Borrego Water District Board of Directors
Special Meeting
October 17, 2017 @ 9:00 a.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

A. Call to Order
B. Pledge of Allegiance
C. Roll Call
D. Approval of Agenda
E. Comments from Directors
F. Comments from the Public and Requests for Future Agenda Items (may be limited to 3 minutes)

II. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

A. Request from Borrego Springs Sponsor Group Chair to support a request to the County to consider water availability and affordability in their land use decisions - L. Brecht (2-6)
B. Water Rate Affordability Study, Raftelis Consultants – G. Poole (7-30)
C. California's Proposition One Grant Application Resolution and BWD Priorities – G. Poole (31)
D. BWD Board Committee Structure Revisions – B Hart (32)
E. Long Term Financing Plan, Fieldman, Rolapp and Assoc – G Poole (33-49)
F. Presentation on Aquaponics Project, Bill Berkley – G. Poole (50- 53)
G. Considerations for Allocating Safe Yield - R Schindler (54)

III. INFORMATIONAL ITEMS

A. 900 Tank Inspection Report (55-56)

IV. CLOSED SESSION

A. Conference with legal counsel-anticipated litigation: Initiation of litigation pursuant to subdivision (d) (4) of Government Code Section 54956.9: one (1) case

V. CLOSING PROCEDURE

A. Suggested Items for Next/Future Agenda
B. The next Regular Meeting of the Board of Directors is scheduled for 9:00AM, October 25, 2017 at the Borrego Water District

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.A

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Request from Borrego Springs Sponsor Group Chair to support a request to the County to consider water availability and affordability in their land use decisions - L. Brecht

RECOMMENDED ACTION:

Discuss request, next steps and direct staff accordingly

ITEM EXPLANATION:

Becky has asked for support from the District Board for the Sponsor Group to request that PDS include evaluation of GW supply availability and affordability in its land use decisions.

The long preamble is to address significant holes in understandings in what overdraft means, what critical overdraft means, what SGMA is all about, etc. as what has been publically represented at Sponsor Group meeting to date are that:

- the overdraft is not really an issue w/re to land use decisions
- the overdraft is not really serious
- "critical" designation is merely a political ploy to get grants and has no physical meaning
- SDAC status has no relationship to municipal water affordability
- SGMA supply constraints are immaterial to the County's Master Plan that anticipates a Borrego population of approximately 10,000 souls

The attached is a draft created by Director Brecht for this purpose.

FISCAL IMPACT:

N/A

ATTACHMENTS:

1. Draft Letter to Sponsor Group

Rebecca Falk, Chair

Borrego Springs Community Sponsor Group

You asked whether the District would support the Sponsor Group's request to ask the County of San Diego Department of Planning and Development Services (PDS) to consider groundwater supply availability and affordability in its land use decisions within the District's boundaries. The answer to your question is — Yes.

Today, all human water used annually is pumped from the Borrego Springs Subbasin (Borrego Basin: basin) of the Borrego Valley Groundwater Basin (BVGB). The basin is made up of three aquifers: upper, middle and lower aquifers, each with different physical characteristics. These three aquifers, Pleistocene (2.5 million years ago) to Holocene (11,700 years ago) era water deposits, are the community's sole source of water. Historically, the upper aquifer has been the principle source of groundwater pumping in Borrego Valley.

At this time there are no plans to import water from outside the Borrego Valley due to the economic cost of a pipeline and the uncertainty of available and affordable imported supply from the Colorado River. Please consult the *Southeast California Regional Basin Study Evaluates Water Supply and Demand in Borrego, Coachella and Imperial Valleys* (2014) by the Bureau of Reclamation for more information. Importation of new supply from nearby groundwater basins has also been ruled out due to availability of potential adequate supply and cost. Readers may consult the *Borrego Spring Pipeline Feasibility Study: Final Report* (2012) by the US Environmental Protection Agency – Region 9.

Since the early 1960's, various studies have indicated that the Borrego Basin is in overdraft. In the early 1980's in a US Geological Survey (USGS) study funded by San Diego County unequivocally

determined that the basin was in overdraft and represents a future serious economic, social, and environmental threat to the Borrego Valley. At that time the overdraft was estimated at approximately 6,000 acre-feet per year (AFY).

Since the early 1980's, groundwater-level declines of more than 100 feet in some parts of the groundwater basin have been observed. Anthropogenic activities have resulted in an increase in pumping lifts, reduced well efficiency, dry wells, changes in water quality, loss of natural groundwater discharge, and changes to the desert ecosystems of the Park. Today, water levels in the basin are declining on average about 2.7 feet a year. However, if the present rate of withdrawals continues, water levels are projected to drop at an ever-faster rate in the future as ever more withdrawals occur from the middle and lower aquifers of the basin. At the current rate of use, the groundwater supply is not sustainable. Readers should review a recent study (2015) by the USGS, Hydrogeology, *Hydrologic Effects of Development, and Simulation of Groundwater Flow in the Borrego Valley, San Diego County* for more complete information.

This most recent USGS study confirmed the early 1980's USGS study results, but also found that annual agricultural irrigation, golf course irrigation, and municipal uses require about four times more water than is available through average annual natural recharge of the basin. Of the current average annual withdrawals from the basin, agricultural irrigation in the Borrego Valley accounts for an estimated 14,000 acre-feet per year (AFY; approximately 70%) of the average annual uses, recreational uses (primarily golf courses) account for about 3,000 AFY (approximately 20%) of the average annual uses and municipal uses account for less than 2,000 AFY (approximately 10%) of the total annual uses. The natural net replenishment (recharge less outflows) of the basin of approximately 5,700 AFY annually is based on 66 years of historic data.

The current rate of groundwater pumping produces an average annual basin storage change (overdraft) of about 13,300 acre-feet (AF) of water per year based on current withdrawal rates and the estimated average annual net replenishment rate. This is more than twice the estimated overdraft from the USGS's early 1980's study. The largest water level declines are found in the northern part of basin where most of the approximately 3,700 acres of primarily citrus agricultural acreage is concentrated and in the southwestern part of the basin where municipal use is primarily located.

Even with the current overdraft, the basin is not necessarily "running out of water." However, as water levels continue to drop in the basin, water quality may also decline, which may require expensive additional treatment for potable uses. Thus, the cost of municipal water supply for potable uses will most likely continue to increase over time. Thus, given the Severely Disadvantaged Community (SDAC) status of Borrego Springs, the primary concern is "economically extractible" water supply and the affordability of potable water for municipal uses, as well as irrigation purposes. For these reasons, the California Department of Water Resources has recently designated the overdraft of the Borrego Basin as "Critical." What this means is that the physical groundwater system overdraft may produce an imminent serious economic, social, and environmental threat to the Borrego Valley.

On January 1, 2015, the Sustainable Groundwater Management Act (SGMA; the Act) replaced AB 3030. The Act gives Groundwater Sustainability Agencies (GSAs) the authority to limit extractions, impose fees and penalties, and require metering and water quality monitoring on all basin pumpers other than deminimis pumpers (pumpers who can prove they use less than 2 AFY). GSAs are charged with developing and adopting a Groundwater Sustainability Plan (GSP) that produces basin sustainability in no more than twenty (20) years from 2020 for

medium California Statewide Groundwater Monitoring (CASGEM) basins in critical overdraft (the California Department of Water Resources [DWR] designation for the basin). Both the District and San Diego County (County) have agreed to a Memorandum of Understanding (MOU) to become a multi-agency GSA for the basin; the District on September 20, 2015; the County on October 19, 2016.

SGMA explicitly does not require the County PDS to consider the overdraft and the effect of its land use decisions on municipal water supply availability and affordability. However, the explicit purpose of SGMA is to bring an overdraft basin into sustainable use. Thus, the implicit message is that PDS actions that hinder or prevent the GSA from meeting SGMA mandated groundwater supply use constraints necessary to achieve sustainable use of the basin are disputable.

In summary, the District supports the position of PDS including its land use decision's evaluation of the availability and affordability of municipal water supply in its decisions because:

- it understands that SGMA mandates result in severe supply constraints in the Valley;
- it understands that even if much of agricultural irrigation leaves the Valley, there may still not be enough supply under SGMA for existing residential, golf courses and resorts, along with already County approved development;
- it understands that County presently wishes to add new EDUs to the Valley and is allowing new use.

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.B

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Water Rate Affordability Study: Raftelis Consultants – G. Poole

RECOMMENDED ACTION:

Receive report (telephonic) from Raftelis, discuss next steps and direct staff accordingly.

ITEM EXPLANATION:

BWD commissioned Raftelis to conduct a Water Rate Affordability Study and it is attached. Kevin Kostiuk will be calling in to discuss the Draft Report.

FISCAL IMPACT:

TBD

ATTACHMENTS:
1. Water Rate Affordability Study

October 4, 2017

Borrego Water District

Water Rates Affordability Assessment

Prepared by

RAFTELIS FINANCIAL CONSULTANTS

Table of Contents

1 Introduction

1.1 Scope of Work

The Borrego Water District (District) engaged Raftelis Financial Consultants (Raftelis) to examine the affordability of water rates charged to the District's customers. To assess affordability Raftelis relies upon direction from longstanding EPA guidance on affordability, the United States Conference of Mayors, and research by affordability experts. The assessment herein analyzes both existing rates and affordability and projected future rates and affordability under the SGMA Compliance water supply scenario identified in our Memorandum titled "County Zoning and SGMA Impact Assessment" dated November 18, 2016. The affordability assessment relies upon the amended Water Financial and Rate Model created for the SGMA Impact Assessment and corresponding demand projections, basin yield assumptions, financing assumptions, and projected rates to the year 2040.

The intention is for the District to be able to understand the affordability of existing rates and water allocation and to estimate the affordability impacts of SGMA compliance in the Borrego Groundwater Basin over the long term.

1.2 Background

Borrego Groundwater Basin: The sole water supply source for the District is the Borrego Groundwater Basin. The basin is in critical overdraft. The State of California enacted the Sustainable Groundwater Management Act (SGMA) in 2014 to achieve basin sustainability by 2040. The Borrego Water Coalition (BWC) has recommended that all current entities withdrawing water from the Borrego Basin reduce their withdrawals no later than 2040 by approximately 70% based on the most current US Geological Survey (USGS) study in 2015. The District does not currently have adequate municipal water available to serve its present customers under the existing basin withdrawal reduction estimated and will be required to purchase additional water by acquiring irrigated farmland to fallow.

Environmental Protection Agency (EPA) and Affordability Indicators: The indicator of percentage of median household income (%MHI) grows out of EPA guidelines for water quality standards and Combined Sewer Overflow (CSO) compliance. Initially called a Residential Indicator (RI), the factor was used by EPA to signal the economic effect on small wastewater systems. The RI sought to identify a measurement that would reasonably estimate a utility's ability to comply with new standards and regulations. Similarly, EPA developed an affordability standard for small community potable water systems serving 10,000 or fewer people. An affordability standard of 2.5 percent and 2 percent of national median household income for water and sewer bills respectively was selected. The 2.5 percent threshold has never been formalized by EPA and, though arbitrary, use of %MHI in assessing affordability has become the standard.

Shortcomings of %MHI Manual Teodoro details the problems with using %MHI in assessing affordability and we summarize here. First, median income households are unlikely to have economic hardship from utility rates except under the most extreme conditions. The focus instead should be on lower-income households, the working poor, and those below the poverty line who are much more likely to struggle with affordability as a percentage of their annual incomes. Second, average water consumption is a poor indicator of affordability. Affordability should relate to essential needs associated with indoor water use for health and sanitation, not the ability to irrigate outdoors, provide for water intensive hobbies, home

business ventures, or wasteful use. Using average water consumption and median household income does little to inform about those who struggle with affordability for water and sewer service. Lastly, 2.5 %MHI is an arbitrary value without a rationale. There is no reason why 1 %MHI or 5 %MHI should not have been selected in the first place. Nevertheless, the indicator is well established and at the least allows for a comparison between water utilities of a similar size, geographic and water supply characteristic, and customer demographics.

Minimum Wage Hours: A novel approach to defining affordability of water and sewer service comes from Manual Teodoro of Texas A&M University. Many households that struggle to cover basic costs for essential services have labor compensated at or near the minimum wage. Therefore, the number of hours required at minimum wage to pay for basic water service should provide a real world indicator that relates to local conditions.

2 RFC Evaluation

The objective of our assessment is to estimate affordability of water service over a long horizon. To estimate affordability Raftelis utilizes the supply and demand assumptions within the SGMA Compliance scenario of the 2016 County Zoning and SGMA Impact Assessment. The following subsections outline all assumptions, data sources, relevant prior work, and methodology for assessing affordability.

2.1 Assumptions

2.1.1 Water Production and Rates

Table 2-1 shows projected water production reductions to achieve SGMA Compliance through water rights purchases and reduced consumption.

Table 2-1: Borrego Water District SGMA Groundwater Allocation

Year	Reduction (% of Baseline)	Historical Demand-(Baseline)	Allocation to Achieve SGMA	Allocation (% of Baseline)
2020	N/A	1741	1741	100%
2025	20%	1741	1393	80%
2030	40%	1741	1045	60%
2035	60%	1741	696	40%
2040	70%	1741	522	30%

Table 2-2 summarizes the amount of water required to be purchased to offset reduced basin pumping and meet customer demand. Each allotment is assumed to be debt financed. The purchase costs are a major component in determining the projected water rates through 2040.

Table 2-2: Total Water Purchases and Financial Impact

Fiscal Year	Purchase (AF)	Purchase ($)
FY 2020	313 AF	$3,003,143
FY 2025	313 AF	$3,521,469
FY 2030	313 AF	$4,128,722
FY 2035	157 AF	$2,418,938
FY 2040	000 AF	$0
Total	**1,097 AF**	**$13,072,272**

Given the water purchase costs in Table 2-2 and the identified financial plan, the projected water commodity rates and fixed charges using the existing cost of service are shown in Table 2-3 and Table 2-4.

Table 2-3: Projected Rates to 2040 (Commodity Charges)

Commodity Charges	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Tier 1	$3.10	$3.35	$3.56	$3.78	$4.01	$4.26	$4.52	$4.80	$5.09	$5.40	$5.73	$6.08
Tier 2	$3.42	$3.69	$3.92	$4.16	$4.41	$4.68	$4.97	$5.27	$5.59	$5.93	$6.29	$6.67
Commodity Charges	**FY 2029**	**FY 2030**	**FY 2031**	**FY 2032**	**FY 2033**	**FY 2034**	**FY 2035**	**FY 2036**	**FY 2037**	**FY 2038**	**FY 2039**	**FY 2040**
Tier 1	$6.45	$6.65	$6.85	$7.06	$7.28	$7.50	$7.65	$7.81	$7.97	$8.13	$8.30	$8.47
Tier 2	$7.08	$7.30	$7.52	$7.75	$7.99	$8.23	$8.40	$8.57	$8.75	$8.93	$9.11	$9.30

Table 2-4: Projected Rates to 2040 (Fixed Charges)

Meter Size	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
3/4"	$35.81	$36.99	$39.21	$41.57	$44.07	$46.72	$49.53	$52.51	$55.67	$59.02	$62.57	$66.33
1"	$46.48	$47.99	$50.87	$53.93	$57.17	$60.61	$64.25	$68.11	$72.20	$76.54	$81.14	$86.01
1-1/2"	$73.16	$75.48	$80.01	$84.82	$89.91	$95.31	$101.03	$107.10	$113.53	$120.35	$127.58	$135.24
2"	$105.17	$108.46	$114.97	$121.87	$129.19	$136.95	$145.17	$153.89	$163.13	$172.92	$183.30	$194.30
Meter Size	**FY 2029**	**FY 2030**	**FY 2031**	**FY 2032**	**FY 2033**	**FY 2034**	**FY 2035**	**FY 2036**	**FY 2037**	**FY 2038**	**FY 2039**	**FY 2040**
3/4"	$70.31	$72.42	$74.60	$76.84	$79.15	$81.53	$83.17	$84.84	$86.54	$88.28	$90.05	$91.86
1"	$91.18	$93.92	$96.74	$99.65	$102.64	$105.72	$107.84	$110.00	$112.20	$114.45	$116.74	$119.08
1-1/2"	$143.36	$147.67	$152.11	$156.68	$161.39	$166.24	$169.57	$172.97	$176.43	$179.96	$183.56	$187.24
2"	$205.96	$212.14	$218.51	$225.07	$231.83	$238.79	$243.57	$248.45	$253.42	$258.49	$263.66	$268.94

2.1.2 Water Consumption

Table 2-5 shows the calculation steps for estimating efficient indoor water demand in any given month. We use the existing State of California efficiency target of 55 gallons per person per day (gpcd) for indoor use and multiply by the average family size[1] in the Borrego Springs CDP (rounded to the nearest whole person of three) and the average number of days in a month to calculate the total gallons of an efficient household per month. Total gallons of 5,033 is divided by 748 to convert from gallons to the billing unit of hundred cubic feet (hcf). 7 hcf represents the District's existing Tier 1 allotment.

Table 2-5: Essential (Indoor) Use Calculation

Variable	Value	Unit
Efficient Use	55	gpcd
Persons per Household (rounded)	3.00	pph
Average Month	30.5	Days
Total Gallons	5,033	gallons
Unit Conversion	748	gallons/hcf
Units (hcf) per month	7	hcf

Table 2-6 shows the consumption analysis for BWD residential users for FY 2015. Total residential use is divided by the number of accounts with use greater than zero in any given month. The average by month is shown in the last row of the table. The winter low, used as part of our analysis, is 15 hcf per month (January and February).

Table 2-6: FY 2015 Residential Demand Analysis

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Residential Tier 1	34,088	30,993	34,814	29,914	28,521	23,657	21,497	21,527	22,325	30,995	26,744	30,853
Residential Tier 2	8,676	7,127	9,464	8,563	7,268	3,444	2,558	2,130	2,333	4,808	3,322	5,265
Accounts	1522	1510	1515	1534	1573	1580	1583	1591	1589	1608	1560	1539
Average Consumption	28	25	29	25	23	17	**15**	**15**	16	22	19	23

[1] From the 2010 US Census average household size in the Borrego CDP is 2.18 persons and average family size is 2.76 persons.

The winter low of 15 hcf corresponds to the District's long term goal of 0.4 acre feet per year (AFY) per equivalent dwelling unit (EDU). The calculation steps for converting 0.4 AFY to hcf is shown in Table 2-8. 0.4 AFY is multiplied by the number of gallons in an acre foot to yield the total gallons per EDU per year. Total gallons is divided by 748 to convert gallons to hcf. Hcf/year is divided by 12 to determine the hcf per EDU per month. Raftelis rounds up to the nearest whole billing unit.

Table 2-7: Future/New EDU Definition

Unit	
AFY	0.4
Gallons per acre foot	325,851
Gallons per year	130,340
hcf/year	174.25
hcf/month	14.52
Hcf/month (rounded)	15

The calculations for efficient indoor demand and winter low/new EDU demand become our lower and upper bounds in relating affordability in Section 3.

2.2 Data

Table 2-8 shows per capita income growth from the United States Bureau of Economic Analysis (BEA) for San Diego County. The 30 year annual average change in per capita income is 3.97 percent. The average income growth rate is used to estimate changes in customer incomes to 2040.

Table 2-8: 30 Year Historical Income Growth San Diego County

Year	Per Capita Income	Income Growth Rate	Year	Per Capita Income	Income Growth Rate
1986	17652	5.57%	**2001**	34158	1.78%
1987	18433	4.42%	**2002**	35224	3.12%
1988	19484	5.70%	**2003**	37133	5.42%
1989	20494	5.18%	**2004**	40314	8.57%
1990	21029	2.61%	**2005**	42093	4.41%
1991	21542	2.44%	**2006**	44150	4.89%
1992	22286	3.45%	**2007**	44912	1.73%
1993	22732	2.00%	**2008**	45383	1.05%
1994	23262	2.33%	**2009**	43269	-4.66%
1995	24262	4.30%	**2010**	43995	1.68%
1996	25603	5.53%	**2011**	46374	5.41%
1997	26970	5.34%	**2012**	47961	3.42%
1998	29331	8.75%	**2013**	48938	2.04%
1999	31058	5.89%	**2014**	51174	4.57%
2000	33560	8.06%	**2015**	53298	4.15%
Average per Capita Income Growth Rate					**3.97%**

Table 2-9 shows the historical change in the Consumer Price Index (CPI) in the United States over the last 30 years. The average rate of inflation is estimated at 2.66 percent per year. CPI is used to estimate changes in minimum wage over the horizon to 2040 reflecting the adoption of legislation in California adjusting the minimum wage annually by CPI.

Table 2-9: 30 Year Historical Consumer Price Index

Year	Inflation	Year	Inflation
1986	4.05%	**2002**	2.35%
1987	4.10%	**2003**	1.50%
1988	4.45%	**2004**	1.80%
1989	4.45%	**2005**	2.15%
1990	5.05%	**2006**	2.45%
1991	4.95%	**2007**	2.35%
1992	3.60%	**2008**	2.30%
1993	3.30%	**2009**	1.70%
1994	2.85%	**2010**	0.95%
1995	3.00%	**2011**	1.65%
1996	2.70%	**2012**	2.10%
1997	2.40%	**2013**	1.75%
1998	2.30%	**2014**	1.75%
1999	2.05%	**2015**	1.80%
2000	2.40%	**2016**	2.20%
2001	2.65%	**2017**	2.00%
Average CPI Inflation			**2.66%**

Table 2-10 shows minimum wage projections to 2040 for the State of California. 2017 through 2023 represent adopted State-wide increases for employers that employee 25 employees or less. Using the wage scale for small employers yields more conservative affordability estimates particularly as Raftelis is unfamiliar with the size and location of employers of District customers. The current minimum wage in California is $10.00 per hour. Years 2017 through 2023 show the adopted minimum wage schedule by the State of California. Future years are adjusted by historical CPI inflation.

Table 2-10: Minimum Wage Projections

Year	Prior Year Minimum Wage	CPI (estimate)	Minimum Wage
2017	N/A	N/A	$10.00
2018	$10.00	N/A	$10.50
2019	$10.50	N/A	$11.00
2020	$11.00	N/A	$12.00
2021	$12.00	N/A	$13.00
2022	$13.00	N/A	$14.00
2023	$14.00	N/A	$15.00
2024	$15.00	2.66%	$15.40
2025	$15.40	2.66%	$15.81
2026	$15.81	2.66%	$16.23
2027	$16.23	2.66%	$16.66
2028	$16.66	2.66%	$17.10
2029	$17.10	2.66%	$17.56
2030	$17.56	2.66%	$18.03
2031	$18.03	2.66%	$18.51
2032	$18.51	2.66%	$19.00
2033	$19.00	2.66%	$19.50
2034	$19.50	2.66%	$20.02
2035	$20.02	2.66%	$20.55
2036	$20.55	2.66%	$21.10
2037	$21.10	2.66%	$21.66
2038	$21.66	2.66%	$22.24
2039	$22.24	2.66%	$22.83
2040	$22.83	2.66%	$23.44

As a validity check, the California Department of Transportation (CalTrans) produces county wide economic forecast models for income growth. CalTrans estimates real (income growth less inflation) salaries will increase by 1.6 percent and real income growth by 1.9 percent between 2016 and 2021. This is slightly higher than the 1.25 percent we estimate in Table 2-8 less Table 2-9, albeit for a shorter horizon. This may be more heavily influenced by the larger relative increases in the minimum wage to $15 per hour by 2022.

Income ranges are from the 2015 American Community Survey (ACS) performed by the Census Bureau. Table 2-11 shows distribution for the estimated 1,172 households in the Borrego Springs Census Designated Place (CDP). Median household income is estimated at $31,563. Mean household income is estimated at $41,053. The 20th percentile of income is generally used to estimate impacts to the "working poor"; that is households whose earnings qualify them for some but not all available assistance for food, housing, and other needs. For the Borrego Springs CDP the 20th percentile is $3,320 below the federal poverty line for a three person household. For comparison the poverty line for a two person household and a four person household is $16,240 and $24,600 respectively. 37.3 percent of households in the Borrego Springs CDP are below $24,999.

Table 2-11: Income Distribution, Borrego Springs CDP

Income Range	Households/Percentages
Total Households	1,172
Less than $10,000	3.70%
$10,000 to $14,999	9.70%
$15,000 to $24,999	23.90%
$25,000 to $34,999	17.20%
$35,000 to $49,999	13.30%
$50,000 to $74,999	19.70%
$75,000 to $99,999	9.00%
$100,000 to $149,999	2.00%
$150,000 to $199,999	1.50%
$200,000 or more	0.00%
Median income (dollars)	31,563
Mean income (dollars)	41,053
20th Percentile[2]	$17,100
Poverty Level (3 person household)[3]	$20,420

Raftelis attempted to determine median income and income distribution for three subsets of residential customers: Single Family Residential, Multi-Family Residential, and Other (mobile home, camper, etc.). Unfortunately, income level by customer class using residential units is not available at a scale fine enough to relate to BWD. Public Use Microdata Areas (PUMA) data available from the Census includes much of East San Diego County and a population of over 100,000. Comparing the incomes in the PUMA dataset to the income range and median in the 2015 ACS for the Borrego CDP shows the two are not relatable. Should finer scale data become available, Raftelis would be able to analyze affordability within the larger Residential class and amend this assessment.

2.3 Methodology

To determine affordability of water service now and in future conditions (SGMA) Raftelis utilized the modified Financial Plan and Rate Model produced for the SGMA Impact Assessment. The projected rates under the SGMA scenario are used to calculate customer bills at three levels of use: essential, efficient, and target average. Essential use represents the efficient indoor demand of a three person household as calculated in Table 2-5. Target average represents the existing low winter use as well as the assumed baseline demand for a new EDU (Table 2-6 and Table 2-7). Efficient is simply the mid-point of efficient and target average to evaluate affordability at an additional level of consumption between the upper and lower bounds.

[2] From the American Community Survey (2009-2013) of the US Census Bureau via Statistical Atlas (https://statisticalatlas.com)

[3] 2017 poverty guidelines from United States Health and Human Services as of January 26, 2017.

Table 2-12: Levels of Consumption

Essential	Efficient	Target Average
7 hcf	11 hcf	15 hcf

Annual bills are calculated at the three levels of consumption using existing FY 2018 rates. Bill calculations are repeated for each five year interval beginning in FY 2020 through FY 2040 using the projected rates in Table 2-3 and Table 2-4.

Table 2-13: Annual Bills: 2018-2040

FY 2018 Annual Bill			FY 2020 Annual Bill			FY 2025 Annual Bill		
Essential	Efficient	Target Average	Essential	Efficient	Target Average	Essential	Efficient	Target Average
$725	$902	$1,080	$816	$1,016	$1,216	$1,096	$1,364	$1,632
FY 2030 Annual Bill			**FY 2035 Annual Bill**			**FY 2040 Annual Bill**		
Essential	Efficient	Target Average	Essential	Efficient	Target Average	Essential	Efficient	Target Average
$1,428	$1,778	$2,128	$1,641	$2,044	$2,447	$1,814	$2,217	$2,620

Estimated annual incomes for each income bracket are inflated by the annual average growth rate from Table 2-8. The midpoint of each income range from the 2015 ACS survey is used to project future income. For example, in the $25,000-$34,999 range future incomes are projected off of $29,999 from the 2015 survey. This is true for all income ranges except for the lowest range (Less than $10,000) where the upper limit is used.

Table 2-14: Annual Incomes: 2018-2040

	FY 2018 Household Income	FY 2020 Household Income	FY 2025 Household Income	FY 2030 Household Income	FY 2035 Household Income	FY 2040 Household Income
Less than $10,000	$11,239	$12,150	$14,762	$17,936	$21,793	$26,478
$10,000 to $14,999	$14,049	$15,187	$18,452	$22,419	$27,240	$33,096
$15,000 to $24,999	$22,478	$24,299	$29,523	$35,871	$43,583	$52,953
$25,000 to $34,999	$33,717	$36,449	$44,285	$53,807	$65,376	$79,431
$35,000 to $49,999	$47,767	$51,636	$62,738	$76,227	$92,616	$112,529
$50,000 to $74,999	$70,246	$75,936	$92,263	$112,100	$136,201	$165,485
$75,000 to $99,999	$98,344	$106,311	$129,169	$156,940	$190,683	$231,680
$100,000 to $149,999	$140,492	$151,874	$184,527	$224,201	$272,405	$330,972
$150,000 to $199,999	$196,690	$212,624	$258,339	$313,882	$381,368	$463,363
$200,000 or more	$224,789	$243,000	$295,245	$358,724	$435,850	$529,559
Median income (dollars)	$35,475	$38,349	$46,594	$56,612	$68,784	$83,573
20th Percentile	$19,220	$20,777	$25,244	$30,671	$37,265	$45,277
Poverty Level (3 person household)	$22,951	$24,810	$30,145	$36,626	$44,500	$54,068

3 Results

This section documents the affordability assessment results utilizing the assumptions, data, and methodology described in Section 2. We present three metrics: percent of household income, hours at minimum wage, and required income.

3.1 Percent of Household Income

Table 3-1 illustrates the percentage of 2018 annual household income which goes towards water service at various levels of use. On the "heat map" colors in the red spectrum represent a higher percentage of income towards water service. Colors in the green spectrum represent lower percentages.

Those at the median income pay 2 percent for essential use, 2.5 percent for efficient use, and 3 percent for target average use in FY 2018. Those at the 20th percentile and those at the poverty level spend between 3.2 and 3.8 percent of their income solely for essential water needs. By 2040 those households become slightly worse off spending 3.4 and 4 percent respectively for essential water service.

For households with incomes greater than $34,999 the percent of income spent on income is below 2.5 percent in FY 2018. For those below $34,999 the only households under the 2.5 percent threshold are essential water users in the $25,000-$34,999 range. All other income ranges spend greater than 2.5 percent of annual income on water service.

Table 3-2 through Table 3-6 illustrate the percentage of household income for each five year interval for years 2020 through 2040.

Table 3-1: Annual Water Bill as Percent of Household Income (FY 2018)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	6.5%	8.0%	9.6%
$10,000 to $14,999	5.2%	6.4%	7.7%
$15,000 to $24,999	3.2%	4.0%	4.8%
$25,000 to $34,999	2.2%	2.7%	3.2%
$35,000 to $49,999	1.5%	1.9%	2.3%
$50,000 to $74,999	1.0%	1.3%	1.5%
$75,000 to $99,999	0.7%	0.9%	1.1%
$100,000 to $149,999	0.5%	0.6%	0.8%
$150,000 to $199,999	0.4%	0.5%	0.5%
$200,000 or more	0.3%	0.4%	0.5%
Median income (dollars)	2.0%	2.5%	3.0%
20th Percentile	3.8%	4.7%	5.6%
Poverty Level (3 person household)	3.2%	3.9%	4.7%

Table 3-2: Annual Water Bill as Percent of Household Income (FY 2020)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	6.7%	8.4%	10.0%
$10,000 to $14,999	5.4%	6.7%	8.0%
$15,000 to $24,999	3.4%	4.2%	5.0%
$25,000 to $34,999	2.2%	2.8%	3.3%
$35,000 to $49,999	1.6%	2.0%	2.4%
$50,000 to $74,999	1.1%	1.3%	1.6%
$75,000 to $99,999	0.8%	1.0%	1.1%
$100,000 to $149,999	0.5%	0.7%	0.8%
$150,000 to $199,999	0.4%	0.5%	0.6%
$200,000 or more	0.3%	0.4%	0.5%
Median income (dollars)	2.1%	2.6%	3.2%
20th Percentile	3.9%	4.9%	5.9%
Poverty Level (3 person household)	3.3%	4.1%	4.9%

Table 3-3: Annual Water Bill as Percent of Household Income (FY 2025)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	7.4%	9.2%	11.1%
$10,000 to $14,999	5.9%	7.4%	8.8%
$15,000 to $24,999	3.7%	4.6%	5.5%
$25,000 to $34,999	2.5%	3.1%	3.7%
$35,000 to $49,999	1.7%	2.2%	2.6%
$50,000 to $74,999	1.2%	1.5%	1.8%
$75,000 to $99,999	0.8%	1.1%	1.3%
$100,000 to $149,999	0.6%	0.7%	0.9%
$150,000 to $199,999	0.4%	0.5%	0.6%
$200,000 or more	0.4%	0.5%	0.6%
Median income (dollars)	2.4%	2.9%	3.5%
20th Percentile	4.3%	5.4%	6.5%
Poverty Level (3 person household)	3.6%	4.5%	5.4%

Table 3-4: Annual Water Bill as Percent of Household Income (FY 2030)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	8.0%	9.9%	11.9%
$10,000 to $14,999	6.4%	7.9%	9.5%
$15,000 to $24,999	4.0%	5.0%	5.9%
$25,000 to $34,999	2.7%	3.3%	4.0%
$35,000 to $49,999	1.9%	2.3%	2.8%
$50,000 to $74,999	1.3%	1.6%	1.9%
$75,000 to $99,999	0.9%	1.1%	1.4%
$100,000 to $149,999	0.6%	0.8%	0.9%
$150,000 to $199,999	0.5%	0.6%	0.7%
$200,000 or more	0.4%	0.5%	0.6%
Median income (dollars)	2.5%	3.1%	3.8%
20th Percentile	4.7%	5.8%	6.9%
Poverty Level (3 person household)	3.9%	4.9%	5.8%

Table 3-5: Annual Water Bill as Percent of Household Income (FY 2035)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	7.5%	9.4%	11.2%
$10,000 to $14,999	6.0%	7.5%	9.0%
$15,000 to $24,999	3.8%	4.7%	5.6%
$25,000 to $34,999	2.5%	3.1%	3.7%
$35,000 to $49,999	1.8%	2.2%	2.6%
$50,000 to $74,999	1.2%	1.5%	1.8%
$75,000 to $99,999	0.9%	1.1%	1.3%
$100,000 to $149,999	0.6%	0.8%	0.9%
$150,000 to $199,999	0.4%	0.5%	0.6%
$200,000 or more	0.4%	0.5%	0.6%
Median income (dollars)	2.4%	3.0%	3.6%
20th Percentile	4.4%	5.5%	6.6%
Poverty Level (3 person household)	3.7%	4.6%	5.5%

Table 3-6: Annual Water Bill as Percent of Household Income (FY 2040)

Income Range	Essential 7 hcf	Efficient 11 hcf	Target Average 15 hcf
Less than $10,000	6.9%	8.4%	9.9%
$10,000 to $14,999	5.5%	6.7%	7.9%
$15,000 to $24,999	3.4%	4.2%	4.9%
$25,000 to $34,999	2.3%	2.8%	3.3%
$35,000 to $49,999	1.6%	2.0%	2.3%
$50,000 to $74,999	1.1%	1.3%	1.6%
$75,000 to $99,999	0.8%	1.0%	1.1%
$100,000 to $149,999	0.5%	0.7%	0.8%
$150,000 to $199,999	0.4%	0.5%	0.6%
$200,000 or more	0.3%	0.4%	0.5%
Median income (dollars)	2.2%	2.7%	3.1%
20th Percentile	4.0%	4.9%	5.8%
Poverty Level (3 person household)	3.4%	4.1%	4.8%

Figure 3-1 and Figure 3-2 show graphical displays of affordability across all income ranges and the three levels of use: essential, efficient, and target average. In FY 2018, all income levels below the median of $31,563 at all three levels of use pay greater than 2 percent of household income towards water service. Those at or below the poverty level of $20,420 and the 20th percentile of $17,100 pay greater than 3 percent for essential water service. That percentage goes towards 4 percent for efficient use and 5 percent for average target use. In FY 2040 most households are slightly worse off in percentage terms than in FY 2018.

Figure 3-1: Percent Household Income, FY 2018

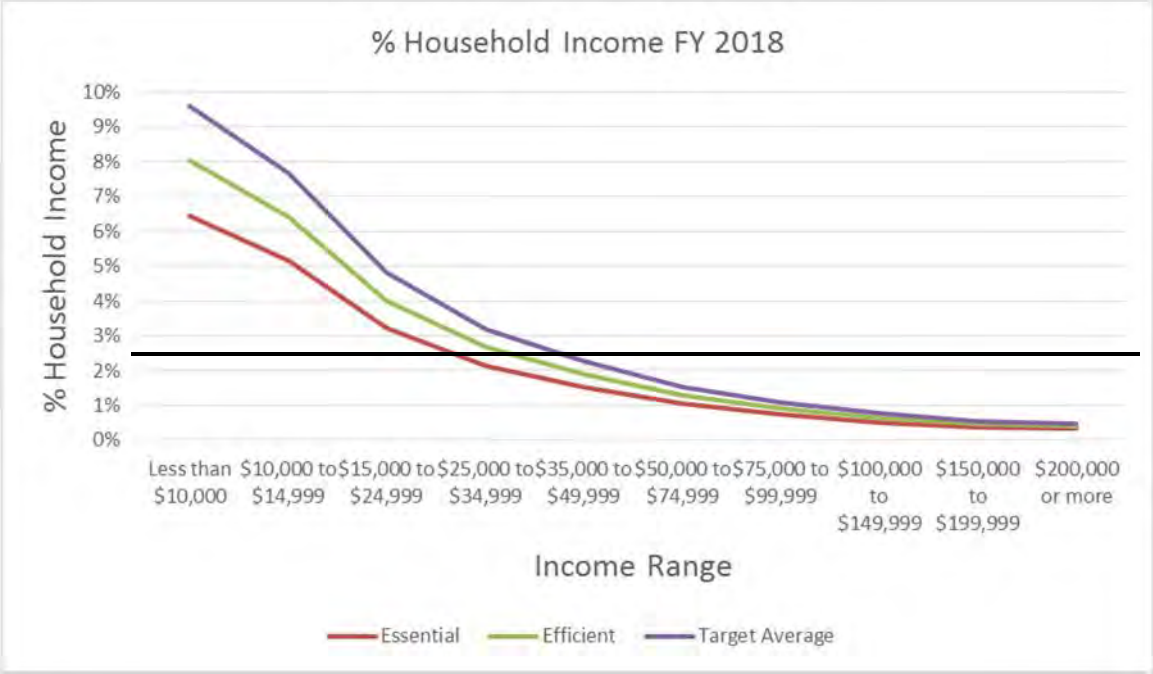
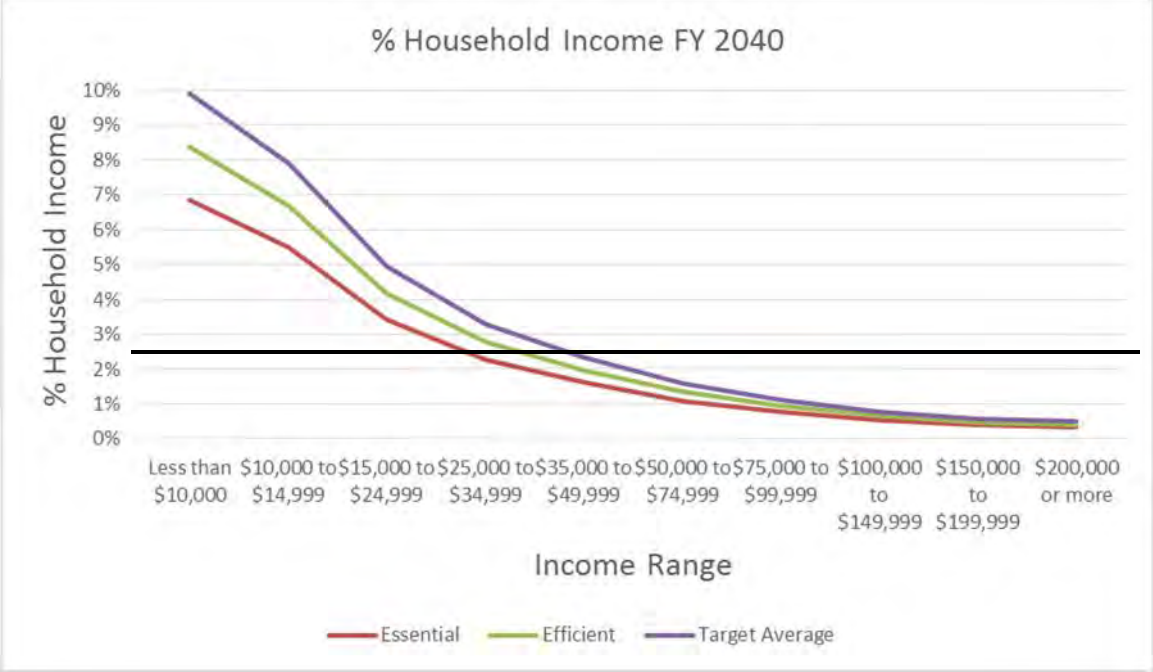


Figure 3-2: Percent Household Income, FY 2040



3.2 Hours at Minimum Wage

As described in the Section 1, a novel metric for evaluating affordability is to determine how many hours at minimum wage it takes a household to pay for their water service. Utilizing the current minimum wage, adopted minimum wage increases through 2022, and future CPI adjustments, Raftelis estimated the number of hours required at minimum wage to pay for water service at the three levels of use. Table 3-7 shows the calculation and results for hours at minimum wage for essential use, efficient use, and target average use. Figure 3-3 is a graphical display of the results from Table 3-7.

At the existing minimum wage of $10.50 per hour a household using only 7 hcf per month for essential needs must work for 5.8 hours to pay for essential water service. The same household using the target average of 15 hcf per month would have to work 8.6 hours, or approximately one day's labor per month to pay for water service. The hours required dips slightly in FY 2020 as gains in the minimum wage outpace increases in costs for water service. However, the trend reverses in 2025 when the minimum wage is adjusted by CPI and water service costs increase at a higher rate. In 2040 the same household would have to work 6.2 hours for essential use or 9 hours for average target use.

While there is no standard number of hours to suggest what is affordable or unaffordable, Teodoro suggests a value of no more than 8.0 for combined water and sewer service which represents eight hours of labor at minimum wage for a monthly bill. In many outcomes in Table 3-7 the eight hour rule is surpassed for water service alone.

Table 3-7: Hours Required at Minimum Wage

	FY 2018			FY 2020			FY 2025		
	Essential	Efficient	Target Average	Essential	Efficient	Target Average	Essential	Efficient	Target Average
Minimum Wage ($/hr)	$10.50	$10.50	$10.50	$12.00	$12.00	$12.00	$15.81	$15.81	$15.81
Hours per month	**5.8 hrs**	**7.2 hrs**	**8.6 hrs**	**5.7 hrs**	**7.1 hrs**	**8.5 hrs**	**5.8 hrs**	**7.2 hrs**	**8.6 hrs**
	FY 2030			**FY 2035**			**FY 2040**		
	Essential	Efficient	Target Average	Essential	Efficient	Target Average	Essential	Efficient	Target Average
Minimum Wage ($/hr)	$18.03	$18.03	$18.03	$20.55	$20.55	$20.55	$23.44	$23.44	$23.44
Hours per month	**6.6 hrs**	**8.2 hrs**	**9.8 hrs**	**6.7 hrs**	**8.3 hrs**	**9.9 hrs**	**6.5 hrs**	**7.9 hrs**	**9.3 hrs**

Figure 3-3 shows the data from Table 3-7 in graphical form.

Figure 3-3: Hours Required at Minimum Wage

3.3 Income Requirement

Our income requirement metric uses the EPA affordability threshold of 2.5 percent for water service to identify the amount of income a household needs to be able to pay for water service at various levels of use. Table 3-8 shows the annual incomes required at uses of 7 hcf to 50 hcf per month in the current fiscal year, FY 2025, and FY 2040. For example in FY 2018 a household needs to make $36,096 annually in order to spend less than 2.5 percent of income on water service. That amount is $54,557 in FY 2025 and $90,408 in FY 2040. Recall 7 hcf represents the existing Tier 1 threshold (efficient indoor use) and 15 hcf represents the existing winter average and target long term average use. For reference, current annual average water use per account is approximately 22 hcf monthly and current peak summer average use per account is approximately 29 hcf.

Table 3-8: Income Required to Keep Below 2.5% Household Income

Year	7 hcf	11 hcf	15 hcf	20 hcf	25 hcf	30 hcf	35 hcf	40 hcf	45 hcf	50 hcf
FY 2018	$29,011	$36,096	$43,181	$52,037	$60,893	$69,749	$78,605	$87,461	$96,317	$105,173
FY 2025	$43,824	$54,557	$65,290	$78,706	$92,122	$105,538	$118,954	$132,370	$145,786	$159,202
FY 2040	$72,552	$90,408	$108,264	$130,584	$152,904	$175,224	$197,544	$219,864	$242,184	$264,504

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.C

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: California's Proposition One Grant Application Resolution and BWD Priorities – G. Poole

RECOMMENDED ACTION:

Approve Resolution authorizing the submittal of the Grant Application and review recommended projects and priorities from Ad Hoc Prop One Committee (Tatusko/Ehrlich) and direct staff accordingly.

ITEM EXPLANATION

As directed by the Board at the last meeting, Staff has been working with the Committee, members of the public (Diane Johnson, Gina Moran and Suzanne Lawrence), County Staff and various consultants on the development of the project priorities for the upcoming Grant Application. At the time of the development of the Agenda, the Committee is not ready to submit the final list to the Board. Therefore, the final list will be presented at the Board Meeting

FISCAL IMPACT:

TBD

ATTACHMENTS:
None

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.D

October 10, 2017

TO: Board of Directors

FROM: Geoff Poole, General Manager

SUBJECT: BWD Standing and Ad-Hoc Committee Restructuring – B. Hart

RECOMMENDED ACTION:

Receive report from President Hart and Confirm the Revised BWD Board Committee Structure

ITEM EXPLANATION:

As discussed at the last BWD Board Meeting, upon the arrival of our new Legal Counsel, an evaluation of current BWD Agenda occurred. A few new paragraphs were added to the bottom of the Agenda.

Another issue that surfaced pertained to the manner in which the BWD Board Committees are listed on the Agendas and the overall structure. The Operations and Infrastructure Committee is the only Committee that meet on a fairly regular basis (1 or 2 time per month) with continuing jurisdiction, and all the only other Committees meet for a short time period and stop once the specific issue is addressed, aka Ad Hoc. Traditionally, the BWD Agendas list all Committees, whether they met or not, and on virtually every Committee (except O and I) no report is given because they did not meet, which can be confusing to the Public.

After conferring with Legal Counsel, a conclusion was reached that the Agenda Language and Committee Structure should be restructured to reflect the common practice by the Board as it relates to its Committees. With that goal in mind, President Hart is recommending dissolution of most of the past Ad Hoc Committees and the creation of the following Committees going forward. As future events dictate, new Committees will be formed.

<u>Standing Committees</u>
Operations and Infrastructure Committee – Delahay & Tatusko

<u>Ad Hoc</u>
Bond Financing Ad Hoc Committee – Brecht & Ehrlich
Prop One Bond Application Ad Hoc – Ehrlich & Tatusko
GSP Preparation Ad Hoc – Hart & Brecht
Rams Hill Long Term Operating Agreement - Delahay & Ehrlich

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.E

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Long Term Financing Plan, Fieldman, Rolapp and Assoc – G. Poole

RECOMMENDED ACTION:

Receive report from Fieldman, Rolapp and Associates, discuss next steps and direct staff accordingly.

ITEM EXPLANATION

BWD commissioned Fieldman, Rolapp and Associates (FRA) to develop a Financing Plan for BWD to meet operating, capital and a portion of future GSP expenses. Representatives from FRA will be attending the Board meeting to present the Plan and discuss the next steps.

FISCAL IMPACT
See Attached

Attachments
1. BWD Financing Model/Spreadsheets
2. Board Presentation prepared by FRA

Borrego Water District - Financial Analysis Scenarios

Operable Model Scenario:

Key Scenario Outputs	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Totals
CIP Funded	NA	NA	NA	2,219,500	4,572,000	1,434,700	1,241,000	4,535,000	1,552,000	1,715,000	810,000	1,345,000	3,375,000	**22,799,200**
CIP Funded %	**NA**	**NA**	**NA**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Minimum Cash Target	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**NA**
Meets Min. Cash Target	**NO**	**NO**	**NO**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**NA**
Ending Cash Reserves	2,830,294	3,248,811	4,193,239	4,728,188	4,916,740	5,000,552	4,230,973	4,852,745	5,130,279	4,727,690	4,448,740	5,257,696	**5,203,285**	**NA**
Days Cash Ratio	**346**	**420**	**603**	**569**	**581**	**570**	**501**	**565**	**586**	**530**	**490**	**569**	**553**	**NA**
Financing Proceeds	NA	NA	NA	**8,100,000**	**0**	**0**	**0**	**7,000,000**	**0**	**0**	**0**	**4,000,000**	**0**	**19,100,000**
New Debt Service	NA	NA	NA	0	514,768	514,768	514,768	514,768	988,017	988,017	988,017	988,017	1,288,856	**NA**
Senior Debt Service Coverage	**NA**	**NA**	**NA**	**4.73**	**1.29**	**1.32**	**1.72**	**1.94**	**1.25**	**1.35**	**1.47**	**1.82**	**1.52**	**NA**
All-in Debt Service Coverage	**NA**	**NA**	**NA**	**2.36**	**1.21**	**1.23**	**1.52**	**1.68**	**1.20**	**1.29**	**1.38**	**1.65**	**1.43**	**NA**

Scenario 1: 100% Pay-GO Financing; Static Revenues / Expenses 2022 - 2027

Key Scenario Outputs	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Totals
CIP Funded	NA	NA	NA	2,219,500	4,572,000	1,434,700	1,241,000	4,535,000	1,552,000	1,715,000	810,000	1,345,000	3,375,000	**22,799,200**
CIP Funded %	**NA**	**NA**	**NA**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Minimum Cash Target	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**NA**
Meets Min. Cash Target	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NA**
Ending Cash Reserves	2,830,294	3,248,811	4,193,239	2,508,688	-1,359,992	-2,079,415	-2,343,143	-5,897,883	-6,466,411	-7,204,276	-7,033,029	-7,254,019	**-9,500,222**	**NA**
Days Cash Ratio	**346**	**420**	**603**	**302**	**-161**	**-237**	**-278**	**-699**	**-766**	**-854**	**-833**	**-859**	**-1,126**	**NA**
Financing Proceeds	NA	NA	NA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
New Debt Service	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	**NA**
Senior Debt Service Coverage	**NA**	**NA**	**NA**	**4.73**	**5.91**	**5.99**	**7.82**	**7.84**	**7.86**	**7.82**	**7.85**	**NA**	**NA**	**NA**
All-in Debt Service Coverage	**NA**	**NA**	**NA**	**2.36**	**2.77**	**2.81**	**3.46**	**3.48**	**3.51**	**3.46**	**3.49**	**5.48**	**5.58**	**NA**

Scenario 2: Financing $19.1 million total; 2% annual expense increases 2022-2027; 4% avg. revenue increases 2022-2027

Key Scenario Outputs	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Totals
CIP Funded	NA	NA	NA	2,219,500	4,572,000	1,434,700	1,241,000	4,535,000	1,552,000	1,715,000	810,000	1,345,000	3,375,000	**22,799,200**
CIP Funded %	**NA**	**NA**	**NA**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Minimum Cash Target	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**$4,200,000**	**NA**
Meets Min. Cash Target	**NO**	**NO**	**NO**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**NA**
Ending Cash Reserves	2,830,294	3,248,811	4,193,239	4,728,188	4,916,740	5,000,552	4,230,973	4,852,745	5,130,279	4,727,690	4,448,740	5,257,696	**5,203,285**	**NA**
Days Cash Ratio	**346**	**420**	**603**	**569**	**581**	**570**	**501**	**565**	**586**	**530**	**490**	**569**	**553**	**NA**
Financing Proceeds	NA	NA	NA	**8,100,000**	**0**	**0**	**0**	**7,000,000**	**0**	**0**	**0**	**4,000,000**	**0**	**19,100,000**
New Debt Service	NA	NA	NA	0	514,768	514,768	514,768	514,768	988,017	988,017	988,017	988,017	1,288,856	**NA**
Senior Debt Service Coverage	**NA**	**NA**	**NA**	**4.73**	**1.29**	**1.32**	**1.72**	**1.94**	**1.25**	**1.35**	**1.47**	**1.82**	**1.52**	**NA**
All-in Debt Service Coverage	**NA**	**NA**	**NA**	**2.36**	**1.21**	**1.23**	**1.52**	**1.68**	**1.20**	**1.29**	**1.38**	**1.65**	**1.43**	**NA**

FIELDMAN | ROLAPP & ASSOCIATES

2017/18 FINANCING PLAN

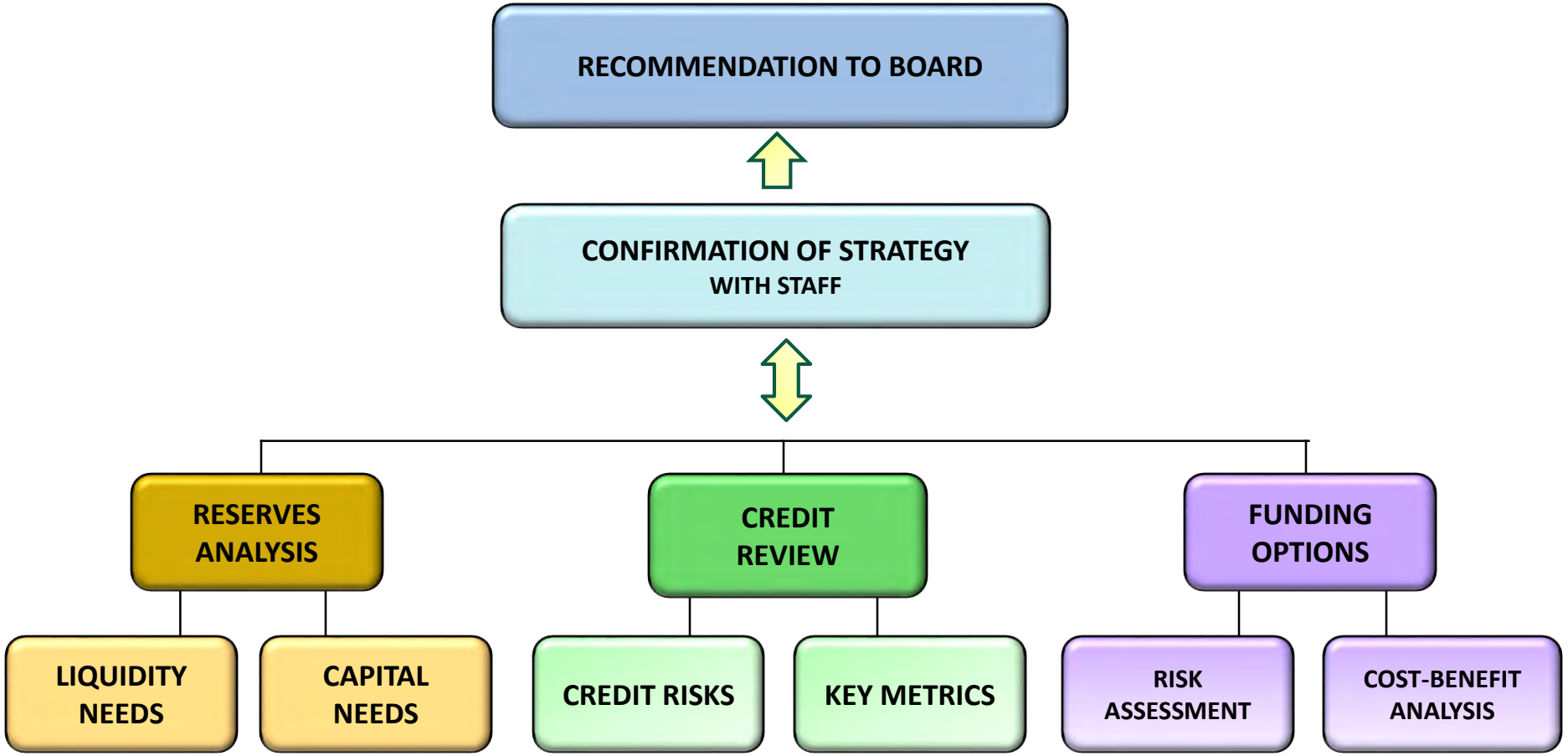
Board of Directors Meeting

October 17, 2017

FINANCIAL MODEL AND ANALYSIS

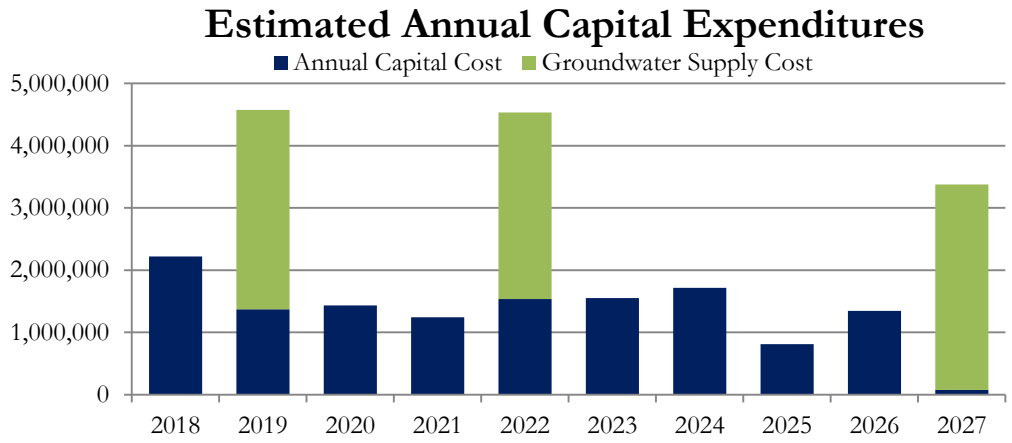
Detail analysis of Finance Plan and Model

FRA's Approach



FINANCIAL MODEL

- Over the next ten years, District's estimated capital expenditures total approximately $22.8 million in 2017 dollars (includes approximately $9.5 million for groundwater supply costs)



Key Financial Model Base Assumptions

Revenues

- FY 2017 revenues are static based on the Actual YTD and Projected figures presented in the FY 2017-18 Budget and Capital Improvement Plan
- FY 2018 revenues are static based on the budgeted figures presented in the FY 2017-18 Budget and Capital Improvement Plan
- FY 2019 through 2021 revenues are based on the Raftelis Rate Study Report, including applicable rate increases assumed by Report
- FY 2022 through 2027 water and sewer revenues can be adjusted based on growth or rate increases

Expenses

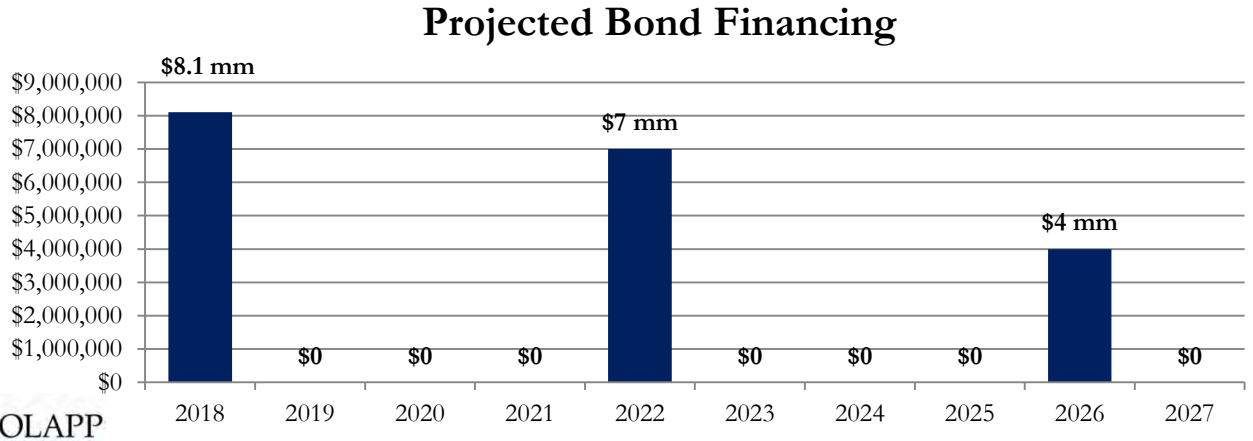
- FY 2017 expenses are static based on the Actual YTD and Projected figures presented in the FY 2017-18 Budget and Capital Improvement Plan
- FY 2018 expenses are static based on the budgeted figures presented in the FY 2017-18 Budget and Capital Improvement Plan
- FY 2019 through 2021 expenses are static based on the Rate Study
- FY 2022 through 2027 water and sewer expenses can be adjusted

MODEL SCENARIOS

- District's identified financial goals:
  - Fund 100% of identified CIP through 2027
  - Maintain at least $4.2 million in reserves every year
  - Minimize required rate increases while meeting above goals
- Scenario 1: No Rate Increases, Pay-as-you go CIP
  - Under these assumptions, District would end FY18 with ~$2.5 million of cash, but depletes all reserves during FY19
  - Conclusion: combination of debt-financing of CIP and future rate increases (after 2021) is necessary to meet goals

MODEL SCENARIOS

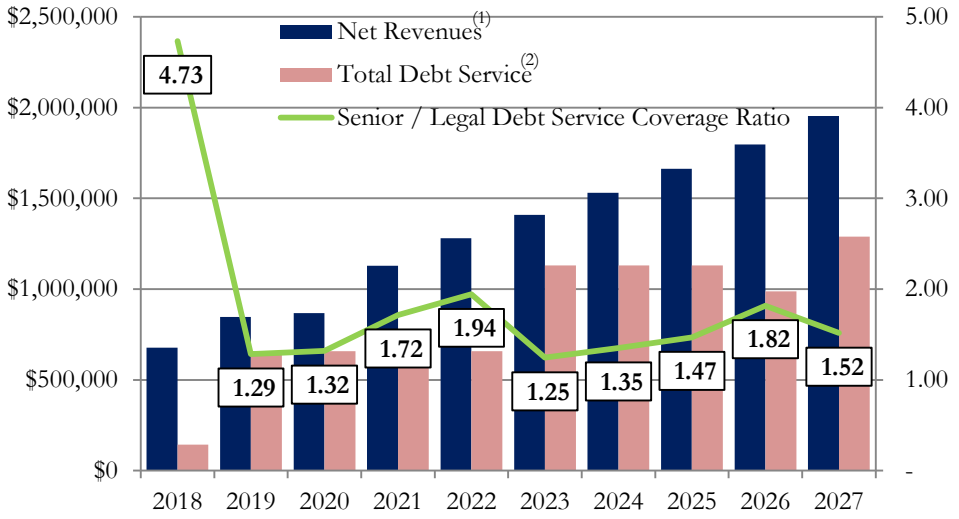
- Development of Scenario 2:
  - CIP funded at 100% each year; cash reserves target met to mitigate financial risk
  - As much as $19 million in CIP funded by debt in phases over 9 years
  - No rate increases in addition to recent Rate Study (current – FY21)
  - Projected 4% per year revenue increases from water and sewer revenues FY22-27 (assuming static current demand)
  - Sound financial metrics and financial position to ensure bond covenants are met each year



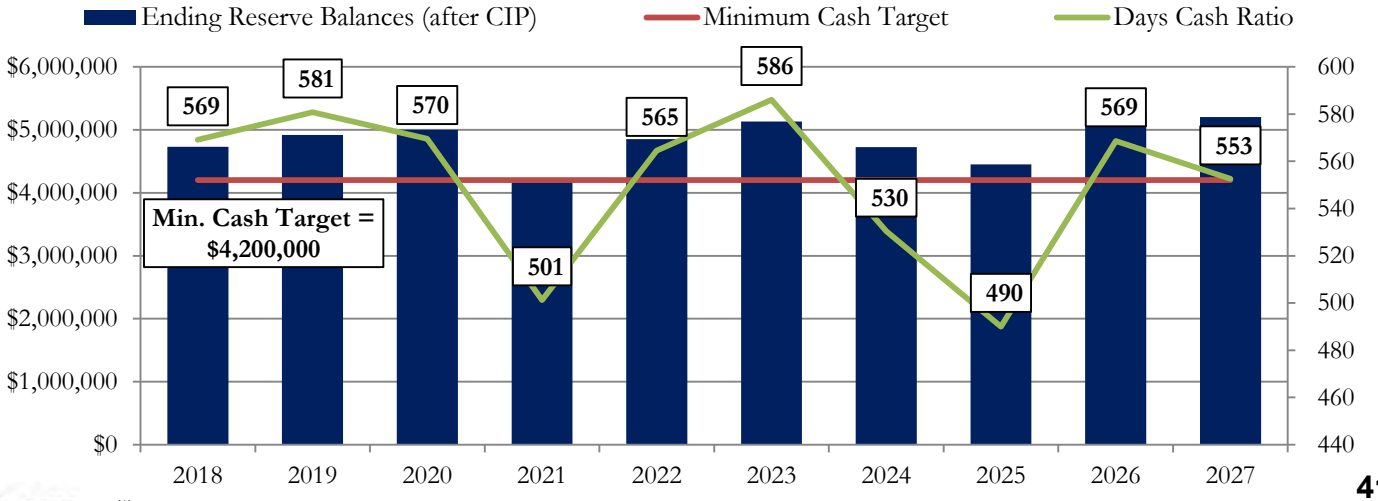
SCENARIO 2 DETAILED RESULTS

- Scenario 2 assumes:
  - 4% annual revenue increase in water and sewer charges from FY 2022 - 2027
  - 1% annual revenue increase in other revenues and investment income from FY 2022 - 2027
  - Includes $256,000 - $500,000 of annual SGMA regulatory costs beginning in FY 2019
  - 2% annual expense increase from FY 2022 - 2027

Projected Financial Results



Unrestricted Reserves and Days Cash



(1) Net Revenues reflect payment of 2015 BBVA Compass Loan.

(2) Total debt service includes outstanding 2008 IPA and projected new debt issuances.

OVERVIEW OF BOND ISSUANCE PROCESS

Detail and preparation of bond transactions process

Bond Issuance Considerations

- Legal Covenants
  - Rate covenant: pledge to set rates = 125% of debt payments
    - Current rate covenant is 125% on 2015 BBVA Compass Loan
- Credit Rating(s)
  - Typically required for effective public offering of bonds
- Public offering v. Private Placements
  - Public Offering requires disclosure document and underwriter
    - Preliminary Official Statement: used to sell debt to investors
    - Describes transaction, credit and legal rights of parties
  - Private Placement sold directly to typically one investor (bank)
    - Typically through a placement agent; no formal disclosure
    - This has been District's typical financing approach

FINANCE TEAM

Bond Counsel
Prepares legal documentation, (Installment Sales Agreement, Indenture, Escrow Agreements) resolutions, provides the validity opinion letter for bond issuance and that the Bonds are exempt from Federal income taxes.

Municipal Advisor
Has fiduciary relationship with issuer; provides advice on structure and mechanics of transaction. Reviews legal documentation, Preliminary and Final Official Statements; manages transaction flow; manages rating agency process, including creation of credit presentation; represents District during pricing process.

Disclosure Counsel
Prepares the Preliminary and final Official Statements. POS and OS provide details of BWD, e.g. financial results, forecast, customers, etc., and other material information for investors to make an informed decision to buy or not to buy.

Investment Banking/Underwriter
Assists in structuring the transaction and purchases the bonds from BWD for sale to investors.

Rating Agency
Gives an independent assessment of the likelihood that the bonds will be repaid timely.

Trustee
Holds funds, maintains records of bond owners and make payments of principal and interest to bond owners

Credit Rating Criteria

RECOMMENDATION

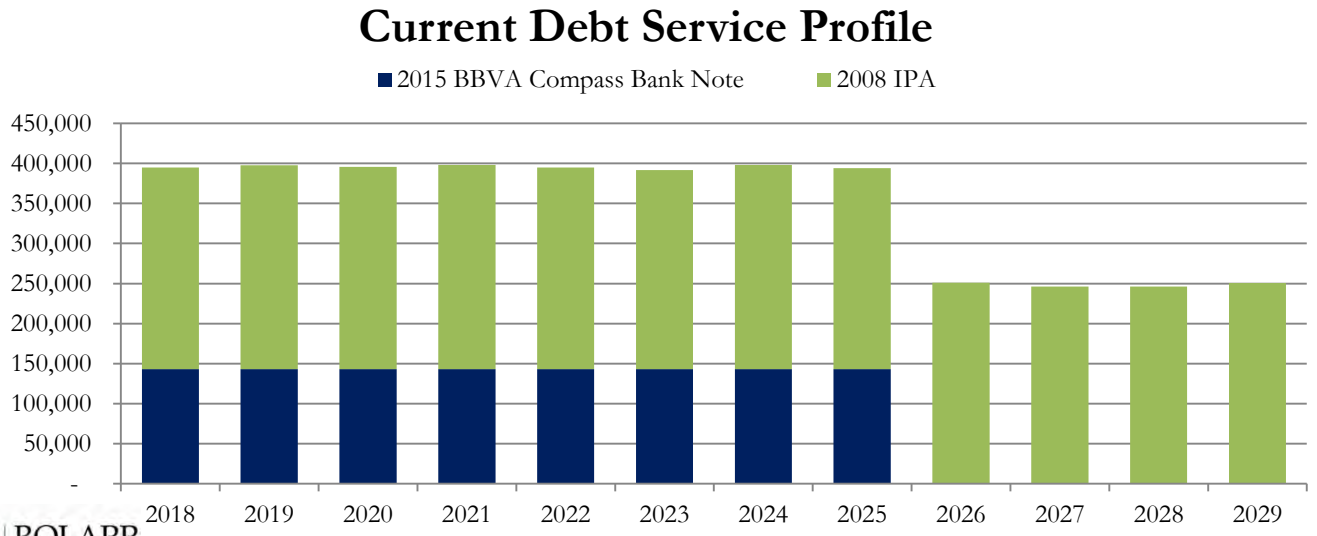
- Direct staff to move forward with a debt issuance of up to ~$8.1 million during 2018
  - Allow staff to put together the financing team to begin the transaction process and prepare the necessary documentation
  - Any additional proposed debt issues in future will be based on updated financial assumptions and expectations and further Board consideration
- Next steps:
  - Assemble finance team, including underwriter / placement agent
  - Assess optimum sale structure
  - Start legal documentation
  - If public sale, a meeting with a rating agency would be conducted once an initial offering document and presentation is prepared (typically 6-8 weeks after financing process starts, 2 weeks prior to Board approval)

APPENDIX / ADDITIONAL

Outstanding Debt and Refinancing Opportunities

OUTSTANDING DEBT

- 2008 IPA (final maturity FY2029) was entered into as a private placement with Sutter Securities Inc.
  - Bonds were issued to provide funds to refund the District's Series 1997 and 1998 Certificates; initial par amount of $2,775,000
    - Approximately $2.3 million is currently outstanding ($150,000 due on 10/1/2017)
  - Subject to prepayment on 10/1/2017 at a premium of 102%
    - Current interest rate of 4.50%
- 2015 BBVA Compass Loan (final maturity FY2025)
  - Taxable bonds were issued to provide funds for refunding existing debt related to land and water purchases; initial par amount of $1,125,000
    - Approximately $918,000 is currently outstanding
  - Not subject to optional redemption
    - Current interest rate of 4.95% with annual repayment of $143,312



POTENTIAL REFUNDING OVERVIEW

- 2008 IPA is a potential refunding opportunity
- Preliminary analysis estimates potential net present value savings of $116,000, or $10,000 - $14,000 annually
  - Savings of approximately 5% of refunded bonds
- Industry standard suggests at least 3% NPV savings in total and maturity by maturity

DISCLAIMER: The refunding scenarios are being provided for informational purposes only, and do not reflect any specific recommendation regarding a financial transaction. These materials include an assessment of current market conditions, and include Fieldman, Rolapp & Associates, Inc. assumptions about interest rates, execution costs, and other matters related to municipal securities issuance or municipal financial products. These assumptions may change at any time subsequent to the date these materials were provided. The refinancing and refunding scenarios presented herein are not intended to be inclusive of every feasible or suitable refinancing alternative.

Fieldman, Rolapp & Associates, Inc. is an SEC-registered Municipal Advisor, undertaking a fiduciary duty in providing financial advice to public agencies. Compensation contingent on the completion of a financing or project is customary for municipal financial advisors. To the extent that our compensation for a transaction is contingent on successful completion of the transaction, a potential conflict of interest exists as we would have a potential incentive to recommend the completion of a transaction that might not be optimal for the public agency. However, Fieldman, Rolapp & Associates, Inc. undertakes a fiduciary duty in advising public agencies regardless of compensation structure.

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.F

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Presentation on Aquaponics Project, Bill Berkley – G. Poole

RECOMMENDED ACTION:

Receive report from Mr. Berkley, discuss next steps and direct staff accordingly.

ITEM EXPLANATION

Mr. Berkley is considering adding a number of aquaponic pods to the Fortner Ranch property and he has asked to present his idea to the Board.

FISCAL IMPACT

N/A

ATTACHMENTS

Letter from Mr. Bill Berkley

Mr. Geoff Poole, BWD Manager
Borrego Springs, California, 92004

August 28, 2017

Delivered Via Email

Re: VCF request an increase in water use from 1 to 5 acre feet per year for a hydroponic farm on the fallowed Fortiner 50 acre citrus farm. Parcels # 140-070-05, and 11.

Dear Geoff:

Very Clean Foods, VCF, is a hydroponic (aeroponic & aquaponic) company that will be leasing agriculture zoned land, formerly part of the Fortiner Ranch, a total of 49.82 acres on DiGiorgio Road, Borrego Springs, California, 92004, from T2 Borrego, LLC if our request is granted by the BWD. Rams Hill fallowed this property about two years ago with a restriction that not more than 1 acre foot per year be pumped.

VCF would like to request the Borrego Water District's approval to increase the water pumping from 1 to 5 acre feet per year on the condition that the additional water will only be used for hydroponic farming.

With 5 acre feet of water, the amount currently consumed by one acre of citrus, VCF's hydroponic farm can grow up to 14 crops per year with an estimated value of $20 million, and provide more than a hundred year round good paying jobs in air conditioned facilities.

Borrego is VCF's first choice because of its relatively inexpensive land, highly efficient solar power, quality water, and proximity to major markets.

VCF is currently working with Michael Johnson from the County Planning and Development Services Department and Bill Horn's Chief of Staff, Darren Gretler, on permitting the pods and solar array.

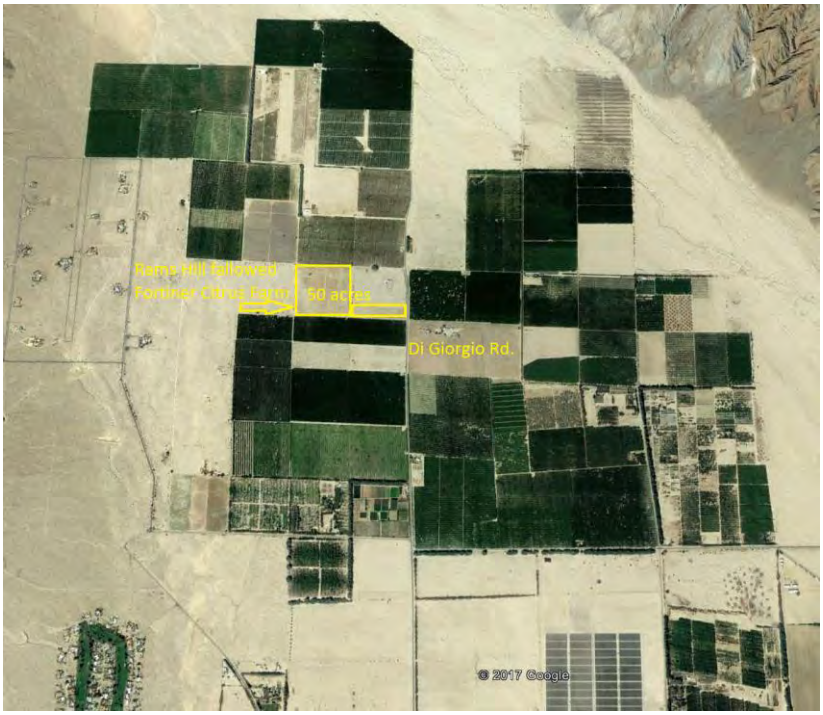
VCF will be happy to meet with a BWD committee to discuss the project in more detail. Since the 50 acre fallowed farm has the right to use 1 acre foot of water, we would like to know if the BWD has any objection to our placing not more than 10 hydroponic pods on the property once we obtain the County's approvals. Ten pods would use less than 50,000 gallons per year and grow crops worth $500,000. We will await the BWD's decision before using more than 1 acre foot per year.

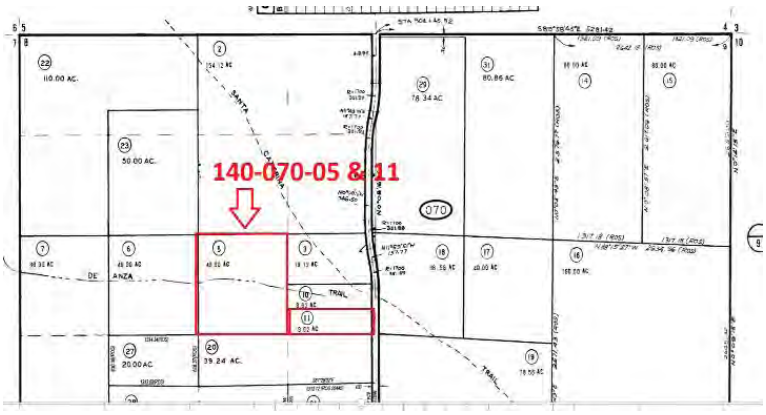
With your approval VCF will efficiently use Borrego's water and sunshine to create good paying year round jobs and improve Borrego's economy.

Regards,

Bill Berkley

Rams Hill fallowed the former Fortner Citrus Ranch in north Borrego Springs.





The Perfect Strawberry can only be grown Aeroponically

Strawberries are the sweetest when they have the proper nutrients, CO2 and PH, moderate humidity in the day and lower humidity at night, good air flow, specific hours of blue and red light at each stage of their growth, 73 degree daytime temperatures and 64 degree nighttime temperatures, and no pesticides, herbicides, or harmful bacteria.

Farmers and Mother Nature rarely provide ideal conditions,

But we do!

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – OCTOBER 17, 2017

AGENDA BILL 2.G

October 10, 2017

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Considerations for Allocating Safe Yield - R Schindler

RECOMMENDED ACTION:

Receive report from Mr. Shindler

ITEM EXPLANATION

Ray Shindler submitted the following request to address the BWD Board, below:

To Geoff Poole
From: Ray Shindler
Re: SGMA Process

On behalf of the independent ratepayer group I would like to present the following information to the Water Board at the meeting on October 17.

Also, I would like to provide an overview of where we are at this point on the SGM process. Including Jim Seley's letter to the advisory committee and the discussion at the last advisory meeting concerning the SGMA Q and A document.

Ray Shindler
Here is the relevant section from the Tom Bunn draft report.

Water code section 106 states that the domestic use of water is a higher use of water than irrigation use. Water code section 106.3 declares that every human being has the right to safe, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes, and State Agencies MUST take that into account in policies, regulations, and grant criteria. Water code 106.5 provides for the protection of the right of a municipality to acquire and hold rights to the use of water for existing and future uses.

In the recent Santa Maria groundwater adjudication, the court did use these statutes to support its conclusion that parties with prescriptive rights (who are generally domestic and municipal users) do not lose their rights. For purposes of groundwater allocations under SGMA, I believe that water code 106, 106.3, and 106.5 furnish a powerful argument that domestic and municipal uses should not suffer the same reductions as irrigation.

Conclusion

The Groundwater Sustainability Agency has broad discretion about how to allocate groundwater extractions among the competing users, and is not required to reduce all users equally. There are several arguments for reducing domestic and municipal users less. It is a reasonable position that they should get what they are currently using....and that the remainder of the reduction fall on irrigation users...the Borrego Water District SHOULD BE TAKING THIS POSITION.

ITEM III
INFORMATIONAL ITEMS

DAILY INSPECTION REPORT

DUDEK

PROJECT: 900 Tank Replacement Project	DAY NO.:
OWNER: Borrego Water District	JOB NO.: 1056
ENGINEER: Dudek Engineering	DATE: 10/10/17
CONTRACTOR: Superior Tank Company	DAY: Tuesday
CONST. MNGR:	WEATHER/TEMP: 70º Sunny

AVERAGE FIELD FORCE

CONTRACTOR OR SUB	SUPERVISOR	LABOR	REMARKS
Superior Tank Co.		5	

CONSTRUCTION ACTIVITIES:

Superior Tank Company was onsite to construct the new 700,000 gallon bolted steel reservoir. The foreman informed me that the floor of the reservoir and first vertical stage of the reservoir had been constructed, and Superior was planning to install the remaining sections over the next two weeks. Close coordination with the contractor and frequent inspection of the work will be required over the next two weeks to insure proper installation. During the field visit the tank appurtenances and the upper section of tank panels were delivered to the site and all appeared to be in good condition. Further inspection of these materials will be required during and after installation.

The field visit included inspection of the installed floor and wall panels. Upon initial inspection it appeared that all of the panels were installed with the appropriate gaskets, coatings and galvanized materials on both the interior and exterior of the reservoir. Upon completion of the reservoir, the floor seams will be vacuum tested and the wall panels will be hydrostatically leak tested to ensure seam competency. A majority of the coatings on the installed panels appeared to be in good condition without marks and blemishes with the exception of two wall panels located at the 1:00 and 9:30 positions (rotating from north) which had small abrasions in the coatings which will be touched up after complete assembly.

After a review of specifications to determine missing project materials the following information was requested from Superior Tank Company's Jennifer Marquez:

- Compaction reports for sub-grade preparation
- Bolt torque specification
- Stamped and signed shop drawings for reservoir and accessories
- Certified mill tests for all steel plate
- Proposed field repair coatings
- Testing and commissioning plan

The supporting information is crucial to ensure the materials provided meet the requirements of the specifications and to ensure the onsite construction in complete correctly.

Justin Scheidel, PE Justin Scheidel **DATE: 10/10/17**