AGENDA IRVINE RANCH WATER DISTRICT SUPPLY RELIABILITY PROGRAMS COMMITTEE THURSDAY, JUNE 17, 2021

Due to COVID-19, this meeting will be conducted as a teleconference pursuant to the provisions of the Governor's Executive Orders N-25-20 and N-29-20, which suspend certain requirements of the Ralph M. Brown Act. Members of the public may not attend this meeting in person.

Participation by members of the Committee will be from remote locations. Public access and participation will only be available telephonically/electronically.

To virtually attend the meeting and to be able to view any presentations or additional materials provided at the meeting, please join online via Webex using the link and information below:

Via Web: <u>https://irwd.webex.com/irwd/j.php?MTID=ma450dc5b2e1da5552f4eb0df2df8c2be</u> Meeting Number (Access Code): 146 995 0796 Meeting Password: j3A3hrJ7HdZ

After joining the meeting, in order to ensure all persons can participate and observe the meeting, please select the "Call in" option and use a telephone to access the audio for the meeting by using the call-in information and attendee identification number provided.

As courtesy to the other participants, please mute your phone when you are not speaking.

PLEASE NOTE: Participants joining the meeting will be placed into the Webex lobby when the Committee enters closed session. Participants who remain in the "lobby" will automatically be returned to the open session of the Committee once the closed session has concluded. Participants who join the meeting while the Committee is in closed session will receive a notice that the meeting has been locked. They will be able to join the meeting once the closed session has concluded.

CALL TO ORDER 3:00 p.m.

<u>ATTENDANCE</u>	Committee Chair: Douglas Reinhar Member: Peer Swan	t
<u>ALSO PRESENT</u>	Paul CookRob JacobsonKellie WelchRay BennettNatalie Palacio	Paul WeghorstFiona SanchezChristine ComptonJo Ann CoreyMarina Lindsay

PUBLIC COMMENT NOTICE

If you wish to address the Committee on any item, please submit a request to speak via the "chat" feature available when joining the meeting virtually. Remarks are limited to three minutes per speaker on each subject. You may also submit a public comment in advance of the meeting by emailing comments@irwd.com before 12:00 p.m. on Thursday, June 17, 2021.

ALL VOTES SHALL BE TAKEN BY A ROLL CALL VOTE.

COMMUNICATIONS

- 1. Notes: Weghorst
- 2. Public Comments
- 3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.
- 4. Determine which items may be approved without discussion.

INFORMATION

5. <u>WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS</u> <u>AND PROGRAMS – PALACIO / WELCH / SANCHEZ / WEGHORST</u>

Recommendation: Receive and file.

ACTION

6. <u>PARTICIPATION IN VOLUNTARY FALLOWING PROGRAM – WELCH /</u> <u>SANCHEZ / WEGHORST</u>

Recommendation: That the Board authorize the General Manager to execute an agreement with Metropolitan Water District of Southern California to voluntarily fallow additional lands within Palo Verde Irrigation District under the existing Metropolitan/PVID Fallowing Program terms and conditions.

OTHER BUSINESS

7. Closed Sessions

A. CLOSED SESSION with real property negotiator (Government Code Section 54956.8).

Property: Parcels 839-150-001; 839-150-002; 821-160-001; 821-160-010; 830-150-002; 830-160-001, 002, 003, 004, 007; 830-170-001, 002, 003; 830-190-001; and 857-150-001, 002, County of Riverside Lease Negotiating Parties: Charles Van Dyke Agency Negotiator: Paul Cook, General Manager Purpose of Negotiations: Price and Term of Payment

B. CLOSED SESSION with real property negotiator (Government Code Section 54956.8).

Property: Parcels 878-151-003, 878-210-001, 878-270-001, 878-270-002, 878-260-001, 878-260-002, County of Riverside Lease Negotiating Parties: Barnes and Berger Agency Negotiator: Paul Cook, General Manager Purpose of Negotiations: Price and Term of Payment

- 8. Open Session
- 9. Directors' Comments
- 10. Adjourn

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to comments @irwd.com. Requests made by mail must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.

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June 17, 2021 Prepared by: N. Palacio / K. Welch Submitted by: F. Sanchez / P. Weghorst Approved by: Paul A. Cook

SUPPLY RELIABILITY PROGRAMS COMMITTEE

WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS AND PROGRAMS

SUMMARY:

Staff has prepared information related to IRWD's water banking facilities, capacities, operations and exchange programs. The information is regularly updated to reflect changes in the status of IRWD's projects, programs and operations. At the Committee meeting, staff will review this information and provide an update on efforts to secure additional water for recharge and mutually beneficial exchanges at IRWD's water banking projects.

BACKGROUND:

To facilitate discussion with the Committee, staff has prepared reference materials in tabular, map and schematic formats to describe IRWD's water banking facilities, capacities, operations, storage and exchange programs. The reference materials are updated regularly to reflect changes in the status of the projects, programs and operations. The following is an overview of the reference materials.

Capacity and Operations Tables:

A table presenting storage, recharge and recovery capacities of existing and planned IRWD water banking projects, including capacities available to IRWD in the Kern Water Bank, is provided as Exhibit "A". Exhibits "B" and "C" provide an update on water banking recovery and recharge operations, as well as the balance of the water stored in the Kern Water Bank. Exhibit "B" provides before-loss estimates of water recharged at the water banking projects, and Exhibit "C" provides after-loss estimates of water recharged at the projects. Both Exhibits "B" and "C" include a column that provides totals for each water type and storage location.

Exhibits "B" and "C" have been adjusted to reflect that Article 21 Water recharged in 2017 must be returned for use on IRWD's Jackson Ranch property or other lands within Dudley Ridge Water District. Changes shown in red on Exhibits "B" and "C" reflect the 2017 Article 21 Water being moved from IRWD's State Water Project (SWP) column to the Dudley Ridge SWP column. Some of the water that was moved is from water losses associated with the recharge of the 2017 Article 21 (referred to as Reserve Water) that were credited back to IRWD by Rosedale-Rio Bravo Water Storage District in 2020.

Exhibit "D" graphically depicts how storage of SWP and non-SWP water has changed in the Strand and Stockdale Integrated Banking Projects through time. The table provided as Exhibit "E" shows how capacities in the water banking projects have been dedicated to IRWD's existing and proposed exchange programs.

Supply Reliability Programs Committee: Water Banking Project Facilities, Capacities, Operations and Programs June 17, 2021 Page 2

Project Maps:

To support the tables provided as Exhibits "A", "B", "C" and "E", as well as the figure provided as Exhibit "D", staff has prepared maps that depict project wells and pipelines, recharge basins and Cross Valley Canal turnout locations, along with the most current recharge rates. These maps are provided as Exhibits "F", "G" and "H", respectively. The facilities shown on the maps are associated with the Strand Ranch, Stockdale West, Stockdale East and Drought Relief Projects.

Program Agreement Diagrams:

Schematic diagrams have been prepared that depict IRWD water banking and exchange programs with Rosedale-Rio Bravo Water Storage District, Buena Vista Water Storage District, Dudley Ridge, and Metropolitan Water District of Southern California. These diagrams are provided as Exhibits "I", "J", "K", "L", "M" and "N", as described in the List of Exhibits.

Recharge and Exchange Opportunities:

IRWD has been pursuing additional opportunities to secure water for recharge as well as mutually beneficial exchanges. At the Committee meeting, staff will provide an update on the exchanges and programs with Dudley Ridge.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

- Exhibit "A" Recharge, Storage and Recovery Capacities of Current and Anticipated Water Banking Projects
- Exhibit "B" Water Banking Storage, Recharge and Recovery Operations before Losses
- Exhibit "C" Water Banking Storage, Recharge and Recovery Operations after Losses
- Exhibit "D" Historic Water Storage in Strand and Stockdale Projects
- Exhibit "E" Dedicated Capacities of Current Water Banking Projects
- Exhibit "F" Map of Water Banking Project Wells and Pipelines
- Exhibit "G" Map of Water Banking Recharge Basins and Cross Valley Canal Turnout Facilities
- Exhibit "H" Map of Water Banking Recharge Rates

Supply Reliability Programs Committee: Water Banking Project Facilities, Capacities, Operations and Programs June 17, 2021 Page 3

- Exhibit "I" Diagram of IRWD-Rosedale Water Banking and Exchange Program Agreements
- Exhibit "J" Diagram of Long-term Water Exchange Program with Buena Vista and Diagram of One-year Program to Augment Recharge Using Stockdale West Recharge Facilities with Buena Vista
- Exhibit "K" Diagram of Unbalanced Exchange Program Diagram with Dudley Ridge
- Exhibit "L" Diagram of Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan
- Exhibit "M" Diagram of Template Wheeling Agreement with Metropolitan
- Exhibit "N" Diagram of Dudley Ridge One-For-One Exchange

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Exhibit "A"

TABLE 1 Current and Anticipated Water Banking Project Recharge, Storage and Recovery Capacities June 17, 2021

	OWNE	RSHIP AND \	WELL INFO		ALLOCA	ATED CAPACI	TY (AF)		-	Y RECOVERY ONS (CFS)		Y RECOVERY ONS (CFS)
WATER BANKING PROJECT	IRWD OWNED	WELLS EXISTING	WELLS PROPOSED OR UNDER CONST.	TOTAL STORAGE CAPACITY	ANNUAL RECHARGE 1 ST PRIORITY	ANNUAL RECHARGE 2 ND PRIORITY	ANNUAL RECOVERY 1 ST PRIORITY	ANNUAL RECOVERY 2 ND PRIORITY	RECOVERY CAPACITY AS PLANNED ¹	ESTIMATED RECOVERY CAPACITY (APR. 2019 CONDITIONS) ²	RECOVERY CAPACITY AS PLANNED	RECOVERY CAPACITY CURRENT CONDITIONS
Strand Ranch	Yes	7	-	50,000	17,500	-	17,500	-	40.0	40.0	-	-
Stockdale West	Yes	3	-	26,000	27,100	-	11,250	-	15.0	15.0	-	-
Stockdale East	No	-	2	-	-	19,000	-	7,500	-	-	10.0	-
IRWD Acquired Storage Account ³	No	-	-	50,000	-	-	-	-	-	-	-	-
Drought Relief Project Wells ³	No	3	-	-	-	-	-	-	15.0	15.0	-	-
Kern Water Bank Storage Account ⁵	No	-	-	9,495	3,200	-	6,330	-	-	-	-	-
TOTALS		13	2	126,000	44,600	19,000	28,750	7,500	70.0	70.0	10.0	0.0
Partner Capa	cities ⁴			38,000	22,300	9,500	10,850	0	35.5	25.0	-	-
IRWD Capac	cities			88,000	22,300	9,500	17,900	7,500	34.5	25.0	-	-
IR	WD's reco	very during	6 month part	tner recovery	period (AF)				12,420	9,000	-	-
	RWD's rec	overy after (6 month part	ner recovery	period (AF)				5,480	6,733	-	-
								TOTALS (AF)	17,900	15,733	-	-
				total AF afte pacity after p					8.6	10.2	-	-
				amount assur e amount assu							4,5 2,3	

¹ Based on designed Strand recovery capacity assuming 370' bgs. Assumes 5 cfs for each of the Stockdale West and Drought Relief wells in order to meet IRWD's Water Banking, Transfers, and Wheeling policy position. Assumes partners' water is recovered over 6 months.

² SUP-1, SWEX-2, and SREX-6 are currently down.

³IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended.

⁴One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners.

⁵Kern Water Bank capacities based on 6.58% of Dudley Ridge Water District's 9.62% share of the Kern Water Bank. Annual recharge amount is based on an average of recharge rates for high and low groundwater level conditions. Not included in storage capacity, recharge, and recovery totals to match IRWD's Water Banking Policy Position Paper.

Exhibit "B"

TABLE 2

IRWD's Water Banking Storage, Recharge and Recovery Operations - BEFORE LOSSES

June 17, 2021

			WATER BAN	KING ENTITY		
	101				DUDLEY RIDGE WATER	TOTAL BY WATER TYPE
TRANSACTIONS	IRV	VD	BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DISTRICT (DRWD) ³	AND STORAGE LOCATION
	SWP ¹	NON-SWP ²	NON-SWP	SWP	SWP	
			BEGINNING WATER I	N STORAGE 2020 (AF)		
Total Kern Water Bank (estimated)	-	4,683	-	-	-	4,683
Total MWD System ⁴	8,039	-	-	-	308	8,347
Total Kern County ⁷	3,189	24,596	11,177	636	5,230	44,828
TOTAL STORED WATER (1/1/2020)	11,228	29,279	11,177	636	5,538	57,858
			(RECOVERY) AND REC	CHARGE IN 2020 (AF)		
MWD Water to Jackson Ranch⁵	-	-	-	-	(96)	(96)
Kern Water Bank Deliveries ⁶						-
2020 SWP Allocation (20%) ³	175	-		-	175	350
Kern River Water	-		(7,500)	-	-	(7,500)
SWP Table A					-	-
2017 Reserve Water ⁷	40	258	258	11	160	728
TOTAL 2020 TRANSACTIONS	215	258	(7,242)	11	239	(6,518)
Total Kern Water Bank	-	4,683	-	-	-	4,683
Total MWD System	8,039	-	-	-	212	8,251
Total Kern County	3,405	24,855	3,935	647	5,565	38,406
TOTAL STORED WATER (1/1/2021)	11,444	29,538	3,935	647	5,777	51,340
			(RECOVERY) AND REC	HARGE IN 2021 (AF)		
MWD Water to Jackson Ranch (estimated)	-	-	-	-	-	-
Kern Water Bank Deliveries	-	-	-	-	-	-
2021 SWP Allocation (5 %) ³	44		-	-	44	87
Kern River Water (estimated)	-	-	(2,681)	-	-	(2,681)
TOTAL ESTIMATED 2021 TRANSACTIONS	44	-	(2,681)	-	44	(2,594)
		-	ESTIMATED WATER IN	STORAGE 2021 (AF)		
Total Kern Water Bank	-	4,683	-	-	-	4,683
Total MWD System	8,039	-	-	-	212	8,251
Total Kern County	3,448	24,855	1,254	647	5,609	35,813
TOTAL ESTIMATED STORED WATER TO DATE	11,487	29,538	1,254	647	5,821	48,747

NOTES:

-MWD = Metropolitan Water District of Southern California.

¹ IRWD's SWP includes 295 AF from CVWD that stays in Kern County.

² IRWD's Non-SWP total includes 2,842 AF, net of losses, of Kern County Water Agency Article 21 Water.

³ DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 through 2020 SWP allocation water is stored in Kern County. It is assumed that IRWD's 2021 SWP allocation will be stored in Kern County.

⁴ Beginning balance of water stored in MWD system includes: 4,000 AF from 2014 Exchange, 2,853 AF of 2014 borrowed SWP, 1,186 AF of IRWD's 2013-2016 SWP allocations through DRWD. ⁵Water returned to DRWD by MWD for use on IRWD's Jackson Ranch.

⁶A portion of IRWD's 2019 SWP deliveries from DRWD include 97 AF of Article 21 water, which was delivered to the Kern Water Bank.

⁷ 2017 Article 21 Water and 2017 Article 21 Reserve Water moved from IRWD's SWP column to the DRWD SWP column to account for the fact that the Article 21 Water must be returned for use on IRWD's Jackson Ranch property or other lands within DRWD.

Exhibit "C"

TABLE 3

IRWD's Water Banking Storage, Recharge and Recovery Operations - AFTER LOSSES

June 17, 2021

			WATER BAN	KING ENTITY		
	1014/5				DUDLEY RIDGE WATER	TOTAL BY WATER TYPE
TRANSACTIONS	IRWE)	BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DISTRICT (DRWD) ³	AND STORAGE LOCATION
	SWP ¹	NON-SWP ²	NON-SWP	SWP	SWP	
			BEGINNING WATER IN	I STORAGE 2020 (AF)		•
Total Kern Water Bank	-	4,215	-	-	-	4,215
Total MWD System ⁴	8,039	-	-	-	308	8,347
Total Kern County ⁸	2,435	20,685	9,923	545	4,484	38,072
TOTAL STORED WATER (1/1/2020)	10,474	24,900	9,923	545	4,792	50,634
			(RECOVERY) AND REC	HARGE IN 2020 (AF)		
MWD Water to Jackson Ranch ⁵	-	-	-	-	(96)	(96)
Kern Water Bank Deliveries ⁷	-		-	-	-	-
2020 SWP Allocation (20%) ³	150	-	-	-	150	300
Kern River Water	-	-	(7,500)	-	-	(7,500)
SWP Table A			-	-	-	-
2017 Reserve Water ⁸	38	245	258	10	152	705
TOTAL 2020 TRANSACTIONS	188	245	(7,242)	10	206	(6,591)
Total Kern Water Bank	-	4,215	-	-	-	4,215
Total MWD System	8,039	-	-	-	212	8,251
Total Kern County	2,624	20,931	2,681	556	4,786	31,577
TOTAL STORED WATER (1/1/2021)	10,663	25,145	2,681	556	4,998	44,043
			(RECOVERY) AND REC	HARGE IN 2021 (AF)		
MWD Water to Jackson Ranch (estimated)	-	-	-	-	-	-
Kern Water Bank Deliveries	-	-	-	-	-	-
2021 SWP Allocation (5%) ³	37	-	-	-	37	74
Kern River Water (estimated)	-	-	(2,681)	-	-	(2,681)
TOTAL ESTIMATED 2021 TRANSACTIONS ⁶	37	-	(2,681)	-	37	(2,607)
			ESTIMATED WATER IN	I STORAGE 2021 (AF)		
Total Kern Water Bank	-	4,215	-	-	-	4,215
Total MWD System	8,039	-	-	-	212	8,251
Total Kern County	2,661	20,931	0	556	4,823	28,970
TOTAL ESTIMATED STORED WATER TO DATE	10,700	25,145	0	556	5,035	41,436

NOTES:

-Water in storage has been adjusted to account for losses. IRWD's water stored in Kern County is adjusted 15% for losses (5% for out of county loss, 6% surface loss, and 4% reserve loss); Water stored for-BVWSD in Kern County is adjusted 10% (6% for surface loss and 4% for reserve loss); KWB losses are 10%; no losses for water directly delivered to MWD system.

-MWD = Metropolitan Water District of Southern California.

 1 IRWD's SWP includes 251 AF from CVWD that stays in Kern County.

² IRWD's Non-SWP total includes 2,842 AF of Kern County Water Agency Article 21 Water.

³ DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 through 2020 SWP allocation water is stored in Kern County. It is assumed that IRWD's 2021 SWP allocation will be stored in Kern County.

⁴ Beginning balance of water stored in MWD system includes 4,000 AF of 2014 Exchange, 2,853 AF of 2014 borrowed SWP, 1,186 AF of IRWD's 2013-2016 SWP allocations through DRWD.

 $^5\mbox{Water}$ returned to DRWD by MWD for use on IRWD's Jackson Ranch.

⁶2021 transactions may be adjusted for conveyance losses in CVC.

⁷A portion of IRWD's 2019 SWP deliveries from DRWD include 97 AF of Article 21 water, which was delivered to the Kern Water Bank.

⁸ 2017 Article 21 Water and 2017 Article 21 Reserve Water moved from IRWD's SWP column to the DRWD SWP column to account for the fact that the Article 21 Water must be returned for use on IRWD's Jackson Ranch property or other lands within DRWD.

Exhibit "D"



*After losses

Exhibit "E"

TABLE 1IRWD Dedicated Water Banking Capacities for
Existing and Proposed Exchange Programs
June 17, 2021

Program	Dedicated Storage Capacity Strand Ranch (AF)	Dedicated Storage Capacity Stockdale West (AF)	Dedicated Storage Capacity Leased Storage Account (AF)	Kern Water Bank Storage Capacity (AF)
Total Capacity	50,000	26,000	50,000	9,495
BVWSD DRWD	40,000	-		-
AVEK	-	20,000	-	-
CVWD Total Dedicated	- 50,000	5,000 25,000	-	-
Total Remaining	-	1,000	50,000	9,495

RECHARGE CAPACITY

Program	Dedicated Recharge Capacity Strand Ranch (AF)	Dedicated Recharge Capacity Stockdale West (AF)	Dedicated Recharge Capacity Leased Storage Account (AF)	Kern Water Bank Recharge Capacity (AF)
Total Capacity	17,500	27,100	-	3,200
BVWSD	17,500	-	-	-
DRWD	-	-	-	-
AVEK	-	20,000	-	-
CVWD	-	5,000	-	-
Total Dedicated	17,500	25,000	-	-
Total Remaining	-	2,100	-	3,200

RECOVERY CAPACITY

Program Partner	Dedicated Recovery Capacity Strand Ranch (AF)	Dedicated Recovery Capacity Stockdale West (AF)	Dedicated Recovery Capacity Leased Storage Account (AF)	Kern Water Bank Recovery Capacity (AF)
Total Capacity	17,500	11,250	-	6,330
BVWSD	6,667	-	-	-
DRWD	-	-	-	-
AVEK	-	3,333	-	-
CVWD	-	833	-	-
IRWD	10,833	7,084	-	6,330
Total Dedicated	17,500	11,250	-	6,330
Total Remaining	-	-	-	-





Location Map: IRWD Water Banking Projects Wells and Turnin Pipelines



This figure shows the location of IRWD's water banking project sites and extraction wells.







Location Map: IRWD Water Banking Projects Recharge Basins &Turnout Facilities

МАН	MAP FEATURES								
	Turnouts								
	Stockdale West								
	Strand Ranch								

This figure shows the location of recharge basins, pipelines and turnout facilities.







Location Map: IRWD Water Banking Projects Recharge Rates



This figure shows the location of recharge basins and their associated recharge rates as of June 18, 2019.





I-1

Exhibit "J" Buena Vista Water Storage District Long Term Water Exchange Program Effective 1/1/2011 through 1/12/2039



(no more than 6,667 AFY or 1,667 AF/mo.)⁺



[†]IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31st of the 4th year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 4th year, in exchange for a greater percent being transferred to IRWD as compensation per the table shown to the right:

Year Following Recharge Event	Percent Transferred to IRWD	Percent Returned to BV During or Before Indicated Year
1	50%	50%
2	50%	50%
3	50%	50%
4	50%	50%
5	60%	40%
6	70%	30%
7	80%	20%
8	90%	10%
9	100%	0%



Buena Vista Water Storage District One-Year Program to Augment Recharge Using Stockdale West Recharge Facilities Effective 4/1/2017 through 3/30/2018

Red



[†]IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31st of the 6th year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 6th year, in exchange for a greater percent being transferred to IRWD as compensation per the table shown to the right:

Year Following Recharge Event	Percent Transferred to IRWD	Percent Returned to BV During or Before Indicated Year
1	50%	50%
2	50%	50%
3	50%	50%
4	50%	50%
5	50%	50%
6	50%	50%
7	75%	25%
8	100%	0%
9	100%	0%

Exhibit "K" Dudley Ridge Water District (DRWD) Unbalanced Exchange Program

Up to 12,240 AF delivered from 6/7/2018 through 12/31/2027



⁺Consistent with IRWD-MWD coordinated operating agreement.

Exhibit "L"

Coordinated Operating, Water Storage, Exchange and Delivery Agreement Between MWD, MWDOC and IRWD Effective 5/1/2011 through 11/4/2035



Exhibit "M" Agreement for Conveyance of Water Between MWD, MWDOC, and IRWD (Wheeling Agreement) Template for future agreements



extraordinary supply under a declared MWD Water Supply Allocation. MWD will coordinate the conveyance and delivery of recovered water to be used within IRWD's Service Area. Delivery can also occur through an operational exchange.*



*The recovered water must be used within IRWD's service area. IRWD to pay MWD wheeling charges, including system access rate, water stewardship rate, and treatment surcharge (if applicable), for each acre foot of recovered water wheeled by MWD. IRWD will pay the actual costs of power incurred by MWD to convey recovered water in the California Aqueduct to IRWD delivery points.

Exhibit "N"

Dudley Ridge Water District Long Term 1-for-1 Water Exchange Program

Effective 5/31/2017 through 11/4/2035



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June 17, 2021 Prepared by: K. Welch Submitted by: F. Sanchez / P. Weghorst Approved by: Paul Cook

SUPPLY RELIABILITY PROGRAMS COMMITTEE

PARTICIPATION IN VOLUNTARY FALLOWING PROGRAM

SUMMARY:

In 2016 and 2017, IRWD purchased approximately 3,100 acres of agricultural property within the Palo Verde Irrigation District (PVID) that will eventually become an element of IRWD's long-term water reliability program. These properties are enrolled in the Palo Verde Land Management, Crop Rotation and Water Supply Program (Fallowing Program) through agreements with Metropolitan Water District of Southern California and PVID. Through the Fallowing Program, IRWD receives annual payments from Metropolitan for each acre fallowed. The magnitude of these payments is dependent on Metropolitan's annual request for fallowing. Due to critically low water levels in Lake Mead, Metropolitan is expected to request that participating landowners voluntarily fallow additional acres to help avoid going into water shortage conditions on the Colorado River. Staff recommends the Board authorize the General Manager to execute an agreement with Metropolitan to voluntarily fallow additional lands within PVID under the existing Fallowing Program terms and conditions.

BACKGROUND:

In 2016 and 2017, IRWD purchased approximately 3,100 acres of farmland within PVID. PVID is located in Riverside and Imperial Counties adjacent to the Colorado River and has the highest priority rights to water from the Colorado River in California. PVID provides approximately 450,000 acre-feet (AF) of water per year to 91,400 acres of productive farmland on a first priority basis. Of the nearly 3,100 acres of land owned by IRWD, 2,845 acres are irrigable water toll acres, all of which are enrolled in the Metropolitan/PVID Fallowing Program. Under the Fallowing Program terms, IRWD is required to fallow a minimum of 242 acres up to a maximum of 969 acres. Following is an overview of the Fallowing Program and a proposed program to voluntarily expand the acres to be fallowed over the next year.

Fallowing Program Overview:

In 2005, Metropolitan and PVID implemented a 35-year crop rotation/fallowing program whereby Metropolitan makes fallowing payments to participating landowners in return for landowners not irrigating a portion of their land for a specific period of time. The conserved agricultural water is then available to Metropolitan for its use. The program provides a flexible water supply of approximately 100,000 AF per year for Metropolitan (estimated up to 4.5 acre-feet per acre). Key provisions of the Fallowing Program include:

- The total maximum fallowing allowed in 10 of the 35 contract years is limited to approximately 26,000 water toll acres, which is approximately 29% of PVID's 91,400 acres of lands with Priority 1 water rights, and
- A minimum base of 6,497 acres must be fallowed each contract year.

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Provided as Exhibit "A" is a detailed overview of the long-term Fallowing Program that includes information on a short-term emergency fallowing program that was implemented in 2009.

Fallowing Program Calls:

Consistent with the Fallowing Program Agreement, Metropolitan issues two-year fallowing calls to landowners one year in advance. Landowners identify to Metropolitan which fields are to be designated for fallowing for the next year based upon Metropolitan's fallowing call. Fallowing calls overlap such that every year is made up of two calls. Calls are made for the period from August 1 to July 31 each year. Metropolitan's fallowing call cannot be rescinded or reduced but can be increased with one year's notice. Per the Fallowing Agreement, there is a limit of 10 times that Metropolitan can call for maximum fallowing on enrolled lands. Metropolitan has called for maximum fallowing six times during the term of the program. In July 2020, Metropolitan did not make a call to fallow, which means only the minimum fallowing (25%) is required. Exhibit "B" includes a summary of the fallowing calls and payments received for IRWD's properties since 2016.

Proposed Voluntary Fallowing Program:

As a result of current dry conditions, Lake Mead is projected to fall to record-low levels in the next few years, which could trigger shortages to the states of Arizona, Nevada, and California under the Colorado River Drought Contingency Plan (DCP). In an effort to avoid a shortage condition, Metropolitan has been in discussions with U.S. Bureau of Reclamation, Central Arizona Water Conservation District (CAWCD), and Southern Nevada Water Authority (SNWA) regarding a plan to conserve and forbear Colorado River supplies through additional land fallowing over the next three years. The conserved water would be stored in Lake Mead to potentially delay the timing and magnitude of DCP contributions or shortages. Metropolitan has indicated that it expects to fallow at the minimum level (25%) within PVID to meet its own needs through 2024. The plan proposed by these agencies is to jointly fund additional fallowing beyond Metropolitan's needs through Metropolitan's PVID and Bard fallowing programs. For PVID, this involves an increase of up to 16,900 acres of fallowed lands through 2024. As proposed, the combined fallowing is expected to result in the storage of up to 246,600 AF of water in Lake Mead over the next three years.

The additional fallowing would be funded by Reclamation paying 50% of the costs and the other three agencies each paying 16.67% of the costs. Metropolitan will reserve its right to call back the water and reimburse the parties if Metropolitan needs the water in any year.

Voluntary Fallowing Program Agreement:

On June 8, 2021, the Metropolitan Board of Directors approved entering into an agreement with Reclamation, CAWCD and SNWA to fund the additional voluntary fallowing program. Exhibit "C" includes the draft terms for the proposed agreement.

Supply Reliability Programs Committee: Participation in Voluntary Fallowing Program June 17, 2021 Page 3

Key terms of the voluntary PVID fallowing program include the following:

- PVID landowners would voluntarily increase fallowing up to a total of 90% for the first year, which is 65% above Metropolitan's minimum call;
- Landowners voluntarily accepting this call would be subject to the terms and compensation set forth in the existing long-term Fallowing Program agreement;
- Metropolitan will execute agreements with participating landowners to voluntarily fallow additional land; and
- Beginning on August 1, 2022, and August 1, 2023, additional conserved system water would be produced by the Fallowing Program's normal process.

The increased fallowing level would be no more than 90%. The actual fallow call will be determined by Metropolitan after consulting with PVID. The PVID Board will review the program terms on June 15, 2021. At the Committee meeting, staff will provide an update on the status of the PVID's consideration of the proposed program.

IRWD's Fallowing Commitment:

IRWD's fallowing commitment under a 90% call would be 872 acres. As shown in Exhibit "B", staff estimates the expected fallowing calls under this program would be effective in August 2021 through July 2023. Given the importance of conserving additional water for storage in Lake Mead, staff recommends the Board authorize the General Manager to execute an agreement with Metropolitan to voluntarily fallow additional lands within PVID under the existing Fallowing Program terms and conditions.

FISCAL IMPACTS:

For the first year of the voluntary program, IRWD would receive approximately \$909 per fallowed acre prorated by the number of months fallowed or up to \$792,739 for 12 months (872.1 acres x \$909). This is an increase of approximately \$634 per acre compared to the average rent of \$275 per farmable acre.

ENVIRONMENTAL COMPLIANCE:

On October 22, 2002, the Metropolitan Board acted as a responsible agency and certified that it reviewed and considered the information in PVID's 2002 Final Environmental Impact Report and adopted the Lead Agency's findings and authorized entering into agreements for the PVID Land Management, Crop Rotation, and Water Supply Program with landowners. Through the purchase of each of the properties, IRWD executed, and was assigned and delegated, these agreements with Metropolitan.

Supply Reliability Programs Committee: Participation in Voluntary Fallowing Program June 17, 2021 Page 4

RECOMMENDATION:

That the Board authorize the General Manager to execute an agreement with Metropolitan Water District of Southern California to voluntarily fallow additional lands within Palo Verde Irrigation District under the existing Metropolitan/PVID Fallowing Program terms and conditions.

LIST OF EXHIBITS:

- Exhibit "A" Overview of Metropolitan Water District of Southern California's Palo Verde Land Management, Crop Rotation and Water Supply Program (updated June 2021)
- Exhibit "B" Overview of IRWD-owned Properties under Metropolitan/PVID Fallowing Program
- Exhibit "C" Draft Terms for an Agreement between Metropolitan, U.S. Bureau of Reclamation, Central Arizona Water Conservation District, and Southern Nevada Water Authority to Jointly Fund Additional Fallowing

Exhibit "A"

Overview of Metropolitan Water District of Southern California's Palo Verde Land Management, Crop Rotation and Water Supply Program (updated June 2021)

Palo Verde Irrigation District

The Palo Verde Irrigation District (PVID) has one of the earliest water rights to the Colorado River in California. PVID provides approximately 450,000 AF of water per year to some 91,400 acres of productive land on a first priority basis and additional water on a third priority basis to 16,000 acres of land on the adjacent mesa area. PVID holds these rights in trust for the landowners within its service area. PVID's first priority water rights to the Colorado River are the underlying value of land in the Palo Verde Valley.

Metropolitan/PVID Test Land Fallowing Program

From 1992 through 1994, Metropolitan Water District of Southern California (Metropolitan) and PVID implemented a two-year test land fallowing program. Under the program 20,215 acres of PVID agricultural land were fallowed for two years, conserving an estimated 185,978 AF of Colorado River water. The conserved water was stored in Lake Mead for Metropolitan.

Long Term Land Fallowing Program

As part of California's plan to reduce the State's use of Colorado River water, the State's Colorado River water entitlement holders began negotiations of a Quantification Settlement Agreement (QSA). One of the proposed long term water supply programs in the QSA was a crop rotation/fallowing program between Metropolitan and PVID whereby conserved PVID agricultural water would be transferred to Southern California for urban use. In 2000, PVID and Metropolitan began negotiating principles for a 35-year land fallowing program to be included in the QSA. The proposed principles include PVID developing a flexible water supply for Metropolitan of approximately 100,000 AFY over a 35-year land fallowing program. Under a program agreement between PVID and Metropolitan would fund the program and enter into agreements with participating PVID landowners.

In 2001, Metropolitan acquired 16,000 acres within PVID (including 9,704 acres of irrigated farmland) from the San Diego Gas & Electric Company with the intent to incorporate the property into the PVID fallowing program. In October 2002, the Metropolitan Board approved the PVID Land Management, Crop Rotation and Water Supply Program. The key provisions in the agreement include:

- Total fallowing under the Program is limited to a maximum of 26,500 acres or 29% of PVID's irrigated lands with Priority 1 rights.
- The maximum area of Program lands that would be fallowed each contract year would not exceed 24,000 acres in any 25 years and 26,500 acres in any 10 years during the 35 years.
- The Program includes a minimum base area of 6,000 acres (7% of irrigated PVID lands) that is fallowed each contract year.

- Eligible land, or Program Qualified Land, must have Priority 1 Colorado River water and a history of irrigated crop production for two out of five years preceding program enrollment. Program Qualified Land that is actually fallowed can be either owned or leased by the landowner.
- Per the landowner/Metropolitan agreement, the landowner designates a Maximum Fallowing Commitment which is the maximum amount of eligible land they agree to fallow in any year. Landowner agrees to fallow a Base Amount of acres during each contract year which is equal to 25% of the Maximum Fallowing Commitment.

Example: Landowner owns 3,000 acres of Program Qualified Land Landowner agrees to a 1,000 acre Maximum Fallowing Commitment Landowner shall fallow a Base Amount of 250 acres every year

- Landowners received a signup payment of \$3,170 per acre of the (Maximum Fallowing Commitment.) Annual payments are made per fallowed acre initially at \$602/acre with minimum escalation of 2.5% per year for years 1 through 10 and between 2.5% and 5% per year for the remainder of the agreement depending on actual CPI (current rate to be paid for 2021 is approximately \$909 per fallowed acre).
- Metropolitan makes no annual payment for Program Qualified Land that is not fallowed.
- No land in the program shall be fallowed for more than 5 consecutive years.
- Upon a minimum of one-year notice, Metropolitan can issue "Fallowing Calls" above the Base Amount of acres (limited to the total maximum of 26,500 acres within PVID). This call requires the landowner to fallow for two years a minimum of 45.3% of the Maximum Fallowing Commitment. Landowners are not be required to fallow more than 90.6% of the Maximum Fallowing Commitment in more than 10 full years.
- Metropolitan estimates over the 35-year Program, the average fallowed area will be at least 12,000 acres or 13% of PVID lands.
- Metropolitan provides compensation to PVID for related administration costs and currently employs one employee at PVID to administer the program.

As a result of the ongoing QSA negotiations, the long term program initiation was delayed from 2002 to 2004. In 2004, Metropolitan began entering into landowner agreements for fallowing and the program began January 1, 2005. Metropolitan has fully subscribed the maximum program acreage through long term agreements with 99 landowners to fallow through July 2040. Metropolitan estimates an average of 4.6 AF per acre annually is consumptively used by PVID farmers depending on the type of crop grown and the quality of farmland. The quantity of water Metropolitan receives through the program varies based on Metropolitan operated the long term program at the maximum fallowing call so that about 26,000 acres of were fallowed, and Metropolitan receives an average of 32,500 AF per year. The amount of water conserved through land fallowing is calculated jointly by US Bureau of Reclamation, PVID and Metropolitan.

2009 PVID Emergency Short-Term Fallowing Program

In March 2009, Metropolitan's Board authorized the PVID Emergency Short-term Fallowing Program due to cutbacks in State Water Project water supplies and the statewide emergency drought conditions. The PVID Emergency Fallowing Program was in addition to the long term program. From April through August 2009, Metropolitan entered into short-term emergency fallowing agreements with PVID landowners to fallow up to 13,350 acres with priority 1 water, in addition to the 26,000 acres being fallowed under the long-term program. The short-term program, which ended in July 2010, provided Metropolitan with approximately 56,400 AF. Under this program, Metropolitan paid landowners \$1,665 per fallowed acre for a total of \$21.2 million. Note: This page is intentionally left blank.

EXHIBIT "B" Summary of IRWD Owned Properties Under the MWD/PVID Fallowing Program

Date of 2-year call				MWD Req	uested % Under Fallo	w Agreement			
	8/1/14 thru 7/31/15	5 8/1/15 thru 7/31/16	8/1/16 thru 7/31/17	8/1/17 thru 7/31/1	.8 8/1/18 thru 7/31/1	9 8/1/19 thru 7/31/20) 8/1/20 thru 7/31/2	21 8/1/21 thru 7/31/22	2 8/1/22 thru 7/31/23
8/1/2013	25%	25%							
8/1/2014		25%	50%						
8/1/2015			50%	50%					
8/1/2016				40%	40%				
8/1/2017					0%	0%			
8/1/2018						40%	40%		
8/1/2019							0%	0%	
8/1/2020								25%	0%
6/16/21*								65%	
8/1/2021 (expected)									90%
Total % call	25%	50%	100%	90%	40%	40%	40%	90%	90%
1st year of 2-year call			2nd Year % was increased	1					
2nd year of 2-year call			from 25% to 50%						
*Estimated voluntary call									
			IRWD'	s Contract Acres by	Property			7	

	in we s contract Acres by Property						
Property acquisition date	Eaton (4/16)	Martin (6/16)	Holt (11/16)	Williams (3/17)	Barnes-Berger (3/17)	Stroschein (8/17)	All
100% Contract Acres	248	25	37	446	190	23	969

Date of 2-year call	IRWD's Combined Contract Acres Fallowed								
	8/1/14 thru 7/31/15	8/1/15 thru 7/31/16	6 8/1/16 thru 7/31/17	8/1/17 thru 7/31/1	18 8/1/18 thru 7/31/19	8/1/19 thru 7/31/20	8/1/20 thru 7/31/2	1 8/1/21 thru 7/31/22	8/1/22 thru 7/31/23
8/1/2013	242	242							
8/1/2014		242	485						
8/1/2015			485	485					
8/1/2016				388	388				
8/1/2017					0	0			
8/1/2018						388	388		
8/1/2019							0	0	
8/1/2020								242	0
6/16/21*								630	
8/1/2021									872
Total Fallowed Acres	242	485	969	872	388	388	388	872	872

*Estimated voluntary call

Date of 2-year call	IRWD's Combined Minimum Annual Payment for Fallowed Acres								
Program Year	2014	2015	2016	2017	2018	2019	2020	2021 (estimated)	2022 (estimated)
Annual Payment /Ac	\$751.82	\$770.62	\$789.89	\$809.64	\$832.31	\$864.77	\$887.25	\$909.00	\$931.73
Total Payment	\$182,128.40	\$373,365.39	\$765,403.41	\$706,087.04	\$322,603.33	\$335,184.89	\$343,899.66	\$220,205.25	\$812,557.37
Additional Payment**								\$572,533.65	
Payment Received	\$0.00	\$0.00	\$244,865.90	\$706,087.04	\$322,603.33	\$335,184.89	\$343,899.66	\$792,738.90	\$812,557.37
P		e		•	•		•	-	8

IRWD received payment for Eaton, Martin and Holt properties starting 2016

Expected Sept 2021 Expected Sept 2022

Payments made by September 1 of each year; based on annual escalation of 2.5% per year; at contract year 11 (2015), annual rate adjustment equal to CPI % increase with 2.5% minimum and 5% maximum

**Additional estimated payment from proposed voluntary call

Note: This page is intentionally left blank.

EXHIBIT "C"

Attachment 1. Draft Terms for Conservation Funding Agreement

Funding Partners:

U.S. Bureau of Reclamation Central Arizona Water Conservation District Southern Nevada Water Authority Metropolitan Water District

Proposed Terms:

- Agreement duration: August 1, 2021 to July 31, 2024
- Cost sharing among the parties for all costs incurred for the conservation of a total of up to 246,000 acre-feet of Colorado River water due to fallowing:

•	Reclamation	= 50.00%
•	Central Arizona Water Conservation District	= 16.67%
•	Southern Nevada Water Authority	= 16.67%
•	Metropolitan	= 16.67%

- Payments are escalated yearly using the Consumer Price Index.
- Metropolitan will forebear the delivery and diversion for its own beneficial use of Colorado River Water conserved over the period of August 2021 and July 2024 as follows:
 - Up to 32,000 acre-feet in 2021
 - Up to 82,000 acre-feet in 2022
 - Up to 82,000 acre-feet in 2023, and
 - Up to 50,000 acre-feet in 2024
- Metropolitan will increase fallowing call for contract years 2022 and 2023. Metropolitan can call back the water and pay the parties if Metropolitan needs the water in any year.
- Metropolitan will issue invoices to Reclamation, CAWCD, and SNWA.

PVID Fallowing Program

- Current fallowing level starting August 1, 2021: 25%
- Acres fallowed at 25%: 6,497 acres
- Increase additional fallowing level (amount to be determined but no more than 90%)
- Acres fallowed at 90%: 23,352 acres
- Metropolitan will issue a notice offering the participating landowners to voluntarily increase fallow acres from 25% up to 90% of their maximum fallowing commitment. For the first year, landowners will have either August 1, 2021 or February 1, 2022 to voluntarily start increase fallow acres.
- Metropolitan will execute agreements with participating landowners to voluntarily fallow additional land.

C-1

- Metropolitan will issue a fallowing call for years 2022 and 2023 consistent with the first year's fallowing percent. Years 2 and 3 will be in accordance with the PVID Fallowing Program's terms and provisions.
- Payments to landowners are in accordance with the fallowing program's landowner agreement payment schedule.
- PVID will submit to Reclamation a revised water order for 2021.

Bard Seasonal Fallowing Program

- Maximum Acres: 3,000 Acres.
- Metropolitan will issue a maximum fallowing call for years 2022, 2023, and 2024 by October 1 of each preceding year. Metropolitan can call back the water and pay the parties if Metropolitan needs the water in any year.
- Metropolitan will execute agreements with participating landowners not currently participating in the Program and amend necessary agreements to include new lands.
- Metropolitan will issue payments to farmers and Bard per the terms of the program agreement payment schedule.