proposal and cost model and GMP proposal.

Green River Filtration Facility Expansion Project, Tacoma Public Utilities, Ravensdale, Washington

Principal-in-Charge

As principal-in-charge, Mike reviewed schedule and design deliverable milestones, verified appropriate levels of design staffing were committed, and monitored commercial performance of the project. To comply with the Long Term 2 Enhanced Surface Water Treatment Rule, Tacoma Water constructed a new 150-MGD filtration facility to treat the previously unfiltered Green River supply using a CM/GC delivery model. The new facilities include new flash mix, flocculation, sedimentation enhanced by plate settlers, high-rate filtration, and mechanical dewatering with screw presses. The project also included construction of two treated water reservoirs.

North Valley Regional Recycled Water Program Design-Build Services, City of Modesto, Modesto, CA

Principal-in-Charge

In partnership with the Contractor, the Myers-Rados joint venture, Stantec was the lead designer and Engineer of Record for this design-build project. Mike was responsible for overseeing the design of 6.5 miles of 42-inch-diameter cement mortar lined and coated steel recycled water transmission pipeline. The pipeline includes an approximate half-mile horizontal directional drill trenchless crossing below the San Joaquin River. This work included a redesign of the recycled water system's effluent pump station with the use of computational fluid dynamic modeling of the pump station's wet well, and surge analysis of the pump station and pipeline system. Pump station improvements were comprised of structural, architectural, and civil site modifications and the addition of new pumping and surge control facilities. This project was the recipient of the prestigious Clair A. Hill Agency Award for Excellence by ACWA in 2018 and successfully crossed the San Joaquin River to tie into the existing Delta Mendota Canal.

Advanced Wastewater Treatment Facilities, Confidential Industrial Client, Various Locations

Design Director

Mike served as design director on two progressive design-build projects for a global semiconductor manufacturer to design and construct two advanced wastewater treatment facilities using Biological Nutrient Removal Membrane Bioreactor technology (BNR/MBR) combined with advanced treatment processes and zero liquid discharge. The highly complex, difficult-to-treat industrial waste required intensive bench and pilot-scale testing conducted by Stantec's Research Group to customize a treatment solution to meet rigorous discharge requirements. Near 100% up time requirements for the full-scale facilities necessitated full redundancy and elimination of single points of failure throughout the facilities. The first plant, currently in operation, is in the Middle East and has a capacity of 3.3 MGD. The second facility in the Pacific Northwest is complete and about to be turned over to the Owner. The 9.95-MGD facility includes emergency and equalization basins, a pretreatment chemical process, BNR/MBR, ion exchange, high-recovery reverse osmosis, ZLD brine concentration and crystallization, solids dewatering, chemical stabilization, and provisions for odor control.

BRYAN TRUSSELL
PE, BCEE

Regulatory Compliance

AVAILABILITY

50%

LOCATION
Pasadena, CA

EDUCATION

MS, Environmental Engineering, University of Illinois at Urbana-Champaign, Champaign, IL

BS, Environmental Engineering, University of California, Berkeley, CA

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#71468)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Regulatory Support
- ☑ Groundwater/Reservoir Modeling/Tracer Study
- ☑ Conceptual Design
- ☑ Pilot/demonstration scale testing facilities
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning

Bryan has more than 18 years of engineering experience, including nearly 10 years with the City of Los Angeles' Bureau of Sanitation (LASAN), giving him invaluable insight and perspective to the many challenges facing today's utilities. Since joining Trussell, he has worked on many advanced treatment projects, including the Advanced Purification Center (APC) demonstration plant for the Metropolitan Water District of Southern California (MWD), pilot and bench testing for the Terminal Island Advanced Oxidation Process, pilot testing for the advanced wastewater treatment facility at the Donald C. Tillman (DCT) Water Reclamation Facility, and providing regulatory support for the Inland Empire's Chino Basin groundwater recharge program. Bryan will use his intimate knowledge of potable reuse regulations and advanced treatment to assist the District in the successful implementation of your PRWAP.

RELEVANT EXPERIENCE

Regional Recycled Water Program Advanced Purification Center (APC) Demonstration Project, Metropolitan Water District (MWD)/Sanitation Districts of Los Angeles County (LASAN), Carson, CA

Deputy Project Manager

MWD and LASAN are developing the design of a 150-MGD Advanced Water Purification Facility at the Joint Water Pollution Control Plant (JWPCP). The APC demonstration plant is a 0.5-MGD plant that includes tertiary MBR, RO, and UV/AOP. The Trussell team was responsible for the initial operation of the plant and development and execution of a year-long test plan that includes numerous chemical constituents and pathogen crediting through the MBR system. MBR crediting has not yet been established in California; therefore, Trussell is working alongside regulators to ensure a thorough test plan and to develop precedent.

Chino Basin Program Regulatory Support, Inland Empire Utilities Agency, Chino, CA

Project Manager

The Inland Empire Utilities Agency owns and operates the Chino Basin Groundwater Recharge Program, an indirect potable reuse project that uses surface application for the spreading of Title 22 recycled water into the Chino groundwater basin. Trussell was engaged to support the regulatory compliance of the project as a result of the promulgation of formal groundwater recharge regulations. Trussell has successfully acquired increased pathogen removal credits from the disinfection process at two reclamation facilities, prepared updated operations plans for each of these respective facilities, and is evaluating potential disinfection byproducts through the treatment process.

Tujunga Tracer Test Protocol Development, Los Angeles Department of Water and Power (LADWP), Los Angeles, CA

Co-Principal Investigator

LADWP wanted to investigate the feasibility of using the Tujunga Spreading Grounds as part of its groundwater recharge program in the San Fernando Valley. The Tujunga Spreading Grounds is in close proximity to the Tujunga drinking water well field, so there was considerable concern that the retention time would not be long enough to meet the regulatory requirements. As part of this effort, preliminary groundwater modeling was performed to estimate potential vertical and horizontal travel times. Additionally, potential tracers were identified and the benefits of soil aquifer treatment were included. Trussell's role included developing the regulatory requirements section, reviewing other implemented tracer test protocols and preparing potential additional research benefits by intiating the test.

Hyperion Water Reclamation Plant – Hyperion 2035 Alternatives Analysis, Los Angeles Bureau of Sanitation, Los Angeles, CA

Project Manager

The City of Los Angeles is embarking on a new era of potable reuse with the Mayor's goal of achieving zero effluent discharges to the ocean by 2035. As part of this effort, the City of Los Angeles Bureau of Sanitation & Environment (LASAN) retained Trussell to develop potential treatment alternatives for the conversion of the Hyperion Water Reclamation Plant's HPOAS system. The conversion will prepare the secondary effluent for downstream advanced treatment and considers combinations of conventional activated sludge with gravity clarifiers and membrane bioreactors. Trussell performed GPS-X modeling of the existing biological basins and developed preliminary design specifications and layouts for each alternative.

Terminal Island Water Reclamation Plant (TIWRP) Optimization and Technical Support, Los Angeles Bureau of Sanitation, Los Angeles, CA

Project Manager

Trussell was retained by LASAN to troubleshoot and provide technical support for the implementation of the recently expanded advanced water treatment facility (AWTF). As part of this effort, Trussell led a series of tests to determine the potential cause of bromate formation from the newly commissioned UV/AOP using free chlorine as an oxidant. Trussell successfully developed a solution and worked with TIWRP staff to implement it, resulting in the successful mitigation and the resumption of water deliveries to the Dominguez Gap. Trussell remains engaged with plant staff and continues to work on optimization of the TIWRP AWTF to provide enhanced process reliability, performance, and efficiency.

Hyperion 2035 Demonstration Facility, Los Angeles Bureau of Sanitation, Los Angeles, CA

Project Manager

As part of their effort to acheive the City of Los Angeles Mayor's goal of zero effluent discharges to the ocean by 2035, LASAN retained Trussell Technologies to support the development of a 1-MGD advanced water purification facility. This facility will be used to validate pathogen removal credits for the MBR process and will help to refine process design criteria for the full-scale design. Trussell developed the test protocol for ocean discharge compliance, provided regulatory and design support, and developed the framework of the independent advisory panel structure.

Direct Potable Reuse Demonstration Facility, Los Angeles, CA

Project Manager

In collaboration with CDM, Trussell Technologies prepared the initial concept report for the potential Direct Potable Reuse demonstration facility located nearby the Los Angeles Headworks Facility. Trussell led the development of the anticipated regulatory framework, including the potential pathogen log removal credit requirements and other considerations as the state moves from indirect to direct potable reuse applications. Additionally, Trussell will prepare portions of the test plan focused on potential re-growth of microbiological activity in distribution and pathogen challenge testing.

Donald C. Tillman Groundwater Replenishment Advanced Purification Facility Pilot Project, Los Angeles Bureau of Sanitation, Los Angeles, CA

Project Manager

Trussell Technologies was selected, with Brown & Caldwell, for this project including the implementation, operational support, and reporting of an AWT Pilot Study at the Donald C. Tillman Water Reclamation Plant. The pilot prequalified microfiltration suppliers for potential full-scale bidding, tested high-recovery technologies within the RO process, O_3 pretreatment on membrane performance, UV/Cl and H_2O_2/O_3 AOPs, and an alternative treatment train (O_3/BAC). Trussell Technologies prepared a detailed test protocol identifying the treatment process trains and schedule, supported LASAN with pilot test operation; provided thorough analysis; and prepared a study report with final recommendations.

SHANE TRUSSELL, PHD, PE, BCEE

Process/Regulatory Technical Advisor

AVAILABILITY

30%

LOCATION
San Diego, CA

EDUCATION

PhD, Civil and Environmental Engineering, University of California, Berkeley, CA

MS, Civil and Environmental Engineering, University of California, Los Angeles, CA

BS, Chemical Engineering, University of California, Riverside, CA

LICENSES/CERTIFICATIONS

Professional Engineer, CA (#66887)

SPECIFIC EXPERIENCE RELATED TO THIS PROJECT

- ☑ Engineering Support/CEQA
- ☑ Alternative Delivery
- ☑ Funding Support
- ☑ Bureau of Reclamation Feasibility Report
- ☑ Regulatory Support
- ☑ Groundwater/Reservoir Modeling/Tracer Study
- ☑ Conceptual Design
- ☑ Project Scheduling & Cost Estimating
- ☑ Pilot/demonstration scale testing facilities
- ☑ Engineering/Construction Management Services During Construction
- ☑ RFQ/RFP Development
- ☑ Startup/Commissioning

Dr. Shane Trussell has more than 20 years of hands-on experience with membrane processes for desalination and filtration. He has authored more than 65 publications and presentations. He has focused on advanced wastewater and water treatment processes—particularly membrane filtration, MBR, RO, electrodialysis, ion exchange, GAC adsorption, and disinfection with O_3, chlorine, and chloramines. Shane has been and is involved in numerous potable reuse projects throughout California, ranging from feasibility studies and pilot testing to design and regulatory permitting. He has led two major research efforts funded by the WateReuse Research Foundation (now Water Research Foundation): WRRF 11-02 (Equivalency of Advanced Treatment Trains for Potable Reuse) and WRRF 14-12 (Demonstrating Redundancy and Monitoring to Achieve Reliable Potable Reuse), with a combined project budget total of $3.4M, to advance the status of potable reuse in California. Shane is an industry leader in potable reuse and developing water supplies, leading innovative and effective engineering and research projects throughout California.

RELEVANT EXPERIENCE

East County Regional Potable Reuse Program, Padre Dam Municipal Water District, Santee, CA

Project Manager

Padre Dam Municipal Water District has retained Trussell Technologies to perform an innovative potable reuse project involving piloting, design, and regulatory support. As part of the design of the demonstration facility, Trussell coordinated with both an independent advisory panel and DDW to gain approval for the demonstration testing plan. Next, the project team completed design of the 100,000-gpd demonstration facility, which consists of free chlorine disinfection followed by full advanced treatment (MF, RO, and AOP). Under a U.S. Bureau of Reclamation research grant, Trussell evaluated the use of a closed-circuit desalination secondary RO (CCRO) system at overall recoveries of 95%, 96%, and 97% in order to minimize brine production from the facility. Following this study, a conventional two-stage secondary RO system was installed and is currently undergoing testing at the facility for comparison. Guided by experience and data from the demonstration facility, Trussell teamed with another consultant for the 20% design of the three-phase, full-scale advanced water purification facility (AWPF). Trussell served as the process lead for this design and provided procurement services for major process equipment at the full-scale facility. Shane is leading both the demonstration testing and full-scale design efforts.

Pure Water San Diego Program, City of San Diego, San Diego, CA

Project Manager

Trussell Technologies, Inc. is part of a consulting team, including Stantec and Brown & Caldwell, working with the City of San Diego to implement the Pure Water Program. The goal of the Pure Water Program is to develop a 30 MGD capacity potable reuse water purification facility that is operational by 2025, and with a long-term goal of replacing one-third of San Diego's drinking water supply (approximately 83 MGD) with purified potable reuse water. Trussell Technologies is currently providing regulatory guidance for permitting potable reuse facilities for source water augmentation, predesign of the North City Advanced Water Purification Facility for two treatment train options, and pre-qualification and pre-selection testing for major equipment capital purchases including the MF/UF, RO, and UV/AOP systems. Shane is leading the regulatory effort, including interfacing with the independent project advisory panel and working with experts and the City to develop a sound strategy for permitting the future facilities.

Pure Water Monterey Program, Monterey One Water, Monterey, CA

Technical Advisor

The Pure Water Monterey Program is a 5-MGD advanced water treatment facility (AWTF) consisting of O_3, MF, RO, UV/AOP, and post-treatment stabilization for potable reuse via groundwater injection. Trussell Technologies led the initial concept of the Pure Water project; provided support in the construction of the pilot; developed the test plan and helped execute the test plan for pilot testing; developed procurement documents; reviewed submitted design documents; and provided regulatory, construction, and commissioning support of the Pure Water Monterey program. The AWPF received official approval from DDW to begin injecting purified water into the Seaside Groundwater Basin in February 2020.

Purification Center Demonstration Project, Metropolitan Water District of Southern California (MWD)/Sanitation Districts of Los Angeles County (LASAN), Los Angeles, CA

Technical Advisor

MWD and LASAN are developing the design of a 150-MGD AWPF at the Joint Water Pollution Control Plant. The Advanced Purification Center (APC) demonstration plant is a 0.5-MGD plant that includes tertiary membrane bioreactors, RO, and UV/AOP. The Trussell team is responsible for the initial operation of the plant and development and execution of a year-long test plan that includes numerous chemical constituents and pathogen crediting through the MBR system. MBR crediting has not yet been established in California; therefore, Trussell is working alongside regulators to ensure a thorough test plan and to develop precedent.

Demonstrating Redundancy and Monitoring to Achieve Reliable Potable Reuse, Water Research Foundation, San Diego, CA

Project Manager

This high-profile, $3.1M research project, funded by a Proposition 84 Integrated Regional Water Management Implementation Grant, involves the creation of a general framework for potable reuse safety, with subsequent implementation of the framework during year-long demonstration testing. The project focuses on demonstrating how a facility might meet current and future potable reuse regulations with high levels of treatment performance (e.g., additional log removals of microbiological parameters, demonstrated contaminant removal) and operability. The demonstration testing is taking place at the City of San Diego's North City Water Reclamation Plant 1.5-MGD Demonstration Facility, which includes O_3/BAC filtration pretreatment, MF/UF, RO, and UV/AOP with hydrogen peroxide. Shane is the principal investigator of this research project, directing technical avenues of research, to inform the current source water augmentation regulation development as well as the implementation of full-scale potable reuse facilities.

DPR-4: Treatment for Averaging Potential Chemical Peaks, California State Water Resources Control Board, San Diego, CA

Co-Principal Investigator

Trussell Technologies, in collaboration with Orange County Water District and Kennedy Jenks, are contracted with the Water Research Foundation to address knowledge gaps for developing criteria for Direct Portable Reuse (DPR), specifically Treatment for Averaging Potential Chemical Peaks. The primary objective of the project is to present a case study of the investigation of families or groups of chemicals with similar characteristics and specific chemicals that should be targeted for reduction/removal that are not sufficiently reduced/removed by full advanced treatment processes. Shane and the project team are conducting research and current reviews of three utilities performing potable reuse via advanced water treatment facilities: The City of San Diego, the Singapore Public Utilities Board, and the Orange County Water District.

APPENDIX

B Litigation History—Kleinfelder

On occasion, Kleinfelder becomes involved in litigation in the ordinary course of business. These matters generally reflect routine legal issues related to our business. The company retains adequate levels of insurance to protect against its business risks. None of the pending legal disputes of the company materially impacts the financial well-being of the company.

Kleinfelder considers information about the status and projected outcome of legal disputes to be confidential information. As such, Kleinfelder will not provide any information beyond publicly available information as to any past or pending claim. Kleinfelder will only provide such information further based on a legitimate justification. The following is a list of cases for public projects in California for which litigation is still pending or has occurred within the last five years:

- Oakwood Lake Water District v. Beck Properties, Inc., et al.: Filed in County of San Joaquin, California in September 2018, case number STK-CV-UCD-2015-0008637. Cross Complaint against Kleinfelder by general contractor sued by water district alleging defective construction. Settled and dismissed.
- Merced Union High School v. Bernard Bros, Inc., et al.: Filed in County of Merced, California in September 2017, Superior Court, Case No. 17CV-03126, Consolidated with Case No. 19CV-02009 and Case No. 19CV-03817. Cross-Complaint against Kleinfelder by material supplier. Still open.
- Karla Mazur v. Kleinfelder, Inc.: Filed in superior Court of California, county of Los Angeles in June 2021, Case No. 20STCV04458. Personal injury matter. Settled and dismissed.

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P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 22, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 7.2 – CONSIDERATION AND POSSIBLE ACTION ON REALLOCATION OF ANTELOPE VALLEY STATE WATER CONTRACTORS ASSOCIATION $10,000 SPONSORSHIP FROM THE CANCELLED HOME SHOW AND SMART WATER EXPO TO THE ANTELOPE VALLEY RURAL MUSEUM FOR A WATER FEATURE. (NO BUDGET IMPACT-TRANSFER EXISTING ALLOCATED FUNDS – RESOURCE AND ANALYTICS DIRECTOR-ANTELOPE VALLEY STATE WATER CONTRACTORS ASSOCIATION GENERAL MANAGER THOMPSON II)***

Recommendation:
Staff recommends the Board approve the reallocation of the Antelope Valley State Water Contractors Association's (AVSWCA) $10,000 sponsorship from the cancelled Home Show and SMART Water Expo to the Antelope Valley Rural Museum for a water feature.

Alternative Options:
The Board could choose to not approve this reallocation.

Impact of Taking No Action:
There would be no reallocation of sponsorship funds, and the funds would be refunded to the three member agencies of the AVSWCA based on Table A allocations.

Background:
The Commissioners of the AVSWCA approved a $10,000 sponsorship for a booth at the Antelope Valley Home Show and SMART Water Expo. With the cancellation of this event, representatives from the Antelope Valley Rural Museum approached the Commissioners regarding reallocating the sponsorship to the Antelope Valley Rural Museum for a water feature. The Commissioners approved this request contingent upon the approval of the Boards of the member agencies of the AVSWCA.

Strategic Plan Initiative/Mission Statement:
This item is under Strategic Initiative No. 5 – Regional Leadership.
This item directly relates to the District's Mission Statement.

Budget:
There will be no budget impact as the funds have already been allocated.

Supporting Documents:
- None.

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 23, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mrs. Angelica Barragan-Garcia, Human Resources Director

VIA: Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 7.3 - CONSIDERATION AND POSSIBLE ACTION ON AN ADDITIONAL STIPEND FOR DIRECTORS OPTING OUT OF THE DISTRICT'S MEDICAL INSURANCE PLAN. (BUDGET IMPACT TO BE DETERMINED – DIRECTOR DINO/HUMAN RESOURCES DIRECTOR BARRAGAN-GARCIA/PERSONNEL COMMITTEE)***

Recommendation:

Staff has no recommendation on this item.

Alternative Options:

The Board can choose to not have the monthly stipend in lieu of opting out of benefits be available for the Board of Directors.

Impact of Taking No Action:

If there is no action taken, the Board of Directors would continue to elect their medical benefits as normal without the option of receiving a monthly stipend when waiving medical coverage.

Background:

A monthly stipend of $650 is available to employees opting out of the District's medical insurance. To be eligible to opt out, employees must provide documentation of medical insurance through another source. They must also still enroll in the District's dental and vision coverage.

It has been requested that this same option be made available to the Board of Directors.

Per the attached Opinion Letter from Counsel, cash in lieu received would be considered compensation, however, the amount is considered permissible and not part of compensation when it is contributed into a District-established deferred compensation account. Based on this information the two options to consider are as follows:

1. Direct payment of stipend which will count against the $2,200/month maximum compensation limit.
2. Deferred compensation contribution: The District does not make employer contributions to Lincoln's retirement plan; therefore, this method would provide a benefit to Directors that is not available to employees.

Details for Deferred Compensation:

- Eligibility of 457 plan: Per Lincoln and Internal Revenue Code 457, if a person is being paid as a W2 employee, the individual is eligible for a retirement plan as they would be consider an "employee."
- Budget Item: The contribution made would be allocated as compensation reflected under Operational Expenses account "Director's pay."
- Withdrawal options per document plan: "Prior to Severance from Employment, a Participant may withdraw all or a portion of his or her Account Balance on or after the first day of the calendar year in which the Participant shall attain age 70½." Any monies withdrawn is subject to state/federal taxes. Documentation needs to be completed to start withdrawing from the account. Per Lincoln representative, a Participant cannot withdraw less than $50/month, and there needs to be a minimum remaining balance in the account of $100.00. Upon separation, a Participant can withdraw full available balance from the account.
- Enrollment Process: The enrollment and contribution process should be short as Lincoln has suggested not to amend the plan document as the document allows employer contribution per section 2.7 of Palmdale Water District 457(b) Deferred Compensation Plan document outlined below. Payroll would submit the Participant's information following the same process as with new hires. Then when a Board Member decides to enroll, registration and enrollment is to be completed online. Beneficiaries are also updated via the Participant's online portal.

  2.7 Employer Contributions from Document Plan: "*Nothing in this Plan prohibits the Employer from making Employer Contributions to the Account Balance of a Participant on a non-elective basis, including but not limited to, Employer matching contributions, subject to the Participant's contribution limits in Section III."*

Strategic Plan Initiative/Mission Statement:

This item is under Strategic Initiative No. 2 – Organizational Excellence.

This item directly relates to the District's Mission Statement.

Budget:

The budget impact for this item remains to be determined.

Supporting Documents:

On the next page is a Comparison Chart of water agencies' practice regarding a medical waiver stipend and the eligibility for the Board of Directors to be able to receive the stipend. Out of twelve (12) water agencies, seven (7) offer a stipend in lieu of opting out of medical coverage, and of those seven (7) agencies, two (2) extend this stipend option to the Board of Directors.

Water Agency	Offer Medical Waiver Stipend	Board of Director eligible
Palmdale Water District	Yes	No
Cucamonga Valley Water District	Yes	No
Las Virgenes Municipal Water District	No	N/A
Yorba Linda Water District	No	N/A
Olivenhain Municipal Water District	No	N/A
Western Municipal Water District	Yes	N/A
Santa Clarita Valley Water Agency	Yes	
Desert Water Agency	No	N/A
Eastern Municipal Water District	Yes	Yes
Mesa Consolidated Water District	Yes	No
Rancho California Water District	Yes	No
Walnut Valley Water District	No	N/A
Padre Dam Municipal Water District	Yes	Yes

ALESHIRE & WYNDER LLP
ATTORNEYS AT LAW

MEMORANDUM

TO: **ANGELICA BARRAGAN-GARCIA, HUMAN RESOURCES DIRECTOR**

COPY: **DENNIS LAMOREAUX, GENERAL MANAGER**

FROM: **ERIC DUNN, GENERAL COUNSEL**
PAM K. LEE, EMPLOYMENT COUNSEL

DATE: **FEBRUARY 23, 2022**

RE: **CASH IN-LIEU BENEFITS FOR BOARD MEMBERS OF THE DISTRICT**

The District has inquired whether District Board members may receive cash in-lieu of health benefits, and if so, what regulations need to be followed for the receipt of cash in-lieu of health benefits. This memorandum describes the legal authority for cash in-lieu of health benefits and the manner in which such compensation can be provided.

District Ordinance No. 21-1 and Rule 4.07.3 of the District Rules and Regulations provides that each Board member shall be compensated at a rate of $220.00 per day, up to the maximum number of days per month (which is 10 days) and the maximum annual compensation allowable by law. (Water Code §§ 20201, 20202.) Additionally, Rule 4.07.03 provides that a Board member's annual budget includes all compensation, available health benefits, and allowable expenses, as authorized under Government Code Sections 53201, 53205.1, and 53205.16.

If a Board member elects to receive cash in-lieu of health benefits, which amounts to $650 per month or $7,800 per year, such cash may be considered as compensation. (89 Ops.Cal.Atty.Gen. 107 (2006).) If in-lieu payments are provided, such payments should exceed the maximum annual cap established by District Ordinance No. 21-1. (*Id.*) On the other hand, in-lieu pay is considered permissible and not part of compensation when it is contributed into a District-established deferred compensation account. (102 Ops.Cal.Atty.Gen. (2019).)

Based on Ordinance No. 21-1, the maximum annual compensation allowable by law would be up to $26,400 ($220 per day x 10 meeting days per month x 12 months). If a Board member attends 8 meetings every month, the Board member would be compensated $21,120 for that year for attending meetings, allowing the Board member to receive up to $5,280 of cash in-lieu of health benefits. Any cash amount received above the maximum would exceed the annual cap under Ordinance No. 21-1 and should be provided by the District in the form of deferred compensation. Thus, to the extent any cash in-lieu of health benefits exceeds the maximum annual compensation cap allowed under Ordinance No. 21-1, the District should instead include such payments as deferred compensation and deposit such funds directly into a District-established deferred compensation plan (such as a 457 plan) for the Board member.

[END]

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	February 23, 2022	**February 28, 2022**
TO:	BOARD OF DIRECTORS	**Board Meeting**
FROM:	Mr. Bob Egan, Financial Advisor	
RE:	***AGENDA ITEM NO. 8.1.a – STATUS REPORT ON CASH FLOW STATEMENT AND CURRENT CASH BALANCES AS OF DECEMBER 2021. (FINANCIAL ADVISOR EGAN/FINANCE COMMITTEE)***	

Attached are the Cash Notes, the Investment Funds Report, and the Cash Flow Report as of December 2021. The reports will be reviewed in detail at the Board meeting.

Enclosures

		2021									
		November to December 2021 Major account Activity									
		acct 11469									
		Balance	**12/31/2021**	**5,565,018.57**							
		Balance	**11/30/2021**	**5,019,332.44**							
		Increase		**545,686.13**							
		One month activity									
		Transfer to 11432		**(2,770,000.00)**							
		Transfer to Checking									
		Taxes received		**3,317,569.33**	expected 2,620,560						
	Interest/Mkt value received			**(1,883.20)**							
		Increase		**545,686.13**							
		Acct 11475									
		Balance	**12/31/2021**	**1,297,150.27**							
		Balance	**11/30/2021**	**1,297,153.02**							
		Decrease		**(2.75)**							
		One month activity									
	Interest/Mkt value received			**(2.75)**							
	Capital improvements received			**0.00**							
		Decrease		**(2.75)**							
		Acct 11432									
		Balance	**12/31/2021**	**5,290,956.81**							
		Balance	**11/30/2021**	**2,523,575.95**							
		Increase		**2,767,380.86**							
		One month activity									
		Transfer from 11469.		**2,770,000.00**							
	Interest/Mkt value received			**(2,619.14)**							
		Increase		**2,767,380.86**							
		Acct 24016.									
		Balance	**12/31/2021**	**575,006.54**							
		Balance	**11/30/2021**	**575,071.52**							
		Decrease		**(64.98)**							
		One month activity									
Annual increase to fund from 11469											
	Interest/Mkt value received			**(64.98)**							
		Decrease		**(64.98)**							

		2021							
		Fourth Quarter 2021 Major account Activity							
		acct 11469							
		Balance	**12/31/2021**	**5,565,018.57**					
		Balance	**9/30/2021**	**6,741,609.20**					
		Decrease		**(1,176,590.63)**					
		Three months activity							
		Taxes received		**3,445,328.78**	**Expected in Nov & Dec**		**2,758,060**		
		Interest/Mkt value received		**(1,919.41)**					
		Transfer to Citizens checking		**(1,750,000.00)**	**1M used for Mojave Water and 750k for regular operating bills**				
		Transfer to 24016		**(100,000.00)**	**Annual increase to rate Stabilatization Fund**				
		Transfer to 11432		**(2,770,000.00)**	**Increased longer term investments**				
		Decrease		**(1,176,590.63)**					
		Acct 11475							
		Balance	**12/31/2021**	**1,297,150.27**					
		Balance	**9/30/2021**	**1,275,065.09**					
		Increase		**22,085.18**					
		Three months activity							
		Interest/Mkt value received		**(82.82)**					
		Capital improvements received		**22,168.00**					
		Increase		**22,085.18**					
		Acct 11432							
		Balance	**12/31/2021**	**5,290,956.81**					
		Balance	**9/30/2021**	**2,523,807.42**					
		Increase		**2,767,149.39**					
		Three months activity							
		transfer from 11469		**2,770,000.00**					
		Interest/Mkt value received		**(2,850.61)**					
		Increase		**2,767,149.39**					
		Acct 24016.							
		Balance	**12/31/2021**	**575,006.54**					
		Balance	**0930/2021**	**475,196.67**					
		Increase		**99,809.87**					
		Three months activity							
		Transfer from 11469		**100,000.00**	**Annual increase to rate Stabilatization Fund**				
		Interest/Mkt value received		**(190.13)**					
		Increase		**99,809.87**					

PALMDALE WATER DISTRICT
INVESTMENT FUNDS REPORT - BREAKDOWN SUMMARY
December 31, 2021

	December 2021		November 2021		September 2021	
Federal Agency Obligations	6,521,620.00	44.62%	4,717,981.00	42.34%	6,729,897.00	59.51%
Negotiable Certificates of Deposit	4,456,719.32	30.49%	3,646,958.16	32.73%	2,588,318.05	22.89%
Local Agency Investment Fund (LAIF)	12,693.26	0.09%	12,693.26	0.11%	12,685.54	0.11%
	10,991,032.58		8,377,632.42		9,330,900.59	
Cash and Cash Equivalents	3,594,939.80	24.60%	2,742,874.74	24.62%	1,965,869.57	17.38%
Accrued Interest	29,622.31	0.20%	22,031.86	0.20%	12,007.32	0.11%
	14,615,594.69		11,142,539.02		11,308,777.48	

PALMDALE WATER DISTRICT
INVESTMENT FUNDS REPORT
December 31, 2021

						December 2021	November 2021	September 2021
CASH								
1-00-0103-100	Citizens - Checking					1,632,686.93	764,520.61	76,026.76
1-00-0103-200	Citizens - Refund					0.10	1,948.46	(4,226.96)
1-00-0103-300	Citizens - Merchant					236,382.21	942,544.06	202,913.76
					Bank Total	**1,869,069.24**	**1,709,013.13**	**274,713.56**
1-00-0110-000	PETTY CASH					300.00	300.00	300.00
1-00-0115-000	CASH ON HAND					5,400.00	5,400.00	5,400.00
					TOTAL CASH	**1,874,769.24**	**1,714,713.13**	**280,413.56**
INVESTMENTS								
1-00-0135-000	**Local Agency Investment Fund**				**Acct. Total**	**12,693.26**	**12,693.26**	**12,685.54**
1-00-0120-000	**UBS Money Market Account General (SS 11469)**							
	UBS USA Core Savings					190,039.68	190,023.04	195,441.26
	UBS RMA Government Portfolio					162,447.07	783,192.94	392,520.21
	Accrued interest					21,383.58	16,528.01	7,162.16
						373,870.33	**989,743.99**	**595,123.63**
	US Government Securities							
	CUSIP #	**Issuer**	**Maturity Date**	**Rate**	**PAR**	**Market Value**	**Market Value**	**Market Value**
	912828T67	US Treasury Note	10/31/2021	1.250		-	-	500,485.00
	912796A90	US Treasury Bill	12/30/2021			-	-	1,999,820.00
	9128286H8	US Treasury Note	03/15/2022	2.375	2,000,000	2,009,020.00	2,013,300.00	2,021,260.00
	912828176	US Treasury Note	03/31/2022	1.750	1,000,000	1,003,960.00	1,005,530.00	1,008,440.00
	91282CAX9	US Treasury Note	11/30/2022	0.125	1,000,000	997,730.00	-	-
					4,000,000	**4,010,710.00**	**3,018,830.00**	**5,530,005.00**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	First Seacoast Bank	11/15/2021	0.500		-	-	249,977.50
	2	Citibank NA	12/21/2021	3.250		-	87,157.47	87,623.79
	3	CIT US	01/21/2022	2.500	176,000	176,230.56	176,596.64	177,325.28
	4	Sallie Mae Bank	05/16/2022	2.550	100,000	100,868.00	101,104.00	101,554.00
	5	Bank of China NY B Ny	06/30/2022	0.250	77,000	77,000.00	-	-
	6	Goldman Sachs bank	09/29/2022	0.300	100,000	99,999.00	-	-
	7	Ally bank Midvale	10/17/2022	1.850	80,000	80,979.20	-	-
	8	Goldman Sachs Bank	11/03/2022	0.150	150,000	149,781.00	149,820.00	-
	9	UBS AG Stamford	12/02/2022	0.455	250,000	250,267.50	250,385.00	-
	10	Servisfirst	02/21/2023	1.600	242,000	245,312.98	245,695.34	-
					1,175,000	**1,180,438.24**	**1,010,758.45**	**616,480.57**
					Acct. Total	**5,565,018.57**	**5,019,332.44**	**6,741,609.20**
1-00-1110-000	**UBS Money Market Account Capital (SS 11475)**							
	UBS Bank USA Dep acct					43,197.55	42,190.00	382,027.25
	UBS RMA Government Portfolio					2,522.18	1,996.91	664.78
						45,719.73	**44,186.91**	**382,692.03**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	Business Bank MO	01/20/2022	2.000	154,000	154,149.38	154,395.78	154,893.20
	2	Franklin Synergy bank	01/31/2022	2.000	247,000	247,372.97	247,773.11	248,578.33
	3	Synchrony Bank	04/24/2022	2.300	247,000	247,681.72	248,126.32	248,973.53
	4	First Financial	03/07/2022	0.030	240,000	239,901.60	239,923.20	239,928.00
	5	Bank Hapoalim	07/22/2022	0.250	109,000	108,992.37	109,032.70	-
	6	Medallion Bank	02/06/2023	1.600	250,000	253,332.50	253,715.00	-
					1,247,000	**1,251,430.54**	**1,252,966.11**	**892,373.06**
					Acct. Total	**1,297,150.27**	**1,297,153.02**	**1,275,065.09**
1-00-0125-000	**UBS Access Account General (SS 11432)**							
	UBS Bank USA Dep acct					1,321,721.08	10,516.02	470,152.64
	UBS RMA Government Portfolio					-	-	-
	Accrued interest					4,709.51	2,934.13	3,631.14
						1,326,430.59	**13,450.15**	**473,783.78**
	US Government Securities							
	CUSIP #	**Issuer**	**Maturity Date**	**Rate**	**PAR**	**Market Value**	**Market Value**	**Market Value**
	912796A90	US Treasury Bill	12/30/2021			-	1,199,916.00	1,199,892.00
	912828XG0	US Treasury Note	06/30/2022	2.125	750,000	756,975.00	-	-
	912803AZ6	US Treasury Bond	08/15/2022		500,000	499,060.00	499,235.00	-
	912828YF1	US Treasury Note	09/15/2022	1.500	750,000	756,420.00	-	-
	91282CBD2	US Treasury Note	12/31/2022	0.125	500,000	498,455.00	-	-
					2,500,000	**2,510,910.00**	**1,699,151.00**	**1,199,892.00**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	Citibank NA	10/26/2021	3.150		-	-	163,358.60
	2	Luther Burbank	12/10/2021	0.030		-	223,993.28	223,968.64
	3	Morgan Stanley	12/20/2021	1.750		-	240,213.60	240,890.40
	4	Wells Fargo	01/18/2022	3.000	220,000	220,303.60	220,836.00	221,914.00
	5	Mizrahi Tefahot Bk	06/13/2022	0.200	250,000	249,942.50	-	-
	6	Bank Hapoalim	06/29/2022	0.350	140,000	140,070.00	-	-
	7	Comenity bank	08/01/2022	0.350	240,000	244,140.00	-	-
	8	American Express Cent	08/22/2022	2.350	124,000	125,657.88	125,931.92	-
	9	Citizens State BK	08/30/2022	0.100	224,000	223,722.24	-	-
	10	State Bank of India	12/09/2022	0.250	250,000	249,780.00	-	-
					1,448,000	**1,453,616.22**	**810,974.80**	**850,131.64**
					Acct. Total	**5,290,956.81**	**2,523,575.95**	**2,523,807.42**
Total Managed Accounts						**12,165,818.91**	**8,852,754.67**	**10,553,167.25**
1-00-1121-000	**UBS Rate Stabilization Fund (SS 24016)** - *District Restricted*							
	UBS Bank USA Dep acct					243.00	242.70	244,649.87
	UBS RMA Government Portfolio					-	-	-
	Accrued interest					3,529.22	2,569.72	1,214.02
						3,772.22	**2,812.42**	**245,863.89**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	Goldman Sachs Bank	11/09/2021	3.000		-	-	100,322.00
	2	Bank of India	01/12/2022	0.100	52,000	51,997.40	51,996.88	52,000.00
	3	TIAA FSB Florida	02/22/2022	2.850	199,000	199,760.18	200,253.70	-
	4	Bank of China	05/31/2022	0.100	77,000	76,951.49	76,971.51	77,010.78
	5	Capitol One	09/27/2022	2.300	239,000	242,525.25	243,036.71	-
					567,000	**571,234.32**	**572,258.80**	**229,332.78**
					Acct. Total	**575,006.54**	**575,071.22**	**475,196.67**
TOTAL CASH AND INVESTMENTS						**14,615,594.69**	**11,142,539.02**	**11,308,777.48**
					Increase (Decrease) in Funds	**3,473,055.67**		
1-00-1135-000	**2018A Bonds - Project Funds (BNY Mellon)**							
	Construction Funds					**2,118,009.92**	**2,124,361.22**	**2,139,700.17**
	Issuance Funds					**12,519.19**	**12,518.89**	**12,518.28**
						2,130,529.11	**2,136,880.11**	**2,152,218.45**
1-00-1137-000	**2021A Bonds - Project Funds (BNY Mellon)**							
	Construction Funds					**8,882,067.68**	**8,882,067.68**	**9,655,192.78**
	Issuance Funds					**7,732.69**	**7,732.69**	**7,732.69**
						8,889,800.37	**8,889,800.37**	**9,662,925.47**

PALMDALE WATER DISTRICT

2021 Cash Flow Report (Based on Nov. 23, 2020 Approved Budget)

	January	February	March	April	May	June	July	August	September	October	November	December	YTD	Budget 2021 Carryover Information
Total Cash Beginning Balance (BUDGET)	**11,749,481**	**10,956,032**	**11,073,711**	**9,199,205**	**10,989,695**	**11,414,389**	**10,746,726**	**10,169,877**	**10,356,760**	**7,864,417**	**7,941,244**	**8,067,984**		
Total Cash Beginning Balance	**11,749,481**	**10,705,394**	**10,483,186**	**8,183,565**	**10,204,829**	**12,061,674**	**13,091,712**	**11,805,571**	**13,001,151**	**11,308,777**	**11,248,646**	**11,142,539**		
Budgeted Water Receipts	2,122,390	2,057,833	1,962,426	2,180,092	2,300,637	2,484,596	2,774,247	2,846,803	3,014,766	2,815,381	2,432,608	2,417,183	29,408,961	
Water Receipts	**2,073,914**	**2,052,885**	**2,192,803**	**2,101,463**	**2,248,524**	**2,567,980**	**2,736,878**	**2,975,924**	**3,102,140**	**2,881,772**	**2,752,483**	**2,359,894**	30,046,659	
DWR Refund (Operational Related)				**1,773**		**23,103**				**705**			25,581	
Other											**(100,000)**		(100,000)	
Total Operating Revenue (BUDGET)													-	
Total Operating Revenue (ACTUAL)	2,073,914	2,052,885	2,192,803	2,103,236	2,248,524	2,591,083	2,736,878	2,975,924	3,102,140	2,882,477	2,652,483	2,359,894	29,972,240	
Total Operating Expenses excl GAC (BUDGET)	(2,119,444)	(1,828,796)	(1,794,590)	(1,931,431)	(2,144,777)	(2,198,269)	(2,274,154)	(2,418,458)	(2,372,430)	(2,286,594)	(2,117,409)	(1,847,964)	(25,334,316)	
GAC (BUDGET)			(151,000)		(151,000)	(151,000)	(151,000)			(151,000)		(151,000)	(906,000)	
Operating Expenses excl GAC (ACTUAL)	**(2,096,914)**	**(1,955,654)**	**(2,281,727)**	**(1,607,632)**	**(1,705,168.27)**	**(2,445,144)**	**(2,439,178)**	**(1,992,840)**	**(2,890,284)**	**(2,341,577)**	**(1,940,128)**	**(1,970,692)**	(25,666,937)	
Mojave Water Agency - Carryover Water Purchase											**(1,000,000)**		(1,000,000)	
Littlerock Dam - Sediment Removal			**(326,118)**	**(177,477)**	**(26,505)**								(530,100)	
GAC		**(107,803)**				**(72,412)**			**(132,000)**	**(132,000)**			(444,215)	(132,000)
Prepaid Insurance (paid)/refunded								**(131,521)**		**(217,843)**			(349,365)	
Total Operating Expense (ACTUAL)	(2,096,914)	(2,063,457)	(2,607,845)	(1,785,109)	(1,731,673)	(2,517,556)	(2,439,178)	(2,124,361)	(3,022,284)	(2,691,420)	(2,940,128)	(1,970,692)	(27,990,617)	
Non-Operating Revenue:														
Assessments, net (BUDGET)	686,050	264,605	18,650	2,167,790	745,795	13,325	86,225	134,500	-	-	137,500	2,620,560	6,875,000	
Actual/Projected Assessments, net	**674,492**	**313,497**	**25,913**	**2,045,361**	**779,479**	**18,309**	**114,558**	**184,234**	-	-	**127,759**	**3,317,569**	7,601,171	
Asset Sale/Unencumbered Money (Taxes)			**5,128**										5,128	
RDA Pass-through (Successor Agency)	**331,676**					**509,207**							840,883	
Interest	**10,174**	**9,268**	**10,766**	**7,133**	**6,500**	**10,333**	**13,115**	**12,409**	**10,174**	**9,264**	**10,710**	**11,374**	121,220	
Market Adjustment	**(9,827)**	**(8,701)**	**(9,414)**	**(6,675)**	**(6,179)**	**(12,229)**	**(12,692)**	**(10,977)**	**(9,402)**	**(10,317)**	**(9,990)**	**(15,884)**	(122,287)	
Grant Re-imbursement												**57,815**	57,815	
Arrearage Funds											**757,356**		757,356	
Capital Improvement Fees - Infrastructure		**18,012**	**14,316**	**8,498**	**250,625**	**473,831**		**213,543**	**269,457**	**22,168**			1,270,451	
Capital Improvement Fees - Water Supply			**7,852**		**545,664**	**349,734**		**275,685**	**918,772**				2,097,707	
DWR Refund (Capital Related)			**30,082**	**183,245**	**23,985**					**28,725**	**102,913**		368,950	
Other	**-**	**28,340**	**2,533**	**-**	**24,517**	**-**	**983**	**-**	**7,003**	**2,813**	**-**	**1,245**	67,434	
Total Non-Operating Revenues (BUDGET)													-	
Total Non-Operating Revenues (ACTUAL)	1,006,514	360,416	87,175	2,237,563	1,624,591	1,349,184	115,965	674,894	1,196,005	52,653	988,749	3,372,119	12,308,473	
Non-Operating Expenses:														
Budgeted Capital Expenditures	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(199,044)	(2,388,533)	
Budgeted Capital Expenditures (Committed During Year)													-	
Actual/Projected Capital Expenditures	**(359,933)**	**(57,836)**	**(80,020)**	**(286,481)**	**(36,687)**	**(55,286)**	**(87,671)**	**(83,290)**	**(462,677)**	**(56,816)**	**(143,788)**	**(51,316)**	(1,761,802)	(626,731)
WRB Capital Expenditures (COP - Amargosa Recharge Proj)	**(720,579)**												(720,579)	
Const. of Monitoring Wells/Test Basin (Water Supply)													-	
Meter Exchange Project (Meters Purchased)		**(266,269)**									**(415,124)**		(681,393)	
SWP Capitalized	**(829,455)**	**(232,720)**	**(232,720)**	**(232,719)**	**(232,718)**	**(232,718)**	**(829,449)**	**(232,718)**	**(232,718)**	**(232,718)**	**(232,718)**	**(232,718)**	(3,986,089)	
Investment in PRWA (Suspended Contribution for 2021)													-	
Butte County Water Transfer							**(766,050)**						(766,050)	(884,500)
Bond Payments - Interest			**(1,018,267)**						**(1,045,119)**				(2,063,385)	
Principal			**(625,652)**						**(1,212,851)**				(1,838,503)	
Capital leases - Holman Capital (2017 Lease)	**(89,477)**					**(89,477)**							(178,953)	
Capital leases - Enterprise FM Trust (Vehicles)	**(23,803)**	**(11,017)**	**(10,831)**	**(10,905)**	**(10,905)**	**(10,905)**	**(12,350)**	**(10,582)**	**(10,582)**	**(8,695)**	**(11,272)**		(131,848)	(11,272)
Capital leases - Wells Fargo (Printers)	**(4,354)**	**(4,210)**	**(4,265)**	**(4,321)**	**(4,286)**	**(4,286)**	**(4,286)**	**(4,286)**	**(4,286)**	**(5,612)**	**(4,309)**	**(4,231)**	(52,734)	
Total Non-Operating Expenses (ACTUAL)	**(2,027,601)**	**(572,052)**	**(1,971,754)**	**(534,426)**	**(284,597)**	**(392,673)**	**(1,699,806)**	**(330,877)**	**(2,968,234)**	**(303,841)**	**(807,211)**	**(288,265)**	**(12,181,338)**	
Total Cash Ending Balance (BUDGET)	**10,956,032**	**11,073,711**	**9,199,205**	**10,989,695**	**11,414,389**	**10,746,726**	**10,169,877**	**10,356,760**	**7,864,417**	**7,941,244**	**8,067,984**	**9,990,449**		
Total Cash Ending Balance (ACTUAL)	**10,705,394**	**10,483,186**	**8,183,565**	**10,204,829**	**12,061,674**	**13,091,712**	**11,805,571**	**13,001,151**	**11,308,777**	**11,248,646**	**11,142,539**	**14,615,595**		
											Budget	**9,990,449**	**Carryover**	
											Difference	**4,625,146**	**Adj. Difference**	4,625,146
2020 Cash Ending Balance (ACTUAL)	**12,059,367**	**12,115,860**	**10,269,966**	**11,324,072**	**10,909,681**	**10,781,332**	**9,476,817**	**10,391,159**	**8,066,551**	**8,518,101**	**10,068,908**	**11,749,481**		

Indicates actual expenditures/revenues:

Indicates anticipated expenditures/revenues:

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	February 23, 2022	**February 28, 2022**
TO:	BOARD OF DIRECTORS	**Board Meeting**
FROM:	Dennis J. Hoffmeyer, Finance Manager/CFO	
VIA:	Mr. Dennis LaMoreaux, General Manager	
RE:	***AGENDA ITEM 8.1.b – DISCUSSION AND OVERVIEW OF FINANCIAL STATEMENTS, REVENUE, AND EXPENSE AND DEPARTMENTAL BUDGET REPORTS FOR DECEMBER 2021***	

Discussion:

Presented here are the Balance Sheet and Profit/Loss Statement for the period ending December 31, 2021. Also included are Year-to-Date Revenue and Expense Analysis. Finally, I have provided individual departmental budget reports through the month of December 2021.

This is the 12th month of the District's Budget Year 2021. The target percentage is 100%. Revenues ideally are at or above, and expenditures ideally are below.

Balance Sheet:

- Pages 1 and 2 is our balance sheet trending for the 12-month period and a graphic presentation of Assets, Liabilities, and Net Position at December 31, 2021.
- The significant change was related to the cash and investments. The investments show an increase related to higher than normal property tax collections for December. Reconciliation of the County taxes also indicate that tax collections for CY2022 will also be higher. The remaining highlighted sections will be discussed in depth at the Committee Meeting (current liability).

Profit/Loss Statement:

- Page 3 is our profit/loss statement trending for the 12-month period.
- Operating revenue is at 102.7% of budget.
- Cash operating expense is at 105.7% of budget.
- All departmental budgets are at or below the target percentage except for Facilities and Source of Supply-Purchased Water. There are two additional departments just above the 100% threshold.
- Revenues are below expenses for the month by $376,091, and year-to-date revenues have exceeded expenditures by $3.17M.
- Highlighted is Source of Supply-Purchased Water shown at 195.6% of budget. This change for the month is related to finalizing water purchases from various agencies.
- Pages 4 through 6 is showing the P&L in various graphic forms using major report category totals.

- Page 7 is showing the operating expense distributed between personnel and operation costs. Labor costs are at 47% of total expenses with salaries making up 33% of that.
- Page 7-1 references the 4th quarter comparison between 2021 and 2020. 2021 is 7.5% higher than 2020 in revenue and 37.0% higher in expenses. The majority of that is related to increases in purchased water and electricity costs for wells and boosters.

Revenue Analysis Year-To-Date:

- Page 8 is our comparison of revenue, year-to-date.
- Operating revenue through December 2021 is up $2.79M, or 10.2%, compared to 2020.
- Retail water revenue from all areas are up by $2.57M from last year. That's shown by the combined green highlighted area.
- Retail water sales, excluding meter fees, is up $1.36M.
- Total revenue is up $5.00M, or 13.6%.
- Operating revenue is at 102.7% of budget, last year was at 100.4% of budget.

Expense Analysis Year-To-Date:

- Page 9 is our comparison of expense, year-to-date.
- Cash Operating Expenses through December 2021 are up $4.58M, or 16.5%, compared to 2020, Total Expenses are up $5.90M, or 16.8%.

Departments:

- Pages 11 through 21 are detailed individual departmental budgets for your review.

<u>Non-Cash Definitions:</u>

Depreciation: This is the spreading of the total expense of a capital asset over the expected life of that asset.

OPEB Accrual Expense: Other Post-Employment Benefits (OPEB) is the recognized annual required contribution to the benefit. The amount is actuarially determined in accordance with the parameters of GASB 45. The amount represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year.

Bad Debt: The uncollectible accounts receivable that has been written off.

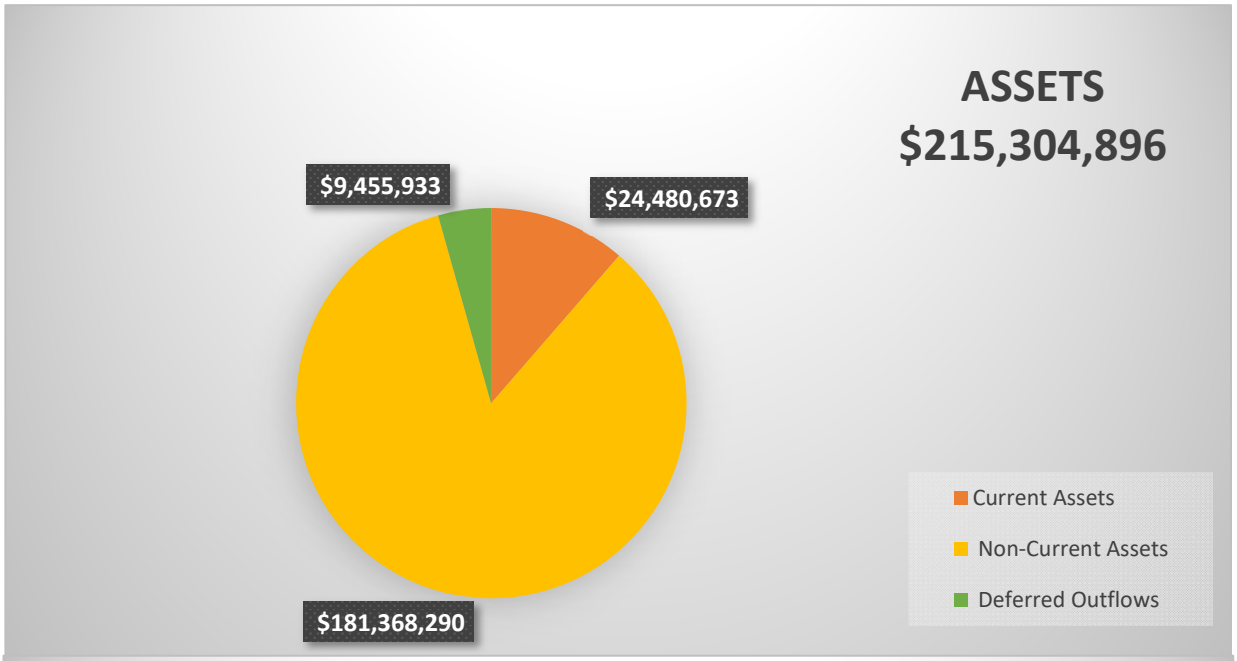
Service Cost Construction: The value of material, parts & supplies from inventory used to construct, repair and maintain our asset infrastructure.

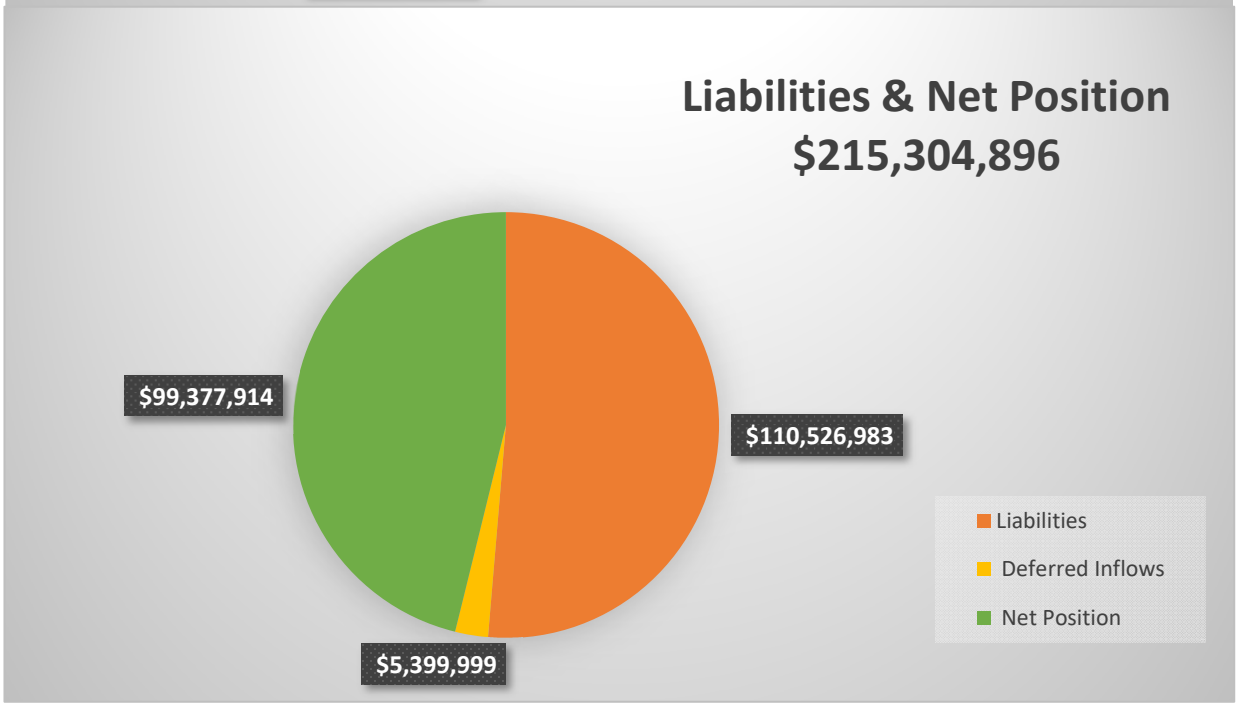
Capitalized Construction: The value of our labor force used to construct our asset infrastructure.

Palmdale Water District
Balance Sheet Report

	January 2021	February 2021	March 2021	April 2021	May 2021	June 2021	July 2021	August 2021	September 2021	October 2021	November 2021	December 2021
ASSETS												
Current Assets:												
Cash and cash equivelents	$ 1,166,119	$ 611,892	$ 441,840	$ 408,843	$ 689,653	$ 370,645	$ 113,973	$ 903,638	$ 280,414	$ 183,761	$ 1,714,713	$ 1,874,769
Investments	9,539,275	9,871,294	7,741,725	9,795,986	11,372,020	12,721,066	11,660,948	12,097,512	11,028,364	11,049,426	9,427,826	12,708,681
Accrued interest receivable	-	-	-	-	-	-	-	-	-	-	-	32,152
Accounts receivable - water sales and services, net	2,417,921	2,393,121	2,319,933	2,454,924	2,829,261	3,023,399	3,255,387	3,445,570	3,428,695	3,428,034	3,190,670	2,593,730
Accounts receivable - property taxes and assessments	3,666,062	3,352,565	3,326,652	1,281,291	501,812	483,503	6,968,945	6,784,711	6,784,711	6,784,711	6,656,952	4,374,275
Accounts receivable - other	84,957	83,463	83,463	72,482	72,482	69,431	69,431	61,978	59,120	58,720	58,320	161,549
Materials and supplies inventory	1,324,379	1,323,295	1,309,878	1,302,052	1,354,420	1,391,967	1,347,257	1,296,353	1,326,542	1,780,544	1,878,718	1,894,031
Prepaid items and other deposits	497,063	472,177	447,289	422,400	364,267	339,381	492,981	459,089	432,590	627,475	614,383	841,486
Total Current Assets	**$ 18,695,776**	**$ 18,107,808**	**$ 15,670,780**	**$ 15,737,979**	**$ 17,183,915**	**$ 18,399,392**	**$ 23,908,923**	**$ 25,048,852**	**$ 23,340,436**	**$ 23,912,671**	**$ 23,541,582**	**$ 24,480,673**
Non-Current Assets:												
Restricted - cash and cash equivalents	$ 2,243,011	$ 2,227,709	$ 2,219,718	$ 2,219,774	$ 2,207,428	$ 2,207,485	$ 12,179,270	$ 11,824,859	$ 11,824,914	$ 11,567,165	$ 11,036,450	$ 11,030,099
Investment in Palmdale Recycled Water Authority	1,958,222	1,958,222	1,958,222	1,958,222	1,958,222	1,958,222	2,201,548	2,201,548	2,201,548	2,201,548	2,201,548	2,201,548
Capital assets - not being depreciated	25,978,998	26,101,866	26,284,807	26,480,564	26,575,365	25,517,267	25,732,963	26,183,332	26,561,775	26,319,492	25,857,144	10,963,834
Capital assets - being depreciated, net	141,222,926	140,743,973	140,289,793	139,812,737	139,341,686	140,055,351	140,814,818	140,211,504	139,639,339	139,729,165	139,836,757	157,172,808
Total Non-Current Assets	$ 171,403,157	$ 171,031,770	$ 170,752,539	$ 170,471,298	$ 170,082,702	$ 169,738,325	$ 180,928,598	$ 180,421,243	$ 180,227,576	$ 179,817,370	$ 178,931,900	$ 181,368,290
TOTAL ASSETS	**$ 190,098,934**	**$ 189,139,579**	**$ 186,423,319**	**$ 186,209,276**	**$ 187,266,616**	**$ 188,137,717**	**$ 204,837,521**	**$ 205,470,095**	**$ 203,568,013**	**$ 203,730,041**	**$ 202,473,482**	**$ 205,848,963**
DEFERRED OUTFLOWS OF RESOURCES:												
Deferred loss on debt defeasence, net	$ 3,634,579	$ 3,621,522	$ 3,608,464	$ 3,595,406	$ 3,582,348	$ 3,569,291	$ 3,520,343	$ 4,411,611	$ 4,088,304	$ 4,075,246	$ 4,062,188	$ 4,049,130
Deferred outflows of resources related to pensions	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803	5,406,803
Total Deferred Outflows of Resources	**$ 9,041,382**	**$ 9,028,325**	**$ 9,015,267**	**$ 9,002,209**	**$ 8,989,151**	**$ 8,976,094**	**$ 8,927,146**	**$ 9,818,414**	**$ 9,495,107**	**$ 9,482,049**	**$ 9,468,991**	**$ 9,455,933**
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	**$ 199,140,316**	**$ 198,167,903**	**$ 195,438,585**	**$ 195,211,485**	**$ 196,255,768**	**$ 197,113,811**	**$ 213,764,667**	**$ 215,288,509**	**$ 213,063,119**	**$ 213,212,090**	**$ 211,942,473**	**$ 215,304,896**
LIABILITIES AND NET POSITION												
Current Liabilities:												
Accounts payable and accrued expenses	$ 1,233,999	$ 965,572	$ 472,147	$ 140,405	$ (79,926)	$ (24)	$ 303,281	$ 1,090,935	$ 602,375	$ 2,044,260	$ 813,634	$ 2,788,444
Customer deposits for water service	2,992,666	2,992,893	2,991,271	2,978,272	3,020,568	3,032,272	3,007,322	2,982,504	2,991,237	3,006,607	3,770,143	3,392,974
Construction and developer deposits	1,607,184	1,607,498	1,610,498	1,610,498	1,630,498	1,626,591	1,626,347	1,625,615	1,622,440	1,636,000	1,636,000	1,636,000
Accrued interest payable	718,954	908,721	40,110	180,562	361,123	541,685	722,246	664,558	-	187,314	374,627	561,941
Long-term liabilities - due in one year:	-											
Compensated absences	463,802	486,599	516,896	516,896	516,896	516,896	516,896	500,327	500,327	500,327	494,236	506,112
Rate Stabilization Fund	460,000	460,000	460,000	460,000	460,000	460,000	460,000	460,000	460,000	460,000	560,000	560,000
Capital lease payable	(89,477)	(89,477)	(89,477)	(89,477)	(89,477)	(89,477)	(3,630)	-	-	-	-	88,250
Loan payable	1,261,002	1,261,002	635,350	635,350	635,350	635,350	635,350	635,350	-	1,300,396	1,300,396	1,300,396
Revenue bonds payable	14,932,501	14,932,501	14,932,501	14,932,501	14,932,501	14,932,501	777,501	777,501	-	1,022,913	1,022,913	1,022,913
Total Current Liabilities	**$ 23,580,632**	**$ 23,525,309**	**$ 21,569,296**	**$ 21,365,007**	**$ 21,387,533**	**$ 21,655,794**	**$ 8,045,313**	**$ 8,736,789**	**$ 6,176,380**	**$ 10,157,817**	**$ 9,971,950**	**$ 11,857,031**
Non-Current Liabilities:												
Long-term liabilities - due in more than one year:												
Compensated absences	$ 154,601	$ 162,200	$ 172,299	$ 172,299	$ 172,299	$ 172,299	$ 172,299	$ 166,776	$ 166,776	$ 166,776	$ 164,745	$ 168,704
Capital lease payable	261,137	261,137	261,137	261,137	261,137	261,137	88,250	88,250	88,250	88,250	88,250	-
Loan payable	5,982,868	5,971,270	5,959,672	5,948,074	5,936,476	5,924,878	6,790,590	6,776,555	6,762,520	5,448,089	5,434,054	5,420,020
Revenue bonds payable	40,335,604	40,335,604	40,335,604	40,335,604	40,335,604	40,335,604	63,880,604	64,899,934	64,899,934	63,877,021	63,877,021	63,877,021
Net other post employment benefits payable	16,576,836	16,674,224	16,770,928	16,868,089	16,965,355	17,062,516	17,160,582	17,254,951	17,347,814	17,442,694	17,536,061	17,630,436
Aggregate net pension liability	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771	11,573,771
Total Non-Current Liabilities	**$ 74,884,816**	**$ 74,978,206**	**$ 75,073,411**	**$ 75,158,974**	**$ 75,244,642**	**$ 75,330,205**	**$ 99,666,096**	**$ 100,760,237**	**$ 100,839,065**	**$ 98,596,601**	**$ 98,673,903**	**$ 98,669,952**
Total Liabilities	**$ 98,465,449**	**$ 98,503,515**	**$ 96,642,707**	**$ 96,523,981**	**$ 96,632,176**	**$ 96,985,999**	**$ 107,711,409**	**$ 109,497,026**	**$ 107,015,445**	**$ 108,754,417**	**$ 108,645,852**	**$ 110,526,983**
DEFERRED INFLOWS OF RESOURCES:												
Unearned property taxes and assessments	$ 2,750,000	$ 2,200,000	$ 1,650,000	$ 1,100,000	$ 550,000	$ -	$ 6,050,000	$ 5,500,000	$ 4,950,000	$ 4,400,000	$ 3,850,000	$ 4,100,000
Deferred inflows of resources related to pensions	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999	1,299,999
Total Deferred Inflows of Resources	**$ 4,049,999**	**$ 3,499,999**	**$ 2,949,999**	**$ 2,399,999**	**$ 1,849,999**	**$ 1,299,999**	**$ 7,349,999**	**$ 6,799,999**	**$ 6,249,999**	**$ 5,699,999**	**$ 5,149,999**	**$ 5,399,999**
NET POSITION:												
Profit/(Loss) from Operations	$ 70,947	$ (389,533)	$ (708,043)	$ (299,388)	$ 1,230,580	$ 2,284,799	$ 1,953,169	$ 2,245,025	$ 3,051,216	$ 2,011,214	$ 1,400,163	$ 2,631,455
Restricted for investment in Palmdale Recycled Water Authority	1,958,222	1,958,346	1,958,720	1,958,778	1,958,778	1,958,778	2,202,104	2,205,476	2,214,951	2,216,939	2,216,939	2,216,939
Unrestricted	94,595,700	94,595,576	94,595,202	94,628,115	94,584,235	94,584,235	94,547,985	94,540,983	94,531,509	94,529,520	94,529,520	94,529,520
Total Net Position	**$ 96,624,868**	**$ 96,164,389**	**$ 95,845,879**	**$ 96,287,506**	**$ 97,773,593**	**$ 98,827,813**	**$ 98,703,259**	**$ 98,991,484**	**$ 99,797,676**	**$ 98,757,674**	**$ 98,146,622**	**$ 99,377,914**
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION	**$ 199,140,316**	**$ 198,167,903**	**$ 195,438,585**	**$ 195,211,485**	**$ 196,255,768**	**$ 197,113,811**	**$ 213,764,667**	**$ 215,288,509**	**$ 213,063,119**	**$ 213,212,090**	**$ 211,942,473**	**$ 215,304,896**

BALANCE SHEET AS OF DECEMBER 31, 2021

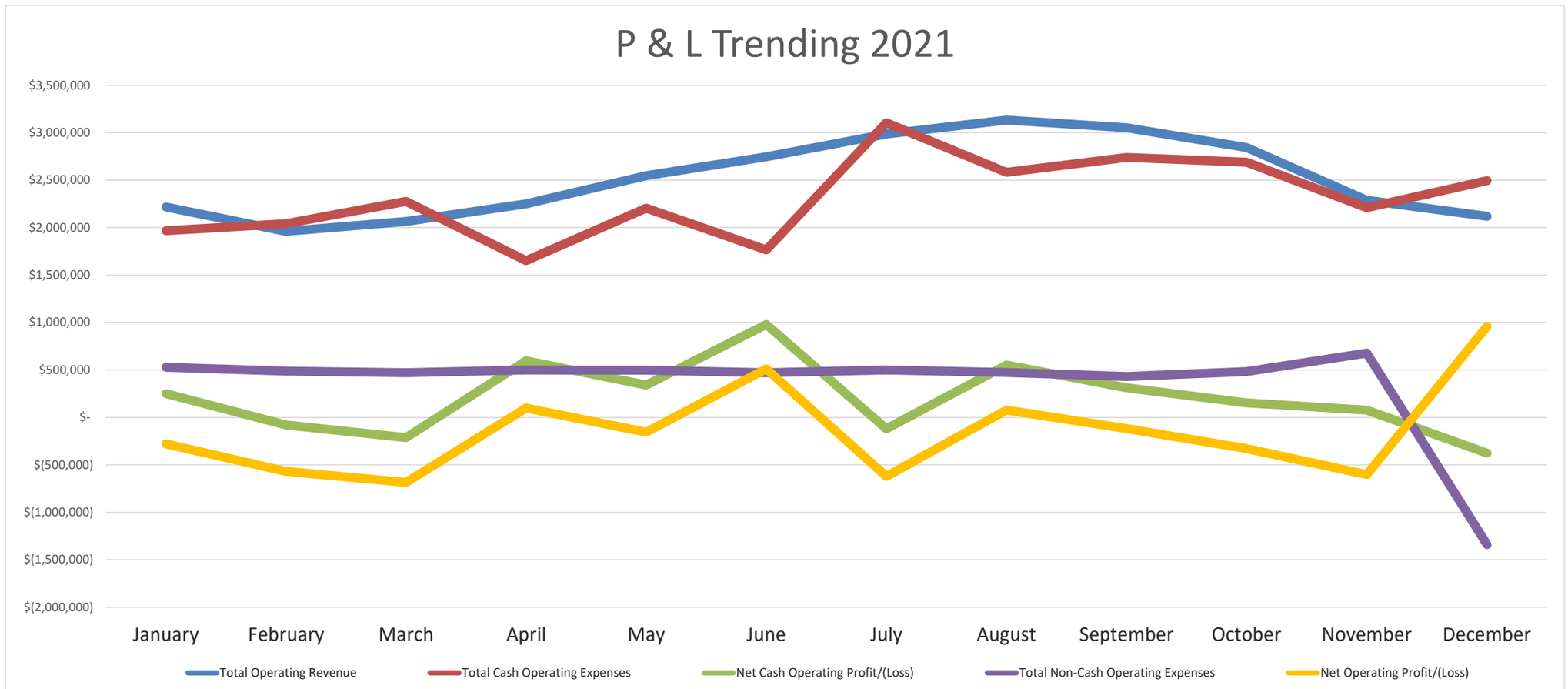


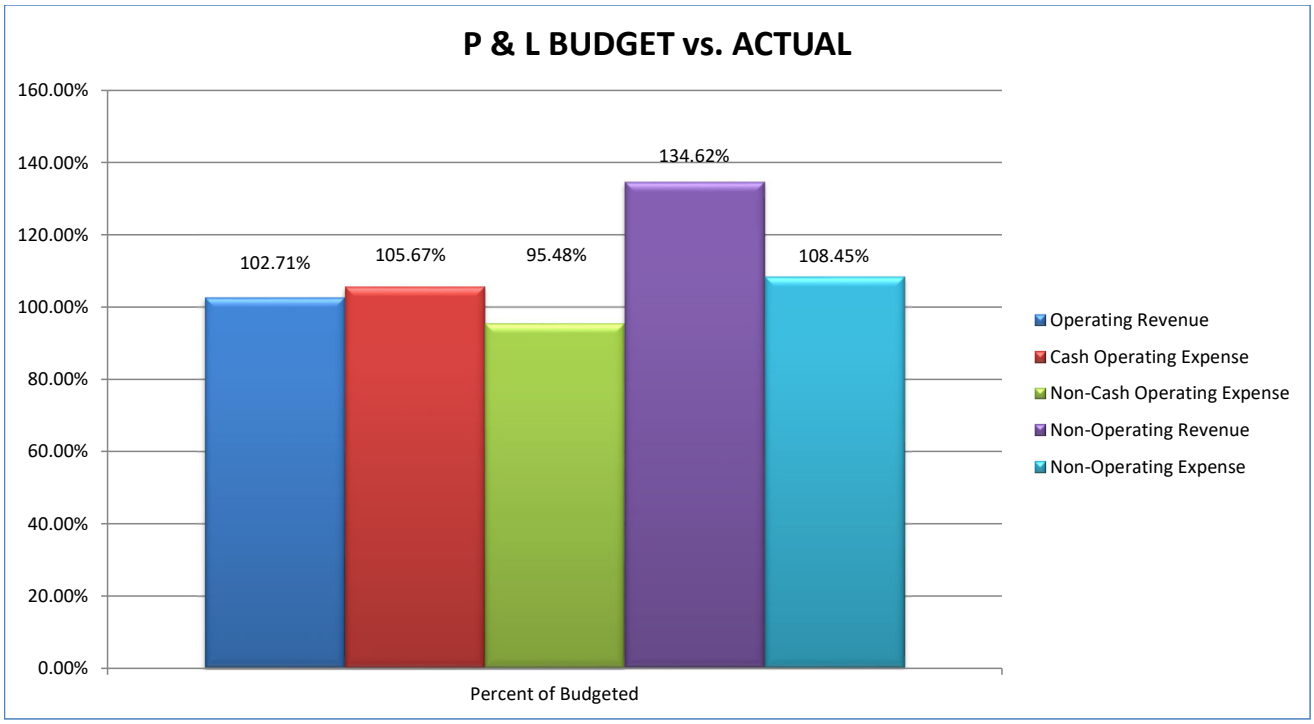


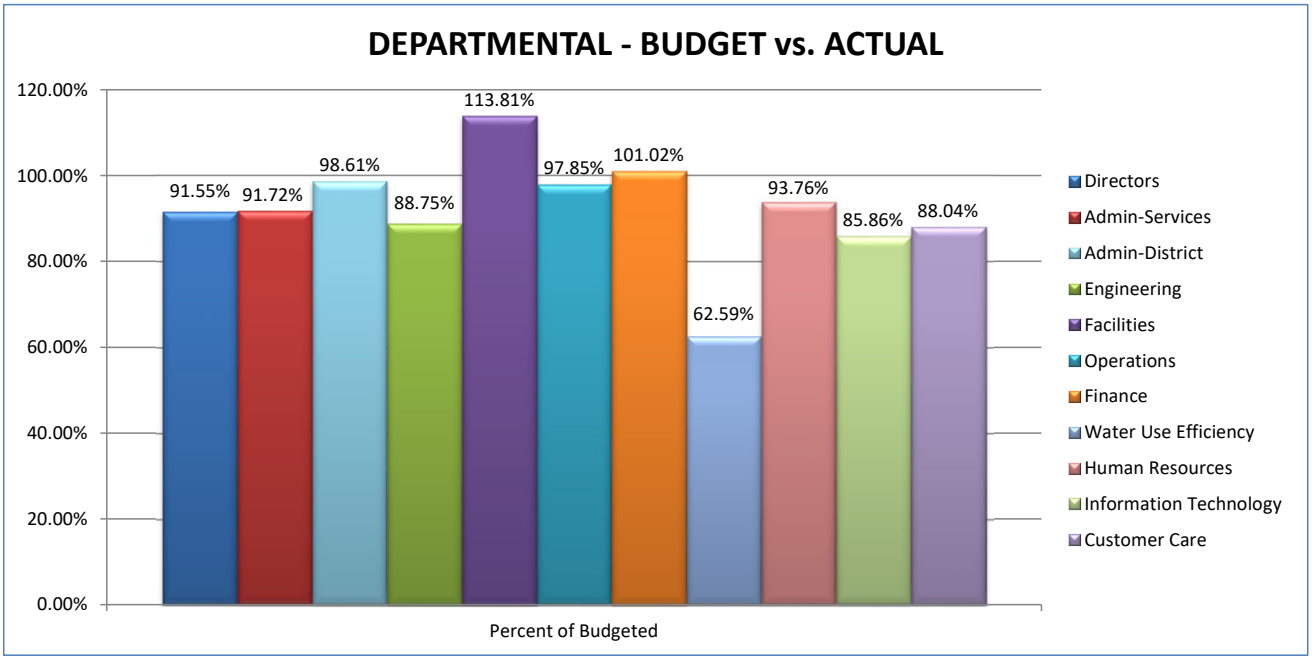
Palmdale Water District
Consolidated Profit and Loss Statement
For the Twelve Months Ending 12/31/2021

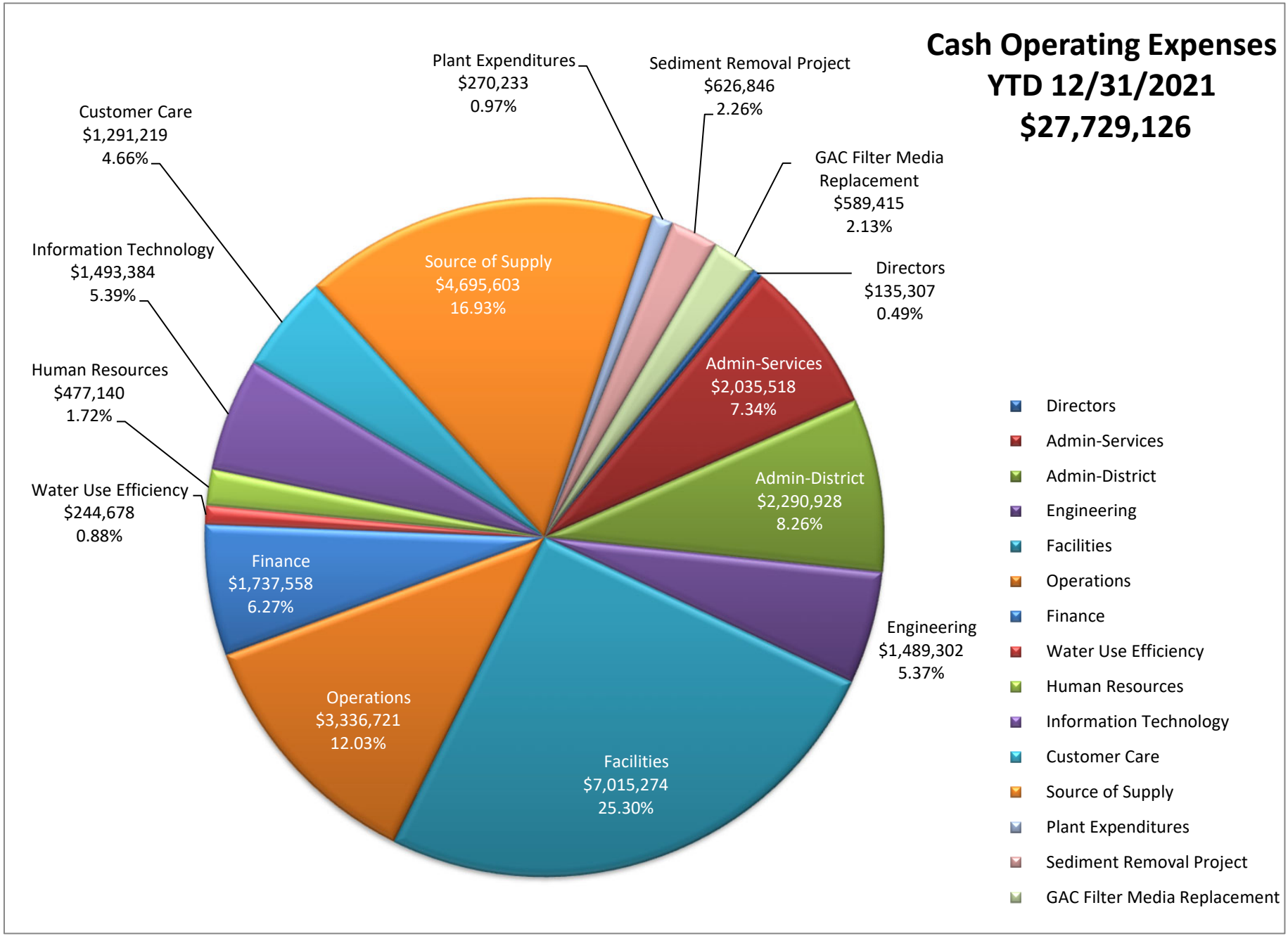
	January	February	March	April	May	June	July	August	September	October	November	December	Year-to-Date	Adjustments	Adjusted Budget	% of Budget
Operating Revenue:																
Wholesale Water	$ 29,314	$ 20,187	$ 10,378	$ 15,248	$ 34,075	$ 60,280	$ 12,181	$ 149,796	$ 73,665	$ 79,371	$ 43,651	$ 33,152	$ 561,298		$ 400,000	140.32%
Water Sales	759,890	577,935	658,948	785,790	1,016,365	1,245,849	1,509,676	1,523,098	1,463,349	1,302,321	835,281	822,507	12,501,007		12,114,400	103.19%
Meter Fees	1,261,621	1,264,811	1,267,920	1,266,869	1,269,667	1,270,640	1,267,363	1,252,926	1,254,028	1,254,970	1,257,360	1,259,263	15,147,438		14,865,600	101.90%
Water Quality Fees	43,623	34,830	40,470	49,149	60,500	71,841	81,972	82,117	77,919	67,500	49,910	44,950	704,782		781,860	90.14%
Elevation Fees	20,960	16,986	20,221	24,459	32,466	39,674	47,163	46,878	43,120	38,342	25,760	23,500	379,529		366,843	103.46%
Other	101,949	46,103	65,426	107,832	132,751	58,712	67,916	78,842	140,024	101,865	74,864	(64,925)	911,359		880,258	103.53%
Total Operating Revenue	**$ 2,217,357**	**$ 1,960,851**	**$ 2,063,364**	**$ 2,249,346**	**$ 2,545,824**	**$ 2,746,995**	**$ 2,986,271**	**$ 3,133,657**	**$ 3,052,104**	**$ 2,844,369**	**$ 2,286,826**	**$ 2,118,448**	**$ 30,205,413**	**$ -**	**$ 29,408,961**	**102.71%**
Cash Operating Expenses:																
Directors	$ 1,981	$ 7,185	$ 13,609	$ 11,314	$ 10,491	$ 12,930	$ 10,001	$ 9,418	$ 14,778	$ 13,562	$ 14,094	$ 15,944	$ 135,307		$ 147,790	91.55%
Administration-Services	126,365	155,826	216,995	171,821	156,981	171,505	190,763	166,575	217,547	170,255	147,014	143,870	2,035,518		2,219,350	91.72%
Administration-District	160,443	177,163	241,075	222,636	259,508	250,361	66,205	195,781	252,803	123,168	151,549	190,236	2,290,928		2,323,316	98.61%
Engineering	88,188	144,647	174,408	117,025	123,479	124,792	174,486	97,785	131,535	92,691	106,531	113,734	1,489,302		1,678,000	88.75%
Facilities	528,418	390,647	490,100	460,191	531,667	525,313	990,728	628,644	639,400	601,641	661,751	566,774	7,015,274		6,164,200	113.81%
Operations	175,105	193,620	330,453	214,751	364,647	236,116	335,641	429,955	406,710	245,939	211,882	191,900	3,336,721		3,409,900	97.85%
Finance	114,148	126,486	172,542	127,980	129,726	126,654	148,761	163,551	182,409	143,270	162,248	139,784	1,737,558		1,720,050	101.02%
Water Use Efficiency	16,594	17,750	24,841	18,124	18,434	17,126	24,219	22,840	27,518	19,126	18,440	19,666	244,678		390,950	62.59%
Human Resources	26,147	28,873	46,985	35,432	32,788	32,346	41,357	46,210	48,432	36,802	65,898	35,870	477,140		508,900	93.76%
Information Technology	176,083	162,782	114,085	87,995	105,355	101,817	110,591	118,050	172,466	145,311	102,785	96,065	1,493,384		1,739,300	85.86%
Customer Care	79,281	101,631	138,763	97,693	101,495	103,780	114,284	95,904	141,010	101,717	108,867	106,795	1,291,219		1,466,700	88.04%
Source of Supply-Purchased Water	305,907	188,140	78,395	77,158	273,606	21,677	866,949	455,598	353,245	956,385	440,954	677,589	4,695,603		2,400,000	195.65%
Plant Expenditures	60,757	17,367	29,669	10,632	24,137	21,451	31,946	19,429	19,546	17,690	-	17,611	270,233		565,860	47.76%
Sediment Removal Project	454	328,232	203,982	-	-	20,144	-	-	-	22,397	18,136	33,501	626,846		600,000	104.47%
GAC Filter Media Replacement	107,803	-	-	-	72,412	-	-	132,000	132,000	-	-	145,200	589,415		906,000	65.06%
Total Cash Operating Expenses	**$ 1,967,674**	**$ 2,040,349**	**$ 2,275,901**	**$ 1,652,751**	**$ 2,204,727**	**$ 1,766,011**	**$ 3,105,930**	**$ 2,581,741**	**$ 2,739,398**	**$ 2,689,955**	**$ 2,210,150**	**$ 2,494,539**	**$ 27,729,126**	**$ -**	**$ 26,240,316**	**105.67%**
Net Cash Operating Profit/(Loss)	**$ 249,684**	**$ (79,498)**	**$ (212,538)**	**$ 596,595**	**$ 341,097**	**$ 980,984**	**$ (119,659)**	**$ 551,916**	**$ 312,706**	**$ 154,414**	**$ 76,676**	**$ (376,091)**	**$ 2,476,288**	**$ -**	**$ 3,168,645**	**78.15%**
Non-Cash Operating Expenses:																
Depreciation	$ 426,471	$ 422,812	$ 420,912	$ 420,912	$ 414,905	$ 439,201	$ 421,183	$ 421,183	$ 419,843	$ 396,651	$ 587,634	$ 478,468	$ 5,270,174		$ 5,000,000	105.40%
OPEB Accrual Expense	127,710	127,710	127,710	127,710	127,710	127,710	127,710	127,710	127,710	127,710	127,710	127,710	1,532,521		1,750,000	87.57%
Bad Debts	1,407	1,052	(627)	5,057	610	434	3,420	117	(1,743)	606	(3,656)	(200)	6,477		350,000	1.85%
Service Costs Construction	7,647	794	16,880	16,625	15,205	21,000	24,116	6,939	13,954	11,510	49,707	(20,217)	164,160		150,000	109.44%
Capitalized Construction	(34,833)	(63,787)	(94,337)	(71,223)	(61,437)	(118,098)	(76,281)	(81,147)	(128,742)	(52,301)	(81,969)	(46,400)	(910,555)		(900,000)	101.17%
Capital Contributions	-	-	-	-	-	-	-	-	-	-	-	(1,878,141)	(1,878,141)		-	
Total Non-Cash Operating Expenses	**$ 528,403**	**$ 488,580**	**$ 470,538**	**$ 499,081**	**$ 496,993**	**$ 470,246**	**$ 500,148**	**$ 474,802**	**$ 431,021**	**$ 484,176**	**$ 679,428**	**$ (1,338,780)**	**$ 4,184,636**	**$ -**	**$ 6,350,000**	**65.90%**
Net Operating Profit/(Loss)	**$ (278,719)**	**$ (568,078)**	**$ (683,076)**	**$ 97,514**	**$ (155,895)**	**$ 510,738**	**$ (619,807)**	**$ 77,113**	**$ (118,315)**	**$ (329,762)**	**$ (602,751)**	**$ 962,689**	**$ (1,708,348)**	**$ -**	**$ (3,181,355)**	**53.70%**
Non-Operating Revenues:																
Assessments (Debt Service)	$ 416,845	$ 416,845	$ 416,845	$ 416,845	$ 416,845	$ 586,709	$ 416,845	$ 416,845	$ 416,845	$ 416,845	$ 416,845	$ 423,917	$ 5,179,076		$ 5,000,000	103.58%
Assessments (1%)	464,828	133,155	138,283	133,155	133,155	707,390	133,155	133,155	133,155	133,155	133,155	126,083	2,501,824		2,475,000	101.08%
DWR Fixed Charge Recovery	-	-	30,082	183,245	23,985	-	-	-	-	28,725	102,913	-	368,950		175,000	210.83%
Interest	346	567	1,352	458	321	(1,897)	424	1,432	772	(1,053)	720	(4,510)	(1,067)		175,000	-0.61%
CIF - Infrastructure	-	18,012	14,316	8,498	250,625	473,831	-	213,543	269,457	22,168	1,239	-	1,271,690		150,000	847.79%
CIF - Water Supply	-	-	7,852	-	545,664	349,734	-	275,685	918,772	-	-	-	2,097,707		450,000	466.16%
Grants - State and Federal	-	-	-	-	-	-	-	-	-	-	-	57,815	57,815		100,000	57.82%
Other	-	28,340	2,543	1	24,517	(0)	983	62	7,003	2,813	-	1,245	67,508		50,000	135.02%
Total Non-Operating Revenues	**$ 882,020**	**$ 596,920**	**$ 611,272**	**$ 742,202**	**$ 1,395,112**	**$ 2,115,768**	**$ 551,407**	**$ 1,040,722**	**$ 1,746,005**	**$ 602,653**	**$ 654,873**	**$ 604,550**	**$ 11,543,504**	**$ -**	**$ 8,575,000**	**134.62%**
Non-Operating Expenses:																
Interest on Long-Term Debt	$ 184,429	$ 184,429	$ 184,429	$ 183,247	$ 183,247	$ 183,247	$ 185,683	$ 180,923	$ 491,173	$ 187,675	$ 187,675	$ 188,902	$ 2,525,060		$ 3,001,426	84.13%
Deferred Charges-Cost of Issuance	-	-	-	-	-	-	218,792	115,004	-	-	-	-	333,796		-	
Amortization of SWP	288,860	288,861	288,862	288,863	288,864	288,865	414,850	414,850	414,850	414,850	414,850	414,850	4,222,272		3,104,350	136.01%
Change in Investments in PRWA	-	124	374	58	-	-	218	3,154	9,475	1,988	-	-	15,391		300,000	5.13%
Water Conservation Programs	8,016	7,880	7,782	10,669	10,691	8,072	7,588	9,414	14,214	7,423	12,397	3,034	107,181		236,500	45.32%
Total Non-Operating Expenses	**$ 481,305**	**$ 481,295**	**$ 481,447**	**$ 482,837**	**$ 482,802**	**$ 480,184**	**$ 827,131**	**$ 723,345**	**$ 929,711**	**$ 611,936**	**$ 614,922**	**$ 606,785**	**$ 7,203,700**	**$ -**	**$ 6,642,276**	**108.45%**
Net Earnings	**$ 121,996**	**$ (452,453)**	**$ (553,251)**	**$ 356,879**	**$ 756,415**	**$ 2,146,322**	**$ (895,531)**	**$ 394,491**	**$ 697,979**	**$ (339,046)**	**$ (562,800)**	**$ 960,454**	**$ 2,631,455**	**$ -**	**$ (1,248,631)**	**-210.75%**

	January	February	March	April	May	June	July	August	September	October	November	December
Total Operating Revenue	$ 2,217,357	$ 1,960,851	$ 2,063,364	$ 2,249,346	$ 2,545,824	$ 2,746,995	$ 2,986,271	$ 3,133,657	$ 3,052,104	$ 2,844,369	$ 2,286,826	$ 2,118,448
Total Cash Operating Expenses	1,967,674	2,040,349	2,275,901	1,652,751	2,204,727	1,766,011	3,105,930	2,581,741	2,739,398	2,689,955	2,210,150	2,494,539
Net Cash Operating Profit/(Loss)	249,684	(79,498)	(212,538)	596,595	341,097	980,984	(119,659)	551,916	312,706	154,414	76,676	(376,091)
Total Non-Cash Operating Expenses	528,403	488,580	470,538	499,081	496,993	470,246	500,148	474,802	431,021	484,176	679,428	(1,338,780)
Net Operating Profit/(Loss)	$ (278,719)	$ (568,078)	$ (683,076)	$ 97,514	$ (155,895)	$ 510,738	$ (619,807)	$ 77,113	$ (118,315)	$ (329,762)	$ (602,751)	$ 962,689

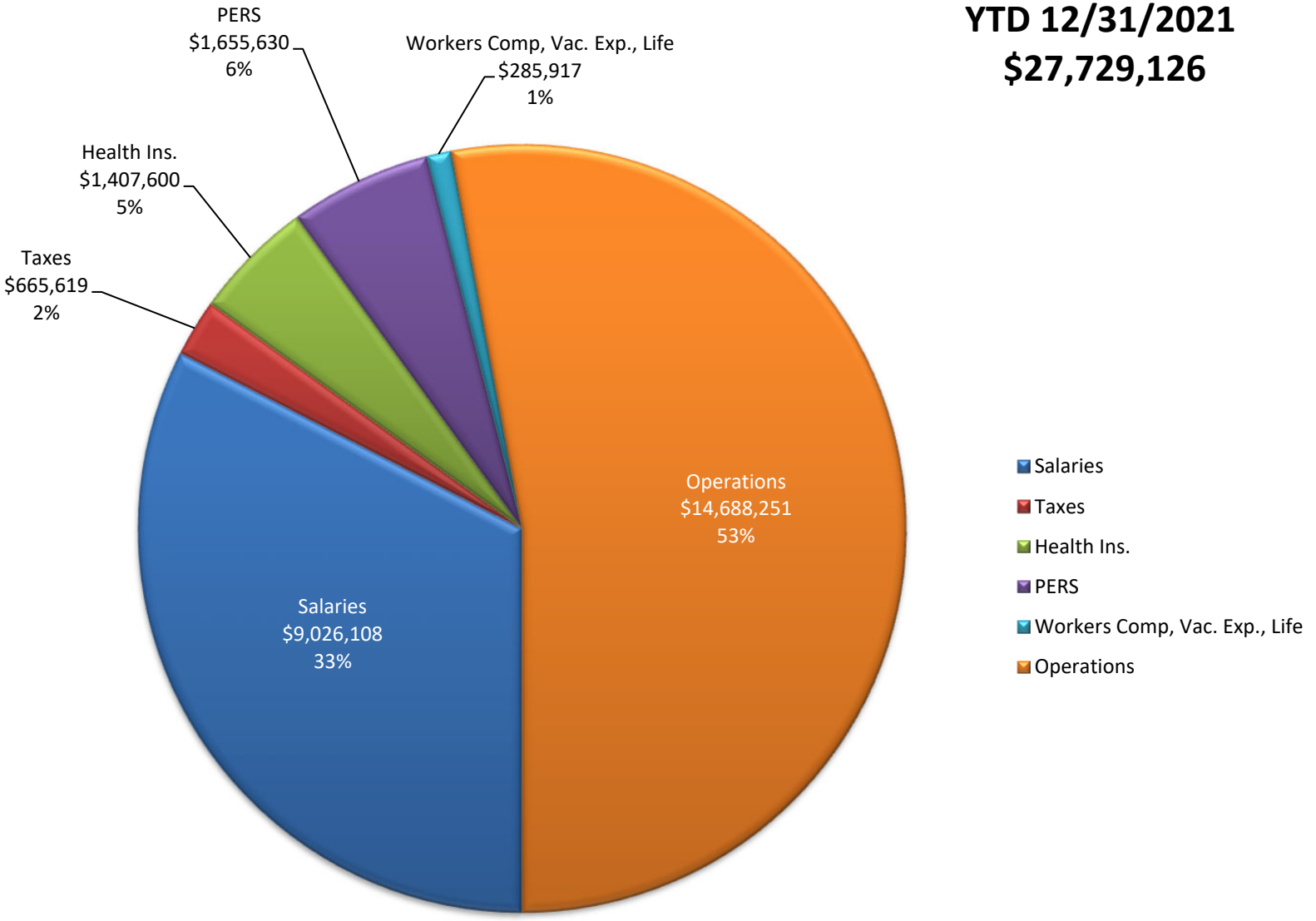



P & L BUDGET vs. ACTUAL
160.00%
140.00%
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
102.71%
105.67%
95.48%
134.62%
108.45%
Percent of Budgeted
Operating Revenue
Cash Operating Expense
Non-Cash Operating Expense
Non-Operating Revenue
Non-Operating Expense


DEPARTMENTAL - BUDGET vs. ACTUAL
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
91.55%
91.72%
98.61%
88.75%
113.81%
97.85%
101.02%
62.59%
93.76%
85.86%
88.04%
Percent of Budgeted
Directors
Admin-Services
Admin-District
Engineering
Facilities
Operations
Finance
Water Use Efficiency
Human Resources
Information Technology
Customer Care


Cash Operating Expenses
YTD 12/31/2021
$27,729,126
Plant Expenditures
$270,233
0.97%
Sediment Removal Project
$626,846
2.26%
GAC Filter Media
Replacement
$589,415
2.13%
Directors
$135,307
0.49%
Admin-Services
$2,035,518
7.34%
Admin-District
$2,290,928
8.26%
Engineering
$1,489,302
5.37%
Facilities
$7,015,274
25.30%
Operations
$3,336,721
12.03%
Finance
$1,737,558
6.27%
Water Use Efficiency
$244,678
0.88%
Human Resources
$477,140
1.72%
Information Technology
$1,493,384
5.39%
Customer Care
$1,291,219
4.66%
Source of Supply
$4,695,603
16.93%
Directors
Admin-Services
Admin-District
Engineering
Facilities
Operations
Finance
Water Use Efficiency
Human Resources
Information Technology
Customer Care
Source of Supply
Plant Expenditures
Sediment Removal Project
GAC Filter Media Replacement

Personnel to Operations Exp
YTD 12/31/2021
$27,729,126



Palmdale Water District
Profit and Loss Statement
Quarterly Comparison

	4th Qtr 2020	4th Qtr 2021	Change	% Change
Operating Revenue:				
Wholesale Water	$ 212,856	$ 235,642	$ 22,785	10.70%
Water Sales	4,171,592	4,496,122	324,530	7.78%
Meter Fees	3,467,259	3,774,317	307,058	8.86%
Water Quality Fees	293,838	242,009	(51,829)	-17.64%
Elevation Fees	135,243	137,161	1,917	1.42%
Other	251,743	286,782	35,039	13.92%
Total Operating Revenue	**$ 8,532,531**	**$ 9,172,032**	**$ 639,501**	**7.49%**
Cash Operating Expenses:				
Directors	$ 21,969	$ 34,197	$ 12,228	55.66%
Administration-Services	540,379	574,885	34,506	6.39%
Administration-District	452,102	514,789	62,687	13.87%
Engineering	413,628	403,806	(9,821)	-2.37%
Facilities	1,945,695	2,258,772	313,077	16.09%
Operations	996,112	1,172,307	176,195	17.69%
Finance	373,506	494,721	121,215	32.45%
Water Conservation	69,189	74,577	5,388	7.79%
Human Resources	122,459	135,999	13,540	11.06%
Information Technology	329,030	401,107	72,077	21.91%
Customer Care	362,564	351,197	(11,366)	-3.14%
Source of Supply-Purchased Water	529,791	1,675,792	1,146,001	216.31%
Plant Expenditures	6,346	70,920	64,575	1017.60%
Sediment Removal Project	-	-	-	
GAC Filter Media Replacement	(13,590)	264,000	277,590	-2042.60%
Total Cash Operating Expenses	**$ 6,149,179**	**$ 8,427,069**	**$ 2,277,889**	**37.04%**
Non-Cash Operating Expenses:				
Depreciation	$ 1,286,004	$ 1,262,208	$ (23,796)	-1.85%
OPEB Accrual Expense	383,130	383,130	-	0.00%
Bad Debts	1,273	1,794	521	40.94%
Service Costs Construction	77,683	45,010	(32,674)	-42.06%
Capitalized Construction	(216,487)	(286,170)	(69,683)	32.19%
Total Non-Cash Operating Expenses	**$ 1,531,603**	**$ 1,405,972**	**$ (125,631)**	**-8.20%**
Net Operating Profit/(Loss)	**$ 851,749**	**$ (661,008)**	**$ (1,512,757)**	**-177.61%**
Non-Operating Revenues:				
Assessments (Debt Service)	$ 1,250,535	$ -	$ (1,250,535)	-100.00%
Assessments (1%)	399,465	1,250,535	851,070	213.05%
DWR Fixed Charge Recovery	28,922	399,465	370,543	1281.18%
Interest	18,888	-	(18,888)	-100.00%
CIF - Infrastructure	88,516	2,628	(85,888)	-97.03%
CIF - Water Supply	14,450	483,000	468,550	3242.61%
Grants - State and Federal	-	1,194,457	1,194,457	
Other	74	-	(74)	-100.00%
Total Non-Operating Revenues	**$ 1,800,849**	**$ 3,330,085**	**$ 1,529,236**	84.92%
Non-Operating Expenses:				
Interest on Long-Term Debt	$ 527,822	$ -	$ (527,822)	-100.00%
Deferred Charges-Cost of Issuance	-	857,779	857,779	
Amortization of SWP	713,655	333,796	(379,859)	-53.23%
Change in Investments in PRWA	300,709	1,244,549	943,840	313.87%
Water Conservation Programs	23,787	12,846	(10,940)	-45.99%
Total Non-Operating Expenses	**$ 1,565,972**	**$ 2,448,971**	**$ 882,999**	56.39%
Net Earnings	**$ 1,086,626**	**$ 220,106**	**$ (866,520)**	**-79.74%**

Consumption Comparison

	2020	2021	Change
Units Billed	2,672,001	2,689,245	17,244
Active	80,435	80,769	334
Vacant	1,972	1,876	96
Rev/unit	$ 3.19	$ 3.41	$ 0.22
Rev/con	$ 106.08	$ 113.56	$ 7.48
Unit/con	33.22	33.30	0.08

Palmdale Water District
Revenue Analysis
For the Twelve Months Ending 12/31/2021

	2021 Thru November	2021 December	2021 Year-to-Date	2021 Adjusted Budget	2021 % of Budget	2020 to 2021 Comparison December	2020 to 2021 Comparison Year-to-Date	2020 to 2021 Comparison % Change
Operating Revenue:								
Wholesale Water	$ 528,145	$ 33,152	$ 561,298	$ 400,000	140.32%	$ (9,863)	$ 93,521	19.99%
Water Sales	11,678,501	822,507	12,501,007	12,114,400	103.19%	206,802	1,362,437	12.23%
Meter Fees	13,888,174	1,259,263	15,147,438	14,865,600	101.90%	99,532	1,315,291	9.51%
Water Quality Fees	659,832	44,950	704,782	781,860	90.14%	(5,768)	(119,647)	-14.51%
Elevation Fees	356,029	23,500	379,529	366,843	103.46%	1,694	15,660	4.30%
Other	976,284	(64,925)	911,359	880,258	103.53%	(118,540)	125,557	15.98%
Total Water Sales	**$ 28,086,965**	**$ 2,118,448**	**$ 30,205,413**	**$ 29,408,961**	**102.71%**	**$ 173,858**	**$ 2,792,819**	**10.19%**
Non-Operating Revenues:								
Assessments (Debt Service)	$ 4,755,159	$ 423,917	$ 5,179,076	$ 5,000,000	103.58%	$ 7,072	$ (15,835)	-0.30%
Assessments (1%)	2,375,741	126,083	2,501,824	2,475,000	101.08%	(7,072)	92,391	3.83%
DWR Fixed Charge Recovery	368,950	-	368,950	175,000	210.83%	-	69,071	23.03%
Interest	3,443	(4,510)	(1,067)	175,000	-0.61%	(6,177)	(171,807)	-100.62%
CIF - Infrastructure	1,271,690	-	1,271,690	150,000	847.79%	-	530,168	71.50%
CIF - Water Supply	2,097,707	-	2,097,707	450,000	466.16%	-	1,603,791	
Grants - State and Federal	-	57,815	57,815	100,000	57.82%	57,815	57,815	
Other	66,263	1,245	67,508	50,000	135.02%	(14,892)	42,507	170.02%
Total Non-Operating Revenues	**$ 10,938,954**	**$ 604,550**	**$ 11,543,504**	**$ 8,575,000**	**134.62%**	**$ 36,746**	**$ 2,208,102**	**23.65%**
Total Revenue	**$ 39,025,919**	**$ 2,722,998**	**$ 41,748,917**	**$ 37,983,961**	**109.91%**	**$ 210,603**	**$ 5,000,921**	**13.61%**

	2020 Thru November	2020 December	2020 Year-to-Date	2020 Adjusted Budget	2020 % of Budget
Operating Revenue:					
Wholesale Water	$ 424,761	$ 43,015	$ 467,776	$ 295,000	158.57%
Water Sales	10,522,866	615,705	11,138,571	10,028,794	111.07%
Meter Fees	12,672,416	1,159,731	13,832,147	14,956,694	92.48%
Water Quality Fees	773,711	50,719	824,429	783,015	105.29%
Elevation Fees	342,063	21,806	363,869	354,450	102.66%
Other	732,188	53,615	785,802	877,625	89.54%
Total Water Sales	**$ 25,468,005**	**$ 1,944,590**	**$ 27,412,595**	**$ 27,295,578**	**100.43%**
Non-Operating Revenues:					
Assessments (Debt Service)	$ 4,778,066	$ 416,845	$ 5,194,911	$ 4,925,250	105.48%
Assessments (1%)	2,276,278	133,155	2,409,433	2,346,000	102.70%
DWR Fixed Charge Recovery	299,879	-	299,879	175,000	171.36%
Interest	169,072	1,667	170,739	150,000	113.83%
CIF - Infrastructure	741,522	-	741,522	18,750	3954.78%
CIF - Water Supply	493,916	-	493,916	56,250	878.07%
Grants - State and Federal	-	-	-	100,000	0.00%
Other	8,864	16,137	25,001	50,000	50.00%
Total Non-Operating Revenues	**$ 8,767,597**	**$ 567,804**	**$ 9,335,401**	**$ 7,821,250**	**119.36%**
Total Revenue	**$ 34,235,602**	**$ 2,512,394**	**$ 36,747,996**	**$ 35,116,828**	**104.64%**

Palmdale Water District
Operating Expense Analysis
For the Twelve Months Ending 12/31/2021

	2021					2020 to 2021 Comparison		
	Thru November	December	Year-to-Date	Adjusted Budget	% of Budget	December	Year-to-Date	% Change
Cash Operating Expenses:								
Directors	$ 119,363	$ 15,944	$ 135,307	$ 147,790	91.55%	$ 5,271	$ 44,612	49.19%
Administration-Services	1,891,648	143,870	2,035,518	2,219,350	91.72%	(57,726)	(13,961)	-0.68%
Administration-District	2,100,692	190,236	2,290,928	2,323,316	98.61%	8,445	63,846	2.87%
Engineering	1,375,569	113,734	1,489,302	1,678,000	88.75%	(47,320)	(105,875)	-6.64%
Facilities	6,448,499	566,774	7,015,274	6,164,200	113.81%	(19,921)	458,667	7.00%
Operations	3,144,820	191,900	3,336,721	3,409,900	97.85%	(141,845)	29,871	0.90%
Finance	1,597,775	139,784	1,737,558	1,720,050	101.02%	4,766	373,612	27.39%
Water Conservation	225,011	19,666	244,678	390,950	62.59%	(4,483)	(8,074)	-3.19%
Human Resources	441,270	35,870	477,140	508,900	93.76%	(10,621)	30,732	6.88%
Information Technology	1,397,319	96,065	1,493,384	1,739,300	85.86%	(56,224)	111,073	8.04%
Customer Care	1,184,424	106,795	1,291,219	1,466,700	88.04%	(31,440)	(91,458)	-6.61%
Source of Supply-Purchased Water	4,018,014	677,589	4,695,603	2,400,000	195.65%	315,556	2,620,660	126.30%
Plant Expenditures	252,622	17,611	270,233	565,860	47.76%	5,210	71,706	36.12%
Sediment Removal Project	593,345	33,501	626,846	600,000	104.47%	33,501	626,846	
GAC Filter Media Replacement	444,215	145,200	589,415	906,000	65.06%	145,200	368,843	167.22%
Total Cash Operating Expenses	**$ 25,234,587**	**$ 2,494,539**	**$ 27,729,126**	**$ 26,240,316**	**105.67%**	**$ 148,369**	**$ 4,581,101**	**16.52%**
Non-Cash Operating Expenses:								
Depreciation	$ 4,791,706	$ 478,468	$ 5,270,174	$ 5,000,000	105.40%	$ 53,872	$ 128,473	2.50%
OPEB Accrual Expense	1,404,811	127,710	1,532,521	1,750,000	87.57%	-	-	0.00%
Bad Debts	6,677	(200)	6,477	350,000	1.85%	(1,628)	(3,109)	-32.44%
Service Costs Construction	184,377	(20,217)	164,160	150,000	109.44%	(15,540)	(28,386)	-14.74%
Capitalized Construction	(864,155)	(46,400)	(910,555)	(900,000)	101.17%	(18,758)	113,422	-11.08%
Total Non-Cash Operating Expenses	**$ 5,523,416**	**$ 539,361**	**$ 6,062,777**	**$ 6,350,000**	**95.48%**	**$ 17,947**	**$ 210,400**	**3.47%**
Non-Operating Expenses:								
Interest on Long-Term Debt	$ 2,336,158	$ 188,902	$ 2,525,060	$ 3,001,426	84.13%	$ (3,550)	$ 70,308	2.86%
Deferred Charges-Cost of Issuance	333,796.31	-	333,796	-		-	(64,206)	-16.13%
Amortization of SWP	3,807,422	414,850	4,222,272	3,104,350	136.01%	176,965	1,368,045	47.93%
Change in Investments in PRWA	15,391	-	15,391	300,000	5.13%	-	(296,212)	-95.06%
Water Conservation Programs	104,147	3,034	107,181	236,500	45.32%	2,089	29,431	37.85%
Total Non-Operating Expenses	**$ 6,596,915**	**$ 606,785**	**$ 7,203,700**	**$ 6,642,276**	**108.45%**	**$ 175,504**	**$ 1,107,366**	**18.16%**
Total Expenses	**$ 37,354,918**	**$ 3,640,685**	**$ 40,995,603**	**$ 39,232,592**	**104.49%**	**$ 341,819**	**$ 5,898,867**	**16.81%**

Palmdale Water District
Operating Expense Analysis
For the Twelve Months Ending 12/31/2021

	2020 Thru November	December	Year-to-Date	Adjusted Budget	% of Budget
Cash Operating Expenses:					
Directors	$ 80,022	$ 10,673	$ 90,695	$ 144,150	62.92%
Administration-Services	1,847,883	201,595	2,049,478	2,056,121	99.68%
Administration-District	2,045,291	181,792	2,227,083	2,128,988	104.61%
Engineering	1,434,123	161,054	1,595,177	1,635,725	97.52%
Facilities	5,969,911	586,696	6,556,607	6,449,794	101.66%
Operations	2,973,104	333,745	3,306,849	3,248,390	101.80%
Finance	1,228,929	135,018	1,363,946	1,346,687	101.28%
Water Conservation	228,602	24,149	252,751	358,682	70.47%
Human Resources	399,918	46,491	446,408	492,512	90.64%
Information Technology	1,230,022	152,288	1,382,311	1,229,489	112.43%
Customer Care	1,244,441	138,235	1,382,677	1,292,548	106.97%
Source of Supply-Purchased Water	1,712,910	362,033	2,074,943	2,321,476	89.38%
Plant Expenditures	186,126	12,401	198,527	610,556	32.52%
Sediment Removal Project	-	-	-	600,000	
GAC Filter Media Replacement	220,572	-	220,572	783,015	28.17%
Total Cash Operating Expenses	**$ 20,801,855**	**$ 2,346,170**	**$ 23,148,025**	**$ 24,698,133**	**93.72%**
Non-Cash Operating Expenses:					
Depreciation	$ 4,717,106	$ 424,596	$ 5,141,702	$ 5,050,000	101.82%
OPEB Accrual Expense	1,404,811	127,710	1,532,521	1,750,000	87.57%
Bad Debts	8,158	1,428	9,586	35,000	27.39%
Service Costs Construction	197,224	(4,678)	192,546	100,000	192.55%
Capitalized Construction	(996,335)	(27,643)	(1,023,978)	(600,000)	170.66%
Total Non-Cash Operating Expenses	**$ 5,330,963**	**$ 521,414**	**$ 5,852,377**	**$ 6,335,000**	**92.38%**
Non-Operating Expenses:					
Interest on Long-Term Debt	$ 2,262,300	$ 192,451	$ 2,454,752	$ 2,648,000	92.70%
Deferred Charges-Cost of Issuance	398,002	-	398,002	-	
Amortization of SWP	2,616,342	237,885	2,854,227	2,881,000	99.07%
Change in Investments in PRWA	311,603	-	311,603	300,000	103.87%
Water Conservation Programs	76,804	945	77,750	236,500	32.88%
Total Non-Operating Expenses	**$ 5,665,053**	**$ 431,282**	**$ 6,096,334**	**$ 6,065,500**	**100.51%**
Total Expenses	**$ 31,797,870**	**$ 3,298,866**	**$ 35,096,736**	**$ 37,098,633**	**94.60%**

Palmdale Water District
2021 Directors Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-01-4000-000 Directors Pay	$ -	$ -	$ -	$ -	
Employee Benefits					
1-01-4005-000 Payroll Taxes	5,761	5,790		29	99.50%
1-01-4010-000 Health Insurance - Directors	41,873	53,000		11,127	79.01%
Subtotal (Benefits)	47,635	58,790	-	11,155	81.03%
Total Personnel Expenses	$ 47,635	$ 58,790	$ -	$ 11,155	81.03%
OPERATING EXPENSES:					
1-01-xxxx-006 Director Share - Dizmang, Gloria	$ 21,028				
1-01-xxxx-008 Director Share - Mac Laren, Kathy	9,715				
1-01-xxxx-010 Director Share - Dino, Vincent	21,087				
1-01-xxxx-012 Director Share - Wilson, Don	15,974				
1-01-xxxx-013 Director Share - Merino, Amberrose	19,868				
Subtotal Operating Expenses	87,672	89,000	-	1,328	98.51%
Total O & M Expenses	$ 135,307	$ 147,790	$ -	$ 12,483	91.55%

Palmdale Water District
2021 Administration Services Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-02-4000-000 Salaries	$ 1,340,301	$ 1,392,500		$ 52,199	96.25%
1-02-4000-100 Overtime	3,079	6,000		2,921	51.31%
Subtotal (Salaries)	$ 1,343,380	$ 1,398,500	$ -	$ 55,120	96.06%
Employee Benefits					
1-02-4005-000 Payroll Taxes	$ 84,438	$ 98,500		14,062	85.72%
1-02-4010-000 Health Insurance	167,046	184,500		17,454	90.54%
1-02-4015-000 PERS	115,250	131,250		16,000	87.81%
Subtotal (Benefits)	$ 366,734	$ 414,250	$ -	$ 47,516	88.53%
Total Personnel Expenses	$ 1,710,114	$ 1,812,750	$ -	$ 102,636	94.34%
OPERATING EXPENSES:					
1-02-4050-000 Staff Travel	$ 4,686	$ 15,500	$ -	$ 10,814	30.23%
1-02-4050-100 General Manager Travel	4,478	5,200		722	86.11%
1-02-4060-000 Staff Conferences & Seminars	3,684	6,200		2,516	59.42%
1-02-4060-100 General Manager Conferences & Seminars	1,754	4,100		2,346	42.78%
1-02-4130-000 Bank Charges	193,978	200,000		6,022	96.99%
1-02-4150-000 Accounting Services	26,545	26,000		(545)	102.10%
1-02-4175-000 Permits	14,652	18,100		3,448	80.95%
1-02-4180-000 Postage	12,134	17,000		4,866	71.37%
1-02-4190-100 Public Relations - Publications	12,748	31,200		18,452	40.86%
1-02-4190-700 Public Affairs - Marketing/Outreach	27,094	40,000		12,906	67.73%
1-02-4190-710 Public Affairs -Advertising	895	5,000		4,105	17.90%
1-02-4190-720 Public Affairs - Equipment	-	2,500		2,500	0.00%
1-02-4190-730 Public Affairs -Conference/Seminar/Travel	435	3,000		2,565	14.51%
1-02-4190-740 Public Affairs - Consultants	1,179	2,000		821	58.94%
1-02-4190-750 Public Affairs - Membership	1,325	1,200		(125)	110.42%
1-02-4200-000 Advertising	716	4,100		3,384	17.45%
1-02-4205-000 Office Supplies	19,103	25,500		6,397	74.91%
Subtotal Operating Expenses	$ 325,404	$ 406,600	$ -	$ 81,196	80.03%
Total Departmental Expenses	$ 2,035,518	$ 2,219,350	$ -	$ 183,832	91.72%

Palmdale Water District
2021 Administration District Wide Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-02-5070-001 On-Call	$ 85,361	$ 75,000		$ (10,361)	113.81%
Subtotal (Salaries)	$ 85,361	$ 75,000	$ -	$ (10,361)	113.81%
Employee Benefits					
1-02-5070-002 PERS-Unfunded Liability	$ 851,851	$ 840,316		(11,535)	101.37%
1-02-5070-003 Workers Compensation	300,337	296,000		(4,337)	101.47%
1-02-5070-004 Vacation Benefit Expense	(20,507)	83,000		103,507	-24.71%
1-02-5070-005 Life Insurance	6,087	7,000		913	86.95%
Subtotal (Benefits)	$ 1,137,768	$ 1,226,316	$ -	$ 88,548	92.78%
Total Personnel Expenses	$ 1,223,129	$ 1,301,316	$ -	$ 78,187	93.99%
OPERATING EXPENSES:					
1-02-5070-006 Other Operating	$ 52,317	$ 60,000		7,683	87.20%
1-02-5070-007 Consultants	329,015	275,000		(54,015)	119.64%
1-02-5070-008 Insurance	281,913	260,000		(21,913)	108.43%
1-02-5070-009 Groundwater Adjudication - Legal	40,674	41,000		326	99.21%
1-02-5070-010 Legal Services	143,886	131,000		(12,886)	109.84%
1-02-5070-011 Memberships/Subscriptions	178,078	165,000		(13,078)	107.93%
1-02-5070-013 Succession Planning	-	25,000		25,000	0.00%
1-02-5070-014 Groundwater Adjudication - Assessment	41,916	65,000		23,084	64.49%
Subtotal Operating Expenses	$ 1,067,799	$ 1,022,000	$ -	$ (45,799)	104.48%
Total Departmental Expenses	$ 2,290,928	$ 2,323,316	$ -	$ 32,388	98.61%

Palmdale Water District
2021 Engineering Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-03-4000-000 Salaries	$ 1,091,537	$ 1,225,750	$ -	$ 134,213	89.05%
1-03-4000-100 Overtime	21,988	15,000		(6,988)	146.58%
Subtotal (Salaries)	$ 1,113,525	$ 1,240,750	$ -	$ 127,225	89.75%
Employee Benefits					
1-03-4005-000 Payroll Taxes	81,384	98,000		16,616	83.04%
1-03-4010-000 Health Insurance	170,321	176,500		6,179	96.50%
1-03-4015-000 PERS	91,581	117,750		26,169	77.78%
Subtotal (Benefits)	$ 343,286	$ 392,250	$ -	$ 48,964	87.52%
Total Personnel Expenses	$ 1,456,811	$ 1,633,000	$ -	$ 176,189	89.21%
OPERATING EXPENSES:					
1-03-4050-000 Staff Travel	$ 1,595	$ 5,000		3,405	31.89%
1-03-4060-000 Staff Conferences & Seminars	5,650	7,500		1,850	75.33%
1-03-4060-001 Staff Training - Auto CAD Civil 3D*	-	10,000	(7,500)	2,500	0.00%
1-03-4155-000 Contracted Services	-	1,500		1,500	0.00%
1-03-4165-000 Memberships/Subscriptions	4,431	3,500		(931)	126.61%
1-03-4250-000 General Materials & Supplies	3,592	4,000		408	89.80%
1-03-4250-100 Supplies - Plotter Paper/Toner*	226	4,500	(2,000)	2,274	9.03%
1-03-8100-100 Computer Software - Maint. & Support*	16,998	9,000	9,500	1,502	91.88%
Subtotal Operating Expenses	$ 32,492	$ 45,000	$ -	$ 12,508	72.20%
Total Departmental Expenses	$ 1,489,302	$ 1,678,000	$ -	$ 188,698	88.75%

* Budget adjustments by General Manager per Appendix A

Palmdale Water District
2021 Facilities Budget
For the Twelve Months Ending Friday, December 31, 2021

		YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-04-4000-000	Salaries	$ 2,138,572	$ 2,248,000		$ 109,428	95.13%
1-04-4000-100	Overtime	147,785	144,000		(3,785)	102.63%
	Subtotal (Salaries)	$ 2,286,357	$ 2,392,000	$ -	$ 105,643	95.58%
Employee Benefits						
1-04-4005-000	Payroll Taxes	178,841	189,500		10,659	94.38%
1-04-4010-000	Health Insurance	409,699	445,000		35,301	92.07%
1-04-4015-000	PERS	195,696	214,000		18,304	91.45%
	Subtotal (Benefits)	$ 784,236	$ 848,500	$ -	$ 64,264	92.43%
	Total Personnel Expenses	$ 3,070,593	$ 3,240,500	$ -	$ 169,907	94.76%
OPERATING EXPENSES:						
1-04-4050-000	Staff Travel	$ 452	$ 6,200		$ 5,748	7.29%
1-04-4060-000	Staff Confrences & Seminars	50	15,500		15,450	0.32%
1-04-4155-000	Contracted Services	116,311	239,100		122,789	48.65%
1-04-4175-000	Permits-Dams	43,678	42,000		(1,678)	103.99%
1-04-4215-100	Natural Gas - Wells & Boosters	539,616	225,000		(314,616)	239.83%
1-04-4215-200	Natural Gas - Buildings	11,333	9,500		(1,833)	119.29%
1-04-4220-100	Electricity - Wells & Boosters	2,049,526	860,000		(1,189,526)	238.32%
1-04-4220-200	Electricity - Buildings	75,888	95,000		19,112	79.88%
1-04-4225-000	Maint. & Repair - Vehicles	26,109	34,000		7,891	76.79%
1-04-4230-100	Maint. & Rep. Office Building	7,720	26,500		18,780	29.13%
1-04-4230-200	Maint. & Rep. Two Way Radios	470	5,000		4,530	9.39%
1-04-4235-110	Maint. & Rep. Equipment	8,933	12,700		3,767	70.34%
1-04-4235-400	Maint. & Rep. Operations - Wells	60,316	84,500		24,184	71.38%
1-04-4235-405	Maint. & Rep. Operations - Boosters	52,552	52,800		248	99.53%
1-04-4235-410	Maint. & Rep. Operations - Shop Bldgs	15,027	26,000		10,973	57.79%
1-04-4235-415	Maint. & Rep. Operations - Facilities	12,533	52,000		39,467	24.10%
1-04-4235-420	Maint. & Rep. Operations - Water Lines	266,673	315,000		48,327	84.66%
1-04-4235-425	Maint. & Rep. Operations - Littlerock Dam	1,794	15,500		13,706	11.58%
1-04-4235-435	Maint. & Rep. Operations - Palmdale Canal	537	7,000		6,463	7.67%
1-04-4235-440	Maint. & Rep. Operations - Large Meters	6,813	15,500		8,687	43.96%
1-04-4235-450	Maint. & Rep. Operations - Hypo Generators	3,961	7,900		3,939	50.14%
1-04-4235-455	Maint. & Rep. Operations - Heavy Equipment	33,634	44,000		10,366	76.44%
1-04-4235-460	Maint. & Rep. Operations - Storage Reservoirs	1,295	5,200		3,905	24.91%
1-04-4235-461	Maint. & Rep. Operations - Air Vac	3,488	5,200		1,712	67.08%
1-04-4235-470	Maint. & Rep. Operations - Meters Exchanges	68,566	155,000		86,434	44.24%
1-04-4300-100	Testing - Regulatory Compliance	8,234	20,500		12,266	40.17%
1-04-4300-200	Testing - Large Meters	14,460	13,000		(1,460)	111.23%
1-04-4300-300	Testing - Edison Testing	-	12,000		12,000	0.00%
1-04-6000-000	Waste Disposal	14,109	21,000		6,891	67.19%
1-04-6100-100	Fuel and Lube - Vehicle	147,382	142,000		(5,382)	103.79%
1-04-6100-200	Fuel and Lube - Machinery	31,267	26,000		(5,267)	120.26%
1-04-6200-000	Uniforms	21,650	28,000		6,350	77.32%
1-04-6300-100	Supplies - General	54,085	65,000		10,915	83.21%
1-04-6300-300	Supplies - Electrical	2,237	3,000		763	74.57%
1-04-6300-800	Supplies - Construction Materials	36,073	35,000		(1,073)	103.06%
1-04-6400-000	Tools	38,594	45,100		6,506	85.57%
1-04-7000-100	Leases -Equipment	12,117	15,000		2,883	80.78%
1-04-7000-100	Leases -Vehicles	157,196	142,000		(15,196)	110.70%
	Subtotal Operating Expenses	$ 3,944,681	$ 2,923,700	$ -	$ (1,020,981)	134.92%
	Total Departmental Expenses	$ 7,015,274	$ 6,164,200	$ -	$ (851,074)	113.81%

Palmdale Water District
2021 Operation Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-05-4000-000 Salaries	$ 1,123,029	$ 1,154,000		$ 30,971	97.32%
1-05-4000-100 Overtime	99,235	99,000		(235)	100.24%
Subtotal (Salaries)	$ 1,222,264	$ 1,253,000	$ -	$ 30,736	97.55%
Employee Benefits					
1-05-4005-000 Payroll Taxes	94,314	91,000		(3,314)	103.64%
1-05-4010-000 Health Insurance	159,384	182,000		22,616	87.57%
1-05-4015-000 PERS	109,453	118,500		9,047	92.37%
Subtotal (Benefits)	$ 363,152	$ 391,500	$ -	$ 28,348	92.76%
Total Personnel Expenses	$ 1,585,415	$ 1,644,500	$ -	$ 59,085	96.41%
OPERATING EXPENSES:					
1-05-4050-000 Staff Travel	$ 2,707	$ 3,100		$ 393	87.31%
1-05-4060-000 Staff Conferences & Seminars	-	3,100		3,100	0.00%
1-05-4120-100 Training - Lab Equipment	-	5,200			
1-05-4155-000 Contracted Services	36,680	99,600		62,920	36.83%
1-05-4175-000 Permits	91,586	81,300		(10,286)	112.65%
1-05-4215-200 Natural Gas - WTP	4,148	3,200		(948)	129.63%
1-05-4220-200 Electricity - WTP	397,866	215,000		(182,866)	185.05%
1-05-4230-110 Maint. & Rep. - Office Equipment	2,364	5,300		2,936	44.60%
1-05-4235-110 Maint. & Rep. Operations - Equipment	27,734	21,000		(6,734)	132.06%
1-05-4235-410 Maint. & Rep. Operations - Shop Bldgs	5,970	6,300		330	94.76%
1-05-4235-415 Maint. & Rep. Operations - Facilities	26,909	74,000		47,091	36.36%
1-05-4235-500 Maint. & Rep. Operations - Wind Turbine	4,589	10,000		5,411	45.89%
1-05-4236-000 Palmdale Lake Management	134,998	130,000		(4,998)	103.84%
1-05-6000-000 Waste Disposal	29,587	21,000		(8,587)	140.89%
1-05-6200-000 Uniforms	13,831	16,000		2,169	86.44%
1-05-6300-100 Supplies - Misc.	16,223	15,200		(1,023)	106.73%
1-05-6300-600 Supplies - Lab	67,158	72,000		4,842	93.28%
1-05-6300-700 Outside Lab Work	68,550	60,000		(8,550)	114.25%
1-05-6400-000 Tools	4,989	6,100		1,111	81.78%
1-05-6500-000 Chemicals	814,780	915,000		100,220	89.05%
1-05-7000-100 Leases -Equipment	638	3,000		2,362	21.26%
Subtotal Operating Expenses	$ 1,751,305	$ 1,765,400	$ -	$ 8,895	99.20%
Total Departmental Expenses	$ 3,336,721	$ 3,409,900	$ -	$ 67,979	97.85%

Palmdale Water District
2021 Finance Budget
For the Twelve Months Ending Friday, December 31, 2021

		YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-06-4000-000	Salaries	$ 1,016,720	$ 996,500		$ (20,220)	102.03%
1-06-4000-100	Overtime	8,088	2,000		(6,088)	404.40%
	Subtotal (Salaries)	$ 1,024,808	$ 998,500	$ -	$ (26,308)	102.63%
Employee Benefits						
1-06-4005-000	Payroll Taxes	72,321	75,500		3,179	95.79%
1-06-4010-000	Health Insurance	154,561	176,000		21,439	87.82%
1-06-4015-000	PERS	102,478	105,750		3,272	96.91%
	Subtotal (Benefits)	$ 329,359	$ 357,250	$ -	$ 27,891	92.19%
	Total Personnel Expenses	$ 1,354,167	$ 1,355,750	$ -	$ 1,583	99.88%
OPERATING EXPENSES:						
1-06-4050-000	Staff Travel	$ 1,450	$ 2,000		$ 550	72.51%
1-06-4060-000	Staff Conferences & Seminars	329	1,500		1,171	21.93%
1-06-4155-000	Contracted Services	31,334	12,600		(18,734)	248.68%
1-06-4155-100	Contracted Services - Infosend	262,528	283,000		20,472	92.77%
1-06-4165-000	Memberships/Subscriptions	220	500		280	44.00%
1-06-4230-110	Maintenance & Repair - Office Equipment	-	500		500	0.00%
1-06-4250-000	General Material & Supplies	-	2,000		2,000	0.00%
1-06-4260-000	Business Forms	175	1,500		1,325	11.67%
1-06-4270-100	Telecommunication - Office	59,726	32,000		(27,726)	186.64%
1-06-4270-200	Telecommunication - Cellular Stipend	25,605	25,700		95	99.63%
1-06-7000-100	Leases - Equipment	2,025	3,000		975	67.50%
	Subtotal Operating Expenses	$ 383,391	$ 364,300	$ -	$ (19,091)	105.24%
	Total Departmental Expenses	$ 1,737,558	$ 1,720,050	$ -	$ (17,508)	101.02%

Palmdale Water District
2021 Water Use Efficiency Budget
For the Twelve Months Ending Friday, December 31, 2021

		YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-07-4000-000	Salaries	$ 166,400	$ 170,500		$ 4,100	97.60%
1-07-4000-100	Overtime	2,473	5,000		2,527	49.47%
	Subtotal (Salaries)	$ 168,874	$ 175,500		$ 6,626	96.22%
Employee Benefits						
1-07-4005-000	Payroll Taxes	13,537	13,750		213	98.45%
1-07-4010-000	Health Insurance	37,783	31,000		(6,783)	121.88%
1-07-4015-000	PERS	17,590	19,500		1,910	90.21%
	Subtotal (Benefits)	$ 68,911	$ 64,250	$ -	$ (4,661)	107.25%
	Total Personnel Expenses	$ 237,785	$ 239,750	$ -	$ (561)	99.18%
OPERATING EXPENSES:						
1-07-4050-000	Staff Travel	$ 634	$ 2,600		$ 1,966	24.37%
1-07-4060-000	Staff Conferences & Seminar	670	3,100		2,430	21.61%
1-07-4190-300	Public Relations - Landscape Workshop/Training	383	5,200		4,817	7.36%
1-07-4190-400	Public Relations - Contests	1,140	3,100		1,960	36.77%
1-07-4190-500	Public Relations - Education Programs	-	125,000		125,000	0.00%
1-07-4190-900	Public Relations - Other	629	5,200		4,571	12.10%
1-07-6300-100	Supplies - Misc.	3,437	7,000		3,563	49.10%
	Subtotal Operating Expenses	$ 6,893	$ 151,200	$ -	$ 144,307	4.56%
	Total Departmental Expenses	$ 244,678	$ 390,950	$ -	$ 143,746	62.59%

Palmdale Water District
2021 Human Resources Budget
For the Twelve Months Ending Friday, December 31, 2021

	YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-08-4000-000 Salaries	$ 290,105	$ 267,250		$ (22,855)	108.55%
1-08-4000-100 Salaries - Overtime	268	1,000		732	26.82%
Subtotal (Salaries)	$ 290,373	$ 268,250	$ -	$ (22,855)	108.25%
Employee Benefits					
1-08-4005-000 Payroll Taxes	20,465	20,750		285	98.63%
1-08-4010-000 Health Insurance	27,601	31,000		3,399	89.03%
1-08-4015-000 PERS	22,210	24,500		2,290	90.65%
Subtotal (Benefits)	$ 70,275	$ 76,250	$ -	$ 5,975	92.16%
Total Personnel Expenses	$ 360,648	$ 344,500	$ -	$ (16,880)	104.69%
OPERATING EXPENSES:					
1-08-4050-000 Staff Travel	$ -	$ 1,500		$ 1,500	0.00%
1-08-4060-000 Staff Conferences & Seminars	-	1,500		1,500	0.00%
1-08-4070-000 Employee Expense	61,015	67,500		6,485	90.39%
1-08-4090-000 Temporary Staffing	-	-		-	
1-08-4095-000 Employee Recruitment	8,457	3,100		(5,357)	272.81%
1-08-4100-000 Employee Retention	1,239	5,200		3,961	23.82%
1-08-4120-100 Training-Safety	21,975	36,000		14,025	61.04%
1-08-4120-200 Training-Speciality	3,265	15,500		12,235	21.06%
1-08-4121-000 Safety Program	-	1,000		1,000	0.00%
1-08-4165-000 Membership/Subscriptions	754	1,600		846	47.13%
1-08-4165-100 HR/Safety Publications	-	1,000		1,000	0.00%
1-08-6300-500 Supplies - Safety	19,787	30,500		10,713	64.88%
Subtotal Operating Expenses	$ 116,492	$ 164,400	$ -	$ 47,908	70.86%
Total Departmental Expenses	$ 477,140	$ 508,900	$ -	$ 31,760	93.76%

Palmdale Water District
2021 Information Technology Budget
For the Twelve Months Ending Friday, December 31, 2021

		YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-09-4000-000	Salaries	$ 565,248	$ 583,750	$ -	$ 18,502	96.83%
1-09-4000-100	Overtime	22,947	21,000		(1,947)	109.27%
	Subtotal (Salaries)	$ 588,196	$ 604,750	$ -	$ 16,554	97.26%
Employee Benefits						
1-09-4005-000	Payroll Taxes	44,146	46,500		2,354	94.94%
1-09-4010-000	Health Insurance	77,121	94,000		16,879	82.04%
1-09-4015-000	PERS	58,989	46,250		(12,739)	127.54%
	Subtotal (Benefits)	$ 180,256	$ 186,750	$ -	$ 6,494	96.52%
	Total Personnel Expenses	$ 768,451	$ 791,500	$ -	$ 23,049	97.09%
OPERATING EXPENSES:						
1-09-4050-000	Staff Travel	$ 1,345	$ 3,100		$ 1,755	43.40%
1-09-4060-000	Staff Confrences & Seminars	6,353	10,400		4,047	61.09%
1-09-4155-000	Contracted/Cloud Services	204,174	293,300		89,126	69.61%
1-09-4165-000	Memberships/Subscriptions	3,399	2,600		(799)	130.73%
1-09-4235-445	Maibt & Repair - Telemetry	3,870	5,300			
1-09-4270-000	Telecommunications	115,725	119,100		3,375	97.17%
1-09-6300-400	Supplies - Telemetry	636	-		(636)	
1-09-6450-110	Equipment - GF Signet Flow Meters	-	7,600			
1-09-7000-100	Leases - Equipment	52,735	56,000			
1-09-8000-100	Computer Equipment - Computers	47,363	45,000		(2,363)	105.25%
1-09-8000-200	Computer Equipment - Laptops	17,901	45,000		27,099	39.78%
1-09-8000-300	Computer Equipment - Monitors	10,576	12,000		1,424	88.14%
1-09-8000-500	Computer Equipment - Toner Cartridges	125	2,500		2,375	5.01%
1-09-8000-550	Computer Equipment - Telephony	-	3,000		3,000	0.00%
1-09-8000-600	Computer Equipment - Other	15,417	30,000		14,583	51.39%
1-09-8000-650	Computer Equipment - Warranty & Support	7,465	15,000		7,535	49.77%
1-09-8100-100	Computer Software - Maint. and Support	170,674	237,900		67,226	71.74%
1-09-8100-150	Computer Software - Dynamics GP Support	54,567	40,000		(14,567)	136.42%
1-09-8100-200	Computer Software - Software and Upgrades	12,606	20,000		7,394	63.03%
	Subtotal Operating Expenses	$ 724,933	$ 947,800	$ -	$ 210,572	76.49%
	Total Departmental Expenses	$ 1,493,384	$ 1,739,300	$ -	$ 233,621	85.86%

Palmdale Water District
2021 Customer Care Budget
For the Twelve Months Ending Friday, December 31, 2021

		YTD ACTUAL 2021	ORIGINAL BUDGET 2021	ADJUSTMENTS 2021	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-10-4000-000	Salaries	$ 898,605	$ 1,013,000		$ 114,395	88.71%
1-10-4000-100	Overtime	4,367	7,500		3,133	58.22%
	Subtotal (Salaries)	$ 902,972	$ 1,020,500	$ -	$ 117,528	88.48%
Employee Benefits						
1-10-4005-000	Payroll Taxes	70,412	80,000		9,588	88.01%
1-10-4010-000	Health Insurance	204,085	233,000		28,915	87.59%
1-10-4015-000	PERS	90,531	96,500		5,969	93.81%
	Subtotal (Benefits)	$ 365,028	$ 409,500	$ -	$ 44,472	89.14%
	Total Personnel Expenses	$ 1,268,000	$ 1,430,000	$ -	$ 162,000	88.67%
OPERATING EXPENSES:						
1-10-4050-000	Staff Travel	$ 870	$ 2,000		$ 1,130	43.48%
1-10-4060-000	Staff Conferences & Seminars	349	3,100		2,751	11.26%
1-10-4155-000	Contracted Services	20,745	25,400		4,655	81.67%
1-10-4230-110	Maintenance & Repair-Office Equipment	-	200		200	0.00%
1-10-4250-000	General Material & Supplies	1,255	5,000		3,745	25.10%
1-10-4260-000	Business Forms	-	1,000		1,000	0.00%
	Subtotal Operating Expenses	$ 23,219	$ 36,700	$ -	$ 13,481	63.27%
	Total Departmental Expenses	$ 1,291,219	$ 1,466,700	$ -	$ 175,481	88.04%

Updated: 2/16/2022

AGENDA ITEM NO. 8.1.c

Palmdale Water District

2021 Capital Projects - Contractual Commitments and Needs

New and Replacement Capital Projects

Budget Year	Project	Project Title	Project Type	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2021 Total	2022 Carryover
2017	12-400	PRGRRP - Construction of Monitoring Wells / Test Basin	Water Supply	Environmental Const.	427,490	04/26/2017	330,359	97,131	330,359													-	
2017	12-400	PRGRRP - Construction of Monitoring Wells / Test Basin - Auxiliary Items	Water Supply	Various Vendors			35,742	-	22,016				13,726									13,726	
2021	12-606	Spec 1206 - WM Repl in Division and Avenue Q	Replacement Cap.				5,720	-	5,397									213	110			323	
2018	15-613	WM Replacement - Avenue V5 (Spec 1504)	Replacement Cap.				208,516	-	188,633	19,883												19,883	
2018	16-602	WM Replacement - Avenue P & 25th ST (Spec 1601)	Replacement Cap.				379,493	-	108,716	235,607	4,802		27,088					3,280				270,777	
2018	18-410	PRV Replacement - 40th ST E (Bypass)	General Project				9,852	-	8,410	721		721										1,442	
2018	18-606	45th ST Tank Site - Altitude Valve Replacement	Replacement Cap.				372	-	-									372				372	
2018	18-615	Install/Construction - Water Fill Station	General Project				24,868	-	23,904		964											964	
2019	19-606	Install 2 Brine Tanks at Well 7/45th St Sites	General Project				41,109	-	40,629						480							480	
2019	19-611B	Spec 1210 - ML Repl P9 - Chg Orders	Replacement Cap.				38,647	-	38,647													-	
2020	20-601	Repair Well #7	General Project				390,398	-	121,347	56,625		11,238	45,184		12,338	976		142,690				269,051	
2020	20-605	Sierra Hwy Tie-in @ Harold St and Abandonment Plan	Replacement Cap.				4,742	-	2,490				547			110	330	220	495		550	2,252	
	20-605	Sierra Hwy Tie-in @ Harold St and Abandonment Plan (Bond Fund)	Replacement Cap.	Christensen Bros	669,886		571,980	97,906										62,629	179,727	329,625		571,980	
2020	20-606	2800 Zone Velocity Deficiency	General Project				720	-	720													-	
2020	20-607	Move PRV Station @ 45th St E	Replacement Cap.				-	-	-													-	
2020	20-608	WM Repl in 17th St E from Ave P4 to Ave P8	Replacement Cap.				-	-	-													-	
2020	20-609	WM Repl in Ave Q6,12th to 16th	Replacement Cap.				4,730	-	1,530											3,200		3,200	
2020	20-610	2950 Zone Booster Station @ 3M Clearwell Site	Replacement Cap.				94,462	-	810	19,954	1,347	5,003	33,012	7,033		7,461	130	11,315	2,274	4,831	1,293	93,652	
2020	20-611	2020 Meter Exchange Program	General Project				49,131	-	7,646		31,618	3,295	2,378				167			4,026		41,485	
2020	20-613	Design & Remodel Dist MO, Crew Rm, New PurchOffice	General Project				499,733	-	497,025		2,708											2,708	
2020	20-615	2020 Soft Start Repl Program	General Project				20,040	-	20,040													-	
2020	20-619	25th ST Booster #3 Rehab	General Project				13,259	-	13,259													-	
2020	20-622	Well 36 Design & Const.	General Project				31,607	-	19,180						3,420			1,201	7,067		740	12,427	
	20-622	Well 36 Design & Const. (Bond Fund)	General Project	Hazen and Sawyer	612,656		201,145	411,511							4,225	15,406	28,280	84,460		68,774		201,145	
2020	20-623	AMI Meter System	General Project				15,000	-	-		15,000											15,000	
2020	20-624	Emergency Power Connection NOB	General Project				16,153	-	15,763			210	180									390	
2020	20-625	WM Repl - 5th ST & Q1 thru Q5					2,000	-												2,000		2,000	
2020	20-626	ML Abandonment 25th/Avenue P-P8	General Project				24,252	-	-					4,589	4,337	13,518				1,808		24,252	
2020	20-703	Water Conservation Garden Construct @ MOB	General Project				1,640	-	850			790										790	
2021	21-416	Fiber Optic Cable Repair	General Project				15,174	-	-				15,174									15,174	
2021	21-600	2021 Soft Start Replacement Program	Replacement Cap.				13,231	-	-			11,485									1,746	13,231	
2021	21-601	2021 Booster Building Rehab					15,900	-												15,900		15,900	
2021	21-602	Repl Brine Storage Tanks - Wells	Replacement Cap.				50,331	-	-								104	50,056			171	50,331	
2021	21-607	Design 16" WM Ave P Well #8A					1,860	-												1,860		1,860	
2021	21-609	Design WM from 16"to24" Ave S					2,000	-												2,000		2,000	
2021	21-610	WM Repl E Ave Q10 & 12th St.					2,000	-												2,000		2,000	
2021	21-611	Plm Ditch Improvement (Yr. 2)					18,135	-												18,135		18,135	
2021	21-612	Rehab 25th ST - Booster #1	Replacement Cap.				24,588	-	-									9,418	15,170			24,588	
2021	21-613	Palmdale Ditch Conversion	General Project				73,022	-	-									57,421			15,601	73,022	
2021	21-614	Repl HVAC Unit - Main Office					10,700	-												10,700		10,700	
2021	21-615	IPS Pump-Check Valve WTP					28,467	-												28,467		28,467	
2021	21-700	2021 Large Mtr/Vault Repl Program	Replacement Cap.				64,451	-	-		1,398	7,136	7,389	1,557	2,485		8,587	8,481	17,814		9,604	64,451	
2021	21-703	Main Office - Stucco Repair	General Project				10,145	-	-						180			8,428		1,538		10,145	
			Sub-Totals:		1,710,032		3,345,675	606,548	1,467,372	332,790	57,836	39,878	144,678	13,179	27,465	37,471	37,598	440,184	222,656	494,863	29,705	1,878,303	-

Updated: 2/16/2022

Palmdale Water District

2021 Capital Projects - Contractual Commitments and Needs

Consulting and Engineering Support

Budget Year	Project	Project Title	Project Type	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2021 Total	2022 Carryover
2017	12-400	PRGRRP - CEQA, Permitting, Pre-Design, and Pilot	Water Supply	Kennedy/Jenks	1,627,000	05/12/2016	14,937	1,612,063	-			14,937								13,000		27,937	
		Paid by General Fund		Kennedy/Jenks			-	-	-													-	
2017	14-603	Upper Amargosa Recharge Project	Water Supply	City of Palmdale	1,250,000	12/04/2013	1,744,953	(494,953)	1,024,374	720,579												720,579	
2017	04-501	Littlerock Sediment Removal Project (EIR/EIS/Permitting)	Water Supply	Aspen	869,023	09/14/2016	-	869,023	-													-	
		Paid by General Fund		Aspen			209,547	-	207,508	1,736										303		2,039	
		Paid by 2018A Water Revenue Bonds		Aspen	1,238,287	07/18/2018	1,059,162	179,125	986,829			22,483	8,042		11,450	5,253	9,659			15,446		72,333	
		Paid by 2018A Water Revenue Bonds		ASI	10,619,601	07/18/2018	10,697,276	(77,675)	10,697,276													-	
2017	04-501	Littlerock Sediment Removal (Cost Recovery Agreement)	Permitting	Forest Service	100,000	04/26/2017	-	100,000	-													-	
2019	19-702	SPCC Plan for Water Treatment Plant					3,542	-	3,542													-	
2020	20-405	Well Rehab Consulting Services		Kyle Groundwater	-		65,569	-	34,383	11,680					11,200		8,306					31,186	
2020	20-412	Aquisition of Wtr Svc to ASMHP			-		15,900	-	5,900	9,000								1,000				10,000	
2020	20-414	ARC Flash Study					36,597	-	24,126	4,727				6,002				638	260	845		12,471	
2020	20-415	Hazard Mitigation Plan		HDR Engineering			100,270	-	-			6,625	14,495	4,630	12,599	17,075	23,003	4,998		16,845		100,270	
2020	20-420	2020 GIS Enhancements			-		18,453	-	18,453													-	
2020	20-421	Bamboo HR			-		12,520	-	12,520													-	
2021	21-411	2021 Public Website Redesign			-		60,317	-	-					12,677			14,171	15,858			17,611	60,317	
2021	21-500	Alpine Springs Grant Funding			-		4,000	-	-												4,000	4,000	
			Sub-Totals:		15,703,911		14,043,045	2,187,582	13,014,912	747,722	-	44,045	22,537	23,309	35,250	22,328	55,138	22,494	260	46,439	21,611	1,041,132	-

New and Replacement Equipment

Budget Year	Project	Project Title	Project Type	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2021 Total	2022 Carryover
2021	21-603	2021 Replacement Water Truck	Replacement Equip	Valew Quality Truck Bodies			106,043	-	-			18,580	83,241	200	4,022							106,043	
2021	21-605	2014 Ford F-250 Truck	Replacement Equip	Divine Auto Mall, LLC			26,707	-	-				26,707									26,707	
2021	21-606	2015 Ford F-550 Super Duty Truck	Replacement Equip	Doaba Motors			46,752	-	-							33,125			13,627			46,752	
2021	21-701	Hydraulic Concrete Breaker	New Equipment	Ditch Witch West			9,110	-	-				9,110									9,110	
2021	21-702	Diaphragm Pump	Replacement Equip	Pump Engineering Company			8,249	-	-				8,249									8,249	
2021	21-704	Office Furniture HR/CFO					16,330	-	-											16,330		16,330	
							-	-	-													-	
							-	-	-													-	
			Sub-Totals:				213,191	-	-	-	-	18,580	127,307	200	4,022	33,125	-	-	13,627	16,330	-	213,191	-

Water Quality Fee Funded Projects

Budget Year	Work Order	Project Title	Project Type	Vendor/Supplier	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2021 Total	2022 Carryover
2021	21-401	GAC Replacements @ WTP	Water Quality	Calgon Carbon	-	07/09/2014	371,803	-			107,803							132,000	132,000			371,803	
2021	21-401	GAC Replacement @ Underground Booster Station	Water Quality	Evoqua	-	03/10/2017	72,526	-							72,526							72,526	
										-	-	-	-	-	-	-	-	-	-	-	-	-	
			Sub-Totals:		-		444,329	-	-	-	107,803	-	-	-	72,526	-	-	132,000	132,000	-	-	444,329	-

= Projects that originated from 2013 WRB Funds

= Project had additional funding paid out by the general fund to complete.

= Project is now deemed complete with no further expense.

= Projects paid by 2018 WRB Funds

= Projects paid by 2021 WRB Funds

Project Summary (W/O GAC Included)	Totals	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2021 Total
Total Approved Contracts to Date	17,413,943													
Total Payments on Approved Contracts to Date	17,601,910													
Total Contract Balance to Date	2,794,131													
Non-Operating Capital Expenditures (Paid)		1,080,512	57,836	102,503	294,523	36,687	66,737	92,923	92,736	462,678	236,543	557,633	51,316	3,132,626
Non-Operating Capital Expenditures (Projected)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Funding Available Through Water Supply Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019 Funding Through Budgeted Non-Operating Capital Ex.	3,132,626	1,080,512	57,836	102,503	294,523	36,687	66,737	92,923	92,736	462,678	236,543	557,633	51,316	3,132,626

Water Revenue Bond - Series 2018A

Updated: Febuary 16, 2022

Project	Project #	Description	Bond Allocation	Contractual Commitment	Payout to Date	Over/(Under)	Uncommitted Bond $
LGCS-ASI	04-501	Littlerock Dam - Grade Control Structure (Construction)	$ 8,160,257	$ 10,619,601	$ 10,697,276	$ (77,675)	$ (2,537,019)
		Original Contract Amt: $9,500,808, C.O.1: $1,118,792.54					
LGCS-ASP	04-501	Littlerock Dam - Grade Control Structure (Monitoring)		1,238,287	1,059,381	178,906	(1,059,381)
WTP		Water Treatment Plant Improvements	2,375,000		-	-	
6MG		6 M.G. Reservoir Renovations	1,050,000		-	-	
WMR		Various W.M. Replacements	1,789,612		-	-	
PWD		Design, Engineering and Other Preconstruction Costs	173,000		-	-	
WRB		Bond Issuance Costs	226,303		226,303	-	
ISS		Issuance Funds			(12,092)		
		Interest Earned through August 31, 2021			(333,576)		
		Totals:	**$ 13,774,172**	**$ 11,857,888**	**$ 11,637,291**	**$ 101,230**	**$ (3,596,400)**
		2018A Water Revenue Bonds - Unallocated Funds:		**$ 1,916,284**			
		2018A Water Revenue Bonds - Remaining Funds to payout:			**$ 2,136,880**		

Requisition No.	Payee	Date Approved	Invoice No.	Project	Payment Amount
	Interest - December 2021		N/A	INT	52.76
40	Aspen Environmental Group	Dec 23, 2021	1116.007-40	LGCS-ASP	6,403.75
	Interest - November 2021		N/A	INT	54.81
	Interest - October 2021		N/A	INT	53.10
39	Aspen Environmental Group	Oct 20, 2021	1116.007-39	LGCS-ASP	9,707.50
39	Aspen Environmental Group	Oct 20, 2021	1116.007-38	LGCS-ASP	5,738.75
	Interest - September 2021		N/A	INT	54.96
	Interest - August 2021		N/A	INT	55.00
38	Aspen Environmental Group	Aug 19, 2021	1116.007-37	LGCS-ASP	4,120.00
37	Aspen Environmental Group	Aug 5, 2021	1116.007-36	LGCS-ASP	5,538.65
	Interest - July 2021		N/A	INT	48.87
36	Aspen Environmental Group	Jul 6, 2021	1116.007-32	LGCS-ASP	24,575.68
36	Aspen Environmental Group	Jul 6, 2021	1116.007-29	LGCS-ASP	6,168.50
35	Aspen Environmental Group	Jul 1, 2021	1116.007-35	LGCS-ASP	5,252.50
	Interest - June 2021		N/A	INT	56.29
	Interest - May 2021		N/A	INT	54.55
34	Aspen Environmental Group	May 13, 2021	1116.007-34	LGCS-ASP	3,557.50
33	Aspen Environmental Group	May 5, 2021	1116.007-33	LGCS-ASP	7,892.94
	Interest - April 2021		N/A	INT	56.38
	Interest - March 2021		N/A	INT	51.10
32	Aspen Environmental Group	Mar 1, 2021	1116.007-31	LGCS-ASP	8,042.16
	Interest - February 2021		N/A	INT	57.28
31	Aspen Environmental Group	Feb 9, 2021	1116.007-28	LGCS-ASP	9,502.23
31	Aspen Environmental Group	Feb 9, 2021	1116.007-27	LGCS-ASP	5,857.58
	Interest - January 2021		N/A	INT	32.97
30	Aspen Environmental Group	Jan 20, 2021	1116.007-30	LGCS-ASP	22,482.97
	Interest - December 2020		N/A	INT	30.56
	Interest - November 2020		N/A	INT	42.73
	Interest - October 2020		N/A	INT	62.73
	Interest - September 2020		N/A	INT	103.31
29	Aspen Environmental Group	Sep 23, 2020	1116.007-26	LGCS-ASP	11,126.30
29	Aspen Environmental Group	Sep 23, 2020	1116.007-25	LGCS-ASP	4,927.94
	Interest - August 2020		N/A	INT	162.31
	Interest - July 2020		N/A	INT	183.75
28	Aspen Environmental Group	Jun 4, 2020	1116.007-24	LGCS-ASP	4,424.63
28	Aspen Environmental Group	Jun 4, 2020	1116.007-23	LGCS-ASP	4,374.38
	Interest - June 2020		N/A	INT	224.85
27	Aspen Environmental Group	Jun 4, 2020	1116.007-22	LGCS-ASP	4,265.00
27	Aspen Environmental Group	Jun 4, 2020	1116.007-21	LGCS-ASP	19,843.67
27	Aspen Environmental Group	Jun 4, 2020	1116.007-20	LGCS-ASP	48,831.81

(Cont.)

Requisition No.	Payee	Date Approved	Invoice No.	Project	Payment Amount
	Interest - May 2020		N/A	INT	420.51
	Interest - April 2020		N/A	INT	1,547.82
	Interest - March 2020		N/A	INT	3,464.69
26	Aspen Environmental Group	Mar 17, 2020	1116.007-19	LGCS-ASP	34,967.79
	Interest - February 2020		N/A	INT	5,385.32
25	ASI Construction LLC	Feb 27, 2020	13	LGCS-ASI	534,863.18
25	Aspen Environmental Group	Feb 27, 2020	1116.008-05	LGCS-ASP	8,792.00
25	Aspen Environmental Group	Feb 27, 2020	1116.007-18	LGCS-ASP	53,544.18
	Interest - January 2020		N/A	INT	7,605.29
24	ASI Construction LLC	Jan 27, 2020	12	LGCS-ASI	1,400,616.68
	Interest - December 2019		N/A	INT	9,036.00
23	ASI Construction LLC	Dec 17, 2019	11	LGCS-ASI	1,261,127.87
22	ASI Construction LLC	Dec 9, 2019	10	LGCS-ASI	1,211,532.61
22	ASI Construction LLC	Dec 9, 2019	09	LGCS-ASI	248,804.00
	Interest - November 2019		N/A	INT	11,914.30
21	Aspen Environmental Group	Oct 31, 2019	1116.008-03	LGCS-ASP	56,104.56
21	Aspen Environmental Group	Oct 31, 2019	1116.007-15	LGCS-ASP	102,968.21
	Interest - October 2019		N/A	INT	14,239.81
20	ASI Construction LLC	Oct 15, 2019	08	LGCS-ASI	1,361,654.50
	Interest - September 2019		N/A	INT	16,527.97
	Interest - August 2019		N/A	INT	18,580.51
19	ASI Construction LLC	Aug 28, 2019	Chng Order 4	LGCS-ASI	1,118,792.54
18	Aspen Environmental Group	Aug 27, 2019	1116.007-13	LGCS-ASP	58,421.77
	Interest - July 2019		N/A	INT	18,017.03
17	Aspen Environmental Group	Jul 30, 2019	1116.007-12	LGCS-ASP	22,237.47
16	Aspen Environmental Group	Jul 1, 2019	1116.007-11	LGCS-ASP	11,059.71
	Interest - June 2019		N/A	INT	18,852.79
	Interest - May 2019		N/A	INT	18,485.68
15	Aspen Environmental Group	May 15, 2019	1116.007-10	LGCS-ASP	6,958.75
	Interest - Apr 2019		N/A	INT	19,042.25
14	Aspen Environmental Group	Apr 22, 2019	1116.007-09	LGCS-ASP	6,938.12
13	Aspen Environmental Group	Apr 1, 2019	1116.008-01	LGCS-ASP	7,731.53
13	Aspen Environmental Group	Apr 1, 2019	1116.007-08	LGCS-ASP	34,790.67
	Interest - Mar 2019		N/A	INT	17,656.62
12	Aspen Environmental Group	Feb 28, 2019	1116.007-07	LGCS-ASP	78,799.25
	Interest - Feb 2019		N/A	INT	20,485.96
11	ASI Construction LLC	Feb 14, 2019	06	LGCS-ASI	338,899.30
	Interest - Jan 2019		N/A	INT	22,085.33
10	Aspen Environmental Group	Jan 29, 2019	1116.007-06	LGCS-ASP	56,529.35
9	ASI Construction LLC	Jan 7, 2019	05	LGCS-ASI	1,494,216.00
8	Aspen Environmental Group	Jan 3, 2019	1116.007-05	LGCS-ASP	67,719.03
	Interest - Dec 2018		N/A	INT	21,673.24
7	ASI Construction LLC	Dec 10, 2018	04	LGCS-ASI	665,631.99
7	Aspen Environmental Group	Dec 10, 2018	1116.007-04	LGCS-ASP	99,711.66
	Interest - Nov 2018		N/A	INT	22,998.40
6	ASI Construction LLC	Nov 7, 2018	03	LGCS-ASI	844,455.00
	Interest - Oct 2018		N/A	INT	20,838.36
5	Aspen Environmental Group	Oct 30, 2018	1116.007-03	LGCS-ASP	56,698.38
4	Aspen Environmental Group	Oct 8, 2018	1116.007-02	LGCS-ASP	51,072.42
3	ASI Construction LLC	Oct 2, 2018	02	LGCS-ASI	156,655.00
	Interest - Sep 2018		N/A	INT	21,047.68
2	ASI Construction LLC	Sep 18, 2018	01	LGCS-ASI	60,027.00
1	Aspen Environmental Group	Sep 12, 2018	1116.007-01	LGCS-ASP	28,105.88
	Interest - Aug 2018		N/A	INT	20,900.39
	Interest - Jul 2018		N/A	INT	1,384.72
	Issuance Costs	Jun 27, 2018	N/A	WRB	$ 226,302.82

Water Revenue Bond - Series 2021A

Updated: February 16, 2021

Project	Project #	Description	Bond Allocation	Contractual Commitment	Payout to Date	Over/(Under)	Uncommitted Bond $
		2021A WRB Issue	$ 9,655,193		$ -	$ -	$ 9,655,193
SIERRA	20-605	WM Repl - Sierra Hwy @ Harold St (Include Amendment #1)	-	669,886	571,980	97,906	(571,980)
W36-Design	20-622	Well 36 - Design & Construction (Hazen and Sawyer)	-	612,656	201,145	411,511	(201,145)
W36-Const	20-622	Well 36 - Design & Construction (Zim Industries)	-	2,073,913	-	2,073,913	(2,073,913)
			-		-	-	-
			-		-	-	-
			-		-	-	-
			-		-	-	-
PWD		Design, Engineering and Other Preconstruction Costs	344,807	344,807	344,807	-	-
WRB		Bond Issuance Costs	267,309	267,309	267,309	-	
ISS		Issuance Funds	(7,733)	(7,733)	(7,733)		
					-		
		Totals:	**$ 10,259,576**	**$ 3,960,839**	**$ 1,377,509**	**$ 2,583,330**	**$ 6,808,155**
		2021A Water Revenue Bonds - Unallocated Funds:		**$ 6,298,738**			
		2021A Water Revenue Bonds - Remaining Funds to payout:			**$ 8,882,068**		

Requisition No.	Payee	Date Approved	Invoice No.	Project	Payment Amount
4	Christensen Brothers - General Contractors	Nov 22, 2021	521-03REV	SIERRA	329,624.82
3	Hazen and Sawyer - Design Engineers	Nov 15, 2021	20182-000-6	W36-Design	47,246.00
3	Hazen and Sawyer - Design Engineers	Nov 15, 2021	20182-000-5	W36-Design	21,527.50
3	Palmdale Water District (Reimbursement H&S Inv#1-4)	Nov 15, 2021	N/A	W36-Design	132,371.26
2	Christensen Brothers - General Contractors	Oct 20, 2021	521-02REV	SIERRA	179,726.77
2	Palmdale Water District (Reimbursement CB Inv#1)	Oct 20, 2021	N/A	SIERRA	62,628.75
1	Palmdale Water District	Aug 2, 2021	N/A	PWD	344,807.22
	Issuance Costs	Jul 22, 2021	N/A	WRB	$ 267,309.10

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	February 23, 2022	**February 28, 2022**
TO:	BOARD OF DIRECTORS	**Board Meeting**
FROM:	Dennis J. Hoffmeyer, Finance Manager/CFO	
VIA:	Mr. Dennis LaMoreaux, General Manager	
RE:	***AGENDA ITEM 8.1.d – REPORTS***	

Discussion:

Presented here are financial related items for your review.

1. Effects of COVID-19 event.
    a. As of December 31, 2021, we have 2,172 single family accounts with a past due balance over 60 days with amounts greater than $50.00. Total outstanding for those accounts at 60+ days is $871,057. At November 30, 2021, there were 2,047 single family accounts same stat with an outstanding balance of $1,333,949. December's total is a 34.7% decrease over November.

       At December 31, 2020, there were 1,644 single family accounts same stat with an outstanding balance of $764,227.

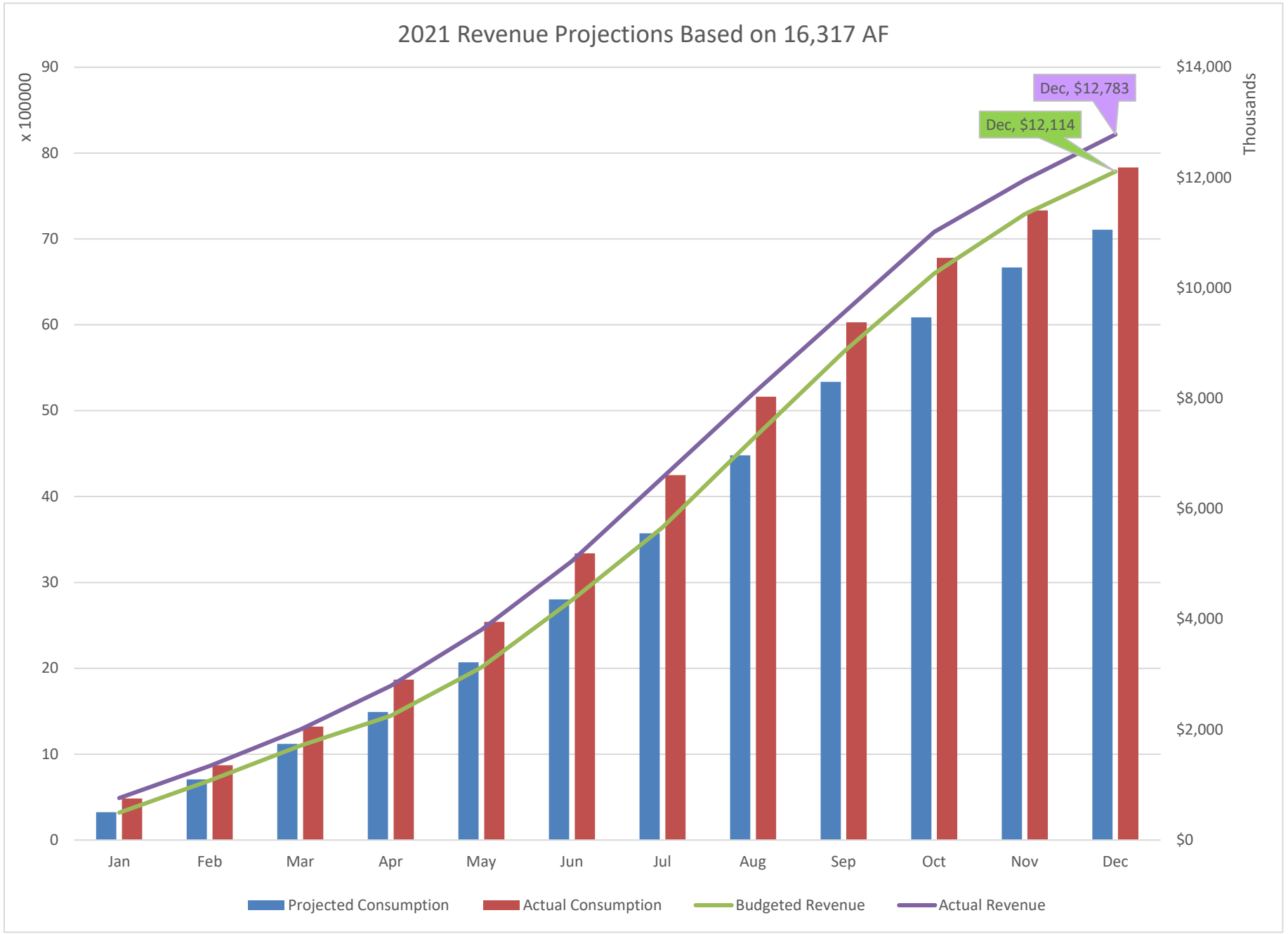
       Staff has applied State Arrearage funding to residential accounts, and this factors into the decrease for December.

2. Revenue Projections (attachment):
    a. Revenue projections for 2021 based on selling 16,317 AF shows as of December 30th, revenue is ahead of projections by approximately $668K.

3. Rate Assistance Program status.
    a. Follow-up to last month's report on rate assistance. We have 584 qualifying accounts with one slot left.

4. Billing & Collection Statistics (attachment):
    a. Billing & collection cycle complete through December 2021 shows a slight increase in bills issued and notices mailed compared to December 2020.

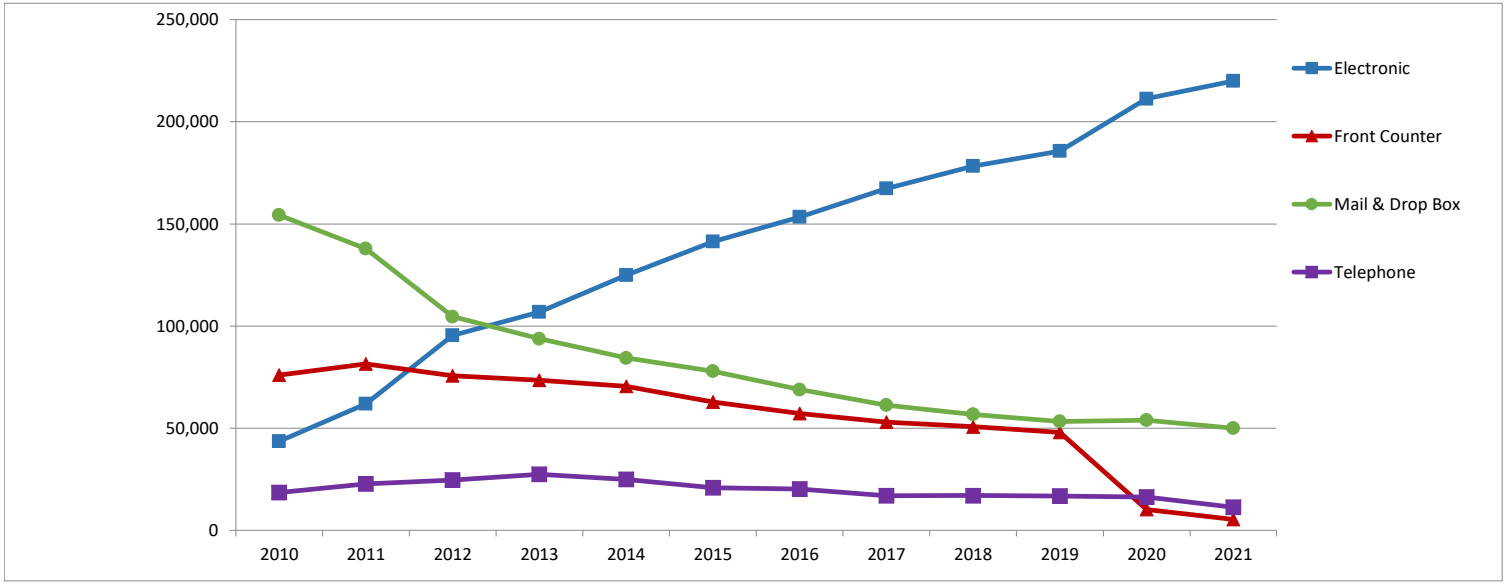
5. Payment Transaction Statistics (attachment).


2021 Revenue Projections Based on 16,317 AF
x 100000
Thousands
90
80
70
60
50
40
30
20
10
0
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Dec, $12,783
Dec, $12,114
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Projected Consumption
Actual Consumption
Budgeted Revenue
Actual Revenue

Billing Statistics

	Bills (A)	LF Notice (B)	Shut Notice (C)	Off & Lock (D)	Based on Bills Issued			Based on Late Notices		Based on Shut Notice
					B / A	C / A	D /A	C / B	D / B	D / C
Dec-19	26,699	6,565	2,456	326	24.6%	9.2%	1.2%	37.4%	5.0%	13.27%
Dec-20	26,808	6,038			22.5%	0.0%	0.0%	0.0%	0.0%	0.00%
Jan-21	26,802	6,358			23.7%	0.0%	0.0%	0.0%	0.0%	0.00%
Feb-21	26,810	5,643			21.0%	0.0%	0.0%	0.0%	0.0%	0.00%
Mar-21	26,827	5,700			21.2%	0.0%	0.0%	0.0%	0.0%	0.00%
Apr-21	26,642	5,641			21.2%	0.0%	0.0%	0.0%	0.0%	0.00%
May-21	26,830	5,885			21.9%	0.0%	0.0%	0.0%	0.0%	0.00%
Jun-21	26,835	6,156			22.9%	0.0%	0.0%	0.0%	0.0%	0.00%
Jul-21	26,835	6,471			24.1%	0.0%	0.0%	0.0%	0.0%	0.00%
Aug-21	26,860	6,658			24.8%	0.0%	0.0%	0.0%	0.0%	0.00%
Sep-21	26,860	6,663			24.8%	0.0%	0.0%	0.0%	0.0%	0.00%
Oct-21	26,914	6,748			25.1%	0.0%	0.0%	0.0%	0.0%	0.00%
Nov-21	26,898	6,701			24.9%	0.0%	0.0%	0.0%	0.0%	0.00%
Dec-21	26,893	6,665			24.8%	0.0%	0.0%	0.0%	0.0%	0.00%

Payment Transactions By Types Jan-Dec



Payment Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Electronic	43,590	61,989	95,446	106,870	124,881	141,393	153,408	167,351	178,355	185,683	211,276	219,966
Front Counter	76,023	81,539	75,723	73,557	70,599	62,841	57,296	52,950	50,748	48,047	10,314	5,335
Mail & Drop Box	154,303	137,945	104,630	93,819	84,407	77,916	68,919	61,349	56,771	53,318	53,967	50,047
Telephone	18,550	22,746	24,635	27,431	24,921	20,894	20,273	16,947	17,068	16,817	16,412	11,369
Total	**292,464**	**304,219**	**300,434**	**301,677**	**304,808**	**303,044**	**299,896**	**298,597**	**302,942**	**303,865**	**291,969**	**286,717**

Detail of Electronic Payments

META - ACH Pymt	8,286	7,747	7,469	7,837	3,027	3,233	1,622	1,695	1,676	1,694	1,724	1,700
WES - ACH Pymt	377	809	913	1,036	971	972	995	1,022	976	917	886	780
INF - Website Pymts	34,927	49,602	63,919	70,399	73,349	77,813	82,246	90,409	97,384	103,872	118,195	126,608
IVR - Automated Pay ##	0	0	0	0	13,035	23,607	28,788	32,680	35,010	36,813	41,111	40,277
KIOSK - Automated Pay $$	0	0	0	0	0	366	1,296	1,504	2,044	1,385	359	33
PNM - Automated Pay %%	0	0	0	0	0	0	815	2,897	4,268	4,717	8,948	10,349
VAN - ACH Pymt &&	0	3,831	23,145	27,598	34,499	35,402	37,646	37,144	36,997	36,285	40,053	40,219
Total	**43,590**	**61,989**	**95,446**	**106,870**	**124,881**	**141,393**	**153,408**	**167,351**	**178,355**	**185,683**	**211,276**	**219,966**

##- IVR service started March 13, 2014

$$ - Kiosk service started July 1, 2015

%% - PNM - Pay Near Me service started June 9, 2016

&& - Vanco ACH service started Sept 2011

MINUTES OF MEETING OF THE OUTREACH COMMITTEE OF THE PALMDALE WATER DISTRICT, JANUARY 19, 2022:

A meeting of the Outreach Committee of the Palmdale Water District was held Wednesday, January 19, 2022, at 2029 East Avenue Q, Palmdale, CA 93550 and via teleconference. Chair Mac Laren-Gomez called the meeting to order at 4:22 p.m.

1) **Roll Call.**

Attendance:
Committee:
Kathy Mac Laren-Gomez, Chair
Don Wilson, Committee Member

Others Present:
Dennis LaMoreaux, General Manager
Adam Ly, Assistant General Manager
Judy Shay, Public Affairs Director
Claudia Bolanos, Resource & Analytics Spvsr.
Dawn Deans, Executive Assistant
0 members of the public

2) **Adoption of Agenda.**

It was moved by Committee Member Wilson, seconded by Chair Mac Laren-Gomez, and unanimously carried by all members of the Committee present at the meeting to adopt the agenda, as written.

3) **Public Comments for Non-Agenda Items.**

There were no public comments for non-agenda items.

4) **Action Items: (The Public Shall Have an Opportunity to Comment on Any Action Item as Each Item is Considered by the Committee Prior to Action Being Taken.)**

4.1) Consideration and Possible Action on Approval of Minutes of Meeting Held November 17, 2021.

It was moved by Committee Member Wilson, seconded by Chair Mac Laren-Gomez, and unanimously carried by all members of the Committee present at the meeting to approve the minutes of the Outreach Committee meeting held November 17, 2021, as written.

4.2) Discussion of the District's Response to the Drought. (Public Affairs Director Shay/Resource & Analytics Supervisor Bolanos)

Public Affairs Director Shay stated that radio ads and Water Wise Wednesdays continue.

Resource & Analytics Supervisor Bolanos then provided an update on meetings with the Antelope Valley Water Conservation Roundtable and stated that staff has reached out to large water users to help reduce usage and that a Water Wise Workshop regarding gardening in the desert is scheduled in March followed by discussion of reporting water waste and ensuring the public is aware of continuing drought conditions.

4.3) Discussion of 2021 Outreach Activities. (Public Affairs Director Shay)

a) Outreach Report.

Public Affairs Director Shay stated that a written Outreach Report of upcoming events and 2021 plans through January 19, 2022 was included with the agenda packets if there are any questions, including articles included in various print publications, various events, and the increase in social media interactions.

b) Upcoming Events/2022 Plans.

She then reviewed the 2022 Outreach Plan , which includes radio interviews with Café Con Leche, Special Districts Association of North Los Angeles County quarterly lunch meetings, Let's Talk H2O events, and Water Wise Workshops.

5) Reports.

5.1) Lobbying Activities. (Assistant General Manager Ly)

Assistant General Manager Ly stated that the District's lobbyist informed the District of the shift in the Assembly's Water Committee membership followed by discussion of future lobbying involvement for the District's groundwater augmentation program, which would not be effective unless state funding becomes available.

6) Board Members' Requests for Future Agenda Items.

Chair Mac Laren-Gomez requested future agenda items for "Consideration and possible action on a recommendation for the District's participation in the Antelope Valley Fair's Ag Day" and "Status update on 2022 outreach to the schools."

There were no further requests for future agenda items.

7) Date of Next Committee Meeting.

It was stated that the next Outreach Committee meeting will be held February 16, 2022 at 4:00 p.m.

8) Adjournment.

There being no further business to come before the Outreach Committee, the meeting was adjourned at 5:03 p.m.

Chair

MINUTES OF MEETING OF THE FINANCE COMMITTEE OF THE PALMDALE WATER DISTRICT, JANUARY 25, 2022:

A meeting of the Finance Committee of the Palmdale Water District was held Tuesday, January 25, 2022, at 2029 East Avenue Q, Palmdale, CA 93550 and via teleconference. Chair Wilson called the meeting to order at 2:00 p.m.

1) **Roll Call.**

Attendance:
Committee:
Don Wilson, Chair
Gloria Dizmang, Committee Member

Others Present:
Dennis LaMoreaux, General Manager
Adam Ly, Assistant General Manager
Dennis Hoffmeyer, Finance Manager
Judy Shay, Public Affairs Director
Diana Gunn, Accounting Supervisor
Tara Rosati, Customer Care Supervisor
Judith Hernandez, Senior Customer Care Rep.
Bob Egan, Financial Advisor
2 members of the public

2) **Adoption of Agenda.**

It was moved by Committee Member Dizmang, seconded by Chair Wilson, and unanimously carried by all members of the Committee present at the meeting to adopt the agenda, as written.

3) **Public Comments for Non-Agenda Items.**

There were no public comments for non-agenda items.

4) **Action Items: (The Public Shall Have an Opportunity to Comment on Any Action Item as Each Item is Considered by the Committee Prior to Action Being Taken.)**

4.1) Consideration and Possible Action on Approval of Minutes of Meeting Held November 23, 2021.

It was moved by Committee Member Dizmang, seconded by Chair Wilson, and unanimously carried by all members of the Committee present at the meeting to approve the minutes of the Finance Committee meeting held November 23, 2021, as written.

4.2) Consideration and Possible Action on Contract Services Agreement With Infosend Regarding Consolidation and Enhancements Regarding Payment Processing and the District's Billing Website Upgrades. ($ to be Determined – Budgeted – Budget Item No. 1-00-4130-000 – Finance Manager Hoffmeyer)

Finance Manager Hoffmeyer provided an overview of the proposed Contract Services Agreement with Infosend and the potential cost, and after a brief discussion, it was moved by Committee Member Dizmang, seconded by Chair Wilson, and unanimously carried by all members of the Committee present at the meeting that the Committee concurs with staff's recommendation to approve the Contract Services Agreement with Infosend regarding Consolidation and Enhancements Regarding Payment Processing and the District's Billing Website Upgrades in an amount to be determined within budget amounts.

4.3) Consideration and Possible Action on Contract Services Agreement With Bartel Associates Regarding GASB 68 and GASB 75 Actuarial Valuation. ($14,250.00 – Budgeted – Budget Item No. 1-02-5070-007 – Finance Manager Hoffmeyer)

Finance Manager Hoffmeyer provided an overview of the proposed Contract Services Agreement with Bartel Associates, and after a brief discussion, it was moved by Committee Member Dizmang, seconded by Chair Wilson, and unanimously carried by all members of the Committee present at the meeting that the Committee concurs with staff's recommendation to approve the Contract Services Agreement with Bartel Associates Regarding GASB 68 and GASB 75 Actuarial Valuation in the not-to-exceed amount of $14,250.00.

4.4) Discussion and Overview of Cash Flow Statement and Current Cash Balances as of October 2021. (Financial Advisor Egan)

Financial Advisor Egan provided an overview of the monthly Major Account Activity Report, Investment Funds Report, and Cash Flow Statement through November 2021, including transfers to the Rate Stabilization Fund, assessments received for November and December, arrearage funds received, and the increase in the projected year-end balance followed by discussion of the upcoming Butte County payment.

4.5) Discussion and Overview of Financial Statements, Revenue, and Expense and Departmental Budget Reports for November 2021. (Finance Manager Hoffmeyer)

Finance Manager Hoffmeyer reviewed in detail the balance sheet, profit and loss statement and trends, quarter to quarter comparisons, and revenue and expense analysis reports for the period ending November 2021 and stated that departments are operating at or near the targeted expenditure percentage of 91.7% followed by discussion of the lack of rainfall, the Facilities Department budget, contracted services, and employee recruitment.

4.6) Discussion and Overview of Committed Contracts Issued. (Finance Manager Hoffmeyer)

Finance Manager Hoffmeyer provided an overview of the Contractual Commitments and Needs Report for new and replacement capital projects, consulting and engineering support projects, new and replacement equipment, water quality fee funded projects, committed and projected capital expenditures, and the payout summary for the 2018A Series and 2021A Series Water Revenue Bonds through November 2021 followed by discussion of compliance with bond requirements.

5) Reports.

5.1) Finance Manager Hoffmeyer:

a) The Effect of COVID-19 Event.

Finance Manager Hoffmeyer stated that due to COVID-19 events, as of November 30, 2021, there were 2,047 single family accounts with a balance of $50 or more and over sixty days past due with a total past due amount of $1,333,949 million compared to 1,930 accounts at October 31, 2021 with an outstanding balance of $1,249,366 million and 1,447 accounts at November 30, 2020 with an outstanding balance of $660,409.

b) Revenue Projections.

He then stated that 2021 revenue is ahead of projections by approximately $619,000 as of November 30, 2021.

c) **Rate Assistance Program Status:**

He then stated that for 2021, 709 customers participated in the Rate Assistance Program including 361 seniors and 14 veterans; that the Program for 2022 allows a maximum of 585 participants; that as of January 25, 2022, 571 customers are participating in the Program including 393 seniors, 11 veterans, and 167 low income; and that 2022 funds are exhausted followed by discussion of providing assistance to additional customers and SB222.

He then informed the Committee that the District qualified for $757,355 from the State Arrearage Funding Program for past due accounts due to COVID-19; that based on the various qualification requirements of the Program, only 850 accounts qualified for funding with $360,489 applied to residential customer accounts, $4,036 applied to commercial accounts, and $10,945 applied to administrative fees; and that the remaining funds were required to be returned to the state less additional administrative fees.

5.2) Financial Advisor Egan:

a) **Debt Service Coverage Status.**

Financial Advisor Egan stated that the Debt Service Coverage for December 2020 to November 2021 is 2.00.

6) Board Members' Requests for Future Agenda Items.

There were no requests for future agenda items.

7) Date of Next Committee Meeting.

It was determined that the next Finance Committee meeting will be held February 22, 2022 at 2:00 p.m.

8) Adjournment.

There being no further business to come before the Finance Committee, the meeting was adjourned at 3:19 p.m.

Chair

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: February 23, 2022 **February 28, 2022**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 8.3.a – FEBRUARY 2022 GENERAL MANAGER REPORT***

The following is the February 2022 report to the Board of activities through January 2022. It is organized to follow the District's 2020 Strategic Plan approved in August 2020 and composed of six strategic initiatives. The initiatives follow for reference. It is intended to provide a general update on the month's activities.

PWD 2020 STRATEGIC PLAN SUMMARY

***Water Resource Reliability*:** *Resilience, Development, Partnership*

Support and participate with local agencies in the development of projects and policies that improve water reliability

Expand the recycled water distribution system for both public access and construction water

Continue the Palmdale Regional Groundwater Recharge and Recovery Project to maximize state and federal funding opportunities

Support projects and initiatives that increase the resilience of the State Water Project

Expand access to available water supplies to increase drought resiliency, develop water storage projects, and improve the ability to capture groundwater, local surface water, and recycled water

Update the 2010 Strategic Water Resources Plan and Water Supply Fee to ensure funding for needed projects

Strengthen stakeholder relationships and implement Littlerock Dam and Reservoir sediment removal

***Organizational Excellence*:** *Train, Perform, Reward*

Offer competitive compensation and benefits package for employee recruitment and retention

Focus Succession Planning Program on ensuring an overlap of training for key positions

Continue providing transparency to our ratepayers

Promote and support leadership training and professional development programs to enhance the District's customers' experience

Ensure employees are trained on the Strategic Plan and the District's Values of Diversity, Integrity, Teamwork, and Passion

Improve safety for Directors, employees, and customers

Develop career paths at the District for interns and pursue state and federal funding for intern programs

Involve employees in community engagement and professional platforms

***Systems Efficiency*:** *Independence, Technology, Research*

Explore energy independence and evaluate the feasibility of energy options, including wind and solar

Incorporate more energy efficient technologies into the District's infrastructure

Advance new technologies to increase treatment efficiencies, including the use of Granular Activated Carbon (GAC)

Research state-of-the-art treatment techniques to help with systems efficiency and flexibility in using recycled water and surface water

Enhance technologies to increase efficiencies

Re-evaluate Lake Palmdale by-pass pipeline and pursue funding options

Improve Palmdale Ditch to reduce water loss

***Financial Health and Stability*:** *Strength, Consistency, Balance*

Pursue grant funding for District projects and operations

Maintain the five-year financial plan adopted as part of the 2019 Water Rate Study, including the five-year Capital Improvement Plan

Build adequate reserve levels and achieve high-level bond rating

Seek potential revenue sources from vacant District properties

Monitor finances, operations, and projects affected by emergencies

Digitize and document departmental workflows

Regional Leadership: *Engage, Lead, Progress*

Increase involvement with water, business, and community partnerships

Provide opportunities for local businesses to contract with the District

Expand the Greater Antelope Valley Water Emergency Coalition by continuing to collaborate with neighboring water agencies and moving to include more agencies outside of the Antelope Valley

Develop working relationships and mutually beneficial projects with other water agencies in the District's state and federal representatives' districts

Develop events or activities with lessees of District properties

Host a 100th anniversary celebration for a fully re-opened Littlerock Dam and Reservoir recreation area in 2024

Customer Care, Advocacy and Outreach: *Promote, Educate, Support*

Enhance customers' experience through communication and feedback

Evaluate, develop, and market additional payment options

Develop the District's Public Outreach Plan and increase public awareness of current programs and services

Develop partnerships with various agencies to distribute information about resources available to the public

Engage elected officials and the public on the importance of local, state, federal, and global water reliability issues

Expand the District's social media platforms and find new avenues to share information and news

Plan and convert to an Advanced Metering Infrastructure (AMI) to increase customers' knowledge of water use

Continue to promote and expand school water education programs

Overview

This report also includes charts that show the effects of the District's efforts in several areas. They are organized within each strategic initiative and include status of the State Water Resources Control Board's (SWRCB) former long-term conservation orders (20 x 2020), the District's total per capita water use trends, 2021 actual water production and customer use graph, mainline leaks, and the water loss trends for both 12- and 24-month running averages.

Water Resource Reliability *Resilience, Development, Partnership*

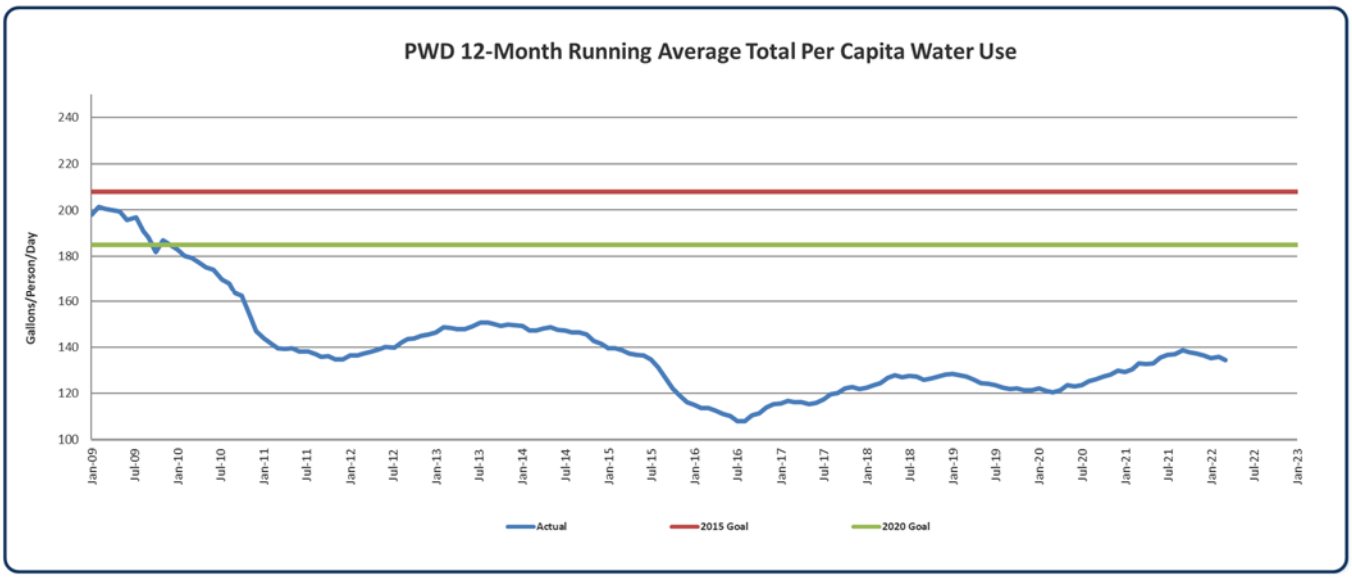
This initiative includes conservation efforts, water supply projects, and water planning. Recent highlights are as follows:

Overall Water Use Goals and Compliance

The 20 x 2020 per capita reduction goals passed by the legislature in 2009 with new long-term water budgeting requirements have now been replaced with new requirements and water agency water budgets. These follow through on the "Making Water Conservation a California Way of Life" plan. The District expects to easily comply with the new requirements as they are based on the same philosophy as the District's water budget rate structure.

The 2020 Urban Water Management Plan was adopted by the District in June 2021. It does not relate to the District's water use to the upcoming agency water budget. Until these criteria are finalized, the customers' performance is shown in this report using the 20 x 2020 requirements.

The District's compliance with the former 20 x 2020 law is evident from the chart titled "PWD 12-Month Running Average Total Per Capita Water Use:"

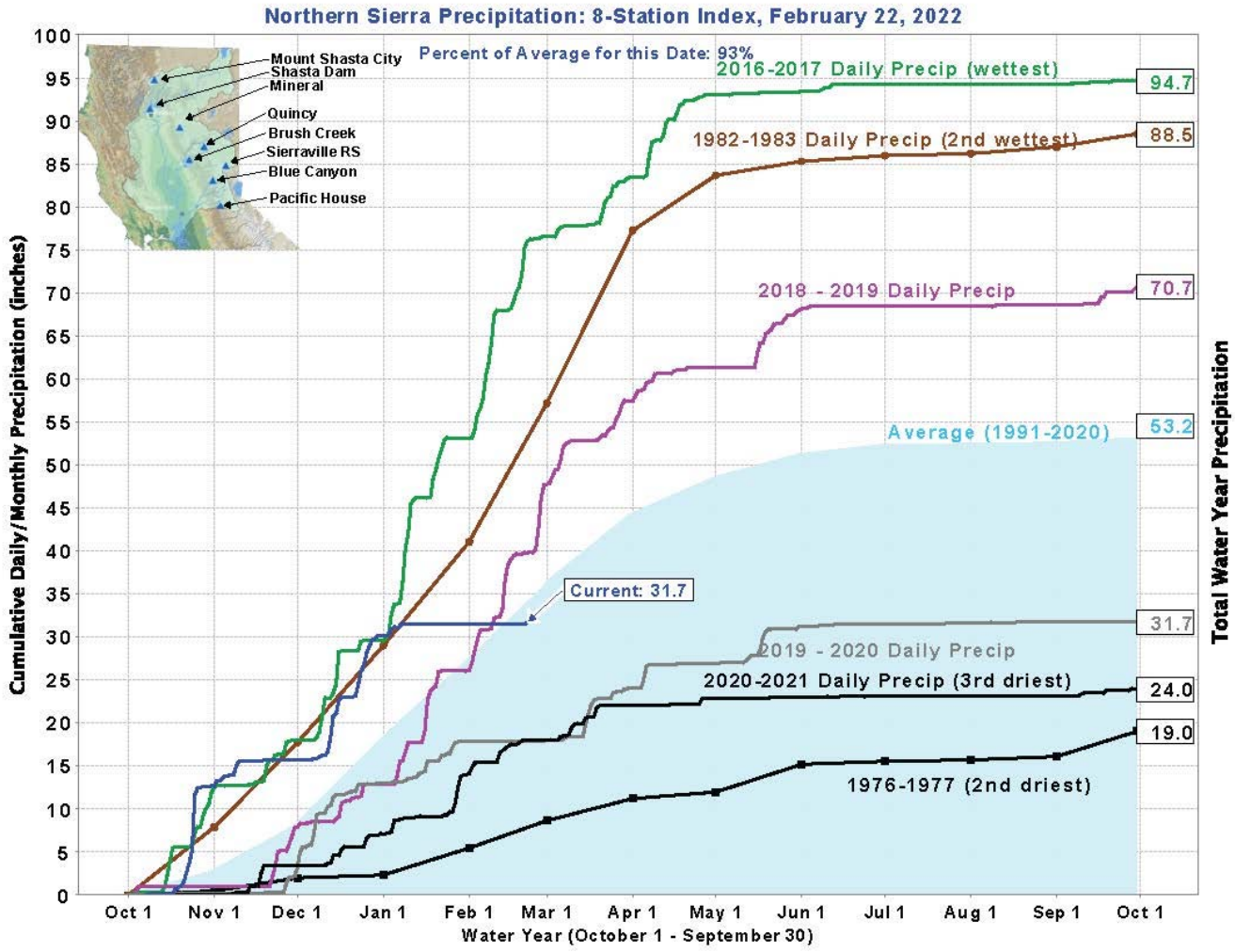


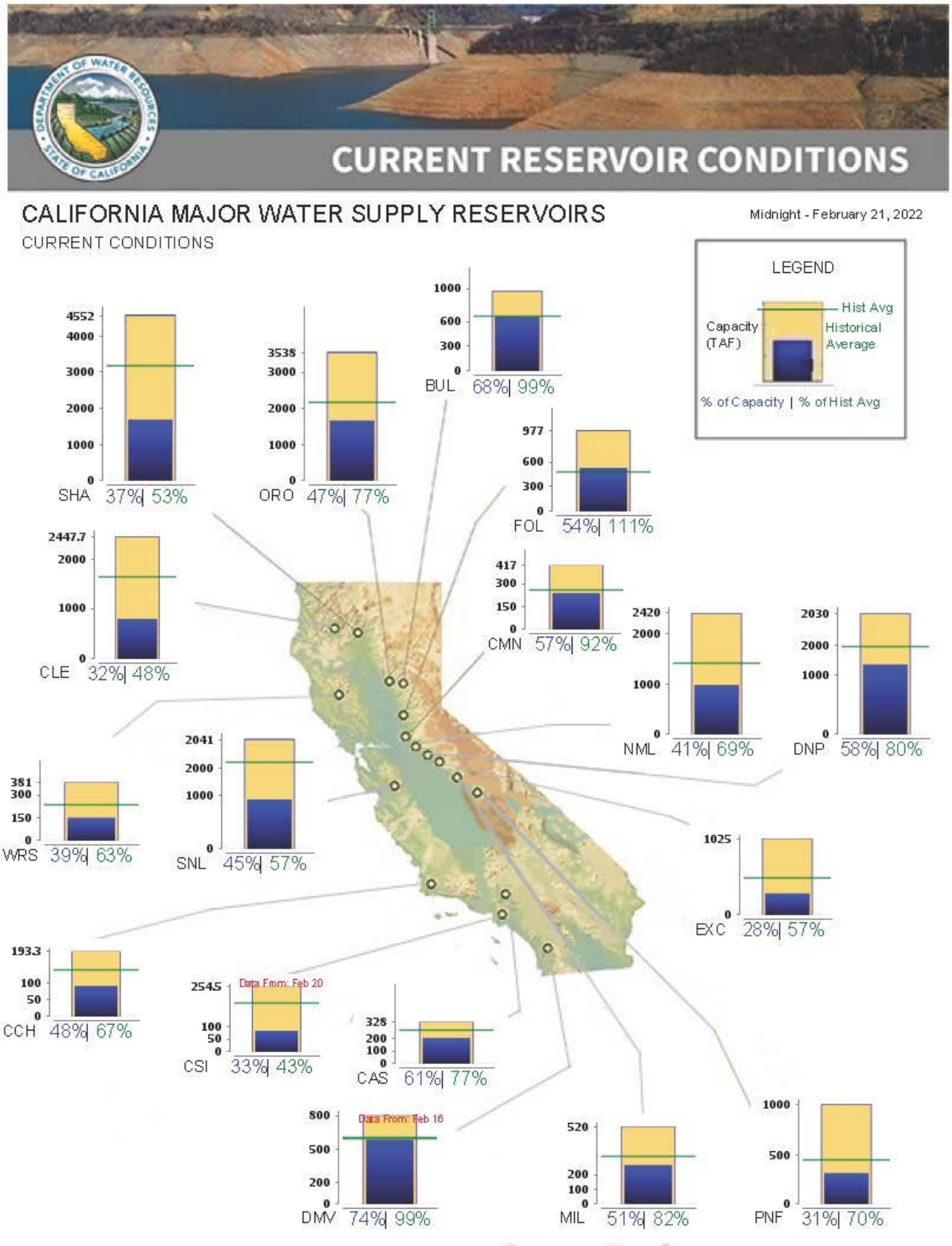
The District's customers have cut their water use by **42.0%** from the baseline number of 231 re-established in the 2020 Urban Water Management Plan and met the 2020 Goal in early 2010. The current Metered-GPCD is 134 showing our customers' reduced usage.

2021 Water Supply Information – Extremely Dry Year

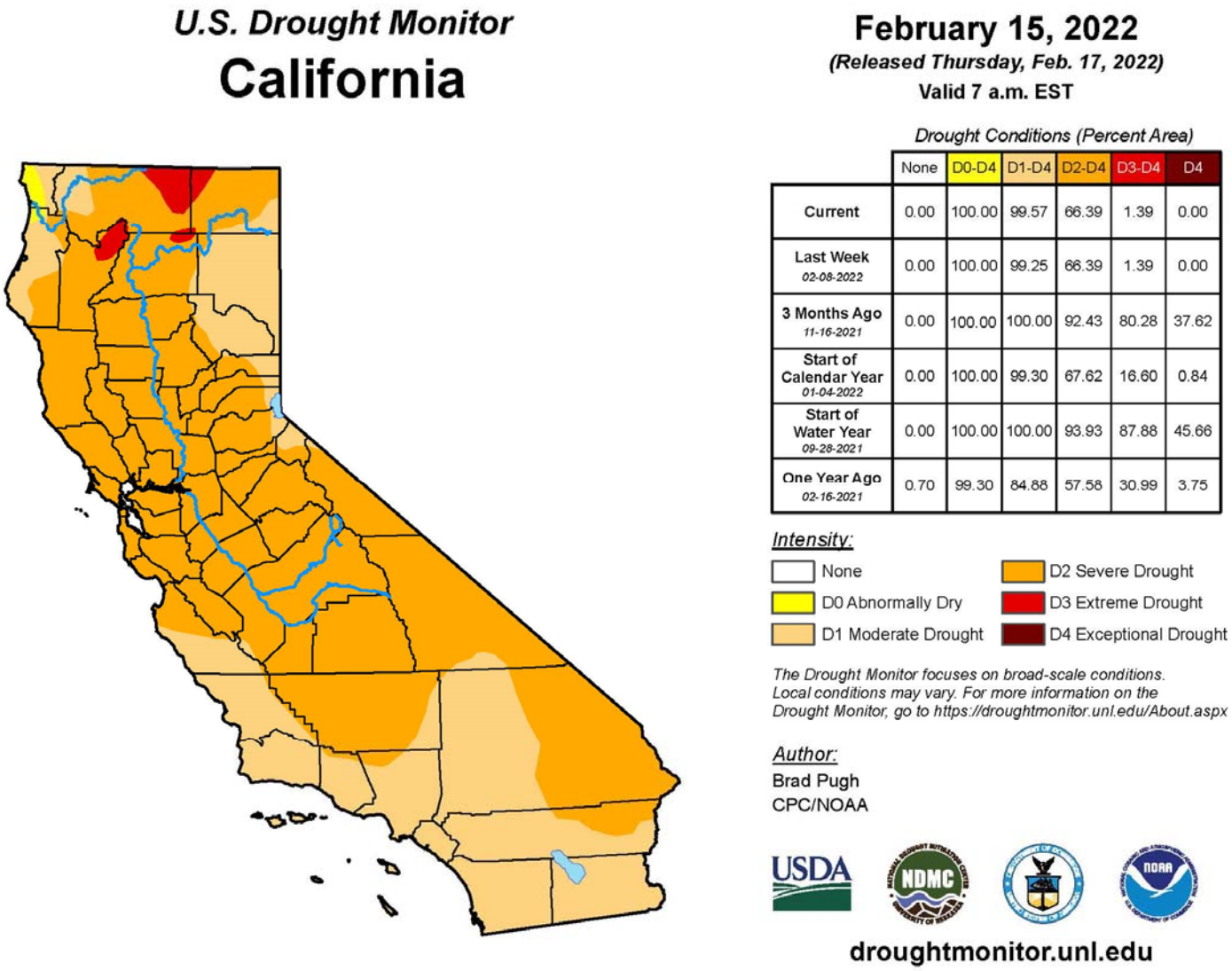
- The AV Adjudication is now entering its seventh year, and the reduction to the native safe yield is in its fifth year. The District's native groundwater right is 2,769.63 AF. The District's 2021 groundwater rights totaled 8,359 AF without the prior year's Carryover Rights. The District's 2022 groundwater rights will be approximately 8,000 AF with 9,000 AF of Carryover production rights from prior years for a total of 17,000 AF. This is more than the District's existing wellfield can pump.

- The 2022 water resources plan is not set at this point. While precipitation in the area that contributes to the State Water Project is at 93% of average for the 2021-2022 Water Year (October through September), the SWP allocation is now 15% and may change in March 2022. Littlerock Reservoir filled due to the storms in December 2021, and the District began taking water to Palmdale Lake in February. The District will explore other water sources as needed for 2022 including the SWC Dry Year Program, Yuba Accord Water, and exchanges. The current precipitation and state reservoir storage as of Tuesday, February 22, 2022, are as follows:




CURRENT RESERVOIR CONDITIONS
CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS
CURRENT CONDITIONS
Midnight - February 21, 2022
LEGEND
Capacity (TAF)
Hist Avg
Historical Average
% of Capacity | % of Hist Avg
SHA 37% 53%
ORO 47% 77%
BUL 68% 99%
FOL 54% 111%
CLE 32% 48%
CMN 57% 92%
NML 41% 69%
DNP 58% 80%
WRS 39% 63%
SNL 45% 57%
EXC 28% 57%
CCH 48% 67%
CSI 33% 43%
Data From: Feb 20
CAS 61% 77%
DMV 74% 99%
Data From: Feb 16
MIL 51% 82%
PNF 31% 70%
Updated 02/22/2022 10:48 AM

- The dry conditions last year led to the District's implementation of its Stage 1 of the 2015 Water Shortage Contingency Plan (WSCP) in April 2021 and the 2020 WSCP in June. This stage is a request to our customers to voluntarily reduce their water use by 15%. The focus is on additional outreach, education, and coordination with the largest water users. The following map of California shows the levels of drought in the state as of February 22, 2022. The Antelope Valley is now in "Moderate Drought." Most of Kern County and the eastern Sierras are in "Severe Drought." This map is updated on a weekly basis and provides information that can help the District take needed steps to address the drought in the months ahead.



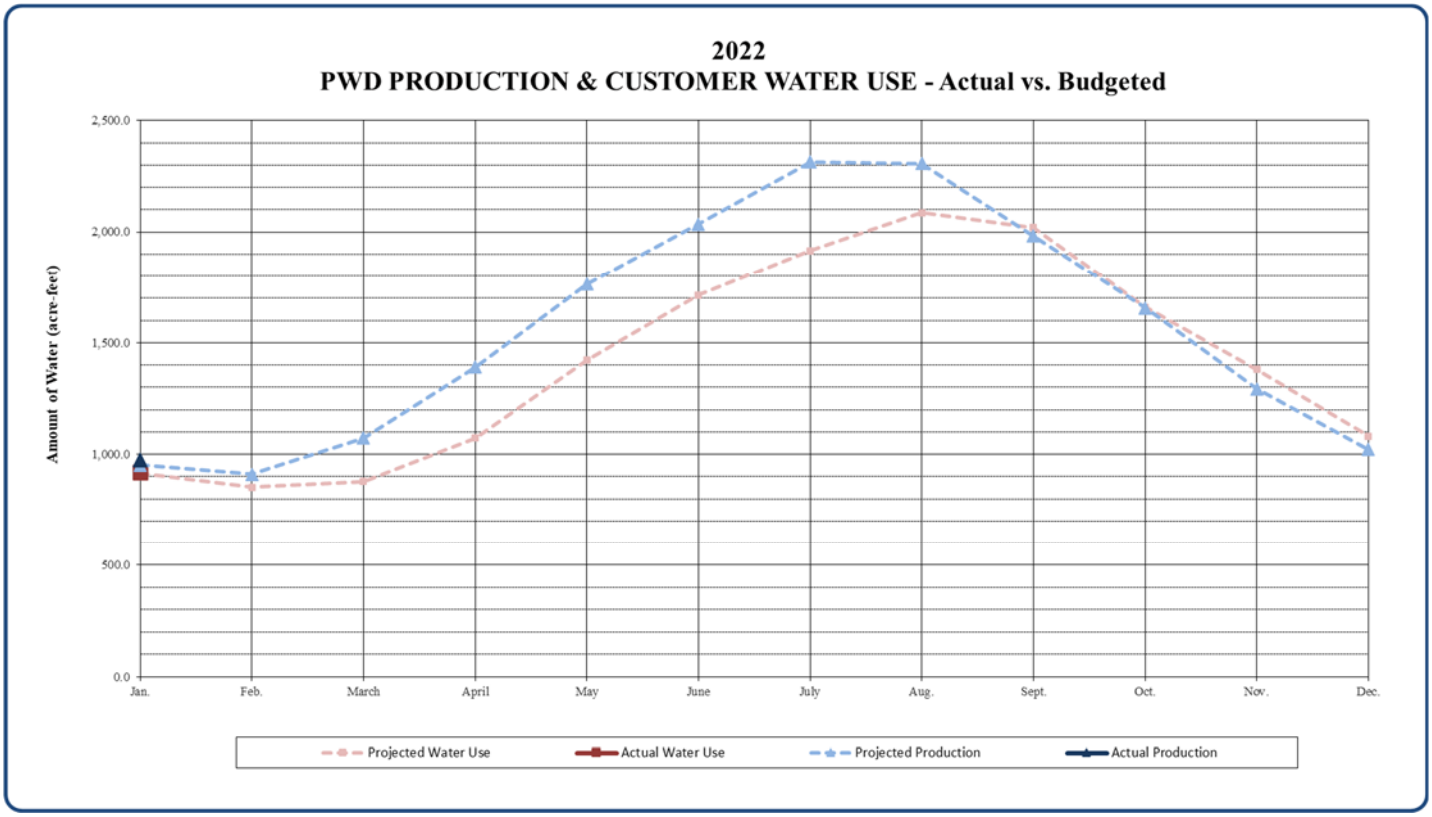
The following table summarizes the District's water production, billed customer water usage, unaccounted for water, and per capita usage differences between 2020 and 2021

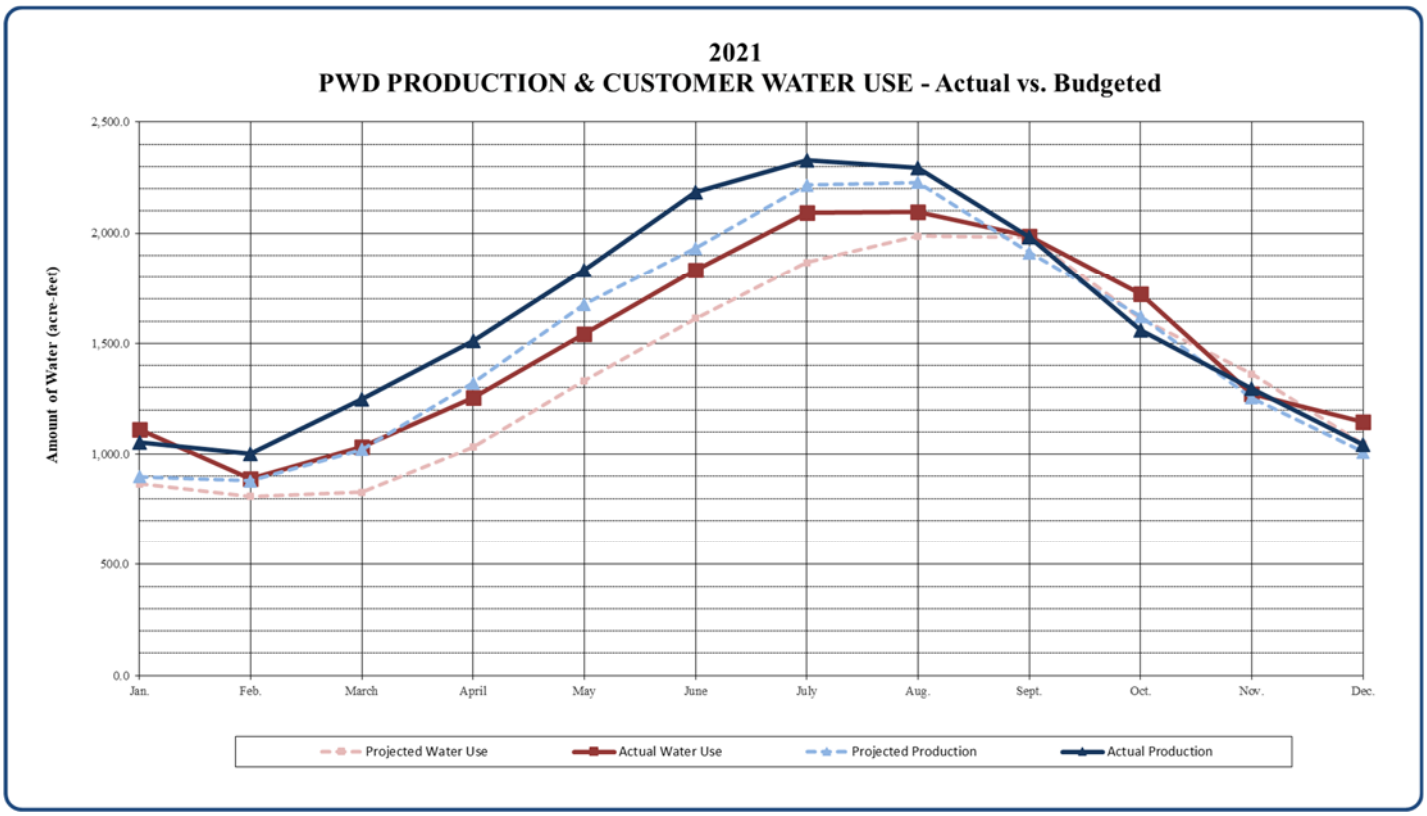
through December 31st. While total water production is up 0.8%, the billed usage is up 4.5%. This shows the progress made to reduce unaccounted (lost) water. It also shows the customers' actions to reduce their usage in response to the 15% voluntary reduction issued by the State.

Year to Date Through:	Total Prod. (ac.-ft.)	Total Billed (ac.-ft.)	Water Loss (ac.-ft.)	Water Loss (year %)	Water Loss (12 mo %)	Aver. Active Connections	Aver. Gallons per Conn./month	Aver. Per Cap. Use (gal/day/per.)
December 31, '20	19,180.5	17,213.0	1,967.5	10.3	7.6	26,792	17,442	130.5
December 31, '21	19,343.3	17,983.6	1,359.7	7.0	10.0	26,912	18,144	135.9
Increase	162.8	770.6	-607.8	-3.2	2.5	120	702	5.4
% Increase	0.8	4.5	-30.9	-31.5	32.4	0.4	4.0	4.2
5 yr. Average ('17-'21)	16,104.9	14,369.1	1,735.8	10.8	8.9	26,740	17,505	131

- The following graph is the projected monthly water consumption and production for 2022 based on the prior five years of actual monthly information. The projected total consumption is based on the 2022 Budget amount of 17,000 AF.

  Actual amounts are shown for January with solid points. The 2021 graph shows the projected and actual water use last year. Customer water use was 17,983.6 AF in 2021. This is the most water used by customers since 18,127 AF in 2014, before the 2015-2017 drought.





Other Items

- The Littlerock Reservoir Sediment Removal Project (Project) Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was fully approved in 2017. The Project consists of three phases. The Grade Control Structure is Phase 1 and was completed in January 2020.

  Phase II is the removal of 1.2 million cubic yards (CY) of sediment from the reservoir. The District received a good, competitive response to the emergency 19,000 CY sediment removal project last year that included the disposal of the removed sediment. The interest is promising for starting Phase II of the Project later this year in the amount of about 120,000 CY. The Board approved moving forward with Aspen Environmental for the next five years as the environmental permitting and monitoring firm. Staff is working with Aspen Environmental to secure all the necessary permits. However, the regulatory agencies have made it difficult, and the sediment removal season from Labor Day through December was missed for 2021.

- The focus of using recycled water for a stable potable water supply has shifted from the Palmdale Regional Groundwater Recharge and Recovery Project (PRGRRP) to the Palmdale Regional Water Augmentation Project (PRWAP). Stantec prepared a feasibility report for the advanced treatment of the tertiary recycled water. It appears to be feasible

and more cost efficient. PRWA suspended work on additional purple pipe while advanced treatment is being evaluated.

A request for proposals was issued for a program management firm to assist the District with the Palmdale Regional Water Augmentation Project (PRWAP) late last year. The proposals are due January 26, 2022. They will be evaluated by staff, interviews will be held, and a recommendation will be made to the Board in late February to award a contract for the work.

- The Upper Amargosa Creek Recharge Project is complete. One contract is for the California Aqueduct turnout and transmission water main. The other is for the recharge basins. The project partners, City of Palmdale, LA County Waterworks, and AVEK, are now finalizing the operation and maintenance agreement.

  The City of Palmdale recently notified the project partners about the mitigation requirements and costs. The two stages, 11.28 acres and 38.72 acres, of mitigation are being finalized with the regulatory agencies. The estimated construction costs are $1,305,472 and $3,100,000, respectively, and will be built several years apart. The City is planning meetings to discuss these costs and the responsibilities of the project partners and is also seeking grant funding for these costs.

- Delta Conveyance Design and Construction Authority (DCA): This joint power authority is responsible for the environmental, design, and engineering of the project and works with the Department of Water Resources (DWR) on the project. The Board is now reorganized with more representation from smaller agencies. This includes adding two seats for the East Branch, Class 8, of the California Aqueduct. The agencies are AVEK, PWD, Littlerock Creek Irrigation District (LCID), Mojave Water Agency (MWA), Crestline-Lake Arrowhead Water Agency, San Gabriel Valley Municipal Water District, San Bernardino Valley Municipal Water District (SBVMWD), San Gorgonio Pass Water Agency, Desert Water Agency, and Coachella Valley Water District (CVWD).

  The Delta Conveyance Project (DCP) is moving to the next step of a Draft EIR/EIS (Draft) for the public's review. The Draft is planned for release this summer. The information on the following pages was recently published by the State.

Delta Conveyance Project Public Engagement Outlook for 2022

Published: February 04, 2022

Aerial view of farmland and waterways in the Sacramento-San Joaquin Delta.

The upcoming year will mark an important milestone in the proposed Delta Conveyance Project planning process, with the anticipated release of the Draft Environmental Impact Report (EIR) for public review and comment in mid-2022. What follows are the public outreach and engagement activities planned for 2022 that are intended to improve public access to information and participation in the public review process, which are detailed in this public outreach and engagement plan for the next year.

The objectives of the plan are to:

1. Provide tools for the public to meaningfully navigate and participate in the environmental review process. Help the public better engage in the process and better understand the technical information and how to participate ahead of and after the release of the Draft EIR.
2. Continue advancement of required planning and regulatory processes, working toward eventual project decision in coordination with the appropriate agencies, key stakeholders and the general public.
3. Continue development of the Community Benefits Program that, if the project is approved, would provide local benefits beyond the scope of what is required by the various planning processes, including environmental mitigation, in close coordination with the community.

This article outlines planned Delta Conveyance Project public information, outreach, engagement and participation activities over the next year.

Public Information: The Department of Water Resources (DWR) will provide regular updates and informational resources in a variety of formats to make the project and environmental review document accessible, transparent and understandable. This will include videos, fact sheets, presentations, FAQs and web updates among other tools.

Public Outreach: DWR will reach out to Delta and statewide organizations to raise awareness about the upcoming Draft EIR and to encourage participation. Staff will be available for presentations, briefings or other means as requested to best reach these organizations, members or constituencies.

Public Participation/Notification: In an effort to facilitate public participation, DWR will provide several opportunities and methods to access the Draft EIR and respond through the formal public review and comment process. These efforts also include broad notification on the availability of the Draft EIR and how to comment, and publication of associated informational materials to assist in review of the document.

Tribal Consultation and Outreach: DWR will continue to conduct formal Tribal consultation as prescribed under the California Environmental Quality Act's AB 52 requirements and DWR's Tribal Engagement Policy, as well as informal outreach and discussions through other venues, as requested by Tribes. DWR will also assist the U.S. Army Corps of Engineers with Tribal outreach associated with the federal Section 106 process, as appropriate. Additionally, DWR will work to ensure Tribal input is reflected in all facets of project planning through appropriate engagement opportunities, including annual update meetings.

Environmental Justice and Disadvantaged Community Outreach: Outreach and engagement specific to the needs of disadvantaged and Environmental Justice communities will seek to further raise awareness and expand participation. Outreach and engagement with Environmental Justice communities will utilize and incorporate lessons learned from previous outreach efforts while continuing to evolve based on community input to reach additional groups and individuals.

Community Benefits Program: DWR will continue development of the Community Benefits Program, drawing on information gathered during the previous year and pivoting to focus on the process to identify and outline a program implementation approach.

Agency Coordination: DWR will work with the various state and federal agencies who serve in a regulatory or advisory capacity over the proposed Delta Conveyance Project to ensure each agency's specific regulatory requirements are met through a collaborative approach.

For more information or to make suggestions to help improve public information, outreach and engagement, please contact us at 1-866-924-9955 or deltaconveyance@water.ca.gov.

To learn more and stay informed about the Delta Conveyance Project:

- Delta Conveyance Project Website
- Informational Webinar Series
- Frequently Asked Questions
- Subscribe to receive project updates
- Deep Dive video series on You Tube
- Connect with us on Social Media:
    - Twitter: @CA_DWR
    - Facebook: @CADWR
    - LinkedIn: California Department of Water Resources
    - Instagram: cadepartmentofwaterresources

- A set of amendments to the State Water Project Contract was finalized in 2020. These changes provide for increased flexibility for SWP contractors to develop long-term exchanges of water within the SWP. This is beneficial for all the contractors and will help the District maintain the SWP's current level of reliability for our customers. The District will work within these amendments with Littlerock Creek Irrigation District and other State Water Contractors for our customers' benefit.

Organizational Excellence *Train, Perform, Reward*

This initiative includes efforts to restructure staff duties and activities to more efficiently provide service to our customers. Recent highlights are as follows:

- Nearly 80 percent of the District staff is required to have certifications or licenses issued by the State of California. Many of these have continuing education requirements which must be met by technical training. The District provides for this in several ways including hosting classes given by the California Rural Water Association, having a training budget for staff to attend conferences, and providing an education tuition allowance for each employee.

- COVID-19 Pandemic Response: District staff initiated a draft Pandemic Response Plan on March 4, 2020 as the State of California and County of Los Angeles issued declarations of emergency. Over the next two weeks, many District events were canceled. These included the Water Ambassadors Academy third session and facility tour, Strategic Plan Workshop, director in person coffees, and all-staff lunch and meeting. The District also reduced the lobby's capacity and eventually closed it to the public due to Los Angeles County health orders.

  The other options to conduct business with the District, including using the website, calling Customer Care, using the automated phone system, and using remote payment sites, were promoted on social media, the website, and radio spots. The District has continued to comply with social distancing regulations by updating the Pandemic Response Plan, rotating staff to work from home, staggering work hours, and providing non-medical face coverings for staff.

  The District is largely back to normal operations as the state and county regulations allow. The lobby has been open since Monday, July 12, 2021. Customer Care representatives are now available in the office and from home. Small meetings are being held in person.

- Despite the pandemic, the District has continued to find ways for internships and training opportunities for college and high school students who are interested in the water industry.

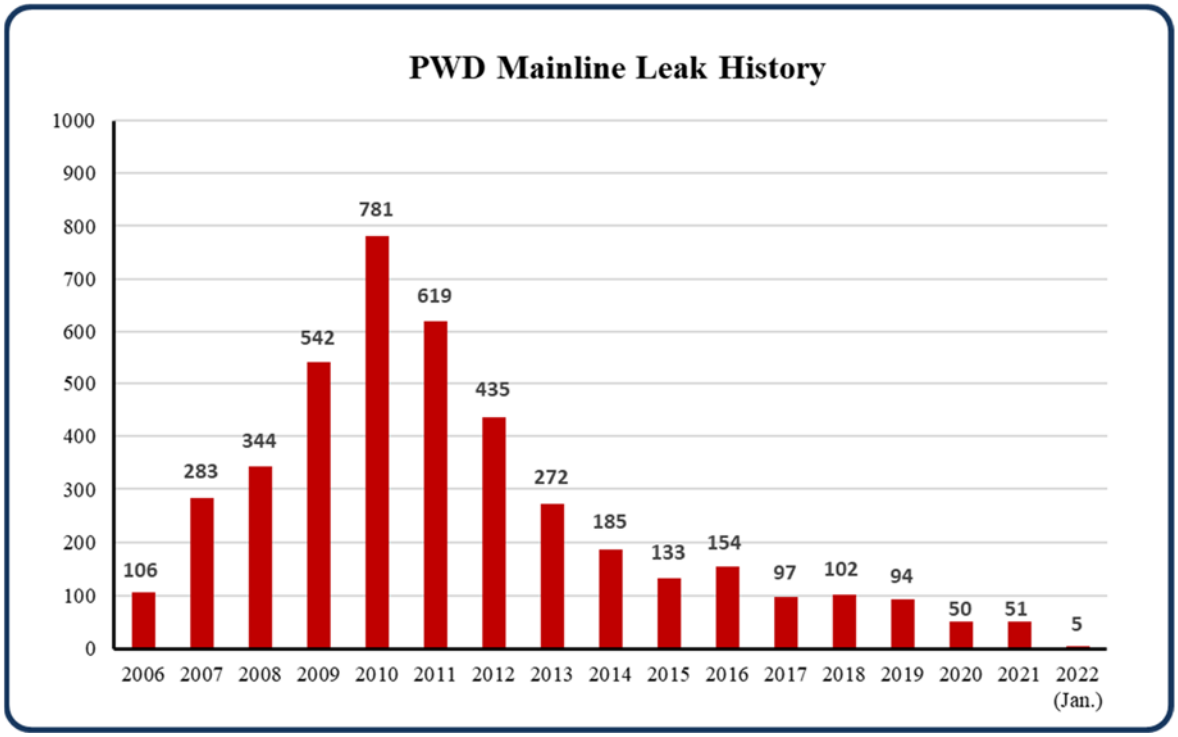
- The update of job descriptions for the District's positions is now complete. The updated job descriptions will be used as the basis of a salary survey with comparable water agencies later this year.

- The Employee Handbook update is being reviewed by the District's general counsel. It will then be presented to the Ad-Hoc Committee to review and make a recommendation to the Board on its adoption.

Systems Efficiency *Independence, Technology, Research*

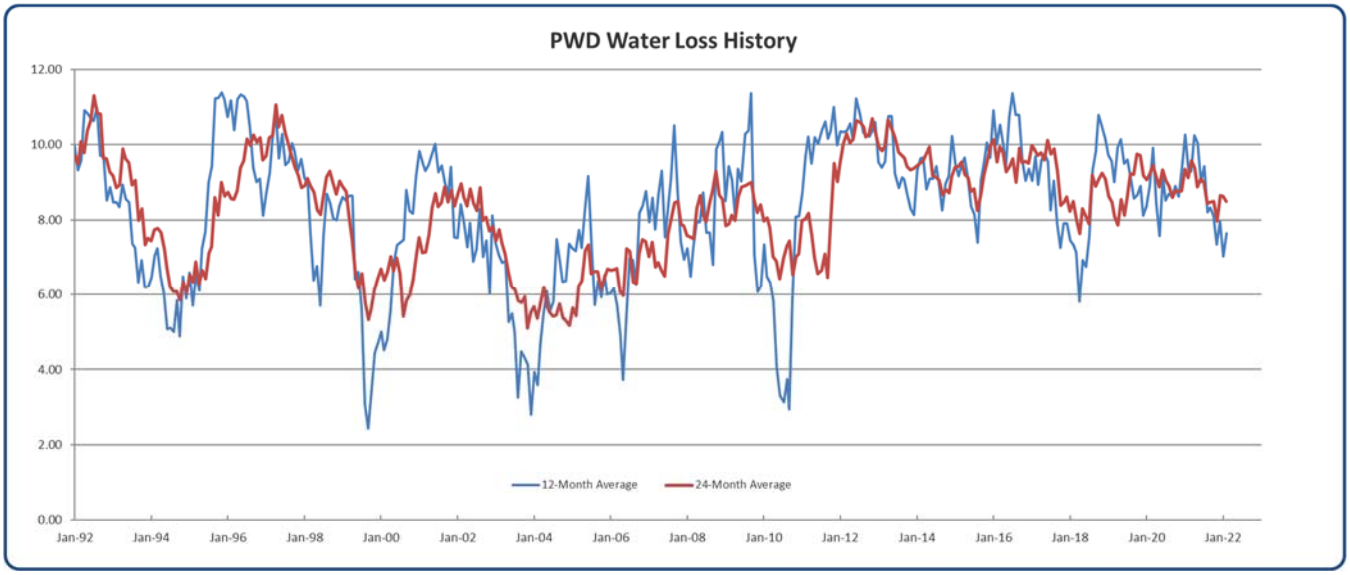
This initiative largely focuses on the state of the District's infrastructure. Recent highlights are as follows:

- The effects of the District's past efforts in replacing failing water mains and meters can be seen in the reduced number of mainline leaks. This is illustrated in the chart titled "Mainline Leak History." The mainline leaks through December 2021 total 51 and there were 95 service line leaks. 2021 was the third year in a row with less than 100 mainline water leaks. The last five years averaged 79 leaks per year. This translates into one leak for every 5.2 miles of pipe. This is something the District can be proud of due to the commitment to replace aged infrastructure.



- Additional water main replacement projects are being designed for construction as planned in the 2019 Water Rate Plan. The first project that will be constructed in 2022 is the neighborhood replacement project bounded by Desert Sands Park, Avenue Q, Division Street, and 3rd Street East and in 10th Street East north of Avenue P. Work began in January and is proceeding well.

- The positive effect of both water main and water meter replacement programs is shown on the chart titled "PWD Water Loss History." The running average for water losses is lowering and running about 8%.



- District staff is working on two energy technologies that will benefit our customers. One is the use of batteries for backup power at four booster facilities. The other is a demonstration project for the generation and storage of hydrogen from wind energy.

  These programs are grant funded and managed by the California Public Utilities Commission and California Energy Commission, respectfully. The grant funds go directly to the technology providers, Tesla and DasH2Energy. Both projects involve the installation of pre-designed and assembled equipment at District facilities with minimal construction work at the sites. The approved sites are Well 5 Booster, Underground Booster, 45th Street East Booster, and the new 3M Booster Station. The battery systems are completed and active at Well 5 and the Underground Booster and are installed at the other sites.

- The wind turbine has been inoperable for several months due to a bad anemometer and the maintenance firm's unwillingness to comply with prevailing wage requirements. Staff is working on a couple fronts to resolve this. A maintenance contract has been completed with a new firm and the needed part received. The new firm is working to replace the part. Staff is looking at the longer-term project of replacing the wind turbine. It has been

in operation for seventeen years as of August 2021, and parts are difficult to find. The main considerations moving forward are maximizing the generation, the availability of repair parts, and adequate competition for maintenance contracts. The replacement hoist arrived in mid-January and arrangements are being made for its installation.

Financial Health and Stability *Strength, Consistency, Balance*

- PWD and City of Palmdale staffs have worked together to obtain funding for the Palmdale Recycled Water Authority (PRWA) Phase II Project. Last year, PRWA decided to suspend the Phase II purple pipe project advanced treatment project is studied.

- The Littlerock Sediment Removal Project was awarded nearly $900,000 through the AVIRWMP Grant Program in the current round of funding. The approved grant for Phase II, now suspended, will be redistributed to other projects in the Antelope Valley. This will change the Littlerock grant to over $1M.

- The 2019 Water Rate Study and Proposition 218 was completed when the Board unanimously approved Resolution No. 19-15. This set the water rate structure and water rates for 2020-2024 and includes criteria to evaluate the District's financial condition each year. It gives the Board the ability to reduce the water rates if the District's financial position meets four (4) of the criteria in an annual review while preparing the following year's budget.

- Fitch Ratings reviewed the District's bond rating in December 2021. The review affirmed the District's rating with them of "A+" with a stable outlook. This is a good result considering the uncertainty of operating in the COVID-19 pandemic.

- The District is seeking State and/or Federal assistance to provide water service to the Alpine Springs Mobile Home Park on Sierra Highway. It has poor water quality from its well and several health violations. Maria Kennedy, Kennedy Communications, is experienced with these programs and is contracted with the District to accomplish it.

  The first step will be the State issuing a check to fund water hauling until the connection to the District is designed, constructed, and operational.

- The Finance Department is continuing to monitor the effect of the State's moratorium on shutoffs due to nonpayment on cash flow. The effect is fluctuating somewhat but is remaining 5% or less below what is usually expected. Staff is also placing property liens as appropriate to help secure payment of large, outstanding bills.

- The shutoff moratorium is over as of January 2022. Staff has started providing dated notices to delinquent customers. However, the District will only focus on customers who were behind in February 2020 and current amounts over $1,000.

Regional Leadership *Engage, Lead, Progress*

This initiative includes efforts to involve the community, be involved in regional activities, and be a resource for other agencies in the area. Recent highlights are as follows:

- Activities of the Palmdale Recycled Water Authority (PRWA), AV Integrated Regional Water Management Plan (IRWMP), and Antelope Valley State Water Contractors Association have continued. The District has leadership positions in these organizations.

- The PWRA Board consists of two Palmdale City Councilmembers, two PWD Board members, and a public director Zakeya Anson.

- The District staff continues to share the administration of the Antelope Valley Watermaster Board (AVWB) with AVEK and related meetings.

- District staff is active in the local chambers, AV EDGE, regional human resources, and public information organizations.

- 2021 "PWD Water Ambassador Academy" (WAA) and Junior WAA are now scheduled for the first half of 2022 due to the continuing pandemic.

- The District and other members of the Public Water Agencies Group (PWAG) share the services of an Emergency Preparedness Coordinator. This approach also helped the District successfully comply with the America's Water Infrastructure Act (AWIA) of 2018 and respond to the current COVID-19 event.

- Staff has taken a lead role in developing and implementing a valley-wide mutual aid agreement for agencies and mutual water companies.

- The District and United Water Conservation District approved a memorandum of understanding (MOU) to work on cooperative projects. These might include combined recreational funding for Piru and Littlerock Reservoir recreational improvements and advanced treatment of recycled or brackish water for potable use.

Customer Care, Advocacy, and Outreach *Promote, Educate, Support*

This initiative includes efforts to better serve our customers. Recent highlights are as follows:

- The Board approved moving forward with a new supplier, meter brand, and reading system at the first meeting in September 2020. This change has been troublesome. The new equipment is having difficulty reading all the District's existing water meters. Efforts to resolve the problem are continuing.

  A grant from the US Bureau of Reclamation is being sought to assist with implementing the Automated Meter Infrastructure (AMI).

- The ability to make payments at 7-Eleven and Family Dollar Store as well as all electronic forms of payment are continuing to grow due to the COVID-19 event.

- Staff successfully conducted virtual coffee meetings with Directors and their constituents, online "Let's Talk H2O" meetings, issued regular internal and public newsletters, coordinated drive-through giveaways for customers, an in-person customer appreciation day, monitored and maintained the District's social media, and assisted with information for the current drought.

- Staff is continuing to work with the consultant to update the public website and ensure it is fully compliant with all relevent regulations.