



# IRVINE RANCH WATER DISTRICT

15600 Sand Canyon Avenue • P.O. Box 57000 • Irvine, California 92619-7000 • (949) 453-5300 • www.irwd.com

August 10, 2016

Mr. Mike Markus, P.E.  
General Manager  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

Subject: Methods to Restore Groundwater Levels in the Orange County Basin

Mike:

At the July 2016 Joint Planning Committee meeting of the Board of Directors of Orange County Water District (OCWD) and Municipal Water District of Orange County (MWDOC), IRWD was requested to prepare an overview of how groundwater levels in the Orange County Basin could be restored to traditional (much higher) levels. The purpose of this letter is to share concepts for expanding on the list of approaches to refilling the Basin as follows:

1. Lower the Basin Production Percentage (BPP), in accordance with the OCWD Board-approved Groundwater Management Plan.
2. Purchase the maximum amount of imported water available to benefit the basin *directly* through recharge and *indirectly* through a traditional in-lieu program.
3. Establish a new In-lieu Exchange Program through which groundwater producer agencies can voluntarily store water without financially impacting OCWD.

### Management of the Basin Production Percentage (BPP):

In 2013, the OCWD Board of Directors adopted a policy to establish a stable BPP with the goal of achieving an average BPP of 75%. For the purpose of sustainably managing the Basin for current and future generations, OCWD has established within its Groundwater Management Plan the Storage Management Actions presented in the following table:

Orange County Water District  
Groundwater Basin Storage Management Actions\*

Accumulated Overdraft	Basin Management Actions to Consider
Less than 100,000 acre-feet	Raise the BPP.
100,000 to 300,000 acre-feet	Maintain and/or raise BPP towards 75% goal.
300,000 to 350,000 acre-feet	Seek additional supplies to refill Basin and/or lower the BPP.
Greater than 350,000 acre-feet	Seek additional supplies to refill Basin and lower the BPP.

\* OCWD Board-adopted Policy

The current estimated accumulated overdraft of the Basin is 370,000 acre-feet (AF). By June 30, 2017, OCWD staff predicts that the accumulated overdraft will be reduced to 353,000 AF in part due to purchases of 50,000 AF of water from Metropolitan Water District of Southern California (Metropolitan). These purchases are included in OCWD's Fiscal Year 2016-17 Operating Budget.

#### Taking Action Now:

In accordance with OCWD's Groundwater Management Plan, actions should have already been taken to reduce the BPP and to seek additional supplies of water to fill the basin. We understand that OCWD is currently taking water from Metropolitan at full direct recharge capacity. OCWD could be taking full advantage of additional existing supplies that are currently available from Metropolitan through the implementation of a multi-year in-lieu recharge program. Under such a program, the Producers that volunteer to participate would pay OCWD the Replenishment Assessment (RA) (\$402 per acre-foot) and the avoided cost of pumping (\$97 per acre-foot) while OCWD would pay the cost of the Full Service Treated Tier-1 water and associated costs to Metropolitan (\$1,044 per acre-foot). Since the Producer would have paid to OCWD the RA for the same amount of water had it been produced from the Basin, the payments to the OCWD by each participating producer would not offset OCWD costs of the full-service water from Metropolitan. This would result in a net cost to OCWD of \$947 per acre-foot (\$1,044 – \$97) that would need to be budgeted for and recovered through corresponding increases in the Replenishment Assessment (RA).

To implement an in-lieu recharge program in a way that is cost neutral to OCWD, it is recommended that OCWD consider implementing an In-lieu Exchange Program as described below.

#### Conceptual In-lieu Exchange Program:

The OCWD Act allows for the execution of exchanges in the Basin. A hybrid in-lieu recharge program could be created that incorporates exchange concepts for the purpose of allowing individual producers to improve reliability by storing water in the Basin. Conceptual principles associated with the implementation of such an In-lieu Exchange Program are described in the following:

- The Producers would have the option to voluntarily purchase Full-Service Tier-1 treated water from Metropolitan in-lieu of pumping groundwater.
- The reduction in pumping by the participating Producers would result in additional water in storage in the aquifer that would be received by OCWD in exchange for the Producers' right to recover an equivalent amount of water in the future to offset future pumping above the BPP.
- The participating Producers would pay Metropolitan the cost of the Full-Service Tier-1 treated water and associated costs (\$1,044 per acre-foot).
- The participating Producers would also pre-pay the RA to OCWD for the future recovery of the water at the current OCWD Board adopted rate (\$402 per acre-foot).

Mr. Mike Markus, P.E., General Manager  
Orange County Water District  
August 10, 2016  
Page 3

- OCWD would provide the participating producers a credit for the future recovery of the water for use in-lieu of paying RA and Basin Equity Assessments on future pumping above the BPP.
- OCWD could extinguish the credits by reimbursing a participating Producer for the Full-Service Tier-1 treated rate that was previously paid by the Producer (\$1,044 per acre-foot).
- Under this program, OCWD would be cost-neutral.

An overview of the how such an In-lieu Exchange Program would work financially is provided in Exhibits "A" and "B". This concept would provide a creative solution to increasing the amount of water stored in the Basin, improving water supply reliability to the producing agencies, while ensuring that OCWD remains cost-neutral.

We hope that the concepts described above will assist you in your discussion with the OCWD Board of Directors Administration / Finance Issues Committee meeting on August 11, 2016 where you will be presenting options to refill the Basin. We look forward to working with you and your staff as well as the interested producer agencies in refining the In-Lieu Exchange Program concepts presented above. Please contact me at (949) 453-5590 or [cook@irwd.com](mailto:cook@irwd.com) so that we can schedule a meeting to discuss these concepts.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul A. Cook".

Paul A. Cook, P.E.  
General Manager

EXHIBIT "A"

Example of Recharge of Water Through In-Lieu Exchange

- Costs of Recharge -

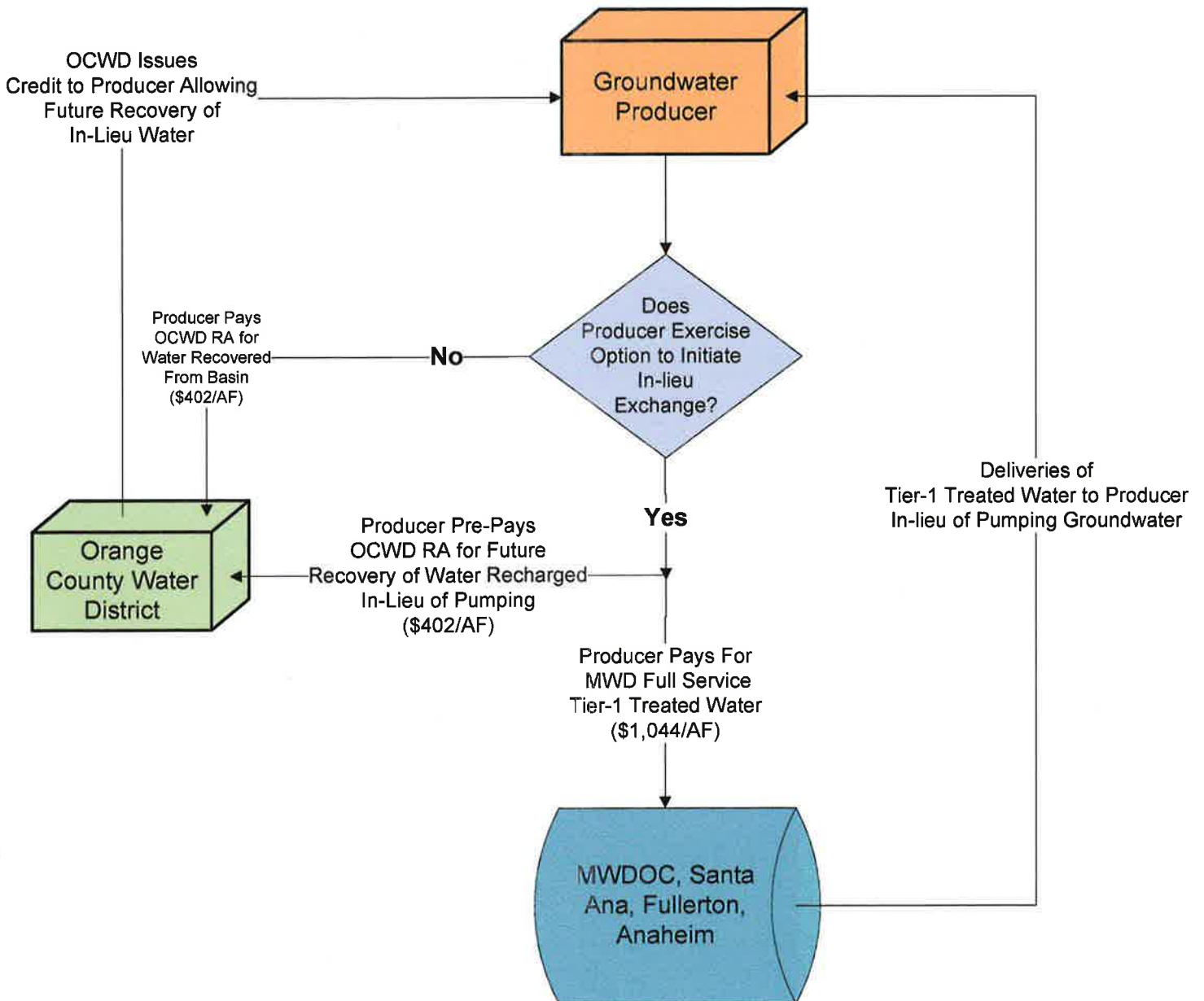


EXHIBIT "B"

Example of Recovery of Water Recharged Through In-Lieu Exchange

- Costs of Recovery -

