



JOSHUA BASIN WATER DISTRICT  
**SPECIAL MEETING OF THE BOARD OF DIRECTORS**  
WEDNESDAY, NOVEMBER 1, 2017 5:30 PM  
61750 CHOLLITA ROAD, JOSHUA TREE, CA 92252

**AGENDA**

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **DETERMINATION OF A QUORUM**
4. **APPROVAL OF AGENDA**
5. **PUBLIC COMMENT**  
This is the time set aside for public comment on any District-related matter not appearing on the agenda. Government Code prohibits the Board from taking action on these items, but they may be referred for future consideration. Please state your name and limit your comments to 3 minutes.
6. **CONSENT CALENDAR**  
Matters on the Consent Calendar are considered routine in nature and will be enacted in a single motion without discussion. Any Board member or member of the public may request that an item be removed from the Consent Calendar and acted on separately.
  - A. Approve Draft Minutes of the October 18, 2017 Regular Meeting of the Board of Directors.
  - B. Approve September 2017 Check Register (reviewed by Finance Committee on 10/30/2017 and referred to the full Board for approval)
7. **DRAFT AGREEMENT WITH MWA FOR WATER SUPPLY CONNECTION AND TRANSFER FACILITIES AT RECHARGE TURN OUT** – Recommend that the Board receive for information, discuss and advise GM on any items of concern.
8. **DISCUSSION ON DRAFT WATER STORAGE AGREEMENT WITH MOJAVE WATER AGENCY** - Recommend that the Board receive for information, discuss and advise GM on any items of concern.
9. **RATE STUDY** –Recommend that the Board receive for information and provide direction for ongoing rate study.
10. **SOLAR ENERGY PRESENTATION AND GRANT APPLICATION** – Recommend that the Board direct staff to apply for a Scope and Feasibility Grant, and form an AD HOC Committee with the specific task of working on this project.
11. **DISTRICT GENERAL COUNSEL REPORT -**

12. **GENERAL MANAGER REPORT -**

13. **DIRECTOR REPORTS ON MEETINGS ATTENDED, COMMENTS AND FUTURE AGENDA ITEMS –**

- Mojave Water Agency Board of Directors Meeting – October 26, 2017-Director Hund
- Finance Committee – October 30, 2017-Vice President Johnson and Director Floen
- Water Resources and Operations Committee – October 30, 2017 Vice President Johnson and Director Floen
- Public Outreach Consultant – Kathleen Radnich

14. **FUTURE DIRECTOR MEETINGS AND TRAINING OPPORTUNITIES**

- Mojave Water Agency Board of Directors Meeting – November 2, 2017 at 3:30 p.m.- President Luckman **(Please note meeting date and time change)**
- ASBCSD - Wood Grill Buffet, 14135 Main Street, Hesperia, CA 92345– November 13, 2017
- Finance Committee Meeting – November 20, 2017 at 9:00 a.m.- Vice President Johnson and Director Floen **(Please note meeting date change due to Thanksgiving holiday)**
- Water Resources and Operations Committee Meeting – November 20, 2017 at 10:00 a.m. President Luckman and Vice President Johnson **(Please note meeting date change due to Thanksgiving holiday)**
- ACWA Conference- Anaheim, CA – November 27<sup>th</sup> –December 1<sup>st</sup> , 2017

15. **ADJOURNMENT**

INFORMATION

The public is invited to comment on any item on the agenda during discussion of that item. Any person with a disability who requires accommodation in order to participate in this meeting should telephone Joshua Basin Water District at (760) 366-8438, at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the District's office located at 61750 Chollita Road, Joshua Tree, California 92252 during normal business hours.

JOSHUA BASIN WATER DISTRICT

Minutes of the October 18, 2017

REGULAR MEETING OF THE BOARD OF DIRECTORS

Helen Gray Center

October 18, 2017

1. CALL TO ORDER: 6:30 PM

2. PLEDGE OF ALLEGIANCE

3. DETERMINATION OF QUORUM: Mickey Luckman Present  
Bob Johnson Present  
Geary Hund Present  
Rebecca Unger Present  
Tom Floen Present

STAFF PRESENT: Curt Sauer, General Manager  
Susan Greer, Assistant General Manager  
Randy Mayes, Interim Director of Water Resources & Ops.  
Keith Faul, GIS Coordinator  
Beverly Waszak, Executive Assistant

CONSULTANTS PRESENT: Alex Handlers, Bartles Wells Associates  
Gil Granito, Redwine & Sherrill  
Kathleen Radnich, Public Outreach

GUESTS 6

4. APPROVAL OF AGENDA –

MSC/Unger/Hund 5/0 to approve the Regular Meeting of the Board of Directors of October 18, 2017 with following changes:

- Reverse order of Items 9 and 10.
- Language for Item #15 (All comments should pertain to Agenda items only) to be stricken on this Agenda and all future Agendas.
- Finance Committee meeting reverted to October 30, 2017.
- Spelling of Claudia Saul changed to Claudia Sall

Floen Aye  
Hund Aye  
Luckman Aye  
Johnson Aye  
Unger Aye

5. PUBLIC COMMENT – None

PUBLIC COMMENT CLOSED

6. CONSENT CALENDAR

Items on the Consent Calendar are considered routine in nature and will be adopted in total by one action of the Board of Directors unless any Board Member, individual or organization interested in one or more consent calendar items wishes to be heard.

- Approve Draft Minutes of the October 4, 2017 Regular Meeting of the Board of Directors

MSC/Johnson/Floen 5/0 to approve the Consent Calendar with the correction of Director Floen attending the October 12, 2017 Mojave Water Agency Board of Directors meeting.

Floen	Aye
Hund	Aye
Luckman	Aye
Johnson	Aye
Unger	Aye

7. CLAUDIA SALL OF MORONGO BASIN CONSERVATION – Ms. Sall thanked the Board for their donation and mentioned the featured article in Sunset Magazine and the calendar listing in West Ways. She mentioned that most of the donations goes towards publishing and advertising.

8. APPROVE RESOLUTION NO. 17-980, AMENDING THE ADMINISTRATION CODE TO CLARIFY THE GENERAL MANAGER’S AUTHORITY TO EXPEND FUNDS IN AN EMERGENCY – after a brief discussion with the Board, Article 4 is amended as follows:

*Article 4, Section 4.04.07 Expenditure of Funds for Emergencies. It shall be the duty of the General Manager or his/her designee, to expend the funds necessary to correct an emergency situation, notwithstanding the purchasing limits outlined in Article 4.04.06, above. The General Manager, or his/her designee shall notify the President of the Board as soon as possible as to the nature of the emergency and the estimated funds required to remedy the situation. Actual funds spent shall be reported to the Board within one week.*

10. AWARD AGREEMENT FOR ORGANIZATIONAL ASSESSMENT – GM Sauer stated that as requested by the Board of Directors, a RFP (Request for Proposal), for an Organizational Assessment (OA) was prepared and submitted to five different consultants. Proposals were received from three consultants, Koff & Associates, Westin Technology Solutions and CPS HR Consulting. After much review, staff recommendation is Westin Technology Solutions, who has water, wastewater, and 30 years’ experience working with municipalities such as ours. A brief discussion with the Board followed.

MSC/Johnson/Unger 5/0 to award the agreement for the Organizational Assessment to Westin Technology Solutions.

Floen	Aye
Hund	Aye
Luckman	Aye
Johnson	Aye
Unger	Aye

11. RATE STUDY PRESENTATION AND DISCUSSION –

Alex Handlers, Bartles Wells Associates presented the revised Rate Study to the Board followed by a Q&A period and discussion with the Board.

PUBLIC COMMENT

Steve Whitman, Joshua Tree commented that the presentation was very long and informative. He cautioned the Board to review “you tube” in order to clearly understand what was presented here tonight. Mr. Whitman stated that he thought that where Mr. Handlers was 100% correct is to consider 100% rate increases.

PUBLIC COMMENT CLOSED

12. DISTRICT GENERAL COUNSEL REPORT – Mr. Granito had no report but did mention that he works with several District’s and Alex Handlers presentations are always right on point.
13. GENERAL MANAGER REPORT- GM Sauer updated the Board on the following:
  - Conservation
  - Layne Construction
  - County Mental Health Facility
  - BIA Proposal
  - Solar Grants
  - Grants for Tilford Way and Meter Replacement

14. DIRECTOR REPORTS ON MEETINGS ATTENDED, COMMENTS AND FUTURE AGENDA ITEMS –

Director Unger had nothing to report.

Vice President Johnson reported on the Finance Committee on September 25, 2017.

Director Hund stated that he appreciated Alex Handler’s presentation and the Citizen’s Advisory Committee input.

Director Floen reported that he attended the MWA TAC Committee and the MWA Board meeting of October 12, 2017.

Kathleen Radnich reported on the following:

- October Farmer’s Market booth theme covers protecting our ground water
- Winterizing class was held on October 10, 2017
- District tours have been postponed and moved to February
- Great Shake Out went well with docent Loretta Simonet and Director Floen.

15. FUTURE DIRECTOR MEETINGS AND TRAINING OPPORTUNITIES –

- Mojave Water Agency Technical Advisory Committee (TAC) -October 5, 2017 at 10 a.m. President Luckman
- Mojave Water Agency Board of Directors Meeting – October 12, 2017 at 4:30 p.m. Director Unger
- ASBCSD - East Valley Water District – October 16, 2017 Place to be determined.
- Finance Committee Meeting – October 30, 2017 at 9:00 a.m.- Vice President Johnson and Director Floen
- Water Resources and Operations Committee Meeting – October 30, 2017 at 10:00 a.m. President Luckman and Vice President Johnson

16. ADJOURNMENT –

MSC/Johnson/Unger/5/0 to adjourn the Regular Meeting of the Board of Directors at 8:15 p.m.

Floen	Aye
Hund	Aye
Luckman	Aye
Johnson	Aye
Unger	Aye

Respectfully submitted:

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Curt Sauer, General Manager



Joshua Basin Water District

**\*Check Report JBWD**

By Check Number

Date Range: 09/01/2017 - 09/30/2017

Vendor Number Payable #	Vendor DBA Name Payable Type	Payment Date Payable Date	Payment Type Payable Description	Discount Amount Discount Amount	Payment Amount Payable Amount	Number
000504 <u>13620</u>	ACTION PUMPING, INC. Invoice	09/12/2017 09/12/2017	Regular HDMC WW: PUMPING	0.00 0.00	1,075.00 1,075.00	59231
000675 <u>0066563-IN</u> <u>0066589-IN</u>	AQUA-METRIC SALES COMPANY Invoice Invoice	09/12/2017 09/12/2017 09/12/2017	Regular INVENTORY METER REPAIR SUPPLIES	0.00 0.00 0.00	5,566.51 5,178.28 388.23	59232
001630 <u>829480028X0905</u>	AT&T MOBILITY Invoice	09/12/2017 09/12/2017	Regular COMMUNICATIONS - AUG 17	0.00 0.00	1,253.59 1,253.59	59233
000181 <u>BWF091117</u>	BASIN WIDE FOUNDATION Invoice	09/12/2017 09/12/2017	Regular ANNUAL AWARDS DINNER	0.00 0.00	270.00 270.00	59234
001297 <u>2017-003</u>	BIGHORN-DESERT VIEW Invoice	09/12/2017 09/12/2017	Regular FEMA ICS 300/400 CLASS	0.00 0.00	1,350.00 1,350.00	59235
004110 <u>BW0917</u> <u>BW0917B</u> <u>BW0917C</u>	BURRTEC WASTE & RECYCLING SVCS Invoice Invoice Invoice	09/12/2017 09/12/2017 09/12/2017 09/12/2017	Regular RECYCLING - SEPT 17 TRASH REMOVAL - SEPT 17 TRASH REMOVAL - SEPT 17	0.00 0.00 0.00 0.00	418.29 60.41 270.90 86.98	59236
013372 <u>SI343937</u>	CALIFORNIA CHAMBER OF COMMERCE Invoice	09/12/2017 09/12/2017	Regular ANNUAL MEMBERSHIP 10/15/17 - 10/15/	0.00 0.00	729.00 729.00	59237
000137 <u>473829</u>	PROVIDENCE PUBLICATIONS, LLC Invoice	09/12/2017 09/12/2017	Regular CAL-OSHA SUBSCRIPTION	0.00 0.00	395.00 395.00	59238
001555 <u>170903192101</u>	CENTRATTEL Invoice	09/12/2017 09/12/2017	Regular DISPATCH SERVICES - AUG 17	0.00 0.00	259.28 259.28	59239
000126 <u>INV03449</u>	EAST VALLEY WATER DISTRICT Invoice	09/12/2017 09/12/2017	Regular ERNIE MEMBERSHIP DUES	0.00 0.00	400.00 400.00	59240
013222 <u>FC0917</u>	FRONTIER CALIFORNIA INC. Invoice	09/12/2017 09/12/2017	Regular HDMC WWTP - TELEPHONE	0.00 0.00	163.96 163.96	59241
000058 <u>10331767</u>	GARDA CL WEST, INC. Invoice	09/12/2017 09/12/2017	Regular COURIER FEES - SEPT 17	0.00 0.00	606.41 606.41	59242
006200 <u>6205B</u>	MCALLISTERS JANITORIAL SERV. Invoice	09/12/2017 09/12/2017	Regular JANITORIAL SERVICES - AUG 17	0.00 0.00	580.00 580.00	59243
013197 <u>99467</u>	INTER VALLEY POOL SUPPLY, INC. Invoice	09/12/2017 09/12/2017	Regular WATER TREATMENT EXPENSE	0.00 0.00	372.50 372.50	59244
009054 <u>170903-1</u> <u>170910-1</u>	KATHLEEN J. RADNICH Invoice Invoice	09/12/2017 09/12/2017 09/12/2017	Regular PUBLIC RELATIONS SERVICES PUBLIC RELATIONS SERVICES	0.00 0.00 0.00	1,629.60 798.00 831.60	59245
000205 <u>LH092017</u>	LORI G. HERBEL Invoice	09/12/2017 09/12/2017	Regular PUBLIC INFO/FARMER'S MARKET	0.00 0.00	128.00 128.00	59246
006507 <u>43693086</u> <u>43929381</u> <u>44053665</u> <u>44949197</u>	McMASTER-CARR SUPPLY COMPANY Invoice Invoice Invoice Invoice	09/12/2017 09/12/2017 09/12/2017 09/12/2017 09/12/2017	Regular METER REPAIR SUPPLIES TANK & RESERVOIR MAINTENANCE SMALL TOOLS SHOP EXPENSE/SMALL TOOLS - PRODUCT	0.00 0.00 0.00 0.00 0.00	4,409.58 103.28 2,366.96 1,280.78 658.56	59247

\* Check Report JBWD

Date Range: 09/01/2017 - 09/30/2017

Vendor Number	Vendor DBA Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Payable Date	Payable Description	Discount Amount	Payable Amount	
000156	FORSHOCK	09/12/2017	Regular	0.00	690.00	59248
<u>1700071</u>	Invoice	09/12/2017	PUMPING PLANT: SCADA	0.00	690.00	
000070	ONLINE INFORMATION SERVICES, INC.	09/12/2017	Regular	0.00	343.55	59249
<u>808073</u>	Invoice	09/12/2017	ID VERIF. SERV. THRU 08/30/17	0.00	343.55	
008300	POSTMASTER	09/12/2017	Regular	0.00	4,000.00	59250
<u>SD083117</u>	Invoice	09/12/2017	POSTAGE FOR WATER BILLING	0.00	4,000.00	
008405	PRECISION ASSEMBLY	09/12/2017	Regular	0.00	1,385.45	59251
<u>17726</u>	Invoice	09/12/2017	AUG WATER BILLING	0.00	1,385.45	
008415	PRUDENTIAL OVERALL SUPPLY	09/12/2017	Regular	0.00	216.51	59252
<u>22470343</u>	Invoice	09/12/2017	SHOP EXPENSE	0.00	37.04	
<u>22470345</u>	Invoice	09/12/2017	SHOP EXPENSE	0.00	92.23	
<u>22477580</u>	Invoice	09/12/2017	SHOP EXPENSE	0.00	37.04	
<u>22477582</u>	Invoice	09/12/2017	SHOP EXPENSE	0.00	50.20	
013361	QUINN COMPANY	09/12/2017	Regular	0.00	5,403.30	59253
<u>WOG00000340</u>	Invoice	09/12/2017	GENERATOR REPAIR: GR-3	0.00	5,403.30	
013360	REDWINE AND SHERRILL, LLP	09/12/2017	Regular	0.00	3,249.00	59254
<u>1021</u>	Invoice	09/12/2017	LEGAL SERVICES - AUGUST 17	0.00	3,249.00	
013218	OFFICETEAM	09/12/2017	Regular	0.00	3,037.60	59255
<u>49069258</u>	Invoice	09/12/2017	TEMPORARY LABOR	0.00	1,518.80	
<u>49123885</u>	Invoice	09/12/2017	TEMPORARY LABOR	0.00	1,518.80	
008414	PROVIDEO	09/12/2017	Regular	0.00	150.00	59256
<u>1115A</u>	Invoice	09/12/2017	VIDEO TAPING & YOU TUBE BD MEETING	0.00	150.00	
000091	SAN BERNARDINO COUNTY RECORDER	09/12/2017	Regular	0.00	63.00	59257
<u>SBQ90517</u>	Invoice	09/12/2017	RELEASE OF LIENS	0.00	63.00	
013221	SIERRA WEST CONSULTANTS, INC.	09/12/2017	Regular	0.00	3,500.00	59258
<u>2017-81</u>	Invoice	09/12/2017	EMERGENCY PREPAREDNESS TRAINING	0.00	3,500.00	
VEN01020	SOUTHWEST NETWORKS, INC.	09/12/2017	Regular	0.00	10,245.00	59259
<u>17-90035C</u>	Invoice	09/12/2017	IT SERVICES - 10/17 - 12/17	0.00	10,245.00	
011101	VAGABOND WELDING SUPPLY	09/12/2017	Regular	0.00	478.29	59260
<u>102551</u>	Invoice	09/12/2017	SHOP EXPENSE	0.00	310.81	
<u>102652</u>	Invoice	09/12/2017	SMALL TOOLS - PRODUCTION	0.00	167.48	
013196	TELEPACIFIC COMMUNICATIONS	09/12/2017	Regular	0.00	736.58	59261
<u>94307996-0</u>	Invoice	09/12/2017	TELEPHONE (OFFICE) - SEPT 17	0.00	736.58	
010690	TYLER TECHNOLOGIES	09/12/2017	Regular	0.00	137.50	59262
<u>025-200086</u>	Invoice	09/12/2017	EE TRAINING	0.00	137.50	
010850	UNDERGROUND SERVICE ALERT	09/12/2017	Regular	0.00	97.45	59263
<u>820170338</u>	Invoice	09/12/2017	TICKET DELIVERY SERVICE - AUG 17	0.00	97.45	
000247	UNITED STATES PLASTIC CORP	09/12/2017	Regular	0.00	849.35	59264
<u>5201288</u>	Invoice	09/12/2017	PUMPING PLANT SUPPLIES	0.00	793.03	
<u>5201291</u>	Invoice	09/12/2017	PUMPING PLANT SUPPLIES	0.00	56.32	
010990	UTILIQUEST L.L.C.	09/12/2017	Regular	0.00	1,002.76	59265
<u>251561-Q</u>	Invoice	09/12/2017	CONTRACT LOCATING EXPENSE	0.00	85.64	
<u>251812-Q</u>	Invoice	09/12/2017	CONTRACT LOCATING EXPENSE	0.00	526.28	
<u>252081-Q</u>	Invoice	09/12/2017	CONTRACT LOCATING EXPENSE	0.00	204.88	
<u>252326-Q</u>	Invoice	09/12/2017	CONTRACT LOCATING EXPENSE	0.00	185.96	
000233	NAPA AUTO PARTS	09/12/2017	Regular	0.00	1,008.33	59266
<u>209640</u>	Invoice	09/12/2017	VEHICLE MAINT/SHOP EXPENSE/SMALL T	0.00	205.66	
<u>209641</u>	Invoice	09/12/2017	SMALL TOOLS	0.00	5.43	

Vendor Number	Vendor DBA Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Payable Date	Payable Description	Discount Amount	Payable Amount	
<u>209692</u>	Invoice	09/12/2017	PUMPING PLANT SUPPLIES	0.00	141.09	
<u>210194</u>	Invoice	09/12/2017	SMALL TOOLS	0.00	149.07	
<u>211686</u>	Invoice	09/12/2017	SMALL TOOLS - DIST/VEHICLE MAINT/VA	0.00	507.08	
000501	ACWA/JPIA	09/20/2017	Regular	0.00	17,118.31	59267
<u>0505416</u>	Invoice	09/20/2017	EE HEALTH BENEFIT & EAP OCT 17	0.00	17,118.31	
001850	CLINICAL LAB OF S.B. INC	09/20/2017	Regular	0.00	11,821.25	59268
<u>957879</u>	Invoice	09/20/2017	SAMPLING - JULY 17	0.00	6,545.25	
<u>957880</u>	Invoice	09/20/2017	HDMC WWTP SAMPLING- JULY 17	0.00	940.00	
<u>958284</u>	Invoice	09/20/2017	SAMPLING - AUG 17	0.00	3,654.00	
<u>958285</u>	Invoice	09/20/2017	HDMC WWTP SAMPLING- AUG 17	0.00	682.00	
003025	FEDEX	09/20/2017	Regular	0.00	27.82	59269
<u>5-922-94338</u>	Invoice	09/20/2017	SHIPPING: PLAN CHECK	0.00	27.82	
013351	HELENITA C. YOUNGLOVE	09/20/2017	Regular	0.00	90.00	59270
<u>144</u>	Invoice	09/20/2017	NOTARY SERVICES	0.00	90.00	
009054	KATHLEEN J. RADNICH	09/20/2017	Regular	0.00	1,054.80	59271
<u>170917-1</u>	Invoice	09/20/2017	PUBLIC RELATIONS SERVICES	0.00	1,054.80	
000134	KENNEDY/JENKS CONSULTANTS, INC.	09/20/2017	Regular	0.00	1,232.39	59272
<u>114398</u>	Invoice	09/20/2017	CONSULTING: MULTIPLE PROJECTS	0.00	997.65	
<u>115115</u>	Invoice	09/20/2017	CONSULTING: MULTIPLE PROJECTS	0.00	234.74	
006029	LIEBERT CASSIDY WHITMORE	09/20/2017	Regular	0.00	2,057.20	59273
<u>1446741</u>	Invoice	09/20/2017	LEGAL SERVICES - AUG 17	0.00	1,260.00	
<u>1446742</u>	Invoice	09/20/2017	LEGAL SERVICES - EE MATTERS	0.00	797.20	
000236	PAYPRO ADMINISTRATORS	09/20/2017	Regular	0.00	50.00	59274
<u>60254</u>	Invoice	09/20/2017	FSA ADMIN FEES - AUG 17	0.00	50.00	
006150	RANDY MAYES	09/20/2017	Regular	0.00	1,775.71	59275
<u>RM091417</u>	Invoice	09/20/2017	EDUCATION REIMBURSEMENT	0.00	1,775.71	
009880	SOUTHERN CALIFORNIA EDISON CO	09/20/2017	Regular	0.00	3,704.10	59276
<u>SCE0917</u>	Invoice	09/20/2017	POWER TO BLDGS & GEN - SEPT 17	0.00	3,704.10	
000510	TIME WARNER CABLE	09/20/2017	Regular	0.00	343.62	59277
<u>TW0917</u>	Invoice	09/20/2017	CABLE & INTERNET - SEPT 17	0.00	343.62	
013216	TIMOTHY ROBERT PINAR	09/20/2017	Regular	0.00	1,050.00	59278
<u>TP083117</u>	Invoice	09/20/2017	OFFICE REMODEL & HVAC CONSULTING F	0.00	1,050.00	
000327	WATER QUALITY SPECIALISTS	09/20/2017	Regular	0.00	4,512.40	59279
<u>5108</u>	Invoice	09/20/2017	HDMC WWTP: OPERATION, MAINT & REP	0.00	4,512.40	
000575	AFSCME LOCAL 1902	09/26/2017	Regular	0.00	585.20	59287
<u>AFSCME0917</u>	Invoice	09/26/2017	EE UNION DUES - SEPT 17	0.00	585.20	
001953	COUNTY OF SAN BERNARDINO DEPT OF PUBLIC	09/26/2017	Regular	0.00	445.00	59288
<u>CS8DP090517</u>	Invoice	09/26/2017	EXCAVATION PERMIT #T1702305 - CHOLL	0.00	445.00	
000058	GARDA CL WEST, INC.	09/26/2017	Regular	0.00	28.29	59289
<u>70062779</u>	Invoice	09/26/2017	EVENXCHANGE FEES - AUG 17	0.00	28.29	
009054	KATHLEEN J. RADNICH	09/26/2017	Regular	0.00	638.40	59290
<u>170924-1</u>	Invoice	09/26/2017	PUBLIC RELATIONS SERVICES	0.00	638.40	
009980	SWRCB FEES	09/26/2017	Regular	0.00	10,748.00	59291
<u>LW-1010480-R2</u>	Invoice	09/26/2017	WATER SYSTEM FEES 7/01/16 - 6/30/17	0.00	10,748.00	
013359	XEROX FINANCIAL SERVICES	09/26/2017	Regular	0.00	395.66	59292
<u>929828</u>	Invoice	09/26/2017	OFFICE EXPENSE 9/7/17 - 10/6/17	0.00	395.66	



\* Check Report JBWD

Date Range: 09/01/2017 - 09/30/2017

Vendor Number	Vendor DBA Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Payable Date	Payable Description	Discount Amount	Payable Amount	
009500	USDA RURAL DEVELOPMENT	09/02/2017	Manual	0.00	176,219.85	900815
<u>USDA 09/17 LN</u>	Invoice	09/02/2017	CMM PRINCIPAL & INT LOAN #2	0.00	176,219.85	
001517	CalPERS	09/01/2017	Manual	0.00	9,728.06	900816
<u>PPE 8-18-17</u>	Invoice	09/01/2017	PAY PERIOD ENDING 8/18/17	0.00	9,728.06	
000236	PAYPRO ADMINISTRATORS	09/08/2017	Manual	0.00	449.97	900817
<u>PPE 9-1-17</u>	Invoice	09/08/2017	EE FSA DEDUCTIONS 9-08-17	0.00	449.97	
000248	PAYCHEX	09/08/2017	Manual	0.00	332.70	900818
<u>307291</u>	Invoice	09/08/2017	PAYROLL PROCESSING FEE	0.00	332.70	
001004	BUSINESS CARD	09/14/2017	Manual	0.00	1,603.21	900819
<u>BA0917</u>	Invoice	09/14/2017	TELEPHONE/TRAINING/SHOP EXPENSE/O	0.00	1,603.21	
001005	BANK OF AMERICA	09/14/2017	Manual	0.00	523.15	900820
<u>BA0917</u>	Invoice	09/14/2017	OFFICE SUPPLIES/METER SERVICE REPAIR	0.00	523.15	
001008	BUSINESS CARD	09/14/2017	Manual	0.00	9,192.56	900821
<u>BA0917</u>	Invoice	09/14/2017	PUMPING PLANT/WELL 14/UNIFORMS	0.00	9,192.56	
009878	SOUTHERN CALIFORNIA EDISON	09/14/2017	Manual	0.00	39,731.91	900822
<u>SCE0817</u>	Invoice	09/14/2017	POWER FOR PUMPING - AUG 17	0.00	39,731.91	
000248	PAYCHEX	09/15/2017	Manual	0.00	70.00	900823
<u>16926756</u>	Invoice	09/15/2017	TIME & LABOR ONLINE USAGE FEE	0.00	70.00	
001517	CalPERS	09/15/2017	Manual	0.00	9,712.53	900824
<u>PPE 9-1-17</u>	Invoice	09/15/2017	PAY PERIOD ENDING 9/01/17	0.00	9,712.53	
VEN01533	PAYMENTUS GROUP INC.	09/18/2017	Manual	0.00	2,049.65	900825
<u>US17080202</u>	Invoice	09/18/2017	CREDIT CARD PROCESSING FEE - AUG 17	0.00	2,049.65	
004195	HOME DEPOT CREDIT SERVICES	09/20/2017	Manual	0.00	1,750.70	900826
<u>H00917</u>	Invoice	09/20/2017	PUMPING PLANT SUPPLIES/MAINLINE/LE	0.00	1,750.70	
000236	PAYPRO ADMINISTRATORS	09/22/2017	Manual	0.00	449.97	900827
<u>PPE 9-15-17</u>	Invoice	09/22/2017	EE FSA DEDUCTIONS 9-22-17	0.00	449.97	
000248	PAYCHEX	09/22/2017	Manual	0.00	347.50	900828
<u>307917</u>	Invoice	09/22/2017	PAYROLL PROCESSING FEE	0.00	347.50	
001517	CalPERS	09/22/2017	Manual	0.00	9,360.67	900829
<u>PPE 9-15-17</u>	Invoice	09/22/2017	PAY PERIOD ENDING 9/15/17	0.00	9,360.67	
000025	ICMA RC	09/30/2017	Manual	0.00	3,802.96	900830
<u>900830</u>	Invoice	09/30/2017	457 REMITTANCE - SEPT 17	0.00	3,802.96	

Bank Code AP Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	80	55	0.00	113,878.54
Manual Checks	16	16	0.00	265,325.39
Voided Checks	0	0	0.00	0.00
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	<b>96</b>	<b>71</b>	<b>0.00</b>	<b>379,203.93</b>

**JOSHUA BASIN WATER DISTRICT  
UTILITY REFUND REGISTER**

<u>Account Number</u>	<u>Name</u>	<u>Date</u>	<u>Type</u>	<u>Amount</u>	<u>Reference</u>
01-00119-003	DECICCO, AMY	9/12/2017	Refund	102.91	Check #: 59221
06-00103-019	WILLIAMS, MILES J	9/12/2017	Refund	15.47	Check #: 59226
09-00107-007	CAMBON, WILLIAM R	9/12/2017	Refund	8.11	Check #: 59227
11-00048-015	TRI VALLEY REALTY	9/12/2017	Refund	35.82	Check #: 59222
12-00072-003	MIRAGE COVE PROPERTIES LLC	9/12/2017	Refund	25.78	Check #: 59223
13-00269-008	SHERMAN, GABRIELLE C	9/12/2017	Refund	23.43	Check #: 59228
50-00059-006	ANDRA, AUREL	9/12/2017	Refund	50.95	Check #: 59229
56-00017-012	CORPORATION, HIGHLAND SERVICE	9/12/2017	Refund	45.44	Check #: 59230
62-00092-004	NIBLOCK, TREVOR G E	9/12/2017	Refund	0.26	Check #: 59224
63-00118-000	WANG, DAVID	9/12/2017	Refund	65.70	Check #: 59225
07-00170-003	AXIOM PROPERTIES LLC	9/20/2017	Refund	145.22	Check #: 59281
09-00107-007	CAMBON, WILLIAM R	9/20/2017	Refund	40.78	Check #: 59280
11-00073-001	HOARD, CARL M	9/20/2017	Refund	153.58	Check #: 59282
52-00165-013	WASHINGTON, MARLENA E	9/20/2017	Refund	186.06	Check #: 59283
53-00060-016	DELROSARIO, ALLEN J	9/20/2017	Refund	153.58	Check #: 59284
55-00299-014	WILLIAMS ENTERPRISES INC	9/20/2017	Refund	57.91	Check #: 59285
64-99235-000	HI-DESERT MEDICAL CENTER	9/20/2017	Refund	196.78	Check #: 59286
06-00011-012	VILLEGAS, RENE	9/26/2017	Refund	41.47	Check #: 59293
08-00062-007	JACKMAN, CHRISTELLE	9/26/2017	Refund	43.42	Check #: 59294
13-00111-003	HAMILTON, MARGARET M	9/26/2017	Refund	57.08	Check #: 59295
57-00029-006	COULSON, ANDREW M	9/26/2017	Refund	102.67	Check #: 59296
				<b><u>1,552.42</u></b>	

**JOSHUA BASIN WATER DISTRICT****SEPTEMBER 2017****DIRECTOR PAY****PAY PERIODS: 8/19/2017 - 9/15/2017**

<b>Director</b>	<b>Date</b>	<b>Type</b>	<b>Amount</b>	<b>Notes</b>
THOMAS FLOEN	08/28/2017	Director Pay	173.63	FINANCE COMMITTEE MEETING
THOMAS FLOEN	09/12/2017	Director Pay	173.63	SPECIAL JBWD BOARD & CAC MEETINGS
			<u>347.26</u>	
GEARY HUND	09/12/2017	Director Pay	173.63	SPECIAL JBWD BOARD & CAC MEETINGS
			<u>173.63</u>	
ROBERT JOHNSON	08/28/2017	Director Pay	173.63	FINANCE & WATER RESOURCES OPS COMMITTEE MEETINGS
			<u>173.63</u>	
MICKEY C LUCKMAN	08/28/2017	Director Pay	173.63	WATER RESOURCES & OPS COMMITTEE MEETING
MICKEY C LUCKMAN	09/12/2017	Director Pay	173.63	SPECIAL JBWD BOARD & CAC MEETINGS
			<u>347.26</u>	
REBECCA UNGER	09/06/2017	Director Pay	173.63	UNDERSTANDING THE BROWN ACT
REBECCA UNGER	09/12/2017	Director Pay	173.63	SPECIAL JBWD BOARD & CAC MEETINGS
REBECCA UNGER	09/14/2017	Director Pay	173.63	MWA BOARD MEETING
REBECCA UNGER	09/14/2017	Mileage/Vehicle Expense	71.69	MILES: MWA BOARD MEETING
			<u>592.58</u>	
		<b>TOTAL</b>	<u><b>1,634.36</b></u>	

**JOSHUA BASIN WATER DISTRICT  
STAFF REPORT**

Meeting of the Board of Directors

November 1, 2017

Report to: President and Members of the Board

Prepared by: Curt Sauer

TOPIC: Draft Agreement with MWA for Water Supply Connection and Transfer of Facilities at Recharge Turn Out

RECOMMENDATION: That the Board receive for information, discuss and advise GM on any items of concern.

**ANALYSIS:**

When the Recharge Pipeline was constructed in the 1990's, Mojave Water Agency (MWA) built and owned all facilities from the Turn Out located on Linda Lee in Yucca Valley to the first pressure reduction station on Yucca Mesa Road.

In 2012/13, when the District extended the pipeline and constructed the recharge ponds, the facilities within the Turn Out were replaced by the District, and the District retained ownership of the equipment in the vault.

This has left a 2,000 feet section of recharge pipeline that is currently owned by the MWA. MWA has requested that we take ownership of that pipeline. According to MWA this is an oversight of past management activities, as their intention was to have JBWD take ownership of all facilities downstream of the Master meter, located in the Turn Out vault.

This is the same agreement they have with Hi Desert Water District.

There are no costs associated with taking ownership and the State has confirmed there is no impact to the loan agreements if change in ownership occurs. The loan has been paid by MWA.

Future costs, in 50 to 75 years, when the pipeline needs to be replaced, is roughly estimated to be on the order of \$400,000. This would be done at the same time we replace the other 3+ miles of pipeline from Yucca Mesa Road to the recharge facility.

**JOSHUA BASIN WATER DISTRICT  
STAFF REPORT**

Meeting of the Board of Directors

November 1, 2017

Report to: President and Members of the Board

Prepared by: Curt Sauer

TOPIC: Discussion on Draft Water Storage Agreement with Mojave Water Agency

**RECOMMENDATION:** That the Board receive for information, discuss and advise GM on any items of concern.

**ANALYSIS:** At the direction of the Board, the General Manager has been negotiating a Water Storage Agreement with Mojave Water Agency. The draft presented tonight represents several iterations and is close to being finished, so that both the JBWD Board and the MWA Board can consider and approve a final agreement.

Section 1 of the Agreement covers ownership of the stored water (MWA), until requested by JBWD.

Section 2 covers JBWD's authority to prevent additional water storage should operations under this Agreement adversely affect JBWD.

Sections 3 thru 8 speak to how the water will be stored, what amount of "water loss" will be debited from the stored water account, and MWA's ability to meet JBWD's annual requests for state water from "stored water" rather than delivering it through the pipeline.

Sections 9 and 10 speak to indemnifications.

Section 11 covers term of contract, which is an annual automatic renewal unless terminated by either Party.

Section 12 stipulates JBWD responsibility of acquiring all stored water, due and payable at time of termination. This item will be specifically discussed at the Board meeting, as it potentially creates a large financial debt upon termination of the agreement. However, this potential debt can be controlled by JBWD as the Parties must mutually agree to the amount of water to be stored each year.

The General Manager recommends that Section 12 be written similarly as Section 13, which covers MWA's responsibilities should MWA terminate the agreement.

End of Report

Draft WJB 09/07/2017  
MWA 09/12/2017

**AGREEMENT  
BETWEEN  
MOJAVE WATER AGENCY  
AND  
JOSHUA BASIN WATER DISTRICT**

This AGREEMENT is made this \_\_\_\_ day of \_\_\_\_\_, 2017, by and between the Mojave Water Agency (hereinafter MWA) and Joshua Basin Water District (hereinafter JBWD).

**RECITALS**

- A. JBWD is a County Water District organized and operating pursuant to California Water Code section 30000, et seq.
- B. MWA is organized and operating pursuant to California Water Code, Appendix 97, et seq.
- C. The primary purposes of this Agreement are to more efficiently use the water supplies available to MWA and JBWD, and to make supplemental water supplies available to JBWD.

**DEFINITIONS**

**JBWD - Joshua Basin Water District.**

**Groundwater basin – DWR Bulletin 118 Groundwater Basin, Joshua Tree 7-62, as shown in Exhibit A attached hereto.**

**MWA- Mojave Water Agency.**

**MWA Storage Water- Water delivered to the Point of Delivery by MWA in excess of water ordered by JBWD on an annual basis shown on Exhibit B attached hereto.**

**MWA Storage Water Account- State Water Project water delivered by MWA pursuant to this Agreement shall be credited to a MWA Storage Water account. MWA will be responsible for recording and maintaining the storage water in the account subject to review and approval of Joshua Basin Water District on an annual basis.**

**Point of Delivery- The location at which MWA Storage Water is delivered and measured, as established pursuant to Section 6 of this Agreement as shown on Exhibit B**

## **AGREEMENT**

In consideration of the foregoing recitals and the covenants contained herein, the Parties to this Agreement hereby agree as follows:

**Section 1. Delivery, Amount, and Ownership of Stored Water.** Subject to the conditions of this Agreement, MWA may deliver State Water Project water to be stored in the basin as defined in Exhibit A, until such time as requested by JBWD. MWA will have the exclusive option of meeting the annual JBWD request for SWP water by transferring MWA banked water to JBWD or delivering SWP water directly to JBWD. The amount of water to be stored in the basin for MWA hereunder shall not be limited, upon mutual agreement by JBWD and MWA.

**Section 2. Implementation of Agreement.** Notwithstanding any other provisions of this Agreement, the Parties hereto recognize that implementation of this Agreement may be restricted or terminated if it is determined that operations authorized under this Agreement would adversely affect JBWD. Adverse effects include, but are not limited to, high groundwater levels, subsidence or permanent loss of storage capacity due to compaction of water-bearing soils, or due to a continuous decline of water levels. If any Party is informed or believes that implementation of this Agreement or any part hereof may adversely affect the basin as shown in Exhibit A, that Party shall give notice to the other Party containing a general description of the First party's information or belief. The Parties hereto shall meet and confer within ten (10) business days after written notice by the First Party.

**Section 3. MWA Storage Water.** From time to time, MWA may have opportunity to receive water from the State Water Project in excess of JBWD's annual request for any given year. MWA, in conjunction with JBWD, will store this excess water in the basin, as described in Exhibit A, in accordance with this Agreement, upon mutual agreement by JBWD and MWA. All costs associated with delivering the water including the cost of the water to the point of delivery shall be borne by MWA. MWA shall notify JBWD at least thirty (30) days in advance of intent to deliver to the MWA Storage Water Account. MWA and JBWD shall mutually agree on delivery schedules. The MWA Storage Water Account deliveries shall not interfere with delivery of JBWD's annual request. All State Water Project water, less losses pursuant to Section 4, provided by MWA and delivered to the basin as described in Exhibit A for storage will be credited to the MWA Storage Water Account.

**Section 4. Storage Water Losses.** MWA agrees to the provision for water losses, based on a 15% loss factor for its stored water. Cumulative deliveries shall be reduced by a 15% loss factor on a per acre-foot basis and shall be debited from the MWA Storage Account.

**EXAMPLE**

Year	Delivery AF	15% Loss AF	Total Storage AF
One	1,250.00	187.50	1,062.50
Two	1,000.00	150.00	850.00
Three	1,250.00	187.50	1,062.50
Totals	3,500.00	525.00	2,975.00

**Section 5. Water Available to MWA.** MWA Storage Water shall be available to MWA in a cumulative amount equal to the amount of water credited to the MWA Storage Water Account, minus the Provision for Water Losses.

**Section 6. Point of Delivery.** MWA Storage Water shall be delivered to and measured at the MWA flow meter on the Morongo Basin Pipeline at the JBWD pipeline extension connection, as defined in Exhibit B.

**Section 7. Protection of Other MWA Water Users.** It is the objective of MWA and JBWD that this Agreement shall not adversely affect the rights of other water users within MWA.

**Section 8. MWA Storage Water Account Withdrawals.** Requests for State Water Project water by JBWD will be submitted to MWA. At the sole discretion of MWA, MWA's contractual delivery requirements to JBWD, as requested by JBWD through its water order, may be met in total or part by allocating a portion of the water stored in the MWA Storage Account providing, however, that an adverse condition does not exist as provided for in Section 2. In the event of an adverse condition, the Parties shall meet and confer pursuant to Section 2. As a result of the transfer and sale of stored water to JBWD, MWA's account shall be debited by an equal amount. MWA shall submit this accounting on an annual basis to JBWD. Water in the MWA Storage Water Account shall be deemed transferred to JBWD upon MWA's written notification to JBWD of the transfer and payment to MWA at a price equal to the then current purchase price established by MWA for water delivered to JBWD pursuant to the water rates set by MWA. It is hereby agreed that there is no charge, rent, assessment or expense incurred by MWA by reasons of its spreading and storing the MWA Storage Water Account pursuant to this Agreement. No easement, license, or other right is granted by this Agreement for the use of pipelines, wells, flood control channels, spreading basins, or any other physical facilities or land.



**Section 9. JBWD Indemnification.** JBWD agrees to indemnify, defend and hold harmless MWA, its directors, officers, employees, and agents from any and all claims including, but not limited to, property damage, personal injury or death arising or alleged to arise out of or connected with JBWD physical control, carriage, handling, use or distribution of storage water made available by MWA once said water has been delivered to delivery point, except for the active negligence or willful misconduct of MWA. JBWD shall be responsible for any documentation required under the California Environmental Quality Act (CEQA).

**Section 10. MWA Indemnification.** MWA agrees to indemnify, defend, and hold harmless JBWD, its directors, officers, employees, and agents from any and all claims, whether filed in a court of law or with an administrative agency, arising or alleged to arise out of or connected with the storage program implemented pursuant to this Agreement, including, but not limited to, claims contesting the legal validity of the program, excepting the active or willful negligence of JBWD.

**Section 11. Term of Contract.** This Agreement shall become effective as of the date first written above, and shall automatically renew annually as of the date of this Agreement unless terminated by one of the Parties pursuant to Sections 12 or 13.

**Section 12. Termination by JBWD.** In the event that JBWD terminates this Agreement, JBWD agrees to pay MWA for the water in the MWA Storage Water Account, except Provision for Water Losses, at a price equal to the then current price established by MWA for water delivered to JBWD. Such repayments by JBWD for termination under this Section are due and payable upon termination. JBWD may terminate this Agreement with One-Hundred Eighty (180) days written notice to MWA.

**Section 13. Termination by MWA.** In the event that MWA terminates or is unable to fulfill its obligations under this Agreement, water remaining in the MWA Storage Water Account, except Provision for Water Losses, shall be available for use by JBWD upon payment to MWA at a price calculated in accordance with Section 8. The remaining balance in the MWA Storage Water Account shall be liquidated in volumetric amounts not to exceed the annual requests made by JBWD, or as otherwise mutually agreed upon by the Parties. Notwithstanding any other provision in this Agreement, MWA may terminate this Agreement with One-Hundred Eighty (180) days written notice to JBWD.

**Section 14. Notices.** Any notice, tender or delivery to be given hereunder by any Party hereto to the other shall be effected by personal delivery in writing or electronic mail transmittal or by registered or certified mail, postage prepaid, return receipt requested, and shall be deemed communicated as of mailing or in case of personal delivery or electronic mail, as of actual

Draft WJB 09/07/2017  
MWA 09/12/2017

receipt. Mailed notices shall be addressed as set forth below, but each Party may change its address by written notice in accordance with this section.

To JBWD:    General Manager  
              JOSHUA BASIN WATER DISTRICT  
              PO Box 675  
              Joshua Tree, California 92252

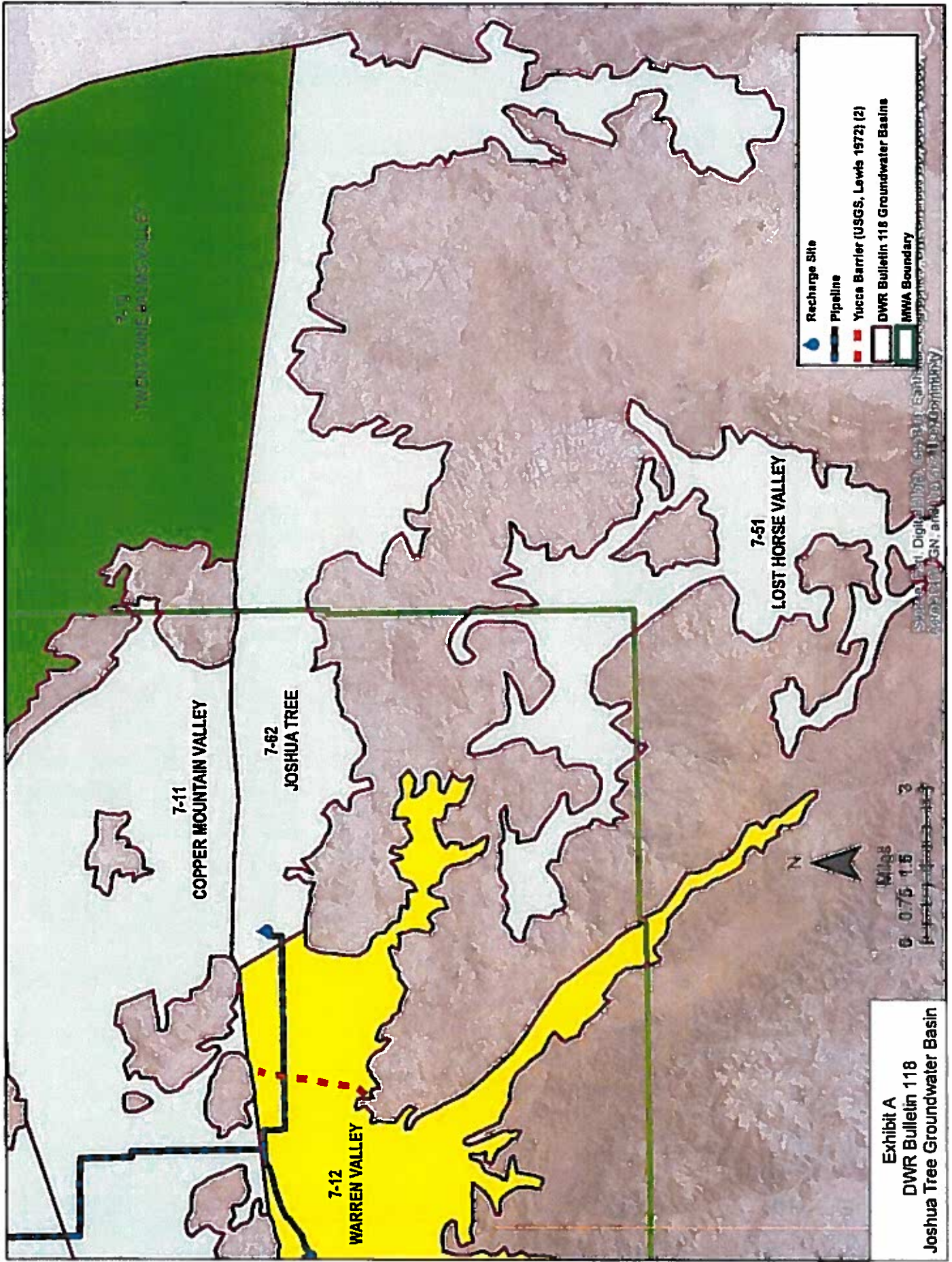
To MWA:     General Manager  
              MOJAVE WATER AGENCY  
              13846 Conference Center Drive  
              Apple Valley, California 92307

**Section 15.   Attorney Fees.** Each Party will bear its own attorney fees and costs.

**Section 16.   Amendments.** This is an entire Agreement and supersedes only those prior agreements oral or written between the Parties to this Agreement regarding the subject matter thereto, and cannot be amended unless in writing, with specific reference hereto, and cannot be amended unless in writing, with specific reference hereto by Parties authorized to be charged. Failure by any Party to enforce any provisions shall not constitute a waiver of said Party's right to enforce subsequent violation of the same or any other provisions.

**Section 17.   Inurement.** This Agreement shall not be assigned by any Party without the express written consent of the other Parties hereto. This Agreement shall be binding upon and inure to the benefit of the successors of the Parties hereto.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by its authorized officers.



P:\GIS\Projects\MapInfo\JBW\Maps\Extra\JBW\DWGBasins.mxd



# Water Delivery Facilities

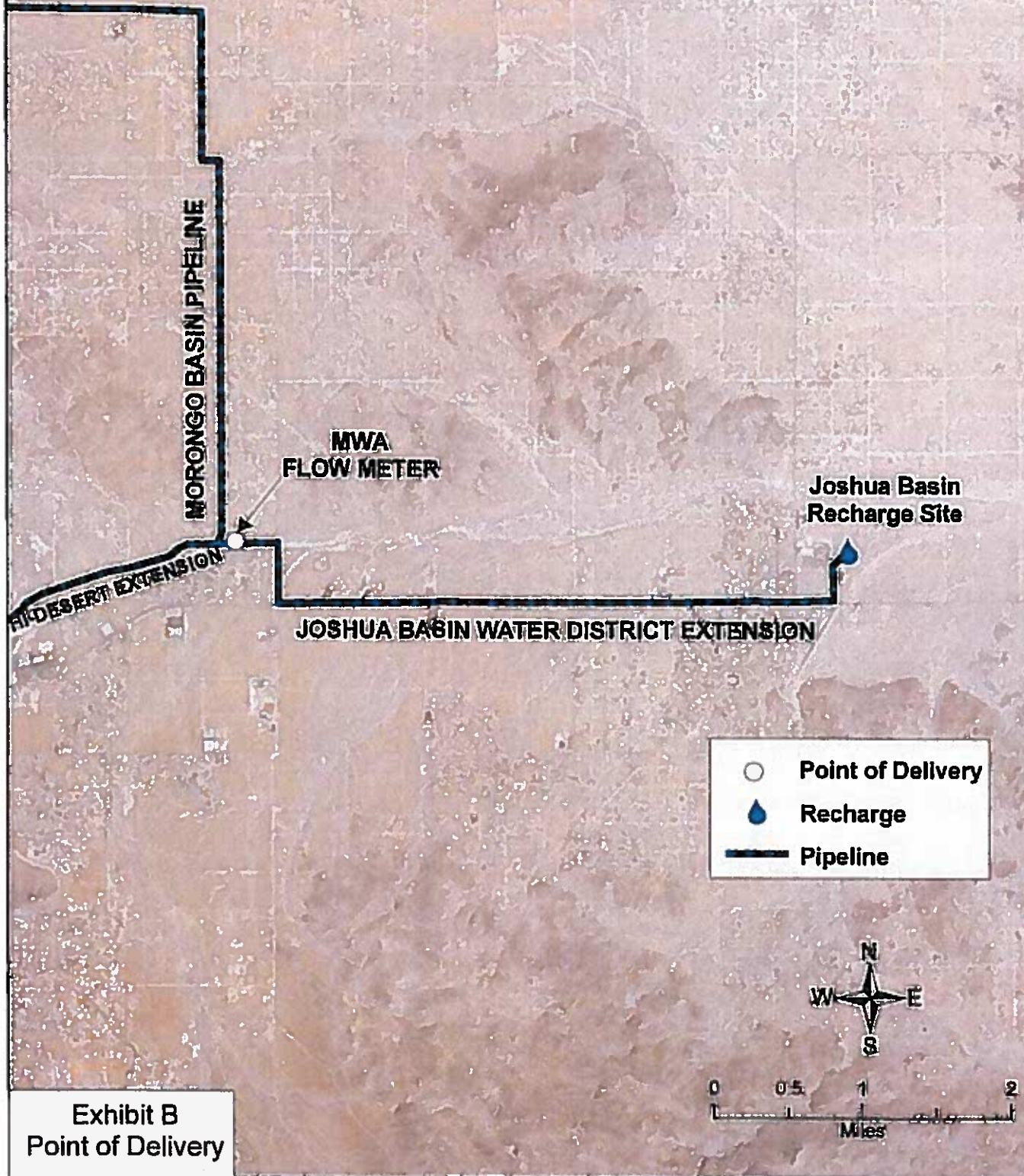


Exhibit B  
Point of Delivery

JOSHUA BASIN WATER DISTRICT  
MEETING AGENDA REPORT

Meeting of the Board of Directors

November 1, 2017

Report to: President and Members of the Board

Prepared by: Susan Greer



TOPIC:  
ONGOING RATE STUDY DISCUSSION

RECOMMENDATION:  
Receive information, provide direction for ongoing rate study

ANALYSIS:  
Our rate study consultant, Alex Handlers, will be at the meeting again to continue the rate study discussion. New scenarios discussed at the last meeting will be presented for your consideration as we continue to fine-tune the financial projections and rates. The CAC will receive a similar presentation earlier in the same day.

Alex will provide a presentation early next week and it will be forwarded as soon as received so there is time to preview before the meeting

FISCAL IMPACT:  
N/A

# Joshua Basin Water District



## Water Rate Study

### Revised Draft Findings

Revised Draft 10/30/17



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS





## Joshua Basin Water District Water Rate Study – Summary of Key Issues

### Background

- JBWD is a community-governed public agency
- JBWD provides water service to a 96-square-mile service area
- Facilities include roughly 310 miles of pipelines, 5 wells, 17 water tanks, 11 booster stations, and a groundwater recharge facility
- Historically, groundwater has been the sole source of water supply
- The groundwater basin is in overdraft with minimal natural recharge
- JBWD recently started importing water from Mojave Water Agency to help recharge the groundwater basin and reduce further depletion
- District serves over 4,500 active accounts, about 94% are single family homes; the District has roughly 1,000 additional inactive accounts

### Rates & Finances

- JBWD is a self-supporting enterprise
  - Rates are the main source of revenue
  - Revenues must be adequate to fund the cost of providing service including long-term operating and capital needs
- After a decade of minimal to no rate increases from 1996-2006, District provided good financial stewardship by implementing gradual rate increases to support financial stability and funding of ongoing capital needs
- Last water rate study completed 2013
  - District adopted 5 years of 7% rate increases
  - *Average annual increase since 2007 is roughly 4.5%*

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Adopted Rates</b>	6%	6%	6%	6%	0%	0%	0%	7%	7%	7%	7%	7%
<b>Implemented</b>	6%	6%	3%	6%	3%	0%	0%	7%	7%	7%	7%	tbd

- Water rates in lower-middle range compared to other regional agencies
  - Monthly Bill for a typical single family home with roughly average use of 9 hcf = \$54.78  
*(Note: 1 hcf = 100 cubic feet, or about 748 gallons; 9 hcf = about 220 gallons per day)*
  - Total monthly charge is equivalent to approximately \$0.81 per each 100 gallons of water use
  - Roughly 3/4<sup>ths</sup> of District’s residential bills are at or below this level
- JBWD currently has healthy fund reserves of roughly \$7.1 million (available), but will need to draw down reserves in upcoming years to help fund capital improvement needs
- JBWD has been successful at obtaining substantial grant funding
  - \$7.2 million grant funding received for recharge project (via DWR, CDPH, MWA grants) plus additional funding received from Mojave Water Agency
  - District pursuing grants and state-subsidized low-interest loans for Chromium 6 project.

## Financial Challenges

- **District facing substantial financial challenges that will require rate increases in upcoming years**
- **Long-Term Water Supply**
  - Groundwater provides 100% of District supply
  - Long-term problem: local aquifers receive minimal natural recharge resulting in significant decreases in groundwater levels; groundwater aquifer at risk
  - 71-mile Morongo Pipeline (funded largely by taxpayers) and grant-funded recharge facilities will help replenish aquifer (ultimately may need to import 100% of water supply)
  - Imported water purchased from MWA currently costs \$569 per acre-foot with rates expected to increase 5% per year; costs for Cal Water Fix to be funded via MWA property taxes
  - Total water sales down from about 1,650 acre-feet to 1,200 acre-feet per year
  - The cost of 1,000 AF is about \$570,000 per year (JBWD purchased about 500 AF last year)
- **Infrastructure Repair, Replacement, and Rehabilitation**
  - 175 miles of water pipelines were installed roughly 40 – 70 years ago and will be reaching the end of their useful lives in upcoming years
  - Many old pipelines are inadequately sized & no longer meet modern fire flow requirements
  - Tanks, wells and booster pump stations are aging and also will need rehab or replacement
  - Dudek (JBWD engineering consultant) evaluated the water system and developed a 30-Year Capital Improvement Program that identifies about \$2.5 million in annual funding needs for pipelines, tanks, and booster pump stations
  - Additional ongoing funding needed for equipment/technology/vehicle replacement, a wide range of studies and reports, building improvements, and meter replacements
  - JBWD anticipating an initial program to replace all older meters at a cost of \$2 million in about 5 years; subsequently would prefer to have an annual set-aside for future replacements
- **Chromium 6 Treatment**
  - Local groundwater contains levels of Chromium 6 that slightly exceed State's new stringent standards
    - Federal standard is 100 ppb (parts per billion), California's prior standard was 50 ppb but was revised to 10 ppb in recent years
  - JBWD awarded \$2 million, 5-year, 0% SRF Planning Loan with \$500,000 grant component
  - JBWD preliminary engineering cost estimates for construction and operation
    - Infrastructure/equipment: \$14 million (potential SRF grant funding may reduce JBWD's funding needs)
    - Annual operating costs: Latest estimate = \$632,000 (current \$)
  - Requirement to achieve compliance by 2020 has been deferred
    - In May 2017, Court struck down California's new 10 ppb standard since it failed to properly consider economic feasibility
    - Chromium 6 funding needs may be deferred
- BWA can evaluate impact of potential future Chromium 6 funding needs



- **Ongoing Operating Cost Inflation**
  - JBWD faces ongoing cost increases for everything from insurance to electricity to staffing, etc.
  - CalPERS funding requirements are increasing
  - Cost inflation for utilities tends to be higher than CPI for consumers
    - Utilities are capital & labor intensive industries
  - Small annual rate increases needed just to keep up with operating cost inflation

## **Financial Projections & Preliminary Scenarios**

- BWA developed 10-year financial projections to evaluate annual revenue requirements and project rate increases
- **Basic Assumptions:**
  - Based on 2017/18 Budget
  - Operating cost inflation projected at 4% per year
  - Growth projected at 10 new single family homes or equivalents per year over next 5 years
  - Water sales projected to decline by 2% for each 10% of rate increases (-0.2 elasticity)
  - Recharge water purchases from MWA vary as shown for each financial scenario with a target of purchasing 1,000 acre-feet within 5 years
  - Capital improvement funding varies as shown for each financial scenario with a target level of \$2.5 million per year within 5 years. Future funding escalates by 3%.
  - Funding for Annual Project Funding/Meter Replacements including 5 years of funding for a District-wide meter replacement program as well as an estimate of average annual funding needs for other ongoing non-operating expenses including equipment/technology/vehicles, building improvements, studies and reports, and meter replacements. The level of funding decreases after 5 years, when the initial meter replacement program is complete.
  - Chromium 6 treatment program costs
    - Planning
    - Capital facilities & equipment: \$14 million
    - Annual operating expenses: \$632,000 in current dollars or about \$800,000 when facility comes online on January 1, 2021.
- **Financial Scenarios:** Preliminary draft financial and rate projections were developed for 3 draft financial scenarios. A summary of each scenario, key financial assumptions, and rate impacts are included on the first attached table. Subsequent tables show detailed projections for each draft scenario.
  - Scenario 1 – Best Management Practice with Deferred Chromium 6 Treatment
  - Scenario 2 – Phased Approach with Deferred Chromium 6 Treatment
  - Scenario 3 – \$15 Million of Debt for Capital Improvements & Meter Replacements
  - Additional Scenario 4 shows projections shows Scenario 3 with No Chromium 6 Project

## Rate Projections

- Draft financial projections show need for substantial rate increases over the next 5 years.
- Lower rate increases in near term results in higher rate increases in longer term and vice versa
- Currently assuming 5 years of rate increases would be adopted via the Proposition 218 process
- Draft rate projections for each scenario are included in the attached tables
- Use of debt financing allows for lower rate increases over next 5 years...but also results in need for more rate increases in later years.

## Water Rate Structure

- Water rates include 2 components
  - Basic Monthly Fee: Fixed meter charge based on meter size (46% of rate revenues)
    - Higher charges for larger meters based on increased capacity needs in water system
  - Water Consumption Charge: Billed based on metered water use (54% of rate revenues)
    - Smallest meters (3/4" & 1") serve mostly single family homes and pay according to a 4-tier rate structure (4<sup>th</sup> tier was added based on input from the CAC in a prior study)
    - All others pay uniform charge (equal to the weighted average of tiers)
- Rate structure needs to comply with substantive requirements of Proposition 218

## Rate Structure Modifications

- Revised tables assume some modifications to rate structure
  - Fixed rate revenue recovery reset to 40% of total rate revenues (results in a little less rate increases to fixed charges and more increases to water consumption charges)
  - Increased tier steepness (less increases to lowest tiers & more increases to higher tiers)
  - Note: A suggestion was also made to revise the 3<sup>rd</sup> Tier breakpoint down to 15 hcf...but this current draft of tables does not yet reflect that potential revision

*Note: Rates must comply with the substantive provisions of Proposition 218 and reasonably reflect the cost of providing service to all customers. Rates will need to be supported by a reasonable rationale and calculations.*

## Fund Reserve Policy & Targets

- JBWD can adopt a flexible fund reserve target policy to support prudent financial management
- Fund reserves help mitigate financial risk and provide flexibility for responding to financial challenges
- Goal: identify target levels of fund reserves to maintain to provide a financial cushion for dealing with unanticipated fluctuations in revenues and/or expenses and emergencies
- Preliminary ideas:
  - Operating & Rate Stabilization Reserves: 6 months of operating & debt service expenses
  - Emergency Capital Reserves: \$1 - \$2 million
  - Target levels for average annual funding needs (roughly \$150,000 per year after initial 5-year meter replacement program)
    - Equipment/technology/vehicles
    - Studies & reports
    - Building improvements
    - Meter replacements
  - JBWD can also maintain other reserves that may not have target funding levels, such as
    - Opportunity Reserve
    - Restricted reserves for customer/project deposits, water & wastewater capacity charges, Copper Mountain Mesa Assessment District

## Debt Management Policy

- Pursuant to new requirements of California Government Code 8855, agencies must adopt a debt management policy prior to issuing future debt
- Policy must address a handful of issues (e.g. purposes for which debt may be used, policy goals, internal procedures, etc.)
- BWA recommends JBWD adopt a Debt Management Policy as part of the rate study process

## Project Schedule

- Oct-18 Present preliminary findings to CAC and Board & received initial input
  - Nov-1 Present revised finding to CAC and Board & receive additional input
  - Nov-14/15 Present honed finding to CAC and Board & receive additional input for development of draft recommendations
  - Nov/Dec Finalize rate recommendations & draft report
  - Dec Draft and mail Prop 218 notices
  - Jan/Feb Public Hearing on the proposed rates (at least 45 days after mailing Prop 218 notices)
  - Mar-1 Target date for new rates to become effective (January 1 in subsequent years)
-

## Summary of Preliminary Draft Financial Scenarios

		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
<b>Scenario 1: Best Management Practice, Deferred Cr-6</b>											
<b>Key Assumptions</b>											
CIP Funding		\$700,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,600,000	\$2,700,000	\$2,800,000	\$2,900,000
Annual Project Funding		\$237,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$400,000	\$412,000	\$424,000	\$437,000
Recharge Water Purchases		\$287,000	\$597,000	\$627,000	\$658,000	\$691,000	\$726,000	\$762,000	\$800,000	\$840,000	\$882,000
Recharge (Acre-Feet)		500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Chrome 6 Operating Costs		\$0	\$0	\$0	\$0	\$0	\$500,000	\$800,000	\$832,000	\$865,000	\$900,000
Chrome 6 Debt Service		\$0	\$0	\$0	\$0	\$0	\$0	\$275,000	\$275,000	\$275,000	\$275,000
<b>Rate Increases &amp; Bill Impacts</b>											
Effective Date of Rate Increase		Mar-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %		40%	30%	20%	10%	5%	7%	7%	4%	4%	4%
Cumulative Increase %			82%	118%	140%	152%	170%	189%	200%	212%	225%
Typical Residential Bill (9 hcf)	\$54.78	\$75.69	\$99.06	\$119.72	\$132.17	\$139.29	\$149.04	\$159.47	\$165.85	\$172.48	\$179.38
<b>Scenario 2: Phased Approach, Deferred Cr-6</b>											
<b>Key Assumptions</b>											
CIP Funding		\$700,000	\$1,000,000	\$1,250,000	\$1,500,000	\$2,000,000	\$2,000,000	\$2,250,000	\$2,500,000	\$2,750,000	\$3,000,000
Annual Project Funding		\$237,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$400,000	\$412,000	\$424,000	\$437,000
Recharge Water Purchases		\$287,000	\$358,000	\$439,000	\$526,000	\$622,000	\$726,000	\$762,000	\$800,000	\$840,000	\$882,000
Recharge (Acre-Feet)		500	600	700	800	900	1,000	1,000	1,000	1,000	1,000
Chrome 6 Operating Costs		\$0	\$0	\$0	\$0	\$0	\$500,000	\$800,000	\$832,000	\$865,000	\$900,000
Chrome 6 Debt Service		\$0	\$0	\$0	\$0	\$0	\$0	\$275,000	\$275,000	\$275,000	\$275,000
<b>Rate Increases &amp; Bill Impacts</b>											
Effective Date of Rate Increase		Mar-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %		25%	20%	18%	15%	10%	12%	12%	5%	5%	5%
Cumulative Increase %			50%	77%	104%	124%	151%	181%	195%	210%	225%
Typical Residential Bill (9 hcf)	\$54.78	\$67.10	\$80.88	\$96.09	\$111.09	\$122.59	\$137.30	\$153.78	\$161.47	\$169.54	\$178.02
<b>Scenario 3: \$15 Million Debt for CIP &amp; Meter Replacements</b>											
<b>Key Assumptions</b>											
CIP Funding		\$700,000	\$15,000,000	\$250,000	\$250,000	\$250,000	\$250,000	\$400,000	\$412,000	\$424,000	\$437,000
Annual Project Funding		\$237,000	\$250,000	\$627,000	\$658,000	\$691,000	\$726,000	\$762,000	\$800,000	\$840,000	\$882,000
Recharge Water Purchases		\$287,000	\$597,000	\$627,000	\$658,000	\$691,000	\$726,000	\$762,000	\$800,000	\$840,000	\$882,000
Recharge (Acre-Feet)		500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Chrome 6 Operating Costs		\$0	\$0	\$0	\$0	\$0	\$500,000	\$800,000	\$832,000	\$865,000	\$900,000
Chrome 6 Debt Service		\$0	\$1,050,000	\$1,050,000	\$1,050,000	\$1,050,000	\$1,050,000	\$1,325,000	\$1,325,000	\$1,325,000	\$1,325,000
<b>Rate Increases &amp; Bill Impacts</b>											
Effective Date of Rate Increase		Mar-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %		15%	15%	15%	12%	12%	15%	15%	15%	12%	12%
Cumulative Increase %			32%	52%	70%	91%	119%	152%	190%	225%	264%
Typical Residential Bill (9 hcf)	\$54.78	\$61.48	\$70.95	\$81.98	\$92.18	\$103.68	\$119.23	\$137.11	\$157.68	\$176.60	\$197.79



### Scenario 1: Best Management Practice, Deferred Cr-6

	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Key Assumptions</b>					
CIP Funding	\$700,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000
Annual Project Funding	\$237,000	\$750,000	\$750,000	\$750,000	\$750,000
Recharge Water Purchases	\$287,000	\$597,000	\$627,000	\$658,000	\$691,000
Recharge (Acre-Feet)	500	1,000	1,000	1,000	1,000
Chrome 6 Operating Costs	\$0	\$0	\$0	\$0	\$0
Chrome 6 Debt Service	\$0	\$0	\$0	\$0	\$0
<b>Rate Increases &amp; Bill Impacts</b>					
Effective Date of Rate Increase	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %	40%	30%	20%	10%	5%
Cumulative Increase %	40%	82%	118%	140%	152%
Typical Residential Bill (9 hcf)	\$54.78	\$75.69	\$99.06	\$119.72	\$139.29

### Scenario 2: Phased Approach, Deferred Cr-6

	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Key Assumptions</b>					
CIP Funding	\$700,000	\$1,000,000	\$1,250,000	\$1,500,000	\$2,000,000
Annual Project Funding	\$237,000	\$750,000	\$750,000	\$750,000	\$750,000
Recharge Water Purchases	\$287,000	\$358,000	\$439,000	\$526,000	\$622,000
Recharge (Acre-Feet)	500	600	700	800	900
Chrome 6 Operating Costs	\$0	\$0	\$0	\$0	\$0
Chrome 6 Debt Service	\$0	\$0	\$0	\$0	\$0
<b>Rate Increases &amp; Bill Impacts</b>					
Effective Date of Rate Increase	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %	25%	20%	18%	15%	10%
Cumulative Increase %	25%	50%	77%	104%	124%
Typical Residential Bill (9 hcf)	\$54.78	\$67.10	\$80.88	\$111.09	\$122.59

### Scenario 3: \$15 Million Debt for CIP & Meter Replacements

	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Key Assumptions</b>					
CIP Funding	\$700,000	\$15,000,000			
Annual Project Funding	\$237,000	\$250,000	\$250,000	\$250,000	\$250,000
Recharge Water Purchases	\$287,000	\$597,000	\$627,000	\$658,000	\$691,000
Recharge (Acre-Feet)	500	1,000	1,000	1,000	1,000
Chrome 6 Operating Costs	\$0	\$0	\$0	\$0	\$0
Chrome 6 Debt Service	\$0	\$1,050,000	\$1,050,000	\$1,050,000	\$1,050,000
<b>Rate Increases &amp; Bill Impacts</b>					
Effective Date of Rate Increase	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
Rate Increase %	15%	15%	15%	12%	12%
Cumulative Increase %	15%	32%	52%	70%	91%
Typical Residential Bill (9 hcf)	\$54.78	\$61.48	\$70.95	\$81.98	\$103.68

# **Joshua Basin Water District**

## **Financial & Rate Projections**

### Scenario 1

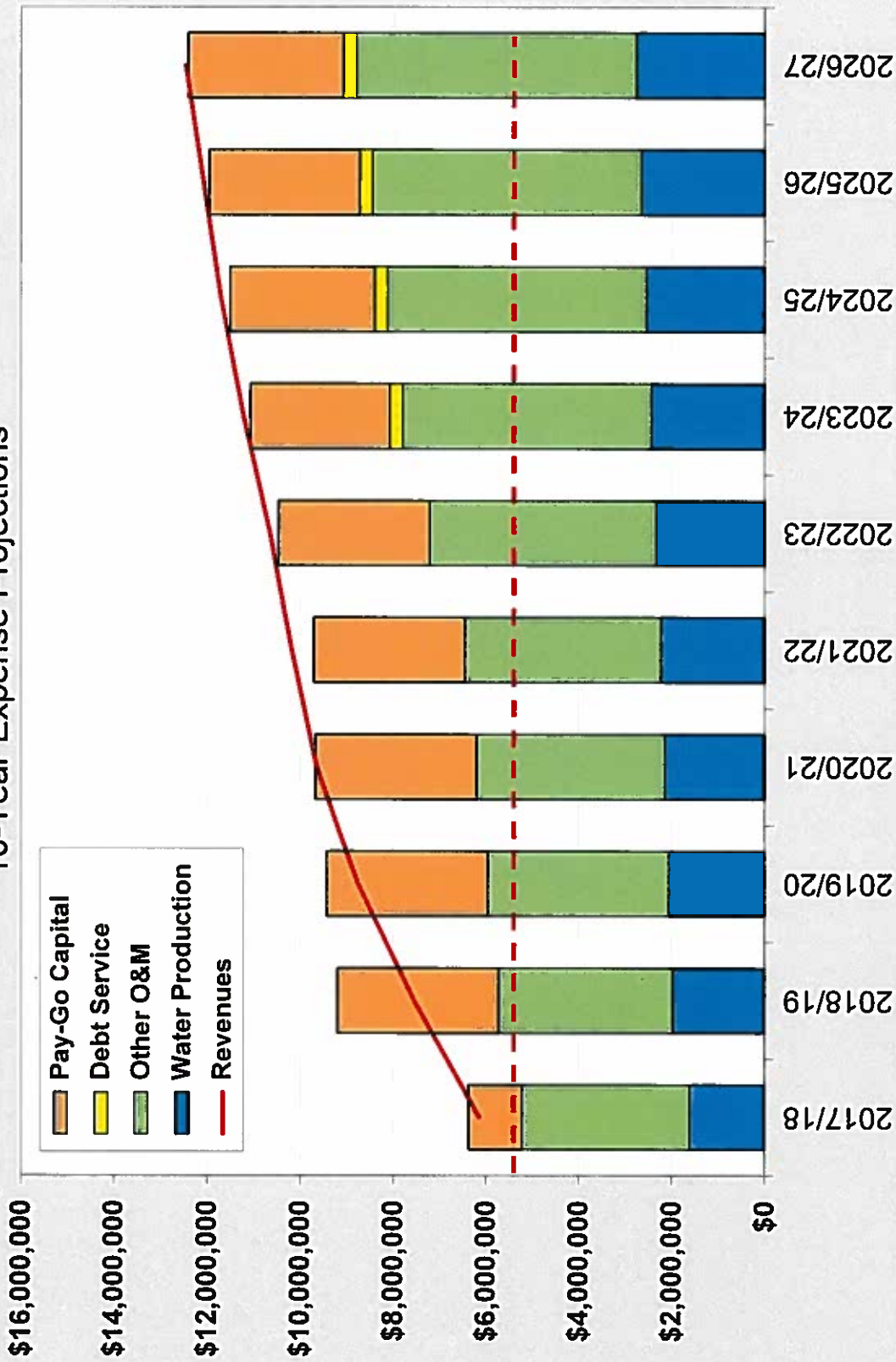
**Best Management Practice  
With Deferred Chrome 6 Treatment  
No Debt  
40% Fixed Rate Revenue Recovery  
Steeper Water Rate Tiers**

<b>Table 1</b>		<b>Cash Flow Projections: Best Management Practice</b>				<b>Years 0 - 5</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		<b>Projected 2017/18</b>	<b>Projected 2018/19</b>	<b>Projected 2019/20</b>	<b>Projected 2020/21</b>	<b>Projected 2021/22</b>
1	Effective Date of Rate Adjustment	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
2	Rate Adjustment %	40%	30%	20%	10%	5%
4	Growth: New EDUs	10	10	10	10	10
5	Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%
6	Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
7	Change in Water Use After Rate Increase	-8.0%	-6.0%	-4.0%	-2.0%	-1.0%
8	Water Purchases from MWA (AF)	500	1,000	1,000	1,000	1,000
9	MWA Rate per AF	\$569	\$597	\$627	\$658	\$691
10	Interest Earnings Rate	1.0%	1.5%	2.0%	2.0%	2.0%
11	Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%
12	<b>Beginning Fund Reserves</b>	\$7,151,000	\$6,926,000	\$5,281,000	\$4,609,000	\$4,580,000
13	<b>REVENUES</b>					
14	Basic Monthly Fees	1,770,000	2,404,000	2,996,000	3,439,000	3,700,000
15	Water Usage Charges	2,038,000	2,618,000	3,108,000	3,469,000	3,677,000
16	Locked Meter Charges	319,000	425,000	529,000	605,000	650,000
17	Standby Revenue	1,140,000	1,139,000	1,138,000	1,137,000	1,136,000
18	Property Taxes	428,000	437,000	446,000	455,000	464,000
19	Private Fire Svc & Special Services	137,000	140,000	143,000	146,000	149,000
20	Water Capacity & Meter Install Fees	53,000	53,000	54,000	55,000	56,000
21	Interest Earnings	50,000	104,000	106,000	92,000	92,000
22	HDMC WWTP Reimbs (+22%)	200,000	207,000	216,000	224,000	233,000
23	Other Revenues	12,000	20,000	20,000	20,000	20,000
24	<b>Total Revenues</b>	<b>6,147,000</b>	<b>7,547,000</b>	<b>8,756,000</b>	<b>9,642,000</b>	<b>10,177,000</b>
25	SRF Grants	100,000			200,000	10,000,000
26	SRF Loans				1,510,000	
27	Debt Proceeds					
28	<b>EXPENSES</b>					
29	<b>Operating &amp; Maintenance</b>					
30	Production	1,324,000	1,377,000	1,432,000	1,489,000	1,549,000
31	Recharge Water Purchases from MWA	287,000	597,000	627,000	658,000	691,000
32	Distribution	1,000,000	1,040,000	1,082,000	1,125,000	1,170,000
33	Customer Service	489,000	509,000	529,000	550,000	572,000
34	Administration	1,048,000	1,090,000	1,134,000	1,179,000	1,226,000
35	Engineering	237,000	246,000	256,000	266,000	277,000
36	Finance	533,000	554,000	576,000	599,000	623,000
37	Personnel & Legal	134,000	139,000	145,000	151,000	157,000
38	HDMC WWTP Operations (reimbursable)	163,000	170,000	177,000	184,000	191,000
39	Chrome 6 Operations	0	0	0	0	0
40	<b>Subtotal</b>	<b>5,215,000</b>	<b>5,722,000</b>	<b>5,958,000</b>	<b>6,201,000</b>	<b>6,456,000</b>
41	<b>Debt Service</b>					
42	Debt Service for Capital Improvements	-	-	-	-	-
43	Chrome 6 SRF Loan Repayment	-	-	-	-	-
44	<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
45	<b>Capital/Non-Operating</b>					
46	Capital Improvements	700,000	2,500,000	2,500,000	2,500,000	2,500,000
47	Annual Project Funding/Meter Repls	237,000	750,000	750,000	750,000	750,000
48	Chromium 6 Project	100,000	0	0	1,710,000	10,000,000
49	Morongo Basin Pipeline Debt Reimbs	220,000	220,000	220,000	220,000	0
50	<b>Subtotal</b>	<b>1,257,000</b>	<b>3,470,000</b>	<b>3,470,000</b>	<b>5,180,000</b>	<b>13,250,000</b>
51	<b>Total Expenses</b>	<b>6,472,000</b>	<b>9,192,000</b>	<b>9,428,000</b>	<b>11,381,000</b>	<b>19,706,000</b>
52	<b>Revenues Less Expenses</b>	<b>(225,000)</b>	<b>(1,645,000)</b>	<b>(672,000)</b>	<b>(29,000)</b>	<b>471,000</b>
53	<b>Ending Fund Reserves</b>	<b>6,926,000</b>	<b>5,281,000</b>	<b>4,609,000</b>	<b>4,580,000</b>	<b>5,051,000</b>
54	<b>Debt Service Coverage</b>	-	-	-	-	-
55	Min Fund Rsrv Target (50% O&M+Debt + \$1M)	3,607,500	3,861,000	3,979,000	4,100,500	4,228,000
56	Max Fund Rsrv Target (100% O&M+Debt + \$2M)	7,215,000	7,722,000	7,958,000	8,201,000	8,456,000
57	<b>Annual pay-go funding generated for CIP</b>	<b>712,000</b>	<b>1,605,000</b>	<b>2,578,000</b>	<b>3,221,000</b>	<b>3,721,000</b>

Table 1		Cash Flow Projections: Best Management Practice					Year 6 - 10
		6	7	8	9	10	Esc Factor
		Projected 2022/23	Projected 2023/24	Projected 2024/25	Projected 2025/26	Projected 2026/27	
1	Effective Date of Rate Adjustment	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	
2	Rate Adjustment %	7%	7%	4%	4%	4%	
4	Growth: New EDUs	10	10	10	10	10	
5	Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%	
6	Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
7	Change in Annual Water Consumption	-1.4%	-1.4%	-0.8%	-0.8%	-0.8%	
8	Water Purchases from MWA (AF)	1,000	1,000	1,000	1,000	1,000	
9	MWA Rate per AF	\$726	\$762	\$800	\$840	\$882	5.0%
10	Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%	
11	Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
12	Beginning Fund Reserves	\$5,051,000	\$5,228,000	\$5,373,000	\$5,568,000	\$5,699,000	
13	<b>REVENUES</b>						
14	Basic Monthly Fees	3,931,000	4,215,000	4,454,000	4,641,000	4,836,000	
15	Water Usage Charges	3,848,000	4,060,000	4,239,000	4,374,000	4,512,000	
16	Locked Meter Charges	689,000	738,000	778,000	809,000	841,000	
17	Standby Revenue	1,135,000	1,134,000	1,133,000	1,132,000	1,131,000	
18	Property Taxes	473,000	482,000	492,000	502,000	512,000	2.0%
19	Private Fire Svc & Special Services	152,000	155,000	158,000	161,000	164,000	2.0%
20	Water Capacity & Meter Install Fees	57,000	57,000	58,000	59,000	60,000	
21	Interest Earnings	101,000	105,000	107,000	111,000	114,000	
22	HDWC WWTP Reimbs (+22%)	243,000	253,000	262,000	273,000	284,000	
23	Other Revenues	20,000	20,000	20,000	20,000	20,000	
24	Total Revenues	10,649,000	11,219,000	11,701,000	12,082,000	12,474,000	
25	Grants						
26	SRF Planning & Construction Loan	4,000,000					
27	Debt Proceeds						
28	<b>EXPENSES</b>						
29	<b>Operating &amp; Maintenance</b>						
30	Production	1,611,000	1,675,000	1,742,000	1,812,000	1,884,000	
31	Recharge Water Purchases from MWA	726,000	762,000	800,000	840,000	882,000	
32	Distribution	1,217,000	1,266,000	1,317,000	1,370,000	1,425,000	
33	Customer Service	595,000	619,000	644,000	670,000	697,000	
34	Administration	1,275,000	1,326,000	1,379,000	1,434,000	1,491,000	
35	Engineering	288,000	300,000	312,000	324,000	337,000	
36	Finance	648,000	674,000	701,000	729,000	758,000	
37	Personnel & Legal	163,000	170,000	177,000	184,000	191,000	
38	HDWC WWTP Operations (reimbursable)	199,000	207,000	215,000	224,000	233,000	
39	Chrome 6 Operations	500,000	800,000	832,000	865,000	900,000	
40	Subtotal	7,222,000	7,799,000	8,119,000	8,452,000	8,798,000	
41	<b>Debt Service</b>						
42	Debt Service for Capital Improvements	-	-	-	-	-	
43	Chrome 6 SRF Loan Repayment	-	275,000	275,000	275,000	275,000	
44	Subtotal	0	275,000	275,000	275,000	275,000	
45	<b>Capital/Non-Operating</b>						
46	Capital Improvements (Pipes/Wells/Boosters)	2,500,000	2,600,000	2,700,000	2,800,000	2,900,000	
47	Annual Project Funding	750,000	400,000	412,000	424,000	437,000	3.0%
48	Chromlum 6 Project	4,000,000	0	0	0	0	
49	Morongo Basin Pipeline Debt Reimbs	0	0	0	0	0	
50	Subtotal	7,250,000	3,000,000	3,112,000	3,224,000	3,337,000	
51	Total Expenses	14,472,000	11,074,000	11,506,000	11,951,000	12,410,000	
52	Revenues Less Expenses	177,000	145,000	195,000	131,000	64,000	
53	Ending Fund Reserves	5,228,000	5,373,000	5,568,000	5,699,000	5,763,000	
54	Debt Service Coverage	-	12.44	13.03	13.20	13.37	
55	Min Fund Rsrv Target (50% O&M+Debt + \$1M)	4,611,000	5,037,000	5,197,000	5,363,500	5,536,500	
56	Max Fund Rsrv Target (100% O&M+Debt + \$2M)	9,222,000	10,074,000	10,394,000	10,727,000	11,073,000	
57	Annual pay-go funding generated for CIP	3,427,000	3,145,000	3,307,000	3,355,000	3,401,000	



# Joshua Basin Water District 10-Year Expense Projections



Excludes capital projects funded by debt.

Table 2  
 Joshua Basin Water District  
 Fixed Meter Charge Calculation

	Mar-1 2018	Jan-1 2019	Jan-1 2020	Jan-1 2021	Jan-1 2022	
<b>Water Rate Revenue Recovery</b>						
Annualized Revenues w/ Increase	\$4,467,000	\$5,627,000	\$6,619,000	\$7,215,000	\$7,546,000	
<b>Fixed Rate Recovery</b>						
Cost Recovery Allocation %	40%	40%	40%	40%	40%	
Cost Recovery Allocation \$	\$1,786,800	\$2,250,800	\$2,647,600	\$2,886,000	\$3,018,400	
<b>Meter Equivalents</b>						
Existing Meter Equivalents	4,764	4,774	4,784	4,794	4,804	
Projected Growth	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
Total	4,774	4,784	4,794	4,804	4,814	
<b>Rate per Meter Equivalent</b>						
Annual	\$374.31	\$470.52	\$552.32	\$600.80	\$627.06	
Monthly	31.19	39.21	46.03	50.07	52.25	
<b>Projected Fixed Monthly Meter Charges</b>						
<u>Meter Size</u>	<u>Capacity (gpm)</u>					
3/4" & 1"	30	\$31.19	\$39.21	\$46.03	\$50.07	\$52.25
1-1/2"	100	103.97	130.70	153.43	166.90	174.17
2"	160	166.35	209.12	245.49	267.04	278.67
3"	300	311.90	392.10	460.30	500.70	522.50
<b>Variable Rate Recovery</b>						
Cost Recovery Allocation %	60%	60%	60%	60%	60%	
Cost Recovery Allocation \$	\$2,680,200	\$3,376,200	\$3,971,400	\$4,329,000	\$4,527,600	
<b>Projected Water Use</b>	484,600	456,200	439,100	431,000	427,100	
<b>Average Rate per Unit (\$/hcf)</b>	\$5.53	\$7.40	\$9.04	\$10.04	\$10.60	

**Table 3**  
**Joshua Basin Water District**  
**Projected Water Use & Consumption Charges**

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Projected Water Use</b>						
Change in Use After Rate Increase		-8.0%	-6.0%	-4.0%	-2.0%	-1.0%
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	188,189	185,200	183,000	181,500	180,800	180,400
Tier 2	91,526	80,500	73,300	68,900	66,800	65,800
Tier 3	76,742	65,700	58,600	54,400	52,400	51,500
Tier 4	86,482	71,300	61,900	56,500	54,000	52,800
Subtotal	442,939	402,700	376,800	361,300	354,000	350,500
All Other Use (hcf)	85,275	81,900	79,400	77,800	77,000	76,600
Total (hcf)	528,214	484,600	456,200	439,100	431,000	427,100
Total (acre-feet)	1,213	1,112	1,047	1,008	989	980
Annual Change		-8.3%	-5.9%	-3.7%	-1.8%	-0.9%
Cumulative Change		-8.3%	-13.6%	-16.9%	-18.4%	-19.1%
<b>Projected Water Consumption Charges</b>						
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	\$3.00	\$4.50	\$6.05	\$7.45	\$8.30	\$8.80
Tier 2	3.50	5.50	7.40	9.11	10.15	10.76
Tier 3	4.00	6.50	8.74	10.76	11.99	12.71
Tier 4	4.50	7.50	10.09	12.42	13.84	14.67
All Other Use (hcf)	\$3.79	\$5.56	\$7.39	\$9.04	\$10.04	\$10.63
Projected Revenues		\$2,693,098	\$3,373,440	\$3,970,407	\$4,327,406	\$4,538,677
Revenue Target		2,680,200	3,376,200	3,971,400	4,329,000	4,527,600
Difference %		0.5%	-0.1%	0.0%	0.0%	0.2%

Table 4  
 Joshua Basin Water District  
 Projected Water Rates

Scenario 1  
 Best Management Practice, No Debt  
 40% Fixed Rate Recovery with Steeper Tiers

Effective	Current	Projected Water Rates				
		2018	2019	2020	2021	2022
<b>OVERALL RATE ADJUSTMENT</b>		<b>40%</b>	<b>30%</b>	<b>20%</b>	<b>10%</b>	<b>5%</b>

**BASIC MONTHLY FEE**

Meter Size	Accounts	Capacity	Monthly Rate					
3/4" & 1"	4,503	30 gpm	\$25.78	\$31.19	\$39.21	\$46.03	\$50.07	\$52.25
1-1/2"	28	100 gpm	85.93	103.97	130.70	153.43	166.90	174.17
2"	18	160 gpm	137.49	166.35	209.12	245.49	267.04	278.67
3"	7	300 gpm	257.79	311.90	392.10	460.30	500.70	522.50

**MONTHLY WATER FLOW CHARGES**

**For 3/4" and 1" Meters**

Tier	Units	Rate Per Unit (\$/hcf)					
Tier 1	0 - 5 units	\$3.00	\$4.50	\$6.05	\$7.45	\$8.30	\$8.80
Tier 2	5.01 - 10 units	3.50	5.50	7.40	9.11	10.15	10.76
Tier 3	10.01 - 20 units	4.00	6.50	8.74	10.76	11.99	12.71
Tier 4	20.01 + units	4.50	7.50	10.09	12.42	13.84	14.67

1 unit = one hundred cubic feet = 748 gallons

**For 1-1/2", 2" and 3" Meters**

Unit rate for all water use		Rate Per Unit (\$/hcf)					
		\$3.79	\$5.56	\$7.22	\$8.66	\$9.53	\$10.01

1 unit = one hundred cubic feet = 748 gallons

**PRIVATE FIRE PROTECTION CHARGES**

Svc Size	Accounts	Capacity	Monthly Rate					
2"	1	160 gpm	\$12.62	\$16.64	\$20.91	\$24.55	\$26.70	\$27.87
3"	0	300 gpm	25.25	31.20	39.21	46.03	50.06	52.26
4"	6	500 gpm	50.50	52.00	65.34	76.72	83.44	87.09
6"	4	1,000 gpm	75.76	104.00	130.69	153.44	166.88	174.19
8"	7	1,600 gpm	113.62	166.40	209.10	245.50	267.00	278.70

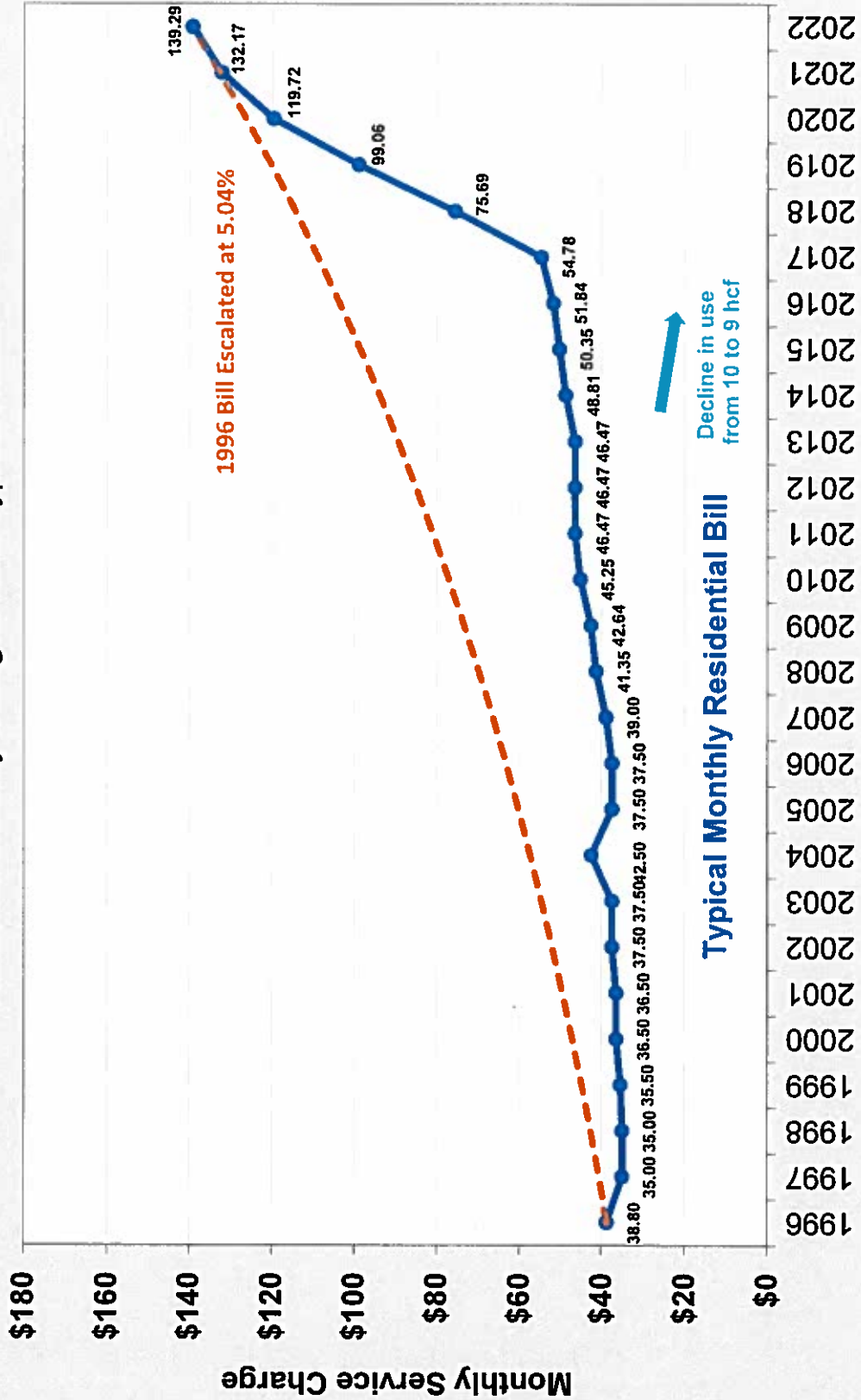
Scenario 1  
 Best Management Practice, No Debt  
 40% Fixed Rate Recovery with Steeper Tiers

Table 5  
 Joshua Basin Water District  
 Bill Impacts (3/4" & 1" Meter)

Level of Use	Monthly Use	% of Bills at or Below	Current	Projected Monthly Water Bills					5-Year Avg Annual Impact	
				2018	2019	2020	2021	2022	Impact	Impact
<b>LOW</b>	<b>3 hcf</b>	<b>30%</b>	<b>\$34.78</b> Increase \$ Increase %	<b>\$44.69</b> 9.91 28.5%	<b>\$57.36</b> 12.67 28.4%	<b>\$68.38</b> 11.02 19.2%	<b>\$74.97</b> 6.59 9.6%	<b>\$78.65</b> 3.68 4.9%	<b>43.87</b> 126.1%	<b>8.77</b> 17.7%
<b>MEDIAN</b>	<b>6 hcf</b>	<b>55%</b>	<b>\$44.28</b> Increase \$ Increase %	<b>\$59.19</b> 14.91 33.7%	<b>\$76.86</b> 17.67 29.9%	<b>\$92.39</b> 15.53 20.2%	<b>\$101.72</b> 9.33 10.1%	<b>\$107.01</b> 5.29 5.2%	<b>62.73</b> 141.7%	<b>12.55</b> 19.3%
<b>AVERAGE</b>	<b>9 hcf</b>	<b>73%</b>	<b>\$58.28</b> Increase \$ Increase %	<b>\$81.19</b> 22.91 39.3%	<b>\$106.46</b> 25.27 31.1%	<b>\$128.83</b> 22.37 21.0%	<b>\$142.32</b> 13.49 10.5%	<b>\$150.05</b> 7.73 5.4%	<b>91.77</b> 157.5%	<b>18.35</b> 20.8%
<b>MOD-HIGH</b>	<b>20 hcf</b>	<b>90%</b>	<b>\$98.28</b> Increase \$ Increase %	<b>\$146.19</b> 47.91 48.7%	<b>\$193.86</b> 47.67 32.6%	<b>\$236.43</b> 42.57 22.0%	<b>\$262.22</b> 25.79 10.9%	<b>\$277.15</b> 14.93 5.7%	<b>178.87</b> 182.0%	<b>35.77</b> 23.0%
<b>HIGH</b>	<b>30 hcf</b>	<b>95%</b>	<b>\$188.28</b> Increase \$ Increase %	<b>\$296.19</b> 107.91 57.3%	<b>\$395.66</b> 99.47 33.6%	<b>\$484.83</b> 89.17 22.5%	<b>\$539.02</b> 54.19 11.2%	<b>\$570.55</b> 31.53 5.8%	<b>382.27</b> 203.0%	<b>76.45</b> 24.8%

# Joshua Basin Water District

## Historical Monthly Charges for a Typical Home



**Scenario 1 - Best Management Practice with No Debt**  
**Summary of Cash Flow Projections (\$ millions)**

<b>Fiscal Year</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>
<b>Overall Rate Increases Effective January 1</b>	<b>40%</b>	<b>30%</b>	<b>20%</b>	<b>10%</b>	<b>5%</b>	<b>7%</b>	<b>7%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>
<b>Beginning Fund Reserves</b>	<b>\$7.2</b>	<b>\$6.9</b>	<b>\$5.3</b>	<b>\$4.6</b>	<b>\$4.6</b>	<b>\$5.1</b>	<b>\$5.2</b>	<b>\$5.4</b>	<b>\$5.6</b>	<b>\$5.7</b>
<b>REVENUES</b>										
Water Rate Revenues	4.1	5.4	6.6	7.5	8.0	8.5	9.0	9.5	9.8	10.2
Standby Revs/Prop Taxes	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Other Revenues	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Subtotal	6.1	7.5	8.8	9.6	10.2	10.6	11.2	11.7	12.1	12.5
SRF Grant Proceeds	0.1	0.0	0.0	0.2	10.0	0.0	0.0	0.0	0.0	0.0
SRF Loan Proceeds	0.0	0.0	0.0	1.5	0.0	4.0	0.0	0.0	0.0	0.0
Debt Proceeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.1	-	-	1.7	10.0	4.0	-	-	-	-
<b>Total</b>	<b>6.2</b>	<b>7.5</b>	<b>8.8</b>	<b>11.4</b>	<b>20.2</b>	<b>14.6</b>	<b>11.2</b>	<b>11.7</b>	<b>12.1</b>	<b>12.5</b>
<b>EXPENSES</b>										
Operating Expenses	5.2	5.7	6.0	6.2	6.5	7.2	7.8	8.1	8.5	8.8
Debt Service	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
Total Capital Expenses	1.3	3.5	3.5	5.2	13.3	7.3	3.0	3.1	3.2	3.3
Total	6.5	9.2	9.4	11.4	19.7	14.5	11.1	11.5	12.0	12.4
<b>Revenues Less Expenses</b>	<b>(0.2)</b>	<b>(1.6)</b>	<b>(0.7)</b>	<b>(0.0)</b>	<b>0.5</b>	<b>0.2</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>
<b>Ending Fund Reserves</b>	<b>6.9</b>	<b>5.3</b>	<b>4.6</b>	<b>4.6</b>	<b>5.1</b>	<b>5.2</b>	<b>5.4</b>	<b>5.6</b>	<b>5.7</b>	<b>5.8</b>
<b>Min Fund Reserve Target</b>	<b>3.6</b>	<b>3.9</b>	<b>4.0</b>	<b>4.1</b>	<b>4.2</b>	<b>4.6</b>	<b>5.0</b>	<b>5.2</b>	<b>5.4</b>	<b>5.5</b>
<b>Max Fund Reserve Target</b>	<b>7.2</b>	<b>7.7</b>	<b>8.0</b>	<b>8.2</b>	<b>8.5</b>	<b>9.2</b>	<b>10.1</b>	<b>10.4</b>	<b>10.7</b>	<b>11.1</b>
<b>Debt Service Coverage</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12.44</b>	<b>13.03</b>	<b>13.20</b>	<b>13.37</b>

# **Joshua Basin Water District**

## **Financial & Rate Projections**

### Scenario 2

Phased Approach

With Deferred Chrome 6 Treatment

No Debt

40% Fixed Rate Revenue Recovery

Steeper Water Rate Tiers



Table 1

## Cash Flow Projections: Phased Approach

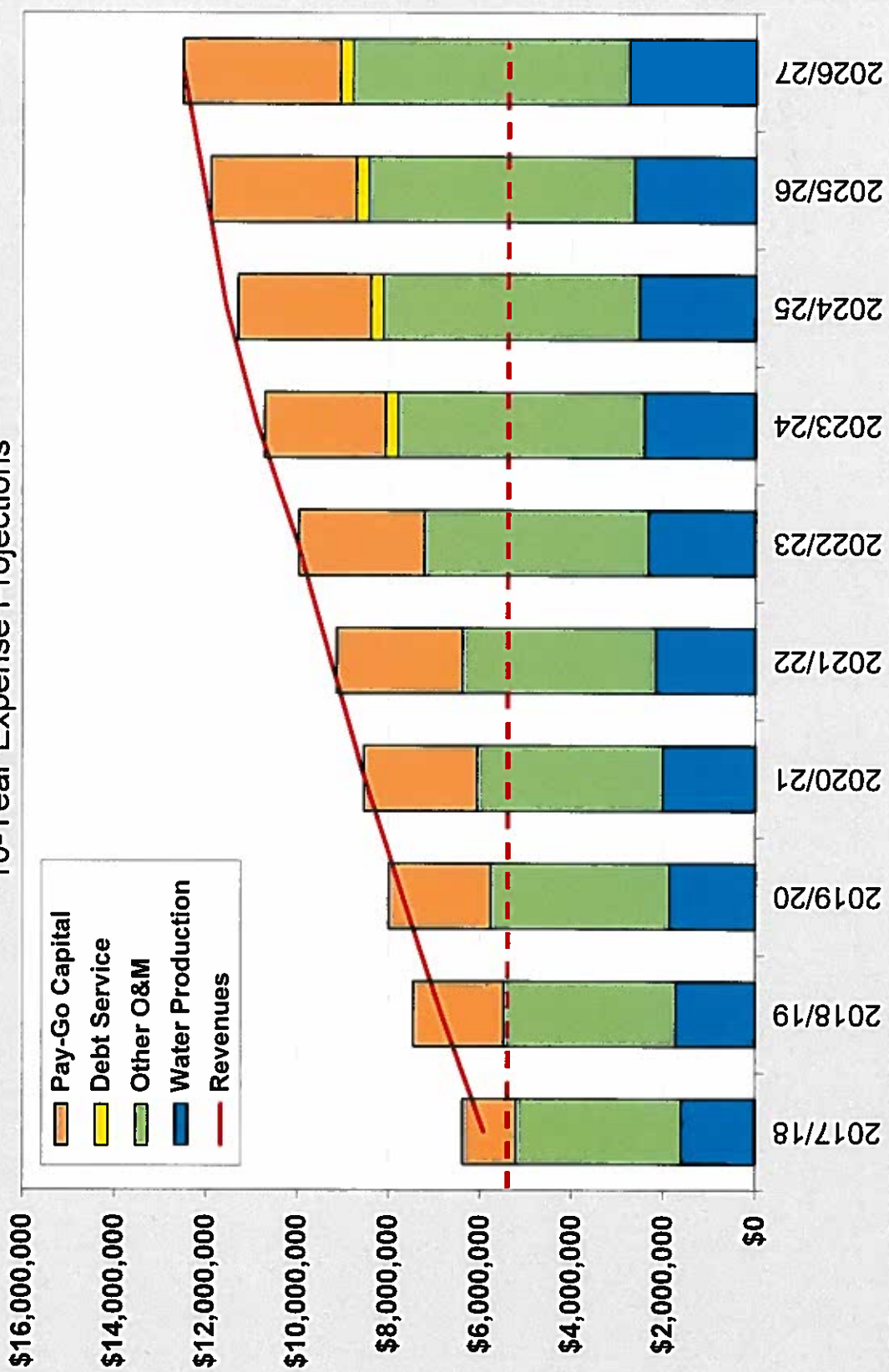
Years 0 - 5

	1	2	3	4	5
	Projected 2018/18	Projected 2018/19	Projected 2019/20	Projected 2020/21	Projected 2021/22
1 Effective Date of Rate Adjustment	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
2 Rate Adjustment %	25%	20%	18%	15%	10%
4 Growth: New EDUs	10	10	10	10	10
5 Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%
6 Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
7 Change in Water Use After Rate Increase	-5.0%	-4.0%	-3.6%	-3.0%	-2.0%
8 Water Purchases from MWA (AF)	500	600	700	800	900
9 MWA Rate per AF	\$569	\$597	\$627	\$658	\$691
10 Interest Earnings Rate	1.0%	1.5%	2.0%	2.0%	2.0%
11 Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%
12 Beginning Fund Reserves	\$7,151,000	\$6,711,000	\$6,116,000	\$5,829,000	\$5,824,000
13 REVENUES					
14 Basic Monthly Fees	1,659,000	2,053,000	2,447,000	2,853,000	3,212,000
15 Water Usage Charges	1,954,000	2,345,000	2,685,000	3,025,000	3,321,000
16 Locked Meter Charges	299,000	363,000	432,000	502,000	564,000
17 Standby Revenue	1,140,000	1,139,000	1,138,000	1,137,000	1,136,000
18 Property Taxes	428,000	437,000	446,000	455,000	464,000
19 Private Fire Svc & Special Services	137,000	140,000	143,000	146,000	149,000
20 Water Capacity & Meter Install Fees	53,000	53,000	54,000	55,000	56,000
21 Interest Earnings	50,000	101,000	122,000	117,000	116,000
22 HDMC WWTP Reimbs (+22%)	200,000	207,000	216,000	224,000	233,000
23 Other Revenues	12,000	20,000	20,000	20,000	20,000
24 Total Revenues	5,932,000	6,858,000	7,703,000	8,534,000	9,271,000
25 SRF Grants	100,000			200,000	10,000,000
26 SRF Loans				1,510,000	
27 Debt Proceeds					
28 EXPENSES					
29 Operating & Maintenance					
30 Production	1,324,000	1,377,000	1,432,000	1,489,000	1,549,000
31 Recharge Water Purchases from MWA	287,000	358,000	439,000	526,000	622,000
32 Distribution	1,000,000	1,040,000	1,082,000	1,125,000	1,170,000
33 Customer Service	489,000	509,000	529,000	550,000	572,000
34 Administration	1,048,000	1,090,000	1,134,000	1,179,000	1,226,000
35 Engineering	237,000	246,000	256,000	266,000	277,000
36 Finance	533,000	554,000	576,000	599,000	623,000
37 Personnel & Legal	134,000	139,000	145,000	151,000	157,000
38 HDMC WWTP Operations (reimbursable)	163,000	170,000	177,000	184,000	191,000
39 Chrome 6 Operations	0	0	0	0	0
40 Subtotal	5,215,000	5,483,000	5,770,000	6,069,000	6,387,000
41 Debt Service					
42 Debt Service for Capital Improvements	-	-	-	-	-
43 Chrome 6 SRF Loan Repayment	-	-	-	-	-
44 Subtotal	0	0	0	0	0
45 Capital/Non-Operating					
Capital Improvements	700,000	1,000,000	1,250,000	1,500,000	2,000,000
1 Annual Project Funding/Meter Repls	237,000	750,000	750,000	750,000	750,000
2 Chromium 6 Project	100,000	0	0	1,710,000	10,000,000
3 Morongo Basin Pipeline Debt Reimbs	220,000	220,000	220,000	220,000	0
4 Subtotal	1,257,000	1,970,000	2,220,000	4,180,000	12,750,000
5 Total Expenses	6,472,000	7,453,000	7,990,000	10,249,000	19,137,000
6 Revenues Less Expenses	(440,000)	(595,000)	(287,000)	(5,000)	134,000
7 Ending Fund Reserves	6,711,000	6,116,000	5,829,000	5,824,000	5,958,000
8 Debt Service Coverage	-	-	-	-	-
9 Min Fund Rsrv Target (50% O&M+Debt + \$1M)	3,607,500	3,741,500	3,885,000	4,034,500	4,193,500
10 Max Fund Rsrv Target (100% O&M+Debt + \$2M)	7,215,000	7,483,000	7,770,000	8,069,000	8,387,000
11 Annual pay-go funding generated for CIP	497,000	1,155,000	1,713,000	2,245,000	2,884,000

**Table 1 Cash Flow Projections: Phased Approach Year 6 - 10**

	6	7	8	9	10	Esc Factor
	Projected 2022/23	Projected 2023/24	Projected 2024/25	Projected 2025/26	Projected 2026/27	
1 Effective Date of Rate Adjustment	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	
2 Rate Adjustment %	12%	12%	5%	5%	5%	
4 Growth: New EDUs	10	10	10	10	10	
5 Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%	
6 Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
7 Change in Annual Water Consumption	-2.4%	-2.4%	-1.0%	-1.0%	-1.0%	
8 Water Purchases from MWA (AF)	1,000	1,000	1,000	1,000	1,000	
9 MWA Rate per AF	\$726	\$762	\$800	\$840	\$882	5.0%
10 Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%	
11 Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
12 Beginning Fund Reserves	\$5,958,000	\$5,989,000	\$6,138,000	\$6,396,000	\$6,519,000	
13 REVENUES						
14 Basic Monthly Fees	3,574,000	4,011,000	4,352,000	4,579,000	4,818,000	
15 Water Usage Charges	3,603,000	3,939,000	4,206,000	4,372,000	4,545,000	
16 Locked Meter Charges	627,000	702,000	760,000	798,000	838,000	
17 Standby Revenue	1,135,000	1,134,000	1,133,000	1,132,000	1,131,000	
18 Property Taxes	473,000	482,000	492,000	502,000	512,000	2.0%
19 Private Fire Svc & Special Services	152,000	155,000	158,000	161,000	164,000	2.0%
20 Water Capacity & Meter Install Fees	57,000	57,000	58,000	59,000	60,000	
21 Interest Earnings	119,000	120,000	123,000	128,000	130,000	
22 HDMC WWTP Reimbs (+22%)	243,000	253,000	262,000	273,000	284,000	
23 Other Revenues	20,000	20,000	20,000	20,000	20,000	
24 Total Revenues	10,003,000	10,873,000	11,564,000	12,024,000	12,502,000	
25 Grants						
26 SRF Planning & Construction Loan	4,000,000					
27 Debt Proceeds						
28 EXPENSES						
29 Operating & Maintenance						
30 Production	1,611,000	1,675,000	1,742,000	1,812,000	1,884,000	
31 Recharge Water Purchases from MWA	726,000	762,000	800,000	840,000	882,000	
32 Distribution	1,217,000	1,266,000	1,317,000	1,370,000	1,425,000	
33 Customer Service	595,000	619,000	644,000	670,000	697,000	
34 Administration	1,275,000	1,326,000	1,379,000	1,434,000	1,491,000	
35 Engineering	288,000	300,000	312,000	324,000	337,000	
36 Finance	648,000	674,000	701,000	729,000	758,000	
37 Personnel & Legal	163,000	170,000	177,000	184,000	191,000	
38 HDMC WWTP Operations (reimbursable)	199,000	207,000	215,000	224,000	233,000	
39 Chrome 6 Operations	500,000	800,000	832,000	865,000	900,000	
40 Subtotal	7,222,000	7,799,000	8,119,000	8,452,000	8,798,000	
41 Debt Service						
42 Debt Service for Capital Improvements	-	-	-	-	-	
43 Chrome 6 SRF Loan Repayment	-	275,000	275,000	275,000	275,000	
44 Subtotal	0	275,000	275,000	275,000	275,000	
45 Capital/Non-Operating						
Capital Improvements (Pipes/Wells/Boosters)	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000	
1 Annual Project Funding	750,000	400,000	412,000	424,000	437,000	3.0%
2 Chromium 6 Project	4,000,000	0	0	0	0	
3 Morongo Basin Pipeline Debt Reimbs	0	0	0	0	0	
4 Subtotal	6,750,000	2,650,000	2,912,000	3,174,000	3,437,000	
5 Total Expenses	13,972,000	10,724,000	11,306,000	11,901,000	12,510,000	
6 Revenues Less Expenses	31,000	149,000	258,000	123,000	(8,000)	
7 Ending Fund Reserves	5,989,000	6,138,000	6,396,000	6,519,000	6,511,000	
8 Debt Service Coverage	-	11.18	12.53	12.99	13.47	
9 Min Fund Rsrv Target (50% O&M+Debt + \$1M)	4,611,000	5,037,000	5,197,000	5,363,500	5,536,500	
10 Max Fund Rsrv Target (100% O&M+Debt + \$2M)	9,222,000	10,074,000	10,394,000	10,727,000	11,073,000	
11 Annual pay-go funding generated for CIP	2,781,000	2,799,000	3,170,000	3,297,000	3,429,000	

# Joshua Basin Water District 10-Year Expense Projections



Excludes capital projects funded by debt.

Table 2  
 Joshua Basin Water District  
 Fixed Meter Charge Calculation

	Mar-1 2018	Jan-1 2019	Jan-1 2020	Jan-1 2021	Jan-1 2022	
<b>Water Rate Revenue Recovery</b>						
Annualized Revenues w/ Increase	\$4,058,000	\$4,768,000	\$5,525,000	\$6,261,000	\$6,823,000	
<b>Fixed Rate Recovery</b>						
Cost Recovery Allocation %	40%	40%	40%	40%	40%	
Cost Recovery Allocation \$	\$1,623,200	\$1,907,200	\$2,210,000	\$2,504,400	\$2,729,200	
<b>Meter Equivalents</b>						
Existing Meter Equivalents	4,764	4,774	4,784	4,794	4,804	
Projected Growth	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
Total	4,774	4,784	4,794	4,804	4,814	
<b>Rate per Meter Equivalent</b>						
Annual	\$340.04	\$398.69	\$461.03	\$521.36	\$566.98	
Monthly	28.34	33.22	38.42	43.45	47.25	
<b>Projected Fixed Monthly Meter Charges</b>						
<u>Meter Size</u>	<u>Capacity (gpm)</u>					
3/4" & 1"	30	\$28.34	\$33.22	\$38.42	\$43.45	\$47.25
1-1/2"	100	94.47	110.73	128.07	144.83	157.50
2"	160	151.15	177.17	204.91	231.73	252.00
3"	300	283.40	332.20	384.20	434.50	472.50
<b>Variable Rate Recovery</b>						
Cost Recovery Allocation %	60%	60%	60%	60%	60%	
Cost Recovery Allocation \$	\$2,434,800	\$2,860,800	\$3,315,000	\$3,756,600	\$4,093,800	
Projected Water Use	500,900	480,800	463,900	450,600	442,100	
Average Rate per Unit (\$/hcf)	\$4.86	\$5.95	\$7.15	\$8.34	\$9.26	

**Table 3**  
**Joshua Basin Water District**  
**Projected Water Use & Consumption Charges**

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Projected Water Use</b>						
Change in Use After Rate Increase		-5.0%	-4.0%	-3.6%	-3.0%	-2.0%
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	188,189	186,300	184,800	183,500	182,400	181,700
Tier 2	91,526	84,700	79,600	75,300	71,900	69,700
Tier 3	76,742	69,800	64,800	60,600	57,300	55,200
Tier 4	86,482	77,000	70,200	64,600	60,300	57,600
Subtotal	442,939	417,800	399,400	384,000	371,900	364,200
All Other Use (hcf)	85,275	83,100	81,400	79,900	78,700	77,900
Total (hcf)	528,214	500,900	480,800	463,900	450,600	442,100
Total (acre-feet)	1,213	1,150	1,104	1,065	1,034	1,015
Annual Change		-5.2%	-4.0%	-3.5%	-2.9%	-1.9%
Cumulative Change		-5.2%	-9.0%	-12.2%	-14.7%	-16.3%
<b>Projected Water Consumption Charges</b>						
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	\$3.00	\$3.92	\$4.82	\$5.83	\$6.84	\$7.62
Tier 2	3.50	4.79	5.89	7.13	8.36	9.31
Tier 3	4.00	5.66	6.96	8.42	9.88	11.01
Tier 4	4.50	6.53	8.03	9.72	11.40	12.70
All Other Use (hcf)	\$3.79	\$4.87	\$5.94	\$7.15	\$8.34	\$9.26
Projected Revenues		\$2,438,425	\$2,858,189	\$3,315,989	\$3,758,729	\$4,094,139
Revenue Target		2,434,800	2,860,800	3,315,000	3,756,600	4,093,800
Difference %		0.1%	-0.1%	0.0%	0.1%	0.0%

Table 4  
 Joshua Basin Water District  
 Projected Water Rates

Scenario 2  
 Phased Approach, No Debt  
 40% Fixed Rate Recovery with Steeper Tiers

Effective	Current	Projected Water Rates						
		2018	2019	2020	2021	2022		
<b>OVERALL RATE ADJUSTMENT</b>		<b>25%</b>	<b>20%</b>	<b>18%</b>	<b>15%</b>	<b>10%</b>		
<b>BASIC MONTHLY FEE</b>								
<u>Meter Size</u>	<u>Accounts</u>	<u>Capacity</u>	<u>Monthly Rate</u>					
3/4" & 1"	4,503	30 gpm	\$25.78	\$28.34	\$33.22	\$38.42	\$43.45	\$47.25
1-1/2"	28	100 gpm	85.93	94.47	110.73	128.07	144.83	157.50
2"	18	160 gpm	137.49	151.15	177.17	204.91	231.73	252.00
3"	7	300 gpm	257.79	283.40	332.20	384.20	434.50	472.50
<b>MONTHLY WATER FLOW CHARGES</b>								
<b>For 3/4" and 1" Meters</b>			<u>Rate Per Unit (\$/hcf)</u>					
Tier 1	0 - 5 units		\$3.00	\$3.92	\$4.82	\$5.83	\$6.84	\$7.62
Tier 2	5.01 - 10 units		3.50	4.79	5.89	7.13	8.36	9.31
Tier 3	10.01 - 20 units		4.00	5.66	6.96	8.42	9.88	11.01
Tier 4	20.01 + units		4.50	6.53	8.03	9.72	11.40	12.70
<i>1 unit = one hundred cubic feet = 748 gallons</i>								
<b>For 1-1/2", 2" and 3" Meters</b>			<u>Rate Per Unit (\$/hcf)</u>					
Unit rate for all water use			\$3.79	\$4.87	\$5.84	\$6.89	\$7.92	\$8.71
<i>1 unit = one hundred cubic feet = 748 gallons</i>								
<b>PRIVATE FIRE PROTECTION CHARGES</b>								
<u>Svc Size</u>	<u>Accounts</u>	<u>Capacity</u>	<u>Monthly Rate</u>					
2"	1	160 gpm	\$12.62	\$15.12	\$17.72	\$20.49	\$23.17	\$25.20
3"	0	300 gpm	25.25	28.35	33.23	38.42	43.44	47.25
4"	6	500 gpm	50.50	47.25	55.38	64.03	72.41	78.75
6"	4	1,000 gpm	75.76	94.50	110.75	128.06	144.81	157.50
8"	7	1,600 gpm	113.62	151.20	177.20	204.90	231.70	252.00

Table 5 Joshua Basin Water District  
 Bill Impacts (3/4" & 1" Meter)

Scenario 2

Phased Approach, No Debt

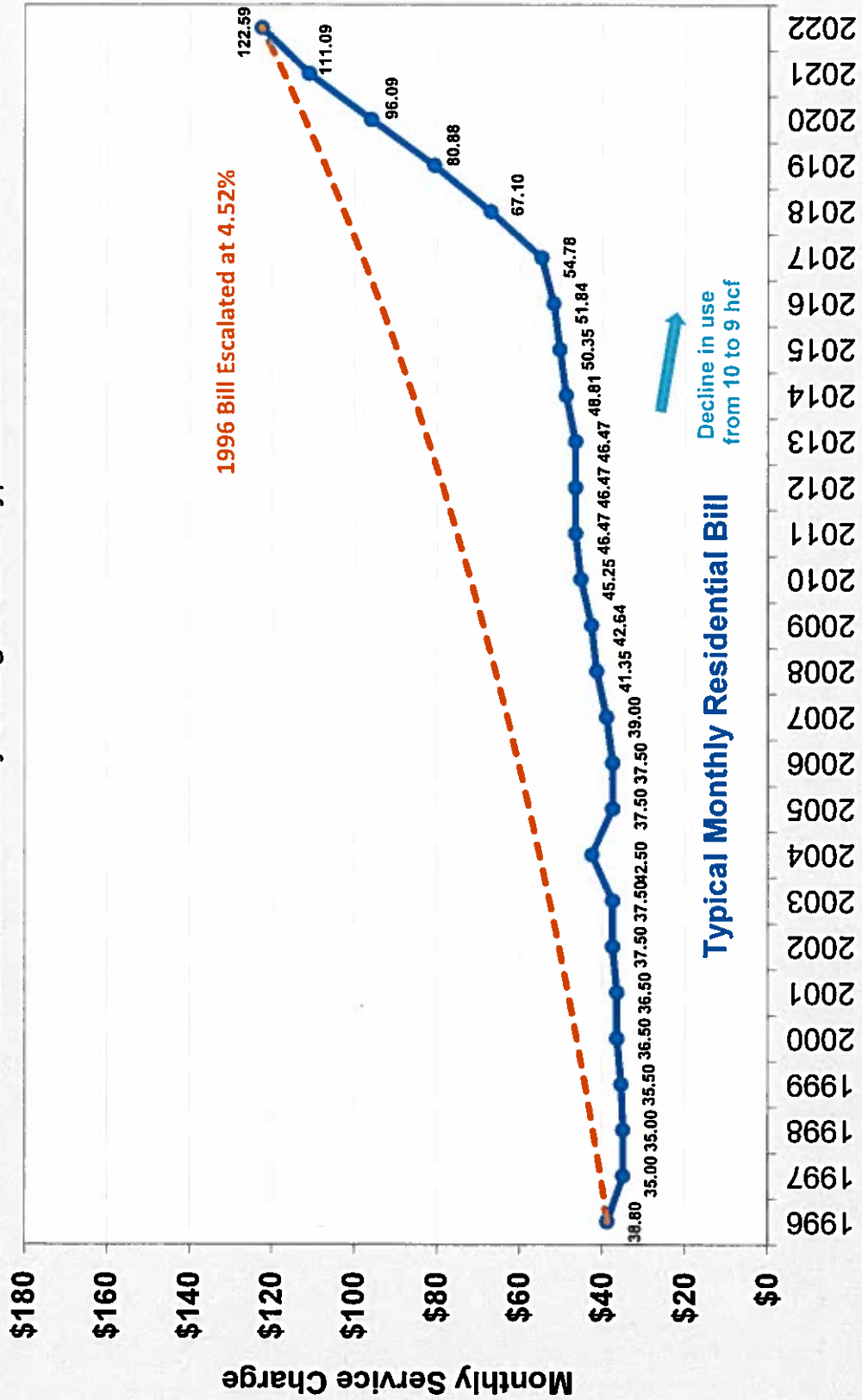
40% Fixed Rate Recovery with Steeper Tiers

Level of Use	Monthly Use	% of Bills at or Below	Current	Projected Monthly Water Bills					5-Year Avg Annual				
				2018	2019	2020	2021	2022	Impact	Impact			
<b>LOW</b>	<b>3 hcf</b>	<b>30%</b>	<b>\$34.78</b>	<b>\$47.68</b>	<b>\$55.91</b>	<b>\$63.97</b>	<b>\$70.11</b>						
			Increase \$	5.32	7.58	8.23	8.06	6.14	35.33	7.07			
			Increase %	15.3%	18.9%	17.3%	14.4%	9.6%	101.6%	15.1%			
<b>MEDIAN</b>	<b>6 hcf</b>	<b>55%</b>	<b>\$44.28</b>	<b>\$63.21</b>	<b>\$74.70</b>	<b>\$86.01</b>	<b>\$94.66</b>						
			Increase \$	8.45	10.48	11.49	11.31	8.65	50.38	10.08			
			Increase %	19.1%	19.9%	18.2%	15.1%	10.1%	113.8%	16.4%			
<b>AVERAGE</b>	<b>9 hcf</b>	<b>73%</b>	<b>\$58.28</b>	<b>\$86.77</b>	<b>\$103.22</b>	<b>\$119.45</b>	<b>\$131.90</b>						
			Increase \$	13.61	14.88	16.45	16.23	12.45	73.62	14.72			
			Increase %	23.4%	20.7%	19.0%	15.7%	10.4%	126.3%	17.7%			
<b>MOD-HIGH</b>	<b>20 hcf</b>	<b>90%</b>	<b>\$98.28</b>	<b>\$156.37</b>	<b>\$187.42</b>	<b>\$218.25</b>	<b>\$242.00</b>						
			Increase \$	30.21	27.88	31.05	30.83	23.75	143.72	28.74			
			Increase %	30.7%	21.7%	19.9%	16.4%	10.9%	146.2%	19.7%			
<b>HIGH</b>	<b>30 hcf</b>	<b>95%</b>	<b>\$188.28</b>	<b>\$316.97</b>	<b>\$381.82</b>	<b>\$446.25</b>	<b>\$496.00</b>						
			Increase \$	70.81	57.88	64.85	64.43	49.75	307.72	61.54			
			Increase %	37.6%	22.3%	20.5%	16.9%	11.1%	163.4%	21.4%			



# Joshua Basin Water District

## Historical Monthly Charges for a Typical Home





**Scenario 2 - Phased Approach with No Debt**  
**Summary of Cash Flow Projections (\$ millions)**

<b>Fiscal Year</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>
<b>Overall Rate Increases Effective January 1</b>	<b>25%</b>	<b>20%</b>	<b>18%</b>	<b>15%</b>	<b>10%</b>	<b>12%</b>	<b>12%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>
<b>Beginning Fund Reserves</b>	<b>\$7.2</b>	<b>\$6.7</b>	<b>\$6.1</b>	<b>\$5.8</b>	<b>\$5.8</b>	<b>\$6.0</b>	<b>\$6.0</b>	<b>\$6.1</b>	<b>\$6.4</b>	<b>\$6.5</b>
<b>REVENUES</b>										
Water Rate Revenues	3.9	4.8	5.6	6.4	7.1	7.8	8.7	9.3	9.7	10.2
Standby Revs/Prop Taxes	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Other Revenues	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Subtotal	5.9	6.9	7.7	8.5	9.3	10.0	10.9	11.6	12.0	12.5
SRF Grant Proceeds	0.1	0.0	0.0	0.2	10.0	0.0	0.0	0.0	0.0	0.0
SRF Loan Proceeds	0.0	0.0	0.0	1.5	0.0	4.0	0.0	0.0	0.0	0.0
Debt Proceeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.1	-	-	1.7	10.0	4.0	-	-	-	-
<b>Total</b>	<b>6.0</b>	<b>6.9</b>	<b>7.7</b>	<b>10.2</b>	<b>19.3</b>	<b>14.0</b>	<b>10.9</b>	<b>11.6</b>	<b>12.0</b>	<b>12.5</b>
<b>EXPENSES</b>										
Operating Expenses	5.2	5.5	5.8	6.1	6.4	7.2	7.8	8.1	8.5	8.8
Debt Service	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
Total Capital Expenses	1.3	2.0	2.2	4.2	12.8	6.8	2.7	2.9	3.2	3.4
<b>Total</b>	<b>6.5</b>	<b>7.5</b>	<b>8.0</b>	<b>10.2</b>	<b>19.1</b>	<b>14.0</b>	<b>10.7</b>	<b>11.3</b>	<b>11.9</b>	<b>12.5</b>
<b>Revenues Less Expenses</b>	<b>(0.4)</b>	<b>(0.6)</b>	<b>(0.3)</b>	<b>(0.0)</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>(0.0)</b>
<b>Ending Fund Reserves</b>	<b>6.7</b>	<b>6.1</b>	<b>5.8</b>	<b>5.8</b>	<b>6.0</b>	<b>6.0</b>	<b>6.1</b>	<b>6.4</b>	<b>6.5</b>	<b>6.5</b>
Min Fund Reserve Target	3.6	3.7	3.9	4.0	4.2	4.6	5.0	5.2	5.4	5.5
Max Fund Reserve Target	7.2	7.5	7.8	8.1	8.4	9.2	10.1	10.4	10.7	11.1
Debt Service Coverage	-	-	-	-	-	-	11.18	12.53	12.99	13.47

# **Joshua Basin Water District**

## **Financial & Rate Projections**

### Scenario 3

**\$15 Million Debt for CIP & Meter Replacements  
With Deferred Chrome 6 Treatment  
40% Fixed Rate Revenue Recovery  
Steeper Water Rate Tiers**

<b>Table 1</b>		<b>Cash Flow Projections: With \$15 Million Debt</b>				<b>Years 0 - 5</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		<b>Projected 2017/18</b>	<b>Projected 2018/19</b>	<b>Projected 2019/20</b>	<b>Projected 2020/21</b>	<b>Projected 2021/22</b>
1	Effective Date of Rate Adjustment	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1
2	Rate Adjustment %	15%	15%	15%	12%	12%
4	Growth: New EDUs	10	10	10	10	10
5	Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%
6	Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
7	Change in Water Use After Rate Increase	-3.0%	-3.0%	-3.0%	-2.4%	-2.4%
8	Water Purchases from MWA (AF)	500	1,000	1,000	1,000	1,000
9	MWA Rate per AF	\$569	\$597	\$627	\$658	\$691
10	Interest Earnings Rate	1.0%	1.5%	2.0%	2.0%	2.0%
11	Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%
12	<b>Beginning Fund Reserves</b>	\$7,151,000	\$6,563,000	\$5,756,000	\$5,332,000	\$5,271,000
13	<b>REVENUES</b>					
14	Basic Monthly Fees	1,584,000	1,846,000	2,128,000	2,417,000	2,713,000
15	Water Usage Charges	1,894,000	2,169,000	2,419,000	2,673,000	2,922,000
16	Locked Meter Charges	286,000	326,000	375,000	426,000	477,000
17	Standby Revenue	1,140,000	1,139,000	1,138,000	1,137,000	1,136,000
18	Property Taxes	428,000	437,000	446,000	455,000	464,000
19	Private Fire Svc & Special Services	137,000	140,000	143,000	146,000	149,000
20	Water Capacity & Meter Install Fees	53,000	53,000	54,000	55,000	56,000
21	Interest Earnings	50,000	98,000	115,000	107,000	105,000
22	HDMC WWTP Reimbs (+22%)	200,000	207,000	216,000	224,000	233,000
23	Other Revenues	12,000	20,000	20,000	20,000	20,000
24	<b>Total Revenues</b>	<b>5,784,000</b>	<b>6,435,000</b>	<b>7,054,000</b>	<b>7,660,000</b>	<b>8,275,000</b>
25	SRF Grants	100,000			200,000	10,000,000
26	SRF Loans				1,510,000	
27	Debt Proceeds		15,000,000			
28	<b>EXPENSES</b>					
29	<b>Operating &amp; Maintenance</b>					
30	Production	1,324,000	1,377,000	1,432,000	1,489,000	1,549,000
31	Recharge Water Purchases from MWA	287,000	597,000	627,000	658,000	691,000
32	Distribution	1,000,000	1,040,000	1,082,000	1,125,000	1,170,000
33	Customer Service	489,000	509,000	529,000	550,000	572,000
34	Administration	1,048,000	1,090,000	1,134,000	1,179,000	1,226,000
35	Engineering	237,000	246,000	256,000	266,000	277,000
36	Finance	533,000	554,000	576,000	599,000	623,000
37	Personnel & Legal	134,000	139,000	145,000	151,000	157,000
38	HDMC WWTP Operations (reimbursable)	163,000	170,000	177,000	184,000	191,000
39	Chrome 6 Operations	0	0	0	0	0
40	<b>Subtotal</b>	<b>5,215,000</b>	<b>5,722,000</b>	<b>5,958,000</b>	<b>6,201,000</b>	<b>6,456,000</b>
41	<b>Debt Service</b>					
42	Projected Debt Service	-	1,050,000	1,050,000	1,050,000	1,050,000
43	Chrome 6 SRF Loan Repayment	-	-	-	-	-
44	<b>Subtotal</b>	<b>0</b>	<b>1,050,000</b>	<b>1,050,000</b>	<b>1,050,000</b>	<b>1,050,000</b>
45	<b>Capital/Non-Operating</b>					
46	Capital Improvements	700,000	15,000,000	-	-	-
47	Annual Project Funding	237,000	250,000	250,000	250,000	250,000
48	Chromium 6 Project	100,000	0	0	1,710,000	10,000,000
49	Morongo Basin Pipeline Debt Reimbs	220,000	220,000	220,000	220,000	0
50	<b>Subtotal</b>	<b>1,257,000</b>	<b>15,470,000</b>	<b>470,000</b>	<b>2,180,000</b>	<b>10,250,000</b>
51	<b>Total Expenses</b>	<b>6,472,000</b>	<b>22,242,000</b>	<b>7,478,000</b>	<b>9,431,000</b>	<b>17,756,000</b>
52	<b>Revenues Less Expenses</b>	<b>(588,000)</b>	<b>(807,000)</b>	<b>(424,000)</b>	<b>(61,000)</b>	<b>519,000</b>
53	<b>Ending Fund Reserves</b>	<b>6,563,000</b>	<b>5,756,000</b>	<b>5,332,000</b>	<b>5,271,000</b>	<b>5,790,000</b>
54	<b>Debt Service Coverage</b>	-	0.68	1.04	1.39	1.73
55	Min Fund Rsrv Target (50% O&M+Debt + \$1M)	3,607,500	4,386,000	4,504,000	4,625,500	4,753,000
56	Max Fund Rsrv Target (100% O&M+Debt + \$2M)	7,215,000	8,772,000	9,008,000	9,251,000	9,506,000
57	<b>Annual pay-go funding generated for CIP</b>	<b>349,000</b>	<b>(557,000)</b>	<b>(174,000)</b>	<b>189,000</b>	<b>769,000</b>

Table 1

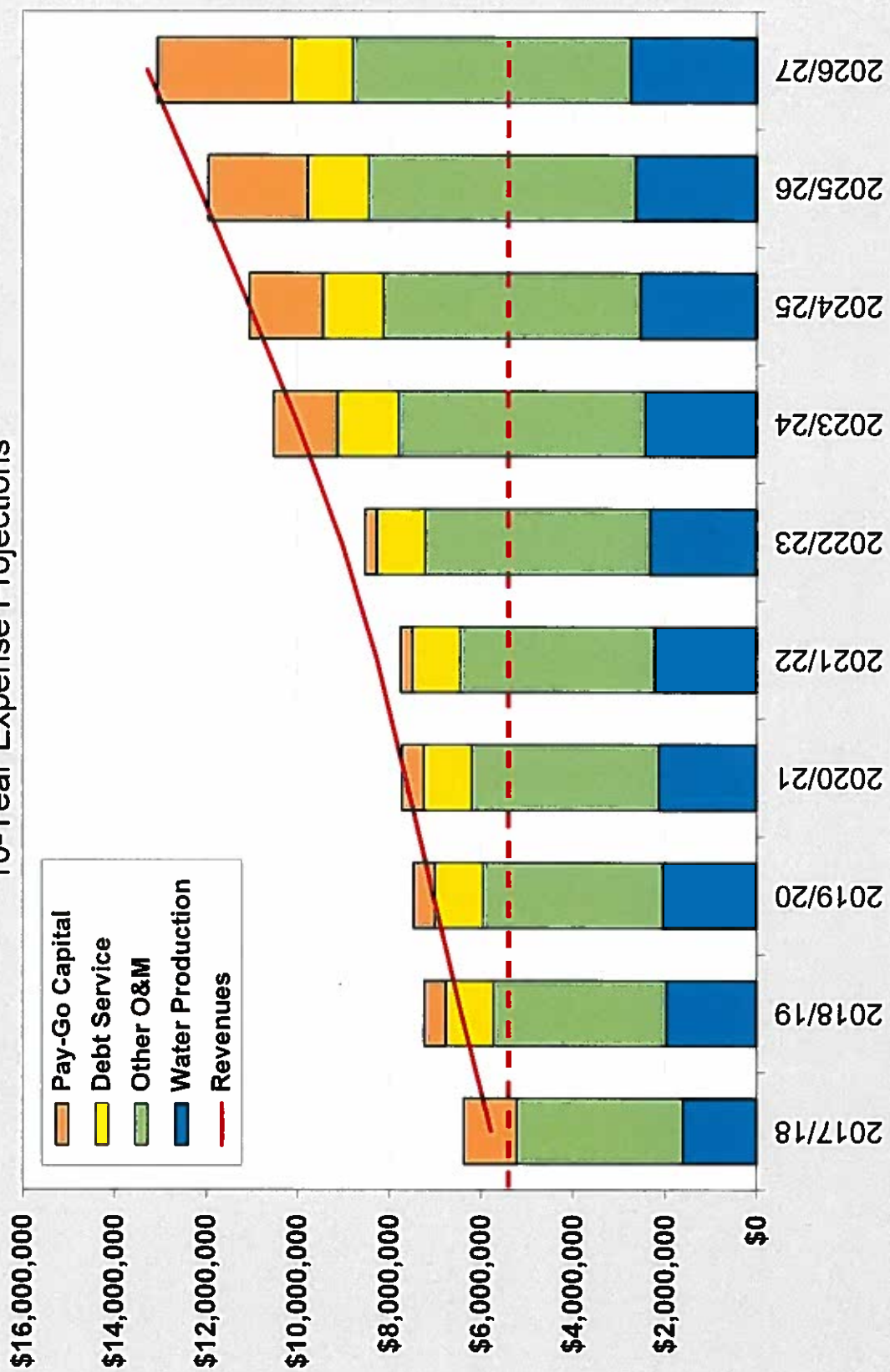
## Cash Flow Projections: With \$15 Million Debt

Year 6 - 10

	6	7	8	9	10	Esc
	Projected 2022/23	Projected 2023/24	Projected 2024/25	Projected 2025/26	Projected 2026/27	Factor
1 Effective Date of Rate Adjustment	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	
2 Rate Adjustment %	15%	15%	15%	12%	12%	
4 Growth: New EDUs	10	10	10	10	10	
5 Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%	
6 Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
7 Change in Annual Water Consumption	-3.0%	-3.0%	-3.0%	-2.4%	-2.4%	
8 Water Purchases from MWA (AF)	1,000	1,000	1,000	1,000	1,000	
9 MWA Rate per AF	\$726	\$762	\$800	\$840	\$882	5.0%
10 Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%	
11 Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
12 <b>Beginning Fund Reserves</b>	\$5,790,000	\$6,318,000	\$5,799,000	\$5,812,000	\$6,028,000	
13 <b>REVENUES</b>						
14 Basic Monthly Fees	3,088,000	3,558,000	4,101,000	4,659,000	5,229,000	
15 Water Usage Charges	3,225,000	3,597,000	4,013,000	4,433,000	4,846,000	
16 Locked Meter Charges	541,000	623,000	716,000	812,000	909,000	
17 Standby Revenue	1,135,000	1,134,000	1,133,000	1,132,000	1,131,000	
18 Property Taxes	473,000	482,000	492,000	502,000	512,000	2.0%
19 Private Fire Svc & Special Services	152,000	155,000	158,000	161,000	164,000	2.0%
20 Water Capacity & Meter Install Fees	57,000	57,000	58,000	59,000	60,000	
21 Interest Earnings	116,000	126,000	116,000	116,000	121,000	
22 HDMC WWTP Reimbs (+22%)	243,000	253,000	262,000	273,000	284,000	
23 Other Revenues	20,000	20,000	20,000	20,000	20,000	
24 <b>Total Revenues</b>	<b>9,050,000</b>	<b>10,005,000</b>	<b>11,069,000</b>	<b>12,167,000</b>	<b>13,276,000</b>	
25 Grants						
26 SRF Planning & Construction Loan	4,000,000					
27 Debt Proceeds						
28 <b>EXPENSES</b>						
29 <b>Operating &amp; Maintenance</b>						
30 Production	1,611,000	1,675,000	1,742,000	1,812,000	1,884,000	
31 Recharge Water Purchases from MWA	726,000	762,000	800,000	840,000	882,000	
32 Distribution	1,217,000	1,266,000	1,317,000	1,370,000	1,425,000	
33 Customer Service	595,000	619,000	644,000	670,000	697,000	
34 Administration	1,275,000	1,326,000	1,379,000	1,434,000	1,491,000	
35 Engineering	288,000	300,000	312,000	324,000	337,000	
36 Finance	648,000	674,000	701,000	729,000	758,000	
37 Personnel & Legal	163,000	170,000	177,000	184,000	191,000	
38 HDMC WWTP Operations (reimbursable)	199,000	207,000	215,000	224,000	233,000	
39 Chrome 6 Operations	500,000	800,000	832,000	865,000	900,000	
40 <b>Subtotal</b>	<b>7,222,000</b>	<b>7,799,000</b>	<b>8,119,000</b>	<b>8,452,000</b>	<b>8,798,000</b>	
41 <b>Debt Service</b>						
42 Projected Debt Service	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	
43 Chrome 6 SRF Loan Repayment	-	275,000	275,000	275,000	275,000	
44 <b>Subtotal</b>	<b>1,050,000</b>	<b>1,325,000</b>	<b>1,325,000</b>	<b>1,325,000</b>	<b>1,325,000</b>	
45 <b>Capital/Non-Operating</b>						
46 Capital Improvements (Pipes/Wells/Boosters)	-	1,000,000	1,200,000	1,750,000	2,500,000	
47 Annual Project Funding	250,000	400,000	412,000	424,000	437,000	3.0%
48 Chromium 6 Project	4,000,000	0	0	0	0	
49 Morongo Basin Pipeline Debt Reimbs	0	0	0	0	0	
50 <b>Subtotal</b>	<b>4,250,000</b>	<b>1,400,000</b>	<b>1,612,000</b>	<b>2,174,000</b>	<b>2,937,000</b>	
51 <b>Total Expenses</b>	<b>12,522,000</b>	<b>10,524,000</b>	<b>11,056,000</b>	<b>11,951,000</b>	<b>13,060,000</b>	
52 <b>Revenues Less Expenses</b>	<b>528,000</b>	<b>(519,000)</b>	<b>13,000</b>	<b>216,000</b>	<b>216,000</b>	
53 <b>Ending Fund Reserves</b>	<b>6,318,000</b>	<b>5,799,000</b>	<b>5,812,000</b>	<b>6,028,000</b>	<b>6,244,000</b>	
54 Debt Service Coverage	1.74	1.66	2.23	2.80	3.38	
55 Min Fund Rsrv Target (50% O&M+Debt + \$1M)	5,136,000	5,562,000	5,722,000	5,888,500	6,061,500	
56 Max Fund Rsrv Target (100% O&M+Debt + \$2M)	10,272,000	11,124,000	11,444,000	11,777,000	12,123,000	
57 Annual pay-go funding generated for CIP	778,000	881,000	1,625,000	2,390,000	3,153,000	

Scenario 3  
\$15M Debt for CIP & Meter Repls

# Joshua Basin Water District 10-Year Expense Projections



Excludes capital projects funded by debt.

Table 2  
 Joshua Basin Water District  
 Fixed Meter Charge Calculation

	Mar-1 2018	Jan-1 2019	Jan-1 2020	Jan-1 2021	Jan-1 2022	
<b>Water Rate Revenue Recovery</b>						
Annualized Revenues w/ Increase	\$3,776,000	\$4,275,000	\$4,841,000	\$5,359,000	\$5,932,000	
<b>Fixed Rate Recovery</b>						
Cost Recovery Allocation %	40%	40%	40%	40%	40%	
Cost Recovery Allocation \$	\$1,510,400	\$1,710,000	\$1,936,400	\$2,143,600	\$2,372,800	
<b>Meter Equivalents</b>						
Existing Meter Equivalents	4,764	4,774	4,784	4,794	4,804	
Projected Growth	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
Total	4,774	4,784	4,794	4,804	4,814	
<b>Rate per Meter Equivalent</b>						
Annual	\$316.41	\$357.47	\$403.95	\$446.25	\$492.94	
Monthly	26.37	29.79	33.66	37.19	41.08	
<b>Projected Fixed Monthly Meter Charges</b>						
<u>Meter Size</u>	<u>Capacity (gpm)</u>					
3/4" & 1"	30	\$26.37	\$29.79	\$33.66	\$37.19	\$41.08
1-1/2"	100	87.90	99.30	112.20	123.97	136.93
2"	160	140.64	158.88	179.52	198.35	219.09
3"	300	263.70	297.90	336.60	371.90	410.80
<b>Variable Rate Recovery</b>						
Cost Recovery Allocation %	60%	60%	60%	60%	60%	
Cost Recovery Allocation \$	\$2,265,600	\$2,565,000	\$2,904,600	\$3,215,400	\$3,559,200	
<b>Projected Water Use</b>	511,900	496,400	481,600	470,300	459,400	
<b>Average Rate per Unit (\$/hcf)</b>	\$4.43	\$5.17	\$6.03	\$6.84	\$7.75	



**Table 3**  
**Joshua Basin Water District**  
**Projected Water Use & Consumption Charges**

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Projected Water Use</b>						
Change in Use After Rate Increase		-3.0%	-3.0%	-3.0%	-2.4%	-2.4%
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	188,189	187,100	186,000	184,900	184,000	183,100
Tier 2	91,526	87,400	83,500	79,700	76,800	74,000
Tier 3	76,742	72,600	68,700	65,000	62,200	59,500
Tier 4	86,482	80,800	75,500	70,500	66,800	63,300
Subtotal	442,939	427,900	413,700	400,100	389,800	379,900
All Other Use (hcf)	85,275	84,000	82,700	81,500	80,500	79,500
Total (hcf)	528,214	511,900	496,400	481,600	470,300	459,400
Total (acre-feet)	1,213	1,175	1,140	1,106	1,080	1,055
Annual Change		-3.1%	-3.0%	-3.0%	-2.3%	-2.3%
Cumulative Change		-3.1%	-6.0%	-8.8%	-11.0%	-13.0%
<b>Projected Water Consumption Charges</b>						
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	\$3.00	\$3.55	\$4.16	\$4.88	\$5.55	\$6.32
Tier 2	3.50	4.34	5.09	5.98	6.81	7.75
Tier 3	4.00	5.13	6.02	7.07	8.05	9.16
Tier 4	4.50	5.92	6.94	8.15	9.27	10.55
All Other Use (hcf)	\$3.79	\$4.43	\$5.16	\$6.03	\$6.83	\$7.75
Projected Revenues		\$2,266,159	\$2,563,376	\$2,904,578	\$3,214,345	\$3,559,506
Revenue Target		2,265,600	2,565,000	2,904,600	3,215,400	3,559,200
Difference %		0.0%	-0.1%	0.0%	0.0%	0.0%

Table 4  
 Joshua Basin Water District  
 Projected Water Rates

Scenario 3  
 \$15M Debt for CIP & Meter Replacements  
 40% Fixed Rate Recovery with Steeper Tiers

Effective	Current	Projected Water Rates						
		2018	2019	2020	2021	2022		
<b>OVERALL RATE ADJUSTMENT</b>		<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>12%</b>	<b>12%</b>		
<b>BASIC MONTHLY FEE</b>								
Meter Size	Accounts	Capacity	Monthly Rate					
3/4" & 1"	4,503	30 gpm	\$25.78	\$26.37	\$29.79	\$33.66	\$37.19	\$41.08
1-1/2"	28	100 gpm	85.93	87.90	99.30	112.20	123.97	136.93
2"	18	160 gpm	137.49	140.64	158.88	179.52	198.35	219.09
3"	7	300 gpm	257.79	263.70	297.90	336.60	371.90	410.80
<b>MONTHLY WATER FLOW CHARGES</b>								
<b>For 3/4" and 1" Meters</b>			Rate Per Unit (\$/hcf)					
Tier 1	0 - 5 units		\$3.00	\$3.55	\$4.16	\$4.88	\$5.55	\$6.32
Tier 2	5.01 - 10 units		3.50	4.34	5.09	5.98	6.81	7.75
Tier 3	10.01 - 20 units		4.00	5.13	6.02	7.07	8.05	9.16
Tier 4	20.01 + units		4.50	5.92	6.94	8.15	9.27	10.55
<i>1 unit = one hundred cubic feet = 748 gallons</i>								
<b>For 1-1/2", 2" and 3" Meters</b>			Rate Per Unit (\$/hcf)					
Unit rate for all water use			\$3.79	\$4.43	\$5.09	\$5.85	\$6.55	\$7.34
<i>1 unit = one hundred cubic feet = 748 gallons</i>								
<b>PRIVATE FIRE PROTECTION CHARGES</b>								
Svc Size	Accounts	Capacity	Monthly Rate					
2"	1	160 gpm	\$12.62	\$14.06	\$15.89	\$17.95	\$19.84	\$21.91
3"	0	300 gpm	25.25	26.36	29.79	33.66	37.20	41.08
4"	6	500 gpm	50.50	43.94	49.66	56.09	62.00	68.47
6"	4	1,000 gpm	75.76	87.88	99.31	112.19	124.00	136.94
8"	7	1,600 gpm	113.62	140.60	158.90	179.50	198.40	219.10



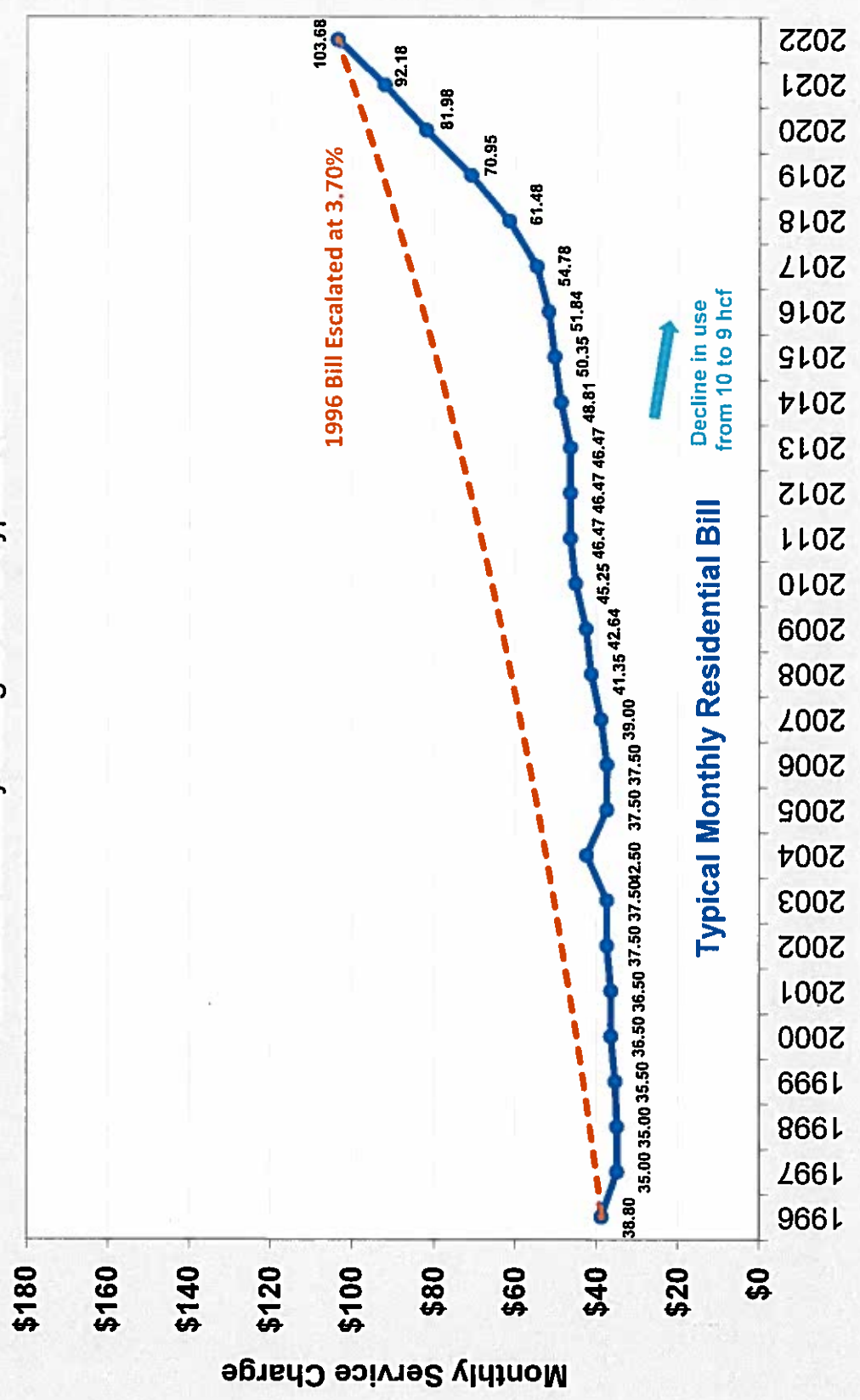
Table 5  
 Joshua Basin Water District  
 Bill Impacts (3/4" & 1" Meter)

Scenario 3  
 \$15M Debt for CIP & Meter Replacements  
 40% Fixed Rate Recovery with Steeper Tiers

Level of Use	Monthly Use	% of Bills at or Below	Current	Projected Rate Impacts					5-Year Avg Annual		
				2018	2019	2020	2021	2022	Impact	Impact	
LOW	3 hcf	30%	\$34.78	\$42.27	\$48.30	\$53.84	\$60.04	5.05	11.5%	25.26	72.6%
			Increase \$ Increase %	2.24 6.4%	5.25 14.2%	6.03 14.3%	5.54 11.5%				
MEDIAN	6 hcf	55%	\$44.28	\$55.68	\$64.04	\$71.75	\$80.43	7.23	12.7%	36.15	81.6%
			Increase \$ Increase %	4.18 9.4%	7.22 14.9%	8.36 15.0%	7.71 12.0%				
AVERAGE	9 hcf	73%	\$58.28	\$76.04	\$87.96	\$98.99	\$111.43	10.63	13.8%	53.15	91.2%
			Increase \$ Increase %	7.54 12.9%	10.22 15.5%	11.92 15.7%	11.03 12.5%				
MOD-HIGH	20 hcf	90%	\$98.28	\$136.24	\$158.66	\$179.49	\$203.03	20.95	15.6%	104.75	106.6%
			Increase \$ Increase %	18.84 19.2%	19.12 16.3%	22.42 16.5%	20.83 13.1%				
HIGH	30 hcf	95%	\$188.28	\$275.04	\$321.66	\$364.89	\$414.03	45.15	17.1%	225.75	119.9%
			Increase \$ Increase %	47.24 25.1%	39.52 16.8%	46.62 17.0%	43.23 13.4%				

# Joshua Basin Water District

## Historical Monthly Charges for a Typical Home



**Scenario 3 - \$15 Million Debt for CIP & Meter Replacements**  
**Summary of Cash Flow Projections (\$ millions)**

<b>Fiscal Year</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>
<b>Overall Rate Increases Effective January 1</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>12%</b>	<b>12%</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>12%</b>	<b>12%</b>
<b>Beginning Fund Reserves</b>	<b>\$7.2</b>	<b>\$6.6</b>	<b>\$5.8</b>	<b>\$5.3</b>	<b>\$5.3</b>	<b>\$5.8</b>	<b>\$6.3</b>	<b>\$5.8</b>	<b>\$5.8</b>	<b>\$6.0</b>
<b>REVENUES</b>										
Water Rate Revenues	3.8	4.3	4.9	5.5	6.1	6.9	7.8	8.8	9.9	11.0
Standby Revs/Prop Taxes	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Other Revenues	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Subtotal	5.8	6.4	7.1	7.7	8.3	9.1	10.0	11.1	12.2	13.3
SRF Grant Proceeds	0.1	0.0	0.0	0.2	10.0	0.0	0.0	0.0	0.0	0.0
SRF Loan Proceeds	0.0	0.0	0.0	1.5	0.0	4.0	0.0	0.0	0.0	0.0
Debt Proceeds	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.1	15.0	-	1.7	10.0	4.0	-	-	-	-
<b>Total</b>	<b>5.9</b>	<b>21.4</b>	<b>7.1</b>	<b>9.4</b>	<b>18.3</b>	<b>13.1</b>	<b>10.0</b>	<b>11.1</b>	<b>12.2</b>	<b>13.3</b>
<b>EXPENSES</b>										
Operating Expenses	5.2	5.7	6.0	6.2	6.5	7.2	7.8	8.1	8.5	8.8
Debt Service	0.0	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.3	1.3
Total Capital Expenses	1.3	15.5	0.5	2.2	10.3	4.3	1.4	1.6	2.2	2.9
Total	6.5	22.2	7.5	9.4	17.8	12.5	10.5	11.1	12.0	13.1
<b>Revenues Less Expenses</b>	<b>(0.6)</b>	<b>(0.8)</b>	<b>(0.4)</b>	<b>(0.1)</b>	<b>0.5</b>	<b>0.5</b>	<b>(0.5)</b>	<b>0.0</b>	<b>0.2</b>	<b>0.2</b>
<b>Ending Fund Reserves</b>	<b>6.6</b>	<b>5.8</b>	<b>5.3</b>	<b>5.3</b>	<b>5.8</b>	<b>6.3</b>	<b>5.8</b>	<b>5.8</b>	<b>6.0</b>	<b>6.2</b>
Min Fund Reserve Target	3.6	4.4	4.5	4.6	4.8	5.1	5.6	5.7	5.9	6.1
Max Fund Reserve Target	7.2	8.8	9.0	9.3	9.5	10.3	11.1	11.4	11.8	12.1
Debt Service Coverage	-	0.68	1.04	1.39	1.73	1.74	1.66	2.23	2.80	3.38

# **Joshua Basin Water District**

## **Financial & Rate Projections**

### Scenario 4

**\$15 Million Debt for CIP & Meter Replacements**

**No Chrome 6 Treatment**

**40% Fixed Rate Revenue Recovery**

**Steeper Water Rate Tiers**

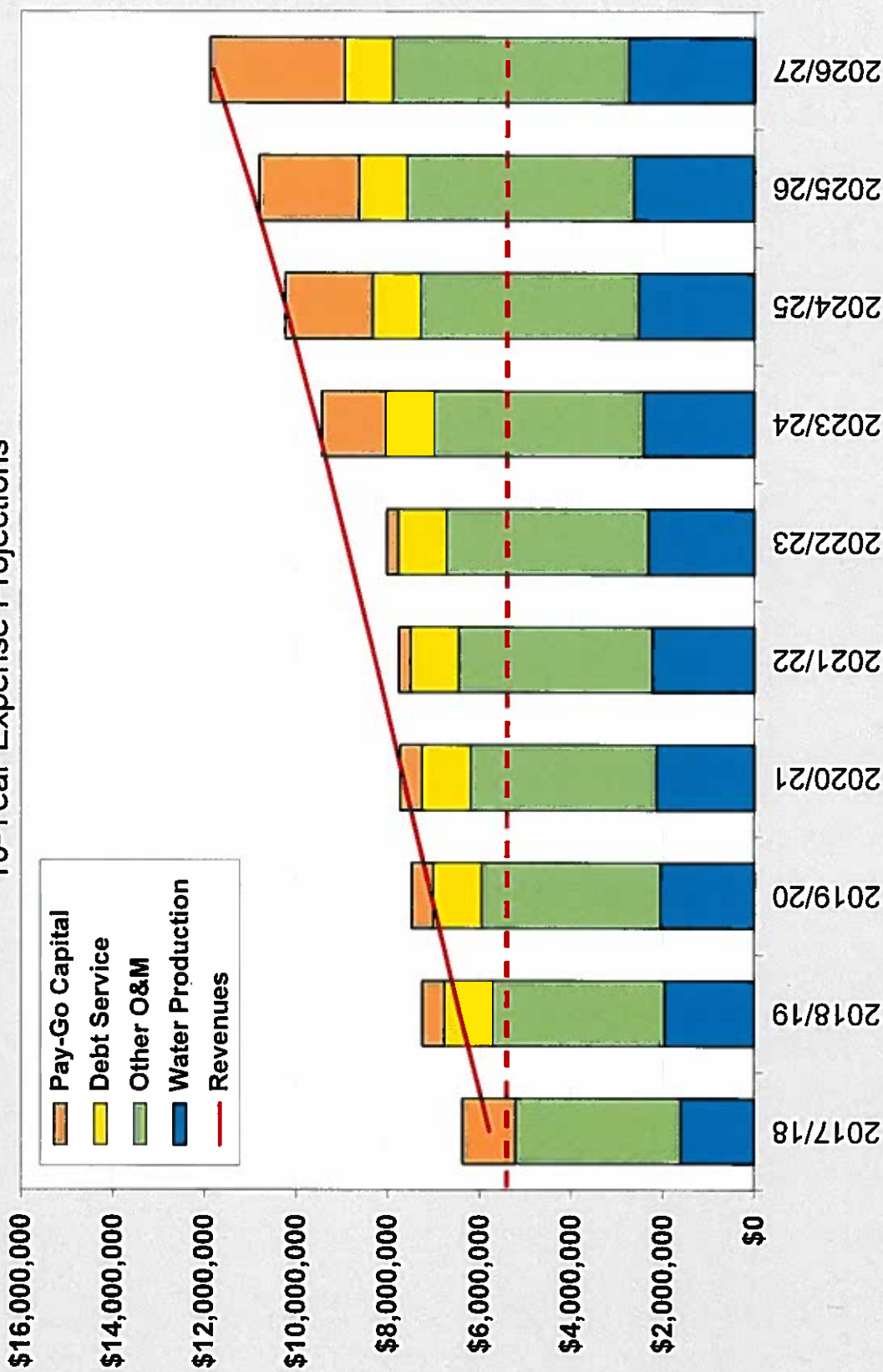
<b>Table 1</b>		<b>Cash Flow Projections: \$15M Debt, No Cr-6</b>					<b>Years 0 - 5</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
		<b>Projected 2017/18</b>	<b>Projected 2018/19</b>	<b>Projected 2019/20</b>	<b>Projected 2020/21</b>	<b>Projected 2021/22</b>	
1	Effective Date of Rate Adjustment	Mar-1	Jan-1	Jan-1	Jan-1	Jan-1	
2	Rate Adjustment %	15%	15%	15%	12%	12%	
4	Growth: New EDUs	10	10	10	10	10	
5	Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%	
6	Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
7	Change in Water Use After Rate Increase	-3.0%	-3.0%	-3.0%	-2.4%	-2.4%	
8	Water Purchases from MWA (AF)	500	1,000	1,000	1,000	1,000	
9	MWA Rate per AF	\$569	\$597	\$627	\$658	\$691	
10	Interest Earnings Rate	1.0%	1.5%	2.0%	2.0%	2.0%	
11	Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
12	<b>Beginning Fund Reserves</b>	\$7,151,000	\$6,563,000	\$5,756,000	\$5,332,000	\$5,271,000	
13	<b>REVENUES</b>						
14	Basic Monthly Fees	1,584,000	1,846,000	2,128,000	2,417,000	2,713,000	
15	Water Usage Charges	1,894,000	2,169,000	2,419,000	2,673,000	2,922,000	
16	Locked Meter Charges	286,000	326,000	375,000	426,000	477,000	
17	Standby Revenue	1,140,000	1,139,000	1,138,000	1,137,000	1,136,000	
18	Property Taxes	428,000	437,000	446,000	455,000	464,000	
19	Private Fire Svc & Special Services	137,000	140,000	143,000	146,000	149,000	
20	Water Capacity & Meter Install Fees	53,000	53,000	54,000	55,000	56,000	
21	Interest Earnings	50,000	98,000	115,000	107,000	105,000	
22	HDMC WWTP Reimbs (+22%)	200,000	207,000	216,000	224,000	233,000	
23	Other Revenues	12,000	20,000	20,000	20,000	20,000	
24	<b>Total Revenues</b>	<b>5,784,000</b>	<b>6,435,000</b>	<b>7,054,000</b>	<b>7,660,000</b>	<b>8,275,000</b>	
25	SRF Grants	100,000					
26	SRF Loans						
27	Debt Proceeds		15,000,000				
28	<b>EXPENSES</b>						
29	<b>Operating &amp; Maintenance</b>						
30	Production	1,324,000	1,377,000	1,432,000	1,489,000	1,549,000	
31	Recharge Water Purchases from MWA	287,000	597,000	627,000	658,000	691,000	
32	Distribution	1,000,000	1,040,000	1,082,000	1,125,000	1,170,000	
33	Customer Service	489,000	509,000	529,000	550,000	572,000	
34	Administration	1,048,000	1,090,000	1,134,000	1,179,000	1,226,000	
35	Engineering	237,000	246,000	256,000	266,000	277,000	
36	Finance	533,000	554,000	576,000	599,000	623,000	
37	Personnel & Legal	134,000	139,000	145,000	151,000	157,000	
38	HDMC WWTP Operations (reimbursable)	163,000	170,000	177,000	184,000	191,000	
39	Chrome 6 Operations	0	0	0	0	0	
40	<b>Subtotal</b>	<b>5,215,000</b>	<b>5,722,000</b>	<b>5,958,000</b>	<b>6,201,000</b>	<b>6,456,000</b>	
41	<b>Debt Service</b>						
42	Projected Debt Service	-	1,050,000	1,050,000	1,050,000	1,050,000	
43	Chrome 6 SRF Loan Repayment	-	-	-	-	-	
44	<b>Subtotal</b>	<b>0</b>	<b>1,050,000</b>	<b>1,050,000</b>	<b>1,050,000</b>	<b>1,050,000</b>	
45	<b>Capital/Non-Operating</b>						
46	Capital Improvements	700,000	15,000,000	-	-	-	
47	Annual Project Funding	237,000	250,000	250,000	250,000	250,000	
48	Chromium 6 Project	100,000	0	0	0	0	
49	Morongo Basin Pipeline Debt Reimbs	220,000	220,000	220,000	220,000	0	
50	<b>Subtotal</b>	<b>1,257,000</b>	<b>15,470,000</b>	<b>470,000</b>	<b>470,000</b>	<b>250,000</b>	
51	<b>Total Expenses</b>	<b>6,472,000</b>	<b>22,242,000</b>	<b>7,478,000</b>	<b>7,721,000</b>	<b>7,756,000</b>	
52	<b>Revenues Less Expenses</b>	<b>(588,000)</b>	<b>(807,000)</b>	<b>(424,000)</b>	<b>(61,000)</b>	<b>519,000</b>	
53	<b>Ending Fund Reserves</b>	<b>6,563,000</b>	<b>5,756,000</b>	<b>5,332,000</b>	<b>5,271,000</b>	<b>5,790,000</b>	
54	<b>Debt Service Coverage</b>	<b>-</b>	<b>0.68</b>	<b>1.04</b>	<b>1.39</b>	<b>1.73</b>	
55	Min Fund Rsrv Target (50% O&M+Debt + \$1M)	3,607,500	4,386,000	4,504,000	4,625,500	4,753,000	
56	Max Fund Rsrv Target (100% O&M+Debt + \$2M)	7,215,000	8,772,000	9,008,000	9,251,000	9,506,000	
57	<b>Annual pay-go funding generated for CIP</b>	<b>349,000</b>	<b>(557,000)</b>	<b>(174,000)</b>	<b>189,000</b>	<b>769,000</b>	

Table 1		Cash Flow Projections: \$15M Debt, No Cr-6					Year 6 - 10
		6	7	8	9	10	
		Projected 2022/23	Projected 2023/24	Projected 2024/25	Projected 2025/26	Projected 2026/27	Esc Factor
1	Effective Date of Rate Adjustment	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	
2	Rate Adjustment %	10%	10%	10%	10%	10%	
4	Growth: New EDUs	10	10	10	10	10	
5	Growth in Billable EDUs %	0.2%	0.2%	0.2%	0.2%	0.2%	
6	Wtr Demand Elasticity (Response to Rate Incr)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
7	Change in Annual Water Consumption	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	
8	Water Purchases from MWA (AF)	1,000	1,000	1,000	1,000	1,000	
9	MWA Rate per AF	\$726	\$762	\$800	\$840	\$882	5.0%
10	Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%	
11	Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
12	<b>Beginning Fund Reserves</b>	\$5,790,000	\$6,682,000	\$6,796,000	\$6,797,000	\$6,987,000	
13	<b>REVENUES</b>						
14	Basic Monthly Fees	3,016,000	3,325,000	3,664,000	4,039,000	4,452,000	
15	Water Usage Charges	3,173,000	3,421,000	3,687,000	3,975,000	4,285,000	
16	Locked Meter Charges	529,000	582,000	640,000	704,000	774,000	
17	Standby Revenue	1,135,000	1,134,000	1,133,000	1,132,000	1,131,000	
18	Property Taxes	473,000	482,000	492,000	502,000	512,000	2.0%
19	Private Fire Svc & Special Services	152,000	155,000	158,000	161,000	164,000	2.0%
20	Water Capacity & Meter Install Fees	57,000	57,000	58,000	59,000	60,000	
21	Interest Earnings	116,000	134,000	136,000	136,000	140,000	
22	HDMC WWTP Reimbs (+22%)	243,000	253,000	262,000	273,000	284,000	
23	Other Revenues	20,000	20,000	20,000	20,000	20,000	
24	<b>Total Revenues</b>	<u>8,914,000</u>	<u>9,563,000</u>	<u>10,250,000</u>	<u>11,001,000</u>	<u>11,822,000</u>	
25	Grants						
26	SRF Planning & Construction Loan						
27	Debt Proceeds						
28	<b>EXPENSES</b>						
29	<b>Operating &amp; Maintenance</b>						
30	Production	1,611,000	1,675,000	1,742,000	1,812,000	1,884,000	
31	Recharge Water Purchases from MWA	726,000	762,000	800,000	840,000	882,000	
32	Distribution	1,217,000	1,266,000	1,317,000	1,370,000	1,425,000	
33	Customer Service	595,000	619,000	644,000	670,000	697,000	
34	Administration	1,275,000	1,326,000	1,379,000	1,434,000	1,491,000	
35	Engineering	288,000	300,000	312,000	324,000	337,000	
36	Finance	648,000	674,000	701,000	729,000	758,000	
37	Personnel & Legal	163,000	170,000	177,000	184,000	191,000	
38	HDMC WWTP Operations (reimbursable)	199,000	207,000	215,000	224,000	233,000	
39	Chrome 6 Operations	0	0	0	0	0	
40	<b>Subtotal</b>	<u>6,722,000</u>	<u>6,999,000</u>	<u>7,287,000</u>	<u>7,587,000</u>	<u>7,898,000</u>	
41	<b>Debt Service</b>						
42	Projected Debt Service	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	
43	Chrome 6 SRF Loan Repayment	-	-	-	-	-	
44	<b>Subtotal</b>	<u>1,050,000</u>	<u>1,050,000</u>	<u>1,050,000</u>	<u>1,050,000</u>	<u>1,050,000</u>	
45	<b>Capital/Non-Operating</b>						
46	Capital Improvements (Pipes/Wells/Boosters)	-	1,000,000	1,500,000	1,750,000	2,500,000	
47	Annual Project Funding	250,000	400,000	412,000	424,000	437,000	3.0%
48	Chromium 6 Project	0	0	0	0	0	
49	Morongo Basin Pipeline Debt Reimbs	0	0	0	0	0	
50	<b>Subtotal</b>	<u>250,000</u>	<u>1,400,000</u>	<u>1,912,000</u>	<u>2,174,000</u>	<u>2,937,000</u>	
51	<b>Total Expenses</b>	<u>8,022,000</u>	<u>9,449,000</u>	<u>10,249,000</u>	<u>10,811,000</u>	<u>11,885,000</u>	
52	<b>Revenues Less Expenses</b>	892,000	114,000	1,000	190,000	(63,000)	
53	<b>Ending Fund Reserves</b>	6,682,000	6,796,000	6,797,000	6,987,000	6,924,000	
54	Debt Service Coverage	2.09	2.44	2.82	3.25	3.74	
55	Min Fund Rsrv Target (50% O&M+Debt + \$1M)	4,886,000	5,024,500	5,168,500	5,318,500	5,474,000	
56	Max Fund Rsrv Target (100% O&M+Debt + \$2M)	9,772,000	10,049,000	10,337,000	10,637,000	10,948,000	
57	Annual pay-go funding generated for CIP	1,142,000	1,514,000	1,913,000	2,364,000	2,874,000	



Scenario 3  
\$15M Debt, No CR-6

# Joshua Basin Water District 10-Year Expense Projections



Excludes capital projects funded by debt.

Table 2  
 Joshua Basin Water District  
 Fixed Meter Charge Calculation

	Mar-1 2018	Jan-1 2019	Jan-1 2020	Jan-1 2021	Jan-1 2022	
<b>Water Rate Revenue Recovery</b>						
Annualized Revenues w/ Increase	\$3,776,000	\$4,275,000	\$4,841,000	\$5,359,000	\$5,932,000	
<b>Fixed Rate Recovery</b>						
Cost Recovery Allocation %	40%	40%	40%	40%	40%	
Cost Recovery Allocation \$	\$1,510,400	\$1,710,000	\$1,936,400	\$2,143,600	\$2,372,800	
<b>Meter Equivalents</b>						
Existing Meter Equivalents	4,764	4,774	4,784	4,794	4,804	
Projected Growth	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	
Total	4,774	4,784	4,794	4,804	4,814	
<b>Rate per Meter Equivalent</b>						
Annual	\$316.41	\$357.47	\$403.95	\$446.25	\$492.94	
Monthly	26.37	29.79	33.66	37.19	41.08	
<b>Projected Fixed Monthly Meter Charges</b>						
<u>Meter Size</u>	<u>Capacity (gpm)</u>					
3/4" & 1"	30	\$26.37	\$29.79	\$33.66	\$37.19	\$41.08
1-1/2"	100	87.90	99.30	112.20	123.97	136.93
2"	160	140.64	158.88	179.52	198.35	219.09
3"	300	263.70	297.90	336.60	371.90	410.80
<b>Variable Rate Recovery</b>						
Cost Recovery Allocation %	60%	60%	60%	60%	60%	
Cost Recovery Allocation \$	\$2,265,600	\$2,565,000	\$2,904,600	\$3,215,400	\$3,559,200	
Projected Water Use	511,900	496,400	481,600	470,300	459,400	
Average Rate per Unit (\$/hcf)	\$4.43	\$5.17	\$6.03	\$6.84	\$7.75	

**Table 3**  
**Joshua Basin Water District**  
**Projected Water Use & Consumption Charges**

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Projected Water Use</b>						
Change in Use After Rate Increase		-3.0%	-3.0%	-3.0%	-2.4%	-2.4%
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	188,189	187,100	186,000	184,900	184,000	183,100
Tier 2	91,526	87,400	83,500	79,700	76,800	74,000
Tier 3	76,742	72,600	68,700	65,000	62,200	59,500
Tier 4	86,482	80,800	75,500	70,500	66,800	63,300
Subtotal	442,939	427,900	413,700	400,100	389,800	379,900
All Other Use (hcf)	85,275	84,000	82,700	81,500	80,500	79,500
Total (hcf)	528,214	511,900	496,400	481,600	470,300	459,400
Total (acre-feet)	1,213	1,175	1,140	1,106	1,080	1,055
Annual Change		-3.1%	-3.0%	-3.0%	-2.3%	-2.3%
Cumulative Change		-3.1%	-6.0%	-8.8%	-11.0%	-13.0%
<b>Projected Water Consumption Charges</b>						
<b>Billed Use by Tier for 3/4" &amp; 1" Meters (hcf)</b>						
Tier 1	\$3.00	\$3.55	\$4.16	\$4.88	\$5.55	\$6.32
Tier 2	3.50	4.34	5.09	5.98	6.81	7.75
Tier 3	4.00	5.13	6.02	7.07	8.05	9.16
Tier 4	4.50	5.92	6.94	8.15	9.27	10.55
All Other Use (hcf)	\$3.79	\$4.43	\$5.16	\$6.03	\$6.83	\$7.75
Projected Revenues		\$2,266,159	\$2,563,376	\$2,904,578	\$3,214,345	\$3,559,506
Revenue Target		2,265,600	2,565,000	2,904,600	3,215,400	3,559,200
Difference %		0.0%	-0.1%	0.0%	0.0%	0.0%

Table 4

Scenario 3

Joshua Basin Water District  
Projected Water Rates

\$15M Debt for CIP & Meter Replacements  
40% Fixed Rate Recovery with Steeper Tiers

Effective	Current	Projected Water Rates				
		2018	2019	2020	2021	2022
<b>OVERALL RATE ADJUSTMENT</b>		15%	15%	15%	12%	12%

**BASIC MONTHLY FEE**

Meter Size	Accounts	Capacity	Monthly Rate					
3/4" & 1"	4,503	30 gpm	\$25.78	\$26.37	\$29.79	\$33.66	\$37.19	\$41.08
1-1/2"	28	100 gpm	85.93	87.90	99.30	112.20	123.97	136.93
2"	18	160 gpm	137.49	140.64	158.88	179.52	198.35	219.09
3"	7	300 gpm	257.79	263.70	297.90	336.60	371.90	410.80

**MONTHLY WATER FLOW CHARGES**

**For 3/4" and 1" Meters**

Tier	Units	Rate Per Unit (\$/hcf)					
Tier 1	0 - 5 units	\$3.00	\$3.55	\$4.16	\$4.88	\$5.55	\$6.32
Tier 2	5.01 - 10 units	3.50	4.34	5.09	5.98	6.81	7.75
Tier 3	10.01 - 20 units	4.00	5.13	6.02	7.07	8.05	9.16
Tier 4	20.01 + units	4.50	5.92	6.94	8.15	9.27	10.55

1 unit = one hundred cubic feet = 748 gallons

**For 1-1/2", 2" and 3" Meters**

		Rate Per Unit (\$/hcf)					
Unit rate for all water use		\$3.79	\$4.43	\$5.09	\$5.85	\$6.55	\$7.34

1 unit = one hundred cubic feet = 748 gallons

**PRIVATE FIRE PROTECTION CHARGES**

Svc Size	Accounts	Capacity	Monthly Rate					
2"	1	160 gpm	\$12.62	\$14.06	\$15.89	\$17.95	\$19.84	\$21.91
3"	0	300 gpm	25.25	26.36	29.79	33.66	37.20	41.08
4"	6	500 gpm	50.50	43.94	49.66	56.09	62.00	68.47
6"	4	1,000 gpm	75.76	87.88	99.31	112.19	124.00	136.94
8"	7	1,600 gpm	113.62	140.60	158.90	179.50	198.40	219.10

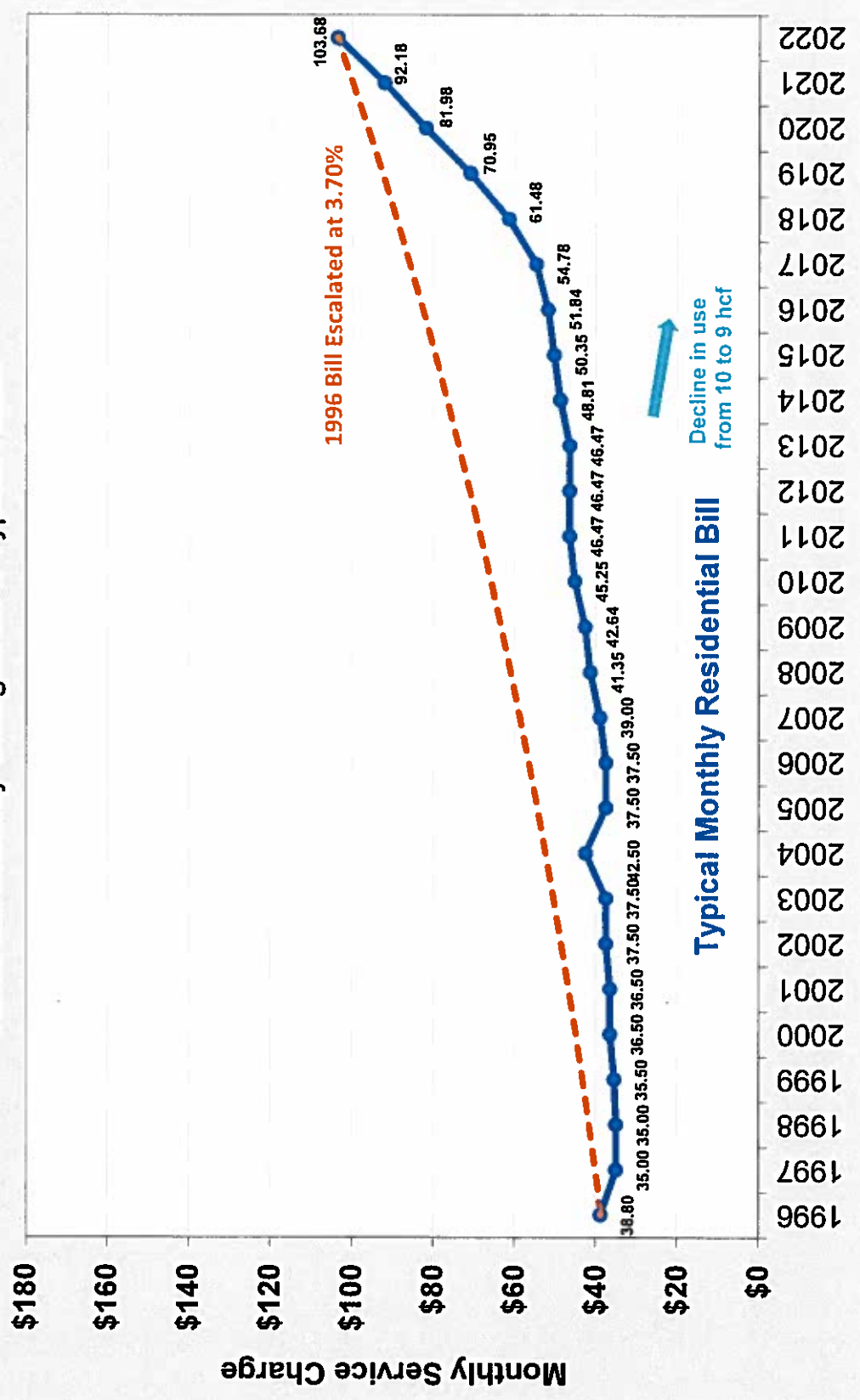
Table 5  
 Joshua Basin Water District  
 Bill Impacts (3/4" & 1" Meter)

Scenario 3  
 \$15M Debt for CIP & Meter Replacements  
 40% Fixed Rate Recovery with Steeper Tiers

Level of Use	Monthly Use	% of Bills at or Below	Current	Projected Rate Impacts					5-Year Avg Annual Impact
				2018	2019	2020	2021	2022	
LOW	3 hcf	30%	\$34.78	\$42.27	\$48.30	\$53.84	\$60.04	5.05	
			Increase \$ Increase %	2.24 6.4%	5.25 14.2%	6.03 14.3%	5.54 11.5%		6.20 11.5%
MEDIAN	6 hcf	55%	\$44.28	\$55.68	\$64.04	\$71.75	\$80.43	7.23	
			Increase \$ Increase %	4.18 9.4%	7.22 14.9%	8.36 15.0%	7.71 12.0%		8.68 12.1%
AVERAGE	9 hcf	73%	\$58.28	\$76.04	\$87.96	\$98.99	\$111.43	10.63	
			Increase \$ Increase %	7.54 12.9%	10.22 15.5%	11.92 15.7%	11.03 12.5%		12.44 12.6%
MOD-HIGH	20 hcf	90%	\$98.28	\$136.24	\$158.66	\$179.49	\$203.03	15.6%	
			Increase \$ Increase %	18.84 19.2%	19.12 16.3%	22.42 16.5%	20.83 13.1%		23.54 13.1%
HIGH	30 hcf	95%	\$188.28	\$275.04	\$321.66	\$364.89	\$414.03	45.15	
			Increase \$ Increase %	47.24 25.1%	39.52 16.8%	46.62 17.0%	43.23 13.4%		49.14 13.5%

# Joshua Basin Water District

## Historical Monthly Charges for a Typical Home





**Scenario 3 - \$15 Million Debt, No Chromium 6 Project**  
**Summary of Cash Flow Projections (\$ millions)**

<b>Fiscal Year</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>
<b>Overall Rate Increases Effective January 1</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>12%</b>	<b>12%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>
<b>Beginning Fund Reserves</b>	<b>\$7.2</b>	<b>\$6.6</b>	<b>\$5.8</b>	<b>\$5.3</b>	<b>\$5.3</b>	<b>\$5.8</b>	<b>\$6.7</b>	<b>\$6.8</b>	<b>\$6.8</b>	<b>\$7.0</b>
<b>REVENUES</b>										
Water Rate Revenues	3.8	4.3	4.9	5.5	6.1	6.7	7.3	8.0	8.7	9.5
Standby Revs/Prop Taxes	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Other Revenues	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Subtotal	5.8	6.4	7.1	7.7	8.3	8.9	9.6	10.3	11.0	11.8
SRF Grant Proceeds	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SRF Loan Proceeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Debt Proceeds	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.1	15.0	-	-	-	-	-	-	-	-
<b>Total</b>	<b>5.9</b>	<b>21.4</b>	<b>7.1</b>	<b>7.7</b>	<b>8.3</b>	<b>8.9</b>	<b>9.6</b>	<b>10.3</b>	<b>11.0</b>	<b>11.8</b>
<b>EXPENSES</b>										
Operating Expenses	5.2	5.7	6.0	6.2	6.5	6.7	7.0	7.3	7.6	7.9
Debt Service	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total Capital Expenses	1.3	15.5	0.5	0.5	0.3	0.3	1.4	1.9	2.2	2.9
Total	6.5	22.2	7.5	7.7	7.8	8.0	9.4	10.2	10.8	11.9
<b>Revenues Less Expenses</b>	<b>(0.6)</b>	<b>(0.8)</b>	<b>(0.4)</b>	<b>(0.1)</b>	<b>0.5</b>	<b>0.9</b>	<b>0.1</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.1)</b>
<b>Ending Fund Reserves</b>	<b>6.6</b>	<b>5.8</b>	<b>5.3</b>	<b>5.3</b>	<b>5.8</b>	<b>6.7</b>	<b>6.8</b>	<b>6.8</b>	<b>7.0</b>	<b>6.9</b>
Min Fund Reserve Target	3.6	4.4	4.5	4.6	4.8	4.9	5.0	5.2	5.3	5.5
Max Fund Reserve Target	7.2	8.8	9.0	9.3	9.5	9.8	10.0	10.3	10.6	10.9
Debt Service Coverage	-	0.68	1.04	1.39	1.73	2.09	2.44	2.82	3.25	3.74

# **Joshua Basin Water District**

## **Additional Tables**

Rate Survey  
Water Account Data  
Water Usage Analysis

Table A-1  
 Joshua Basin Water District  
 Monthly Residential Water Rate Survey

	Fixed Charge	Residential Usage Charges		Monthly Service Charges		
		Tiers	Rate per hcf	4 hcf	9 hcf	15 hcf
Mission Springs Water Dist [1]	10.37	2 tiers	1.73 - 2.36	17.29	25.94	37.58
City of Hesperia	19.64	4 tiers	0.90 - 2.24	23.24	27.74	36.39
Twentynine Palms Water District	11.63	uniform block	2.79	22.79	36.74	53.48
<b>Joshua Basin Water District</b>	<b>25.78</b>	<b>4 tiers</b>	<b>3.00 - 4.50</b>	<b>37.78</b>	<b>54.78</b>	<b>78.28</b>
Golden State Water Company [2]	15.42	3 tiers	3.85 - 5.09	33.73	56.61	85.23
Bighorn Desert View Water Agency	28.88	uniform block	3.09	41.24	56.69	75.23
Bighorn DVWA (with debt surcharge)	33.53	uniform block	3.09	45.89	61.34	79.88
Apple Valley Ranchos Water Co	23.15	3 tiers	4.039 - 5.315	39.31	59.50	85.65
High Desert Water District	23.30	4 tiers	3.59 - 9.08	37.66	66.11	106.25
CSA 70 W3 - Hacienda/Morongo [3]	43.93	3 tiers	4.49 - 5.94	61.89	84.34	111.95
CSA 70 W4 - Pioneertown Area [3]	39.00	4 tiers	6.62 - 10.07	65.48	98.58	143.25
CSA 70 F - Morongo Valley [3]	58.78	3 tiers	6.58 - 8.70	85.10	118.00	158.47
Average	27.78			42.62	62.20	87.64
Median	24.54			38.54	58.10	82.56

1 Serves City of Desert Hot Springs.

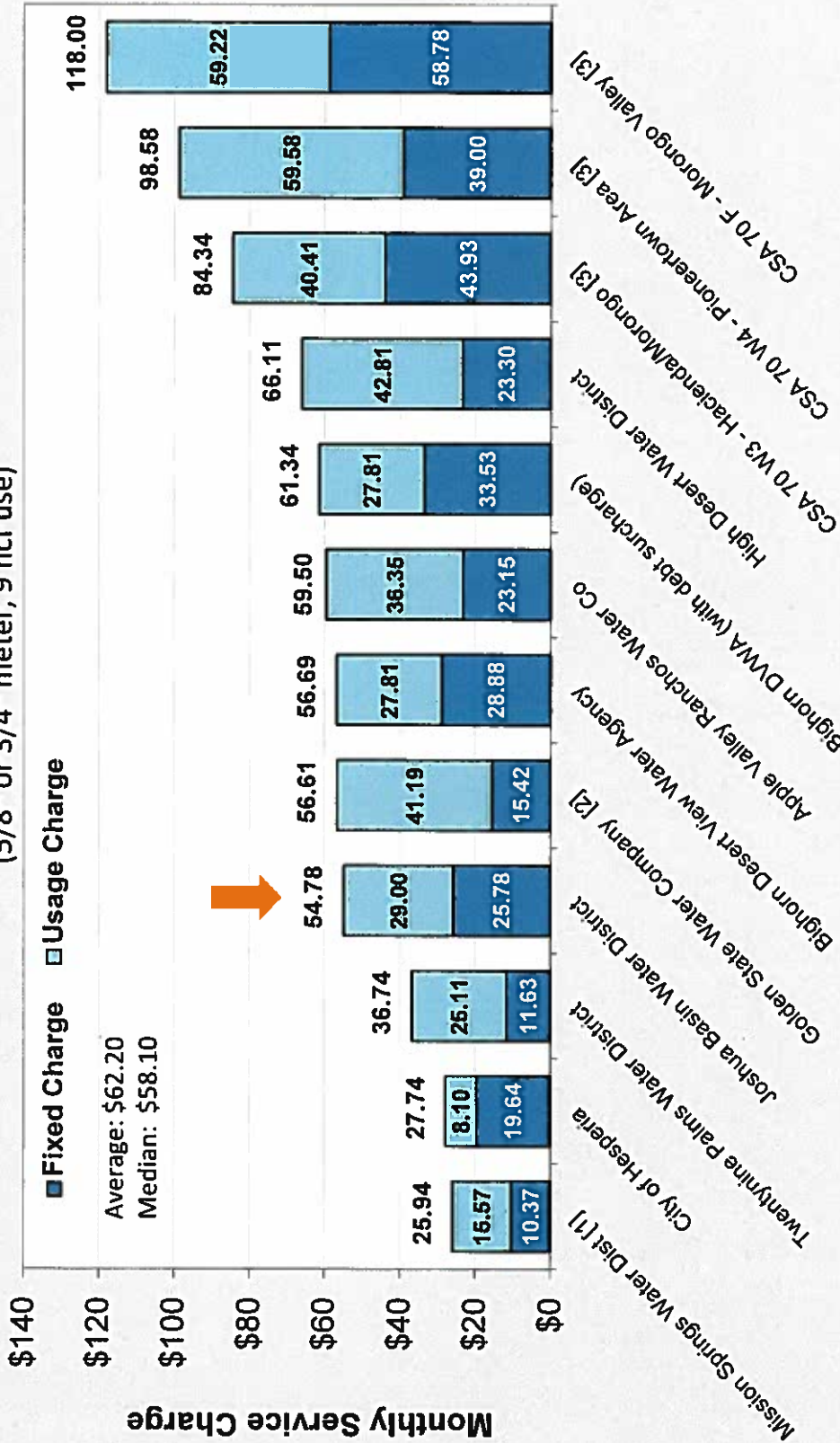
2 Serves Barstow/Apple Valley/Lucerne Valley and other areas; bills include approximately \$0.73 per hcf in surcharges.

3 San Bernardino County Service Area.

# Joshua Basin Water District

## Survey of Typical Monthly Residential Water Bills, Sept-2017

(5/8" or 3/4" meter, 9 hcf use)



1 Serves City of Desert Hot Springs. 2 Barstow/Apple Valley/Lucerne & other areas. 3 San Bernardino County Service Area.

**Table A-2**  
**Joshua Basin Water District**  
**Active Accounts by Customer Class & Meter Size 2016/17**

Meter Size	Single Family Residential	Multi-Family Residential	Commercial & Institutional	Total	% of Total
<b>Accounts</b>					
3/4"	4,143	43	139	4,325	94.9%
1"	130	26	22	178	3.9%
1-1/2"	2	17	9	28	0.6%
2"	1	2	15	18	0.4%
3"	<u>0</u>	<u>1</u>	<u>6</u>	<u>7</u>	<u>0.2%</u>
Total	4,275	90	192	4,557	100.0%
% of Total	93.8%	2.0%	4.2%	100.0%	
<b>Billed Water Use</b>					
3/4"	392,583	9,181	18,325	420,089	79.5%
1"	15,278	4,425	6,713	26,416	5.0%
1-1/2"	120	17,434	5,406	22,960	4.3%
2"	23	2,112	28,380	30,515	5.8%
3"	<u>0</u>	<u>4,298</u>	<u>23,936</u>	<u>28,234</u>	<u>5.3%</u>
Total	408,004	37,450	82,760	528,214	100.0%
% of Total	77.2%	7.1%	15.7%	100.0%	
<b>Average Monthly Use per Account</b>					
3/4"	7.9	17.6	11.0	8.1	
1"	9.8	14.1	25.0	12.4	
1-1/2"	5.0	85.0	48.7	67.5	
2"	1.9	88.0	157.7	141.3	
3"	<u>n/a</u>	<u>358.2</u>	<u>332.4</u>	<u>336.1</u>	
Total	8.0	34.8	36.0	9.7	

**Table A-3**  
**Joshua Basin Water District**  
**Bills & Use by Tier**  
*For 3/4" & 1" Meters*

<b>Bills &amp; Use in Tier 2016/17</b>			
	<b>Monthly Use</b>	<b>Bills Ending in Tier %</b>	<b>Water Use in Tier</b>
Tier 1	0 - 5 hcf	55.4%	42.5%
Tier 2	5.01 - 10 hcf	22.6%	20.7%
Tier 3	10.01 - 20 hcf	13.9%	17.3%
Tier 4	20.01 + hcf	8.1%	19.5%

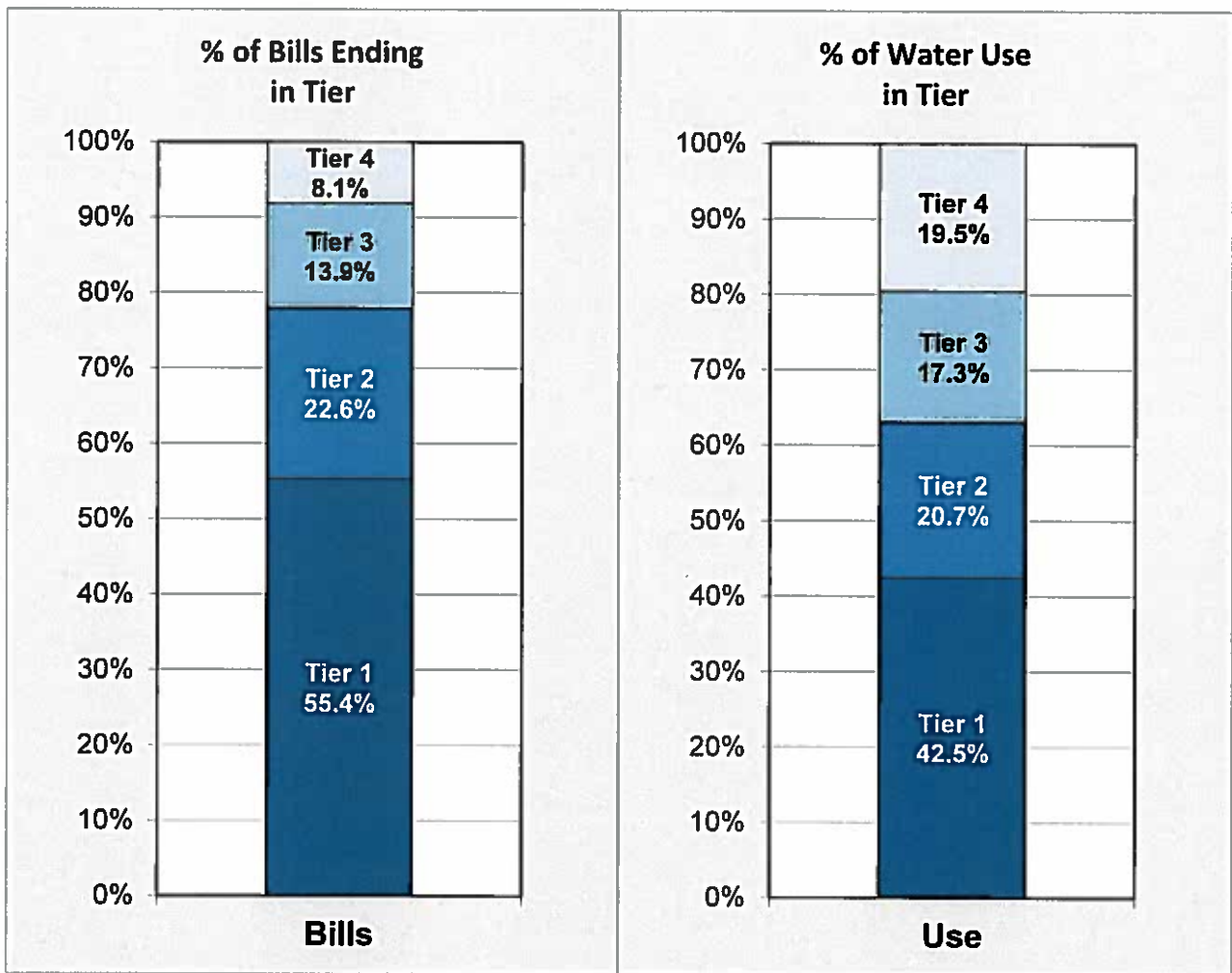


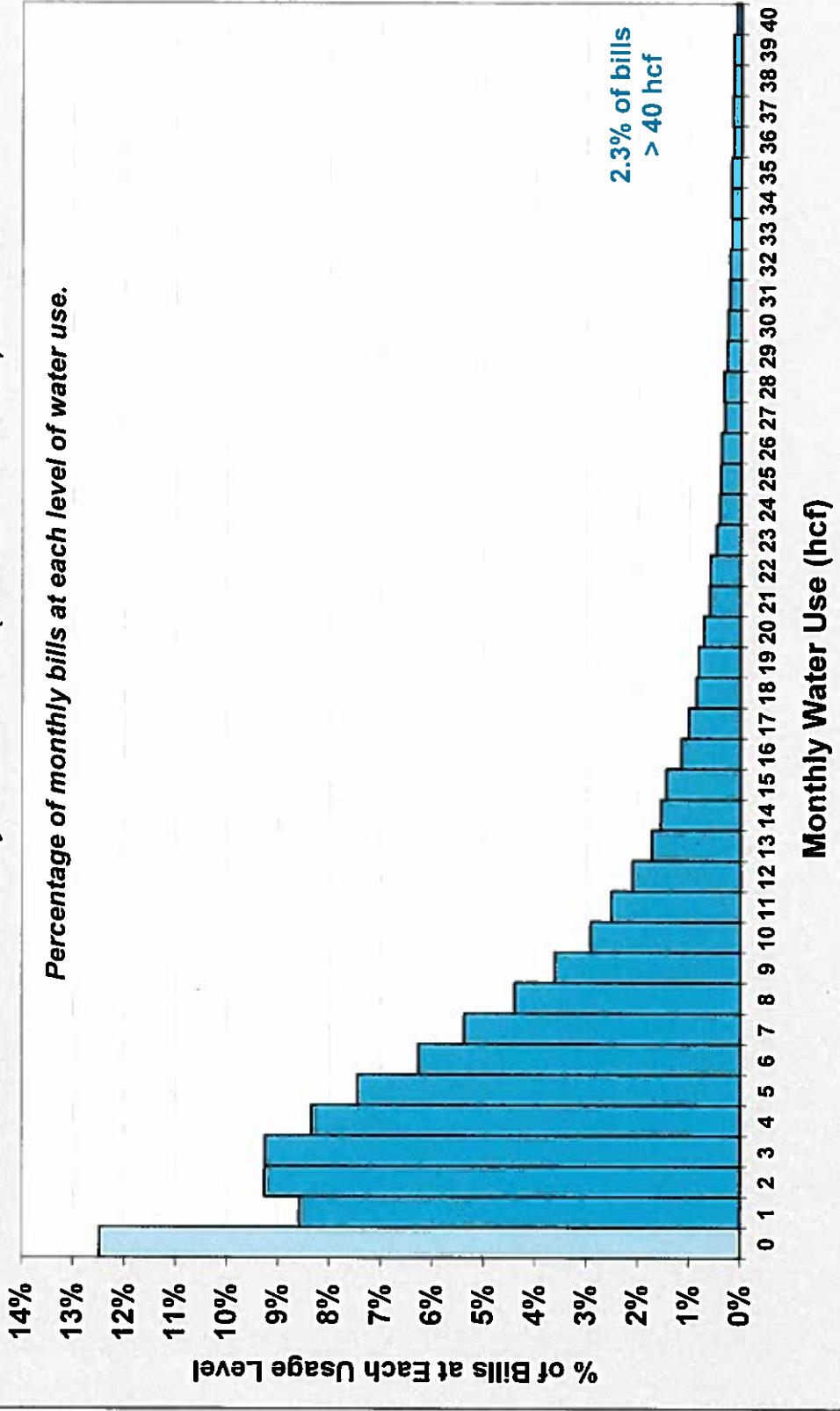


Table A-4  
 Joshua Basin Water District  
 Consumption Block Analysis (3/4" & 1" Meters) 2016/17

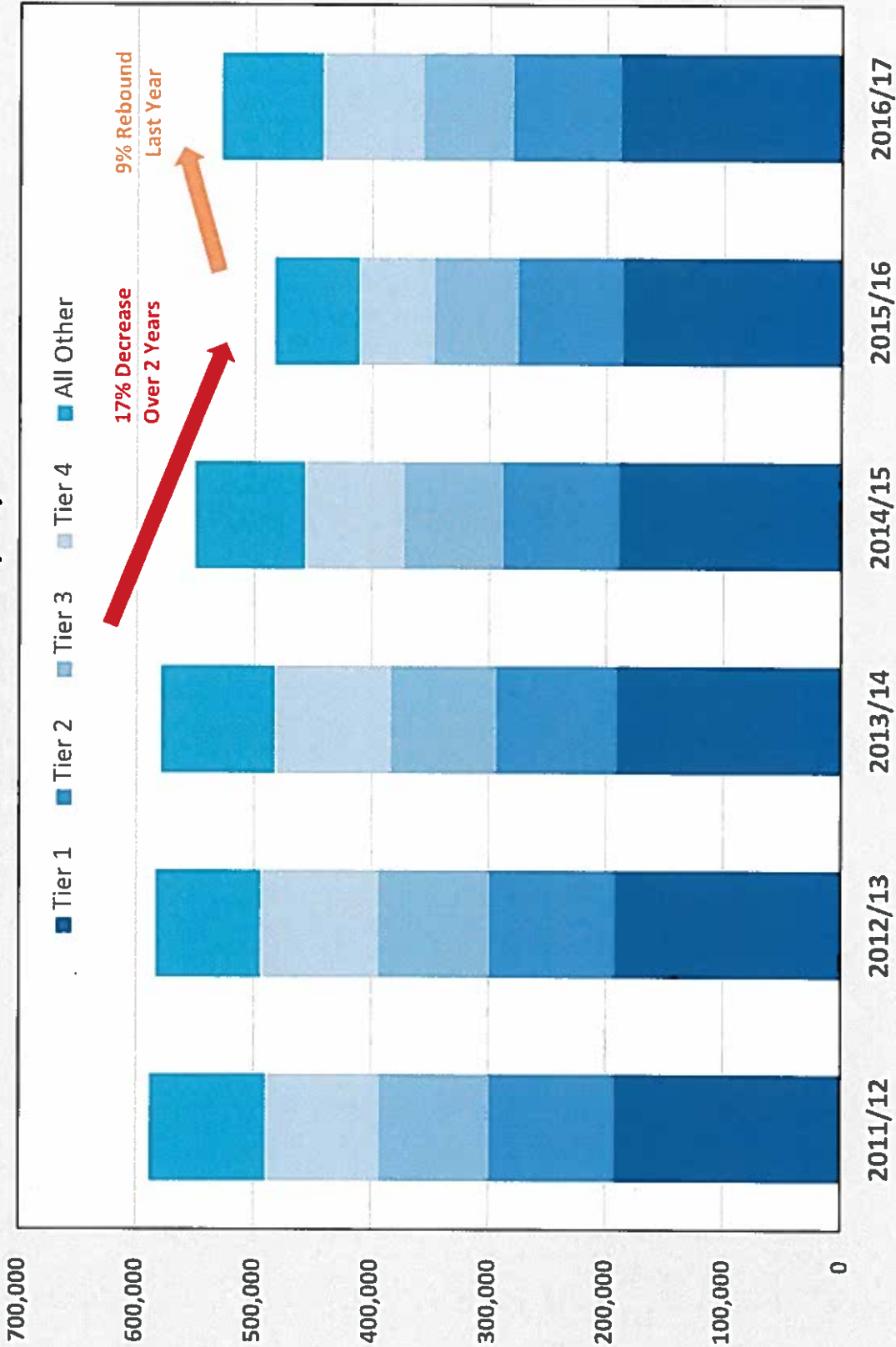
Average Monthly Use: 8.2 hcf  
 Median Monthly Use: 5.0 hcf  
 Avg Use (Excl Bills with No Use): 9.4 hcf  
 Median Use (Excl Bills with No Use): 6.0 hcf

Monthly Use (hcf)	Number of Bills				Water Use (hcf)		Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Use (hcf)	% of Ttl
0	6,736	12.5%	6,736	12.5%	0	0.0%	0	0.0%
1	4,632	8.6%	11,368	21.1%	4,632	1.0%	47,239	10.7%
2	4,997	9.3%	16,365	30.3%	9,994	2.3%	89,846	20.3%
3	4,991	9.2%	21,356	39.6%	14,973	3.4%	127,456	28.8%
4	4,505	8.3%	25,861	47.9%	18,020	4.1%	160,075	36.1%
5	4,021	7.4%	29,882	55.4%	20,105	4.5%	188,189	42.5%
6	3,385	6.3%	33,267	61.6%	20,310	4.6%	212,282	47.9%
7	2,901	5.4%	36,168	67.0%	20,307	4.6%	232,990	52.6%
8	2,372	4.4%	38,540	71.4%	18,976	4.3%	250,797	56.6%
9	1,952	3.6%	40,492	75.0%	17,568	4.0%	266,232	60.1%
10	1,576	2.9%	42,068	77.9%	15,760	3.6%	279,715	63.1%
11	1,360	2.5%	43,428	80.5%	14,960	3.4%	291,622	65.8%
12	1,137	2.1%	44,565	82.6%	13,644	3.1%	302,169	68.2%
13	932	1.7%	45,497	84.3%	12,116	2.7%	311,579	70.3%
14	840	1.6%	46,337	85.8%	11,760	2.7%	320,057	72.3%
15	783	1.5%	47,120	87.3%	11,745	2.7%	327,695	74.0%
16	625	1.2%	47,745	88.5%	10,000	2.3%	334,550	75.5%
17	547	1.0%	48,292	89.5%	9,299	2.1%	340,780	76.9%
18	464	0.9%	48,756	90.3%	8,352	1.9%	346,463	78.2%
19	444	0.8%	49,200	91.2%	8,436	1.9%	351,682	79.4%
20	391	0.7%	49,591	91.9%	7,820	1.8%	356,457	80.5%
21	328	0.6%	49,919	92.5%	6,888	1.6%	360,841	81.5%
22	323	0.6%	50,242	93.1%	7,106	1.6%	364,897	82.4%
23	256	0.5%	50,498	93.6%	5,888	1.3%	368,630	83.2%
24	227	0.4%	50,725	94.0%	5,448	1.2%	372,107	84.0%
25	214	0.4%	50,939	94.4%	5,350	1.2%	375,357	84.7%
26	207	0.4%	51,146	94.8%	5,382	1.2%	378,393	85.4%
27	176	0.3%	51,322	95.1%	4,752	1.1%	381,222	86.1%
28	181	0.3%	51,503	95.4%	5,068	1.1%	383,875	86.7%
29	150	0.3%	51,653	95.7%	4,350	1.0%	386,347	87.2%
30	140	0.3%	51,793	96.0%	4,200	0.9%	388,669	87.7%
31	123	0.2%	51,916	96.2%	3,813	0.9%	390,851	88.2%
32	114	0.2%	52,030	96.4%	3,648	0.8%	392,910	88.7%
33	98	0.2%	52,128	96.6%	3,234	0.7%	394,855	89.1%
34	102	0.2%	52,230	96.8%	3,468	0.8%	396,702	89.6%
35	101	0.2%	52,331	97.0%	3,535	0.8%	398,447	90.0%
36	80	0.1%	52,411	97.1%	2,880	0.7%	400,091	90.3%
37	91	0.2%	52,502	97.3%	3,367	0.8%	401,655	90.7%
38	77	0.1%	52,579	97.4%	2,926	0.7%	403,128	91.0%
39	85	0.2%	52,664	97.6%	3,315	0.7%	404,524	91.3%
40	53	0.1%	52,717	97.7%	2,120	0.5%	405,835	91.6%
41	58	0.1%	52,775	97.8%	2,378	0.5%	407,093	91.9%
42	62	0.1%	52,837	97.9%	2,604	0.6%	408,293	92.2%
43	59	0.1%	52,896	98.0%	2,537	0.6%	409,431	92.4%
44	56	0.1%	52,952	98.1%	2,464	0.6%	410,510	92.7%
45	55	0.1%	53,007	98.2%	2,475	0.6%	411,533	92.9%
46	45	0.1%	53,052	98.3%	2,070	0.5%	412,501	93.1%
47	33	0.1%	53,085	98.4%	1,551	0.4%	413,424	93.3%
48	45	0.1%	53,130	98.4%	2,160	0.5%	414,314	93.5%
49	50	0.1%	53,180	98.5%	2,450	0.6%	415,159	93.7%
50	38	0.1%	53,218	98.6%	1,900	0.4%	415,954	93.9%
51-75	441	0.8%	53,659	99.4%	26,744	6.0%	428,548	96.8%
76-100	168	0.3%	53,827	99.7%	14,382	3.2%	434,030	98.0%
101-200	127	0.2%	53,954	100.0%	16,798	3.8%	440,228	99.4%
201+	21	0.0%	53,975	100.0%	6,911	1.6%	442,939	100.0%
<b>Total</b>	<b>53,975</b>	<b>100.0%</b>			<b>442,939</b>	<b>100.0%</b>		

# Joshua Basin Water District Distribution of Monthly Water Bills (3/4" & 1" Meters) 2016/17



# Joshua Basin Water District Historical Water Use (hcf)



**JOSHUA BASIN WATER DISTRICT  
STAFF REPORT**

Meeting of the Board of Directors

November 1, 2017

Report to: President and Members of the Board

Prepared by: Curt Sauer

TOPIC: Renewable Energy Project

**RECOMMENDATION:** Recommend that the Board direct staff to apply for a Scope and Feasibility Grant, and form an AD HOC Committee with the specific task of working on this project.

**ANALYSIS:**

The Joshua Basin Water District is now spending upwards of \$378,000 dollars per year on electricity, primarily to pump water. Electricity is the single largest line item in the operating budget. The development of a renewable energy facility, specifically a Photovoltaic Solar Energy facility, could potentially result in substantial cost savings to the District. The cost of solar energy has been steadily dropping and is now competitive with fossil fuels. Moving to solar power would stabilize energy rates, which are steadily rising, and could result in millions of dollars in savings to the District over the next 20 years. This savings would directly benefit our customers during a time when the District is contemplating raising rates to address deferred capital improvements, Chromium 6 and other issues.

A solar energy facility would also help fight climate change, which poses a threat to future availability of imported water, which we will need to stabilize and restore our ground water supply. Warmer temperatures in the high desert predicted as a consequence of climate change could result in more water use for irrigation. If the District were to offset its entire energy use, there would be a reduction of approximately 3,000,000 pounds of carbon dioxide into the atmosphere each year. A solar facility would help meet California's renewable energy requirements, which are now 50 percent of retail sales from renewable energy, by 2030.

The District would need to generate approximately 1.45 megawatts of energy per year to offset its current energy use. Ground mounted Photovoltaic Solar panels are envisioned and possibly panels on shade structures, e.g., around the headquarters and shop yard to shade vehicles, personnel, equipment and supplies. A total of about 7.5 acres would be needed to generate 1.5 megawatts. Construction costs vary, but based on research are estimated at approximately 3 to 3.5 million per megawatt. Annual maintenance costs are estimated to be between one and three percent of the project cost. The District would work with a consultant and the community to locate solar facilities where impacts to the desert and the community would be minimized. The energy generated would be for the direct benefit of the District and the community.

Feasibility and Scoping Grants for up to \$20,000 dollars are available from the California Energy Commission, Energy Partnership Program. One percent loans are available to Special Districts from the California Energy Commission Energy Efficiency Financing Program. Loan Payments are based on monthly energy savings, minimizing costs during the payback period.

Estimated savings to the District will be determined through a Feasibility Study. There are two relatively local water districts that have moved to solar energy and are anticipating [or have realized] substantial savings. The Eastern Municipal Water District with a five-megawatt facility estimates an annual cost savings of 1.7 million dollars and an estimated 20-year cumulative savings of 37.7 million dollars. The Indian Wells Valley Water District with a two-megawatt facility expects a savings of 9.8 million dollars over the life of the project [that would amount to approximately \$490,000 annual savings over 20 years. These savings may incorporate some incentives that may not be available at this time, but they provide an example of the savings the District could realize.