TRUCKEE MEADOWS WATER AUTHORITY
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STAFF REPORT

TO: TMWA Board Members
THRU: Mark Foree, General Manager
FROM: Michele Sullivan, Chief Financial Officer/Treasurer
DATE: October 19, 2016
SUBJECT: **Presentation of Preliminary Funding Plan for Fiscal Years 2017 through 2022, discussion and possible direction to staff**

Recommendation

Recommendation is to direct staff to further review options related to rate adjustments necessary to close the funding gap between recurring revenues and the cost of servicing TMWA customers, based on the Draft Funding Plans attached.

Summary

Two 2017-2022 Draft Funding Plans are presented to the TMWA Board for consideration. Rate adjustments necessary to close the funding gap between recurring revenues and the cost of servicing the customer base are presented for both plans. TMWA's last rate increase was in February of 2014. Deferral of bond maturities in 2017-2019 totaling $39.1 million in TMWA's 2016 bond refunding allowed for time to close the funding gap with reasonable rate increases over the next several years. Waiting until TMWA debt service increases again, will effectively require a much larger rate increase. With low single digit rate increases beginning in fiscal year 2018, TMWA can close the funding gap, and maintain critical financial goals which are essential to maintain adequate cash balances and investment grade credit ratings.

Discussion

Two funding plans are presented in this report that analyze the ability of TMWA to fund operating expenses, principal and interest payments on all currently outstanding debt, principal and interest payments on any new money issuance, and all capital improvements presented in the TMWA 2017-2021 Capital Improvement Plan (CIP). The funding period coincides with TMWA's latest proposed CIP period plus one year. These high level presentations are based upon very detailed financial projections. Assumptions used in these financial projections can be found in ***Attachment C*** and are common to both funding plans, except where noted.

Critical financial goals for TMWA that need to be considered in these funding plans are as follows:

- Maintain recurring revenues sufficient to cover the cost to serve customers
- Maintain a senior lien coverage (DSC) ratio that not only meets bond covenants (1.25x) but also pays for rehabilitative capital projects on a pay-as-you-go basis.
- Maintain high investment grade credit ratings to cost effectively access the credit markets

The TMWA Board adopted a policy in August of 2003 to maintain a senior lien debt coverage ratio at 1.50x (excluding developer facility fees), which pays for cash operating expenses, all principal and interest on outstanding debt and for rehabilitative capital projects on a pay-as-you-go basis. This policy maintains recurring revenues to meet the cost of service. Recurring revenues are comprised of water sales, hydroelectric revenues, other miscellaneous operating revenues and investment income with water sales making up anywhere from 90 to 95% of recurring revenues. The cost to serve customers is defined as annual cash operating expenses, principal and interest payments on all outstanding debt as well as rehabilitative capital projects and outlays. If recurring revenues are less than the cost to serve customers this is referred to as a funding gap.

Conservation has become one of the greatest challenges to maintaining recurring revenues sufficient to cover the cost to serve TMWA customers. Revenues have decreased significantly since fiscal years 2013 and 2014, when TMWA, WCWU and STMGID combined generated $97.2 million in water sales revenue. In fiscal year 2015, the combined water utilities generated $94.7 million. In fiscal year 2016, TMWA experienced $88.3 million in water sales revenue in the first full fiscal year as a combined water utility. The main contributor to this shortfall in anticipated water sales or recurring revenues comes from conservation. Due to increased conservation requests in the summer of 2015, water use decreased in excess of 20% in several customer classes. Based on a survey conducted after the drought in 2015 by TMWA in conjunction with the University of Nevada, Reno, 89% of customers surveyed indicated they would maintain lower water usage regardless of future water supply. Less than 1% of customers surveyed did not plan to maintain lower water usage.

Due to decreases in recurring revenue, a strategy to counter these effects was taken in the refunding and defeasance of the Series 2006 Refunding Bonds in April of 2016. Principal maturities totaling $39.1 million in 2017- 2019 were moved to fiscal years 2035-2037. This allowed TMWA to decrease the funding gap without significant increases in water rates which could further impact customer water demands. This approach provided the utility with flexibility in the timing of rate increases, and allows for measured increases in rates before debt service levels increase in fiscal year 2020.

The Draft Funding Plan found in ***Attachment A-1 and A-2*** presents the financial metrics and disparity between recurring revenues and the cost to serve customers after the deferral of the aforementioned maturities in the Series 2016 Refunding Bonds. In this five year projection, water sale assumptions are based on actual calendar year 2015 water demands that included conservation due to drought, with a 3% rebound in customer demand. ***Attachment A-1*** projects financial performance metrics with no rate increases under these assumptions and others as listed in ***Attachment C***.

Critical metrics for TMWA are projected as follows:

- TMWA's revenue deficiency as a combined utility increases to $16.7 million and 14.4% by 2020, increasing to $19.1 million and 16.1% by 2022.
- Senior lien debt service coverage ratios decline as recurring revenues do not cover cost of service, and debt service increases, falling below a required ratio of 1.25 per TMWA's debt indenture covenants in 2020 and beyond.
- Unrestricted cash balances decline significantly beginning in 2020 and fall below required levels to maintain investment grade credit ratings.

In ***Attachment A-2*** the funding plan from ***Attachment A-1*** is shown with projected rate increases sufficient to increase recurring revenues to cover the projected cost of service by 2022, which strengthens TMWA's DSC calculations and preserves cash balances. Rate increases are estimated at 4% annually over four years beginning in fiscal year 2018, with 3.5% in the fifth year 2022.

Critical metrics for TMWA are projected as follows:

- Recurring revenue is sufficient to cover projected cost of service by 2022.
- TMWA maintains its Board approved DSC ratio of 1.5.
- Unrestricted cash balances are maintained at levels sufficient to maintain investment grade credit ratings.

The Draft Funding Plan found in ***Attachment B-1*** presents the financial metrics and disparity between recurring revenues and the cost to serve customers with a 3% rebound in customer demand similar to the first plan presented. It also includes estimates related to a refunding of TMWA's $202.9 million in Series 2007 Refunding Bonds. This scenario assumes that TMWA refunds the senior lien debt in the fourth quarter of 2017, which would release the restricted debt reserve fund of $32.0 million. It is assumed that this cash would be used to pay down principal in the refunding. It is also assumed that a premium on the refunding will result in a reduction in principal by another $20.9 million, leaving the principal outstanding at $150.0 million. This assumption is based on recent projections by JP Morgan which estimate a reduction in principal to $143.9 million. This future refunding projection is very dependent on interest rates early next year. ***Attachment B-1*** projects financial performance with no rate increases under these assumptions and others as listed in ***Attachment C***.

Critical metrics for TMWA are projected as follows:

- TMWA's revenue deficiency as a combined utility is over $10 million and 10% annually once debt service increases in 2020.
- Senior lien debt service coverage ratios decline as recurring revenues do not cover cost of service, and debt service increases, falling below a required ratio of 1.5 per TMWA's debt management policy in 2021.
- Unrestricted cash balances decline beginning in 2020 and fall below required levels to maintain investment grade credit ratings.

In ***Attachment B-2*** the funding plan from ***Attachment B-1*** is shown with projected rate increases sufficient to increase recurring revenues to cover the projected cost of service by 2022, which strengthens TMWA's DSC calculations and preserves cash balances. Rate increases are estimated at 3% annually in 2018 and 2019, with 2.5% increases in 2019- 2022.

- Recurring revenue is sufficient to cover projected cost of service by 2022.
- TMWA maintains its Board approved DSC ratio of 1.5.
- Unrestricted cash balances are maintained at levels sufficient to maintain investment grade credit ratings.

Attention to the financial metrics and funding gap projected in fiscal year 2020 and beyond in the Draft Funding Plans cannot be understated and needs to be addressed. Implementing low single digit increases in 2018 and 2019 will avoid a possible double digit increase in 2020. Deferral of principal payments in the 2016 refunding gives TMWA the time to implement reasonable increases based on market comparables. Based on Consumer Price Indexes (CPI-U), water bills have increased 4.5% in 2014, and 3.9% in 2015 and 2016 in the U.S. TMWA has not implemented a rate increase during those years, and has maintained water charges that are below the average per household based on a 2015 California-Nevada water and wastewater survey. This same survey showed that increases in water bills for the period 2013-2015 averaged 6%-12%, with areas having the lowest bills increasing the most.

Also, it is particularly important to present a secure Funding Plan in order to achieve a successful refunding and defeasance of TMWA's $202.9 million in outstanding Series 2007 Refunding Bonds in the third quarter of fiscal year 2017. By implementing a plan to increase recurring revenues to cover cost of service, TMWA's Funding Plan will demonstrate maintenance of a healthy DSC ratio and treasury balance. This will position TMWA for success in the Series 2007 Bonds refunding in 2017. Strong balances of cash and investments help underpin the high investment grade credit ratings of TMWA which when combined with the senior lien DSC ratio of at least 1.50x affords the Aa2/AA investment grade credit rating by Moody's/S&P. These credit ratings allow for cost effective access to the credit markets making TMWA bonds a desirable investment for potential investors. The interplay between the senior lien DSC ratio and strong cash and investment levels is critical to maintaining the aforementioned investment grade credit ratings.

TMWA management will continue with strong cost control measures, as demonstrated over the past five years, while continuing to explore operating cost synergies from the water utility consolidation. The Draft Funding Plans demonstrate that addressing the funding gap now will avoid higher rate increases in the future. A strategy to increase water rates to narrow the funding gap can be revisited periodically as new information is available. If recommended by the Board, a more specific proposal related to rate adjustments can be developed and presented at a future Board meeting. Staff will also present all relevant rate analysis to the Standing Advisory Committee for their review and recommendation.

Truckee Meadows Water Authority
Debt Service Coverage Ratios (DSCs) Senior and Subordinate

TMWA's Revenue Sufficiency and Cost of Service	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Projected Rate Increases	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Operating Expenses	$ 53,731,126	$ 55,821,167	$ 57,688,696	$ 59,640,994	$ 61,933,775	$ 63,517,771
Principal and Interest on all outstanding debt	20,482,025	20,831,022	20,835,198	35,136,909	34,877,812	35,287,859
Rehabilitative Capital Spending	36,347,500	30,818,000	23,569,500	21,272,000	21,207,000	20,000,000
Total Projected Cost of Service	**$ 110,560,651**	**$ 107,470,189**	**$ 102,093,394**	**$ 116,049,903**	**$ 118,018,587**	**$ 118,805,630**
Recurring Revenues	**$ 97,093,016**	**$ 98,503,211**	**$ 99,014,367**	**$ 99,318,247**	**$ 99,684,204**	**$ 99,720,981**
Surplus (Deficiency)	**$ (13,467,635)**	**$ (8,966,978)**	**$ (3,079,027)**	**$ (16,731,655)**	**$ (18,334,382)**	**$ (19,084,649)**
Surplus (Deficiency) as a % of Cost of Service	-12.2%	-8.3%	-3.0%	-14.4%	-15.5%	-16.1%

Debt Service Coverage Ratios	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Operating Revenues	94,924,988	96,675,135	96,974,221	97,041,673	97,177,280	97,279,466
Investment Income	2,168,028	1,828,076	2,040,146	2,276,574	2,506,924	2,441,515
Total Revenues	97,093,016	98,503,211	99,014,367	99,318,247	99,684,204	99,720,981
Operating Expenses	(53,731,126)	(55,821,167)	(57,688,696)	(59,640,994)	(61,933,775)	(63,517,771)
Net Revenues	43,361,890	42,682,044	41,325,671	39,677,253	37,750,429	36,203,210
Senior Lien Debt Service	17,804,763	17,994,063	17,850,463	31,995,063	31,639,000	32,086,325
Senior Lien DSC	**2.44**	**2.37**	**2.32**	**1.24**	**1.19**	**1.13**
Total Sr. Lien and SRF Debt Service	20,015,859	20,206,401	20,020,585	34,121,751	33,721,003	34,122,354
Total Sr. Lien and SRF DSC	**2.17**	**2.11**	**2.06**	**1.16**	**1.12**	**1.06**
Total Annual Debt Service incl. TECP Interest	20,482,025	20,831,022	20,835,198	35,136,909	34,877,812	35,287,859
Total Subordinate DSC	**2.12**	**2.05**	**1.98**	**1.13**	**1.08**	**1.03**

TMWA's Asset/Liability Matching	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Unrestricted Cash and Investments (End of Year)	**$ 84,705,988**	**$ 75,620,297**	**$ 74,245,243**	**$ 59,965,906**	**$ 39,526,125**	**$ 20,482,077**
Projected oustanding Tax-Exempt Comercial Paper	**83,400,000**	**78,400,000**	**73,600,000**	**68,000,000**	**62,800,000**	**57,800,000**
Asset/Liability-Match (Mismatch)	**$ 1,305,988**	**$ (2,779,703)**	**$ 645,243**	**$ (8,034,094)**	**$ (23,273,875)**	**$ (37,317,923)**

Truckee Meadows Water Authority
Debt Service Coverage Ratios (DSCs) Senior and Subordinate

TMWA's Revenue Sufficiency and Cost of Service	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Projected Rate Increases	0.0%	4.0%	4.0%	4.0%	4.0%	3.5%
Operating Expenses	$ 53,731,126	$ 55,821,167	$ 57,688,696	$ 59,640,994	$ 61,933,775	$ 63,517,771
Principal and Interest on all outstanding debt	20,482,025	20,831,022	20,835,198	35,136,909	34,877,812	35,287,859
Rehabilitative Capital Spending	36,347,500	30,818,000	23,569,500	21,272,000	21,207,000	20,000,000
Total Projected Cost of Service	**$ 110,560,651**	**$ 107,470,189**	**$ 102,093,394**	**$ 116,049,903**	**$ 118,018,587**	**$ 118,805,630**
Recurring Revenues	**$ 97,093,016**	**$ 102,132,967**	**$ 106,450,732**	**$ 110,711,827**	**$ 115,142,965**	**$ 118,873,575**
Surplus (Deficiency)	**$ (13,467,635)**	**$ (5,337,222)**	**$ 4,357,339**	**$ (5,338,075)**	**$ (2,875,622)**	**$ 67,945**
Surplus (Deficiency) as a % of Cost of Service	-12.2%	-5.0%	4.3%	-4.6%	-2.4%	0.1%

Debt Service Coverage Ratios	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Operating Revenues	94,924,988	100,304,891	104,410,586	108,435,253	112,636,041	116,432,060
Investment Income	2,168,028	1,828,076	2,040,146	2,276,574	2,506,924	2,441,515
Total Revenues	97,093,016	102,132,967	106,450,732	110,711,827	115,142,965	118,873,575
Operating Expenses	(53,731,126)	(55,821,167)	(57,688,696)	(59,640,994)	(61,933,775)	(63,517,771)
Net Revenues	43,361,890	46,311,800	48,762,036	51,070,833	53,209,190	55,355,804
Senior Lien Debt Service	17,804,763	17,994,063	17,850,463	31,995,063	31,639,000	32,086,325
Senior Lien DSC	**2.44**	**2.57**	**2.73**	**1.60**	**1.68**	**1.73**
Total Sr. Lien and SRF Debt Service	20,015,859	20,206,401	20,020,585	34,121,751	33,721,003	34,122,354
Total Sr. Lien and SRF DSC	**2.17**	**2.29**	**2.44**	**1.50**	**1.58**	**1.62**
Total Annual Debt Service incl. TECP Interest	20,482,025	20,831,022	20,835,198	35,136,909	34,877,812	35,287,859
Total Subordinate DSC	**2.12**	**2.22**	**2.34**	**1.45**	**1.53**	**1.57**

TMWA's Asset/Liability Matching	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Unrestricted Cash and Investments (End of Year)	**$ 84,705,988**	**$ 79,250,053**	**$ 85,311,364**	**$ 82,425,608**	**$ 77,444,586**	**$ 77,553,133**
Projected oustanding Tax-Exempt Comercial Paper	**83,400,000**	**78,400,000**	**73,600,000**	**68,000,000**	**62,800,000**	**57,800,000**
Asset/Liability-Match (Mismatch)	**$ 1,305,988**	**$ 850,053**	**$ 11,711,364**	**$ 14,425,608**	**$ 14,644,586**	**$ 19,753,133**

Truckee Meadows Water Authority
Debt Service Coverage Ratios (DSCs) Senior and Subordinate

TMWA's Revenue Sufficiency and Cost of Service	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Projected Rate Increases	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Operating Expenses	$ 53,731,126	$ 55,821,167	$ 57,688,696	$ 59,640,994	$ 61,933,775	$ 63,517,771
Principal and Interest on all outstanding debt	20,371,505	18,700,035	18,700,685	28,004,471	28,418,287	27,918,759
Rehabilitative Capital Spending	36,347,500	30,818,000	23,569,500	21,272,000	21,207,000	20,000,000
Total Projected Cost of Service	**$ 110,450,131**	**$ 105,339,202**	**$ 99,958,881**	**$ 108,917,465**	**$ 111,559,062**	**$ 111,436,530**
Recurring Revenues	**$ 96,766,148**	**$ 97,158,031**	**$ 97,627,567**	**$ 98,062,994**	**$ 98,386,072**	**$ 98,422,849**
Surplus (Deficiency)	**$ (13,683,983)**	**$ (8,181,170)**	**$ (2,331,314)**	**$ (10,854,471)**	**$ (13,172,989)**	**$ (13,013,680)**
Surplus (Deficiency) as a % of Cost of Service	**-12.4%**	**-7.8%**	**-2.3%**	**-10.0%**	**-11.8%**	**-11.7%**
Debt Service Coverage Ratios	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Operating Revenues	94,924,988	96,675,135	96,974,221	97,041,673	97,177,280	97,279,466
Investment Income	1,841,160	482,896	653,346	1,021,321	1,208,792	1,143,383
Total Revenues	96,766,148	97,158,031	97,627,567	98,062,994	98,386,072	98,422,849
Operating Expenses	(53,731,126)	(55,821,167)	(57,688,696)	(59,640,994)	(61,933,775)	(63,517,771)
Net Revenues	43,035,022	41,336,864	39,938,871	38,422,000	36,452,297	34,905,078
Senior Lien Debt Service	17,694,242	15,863,075	15,715,950	24,862,625	25,179,475	24,717,225
Senior Lien DSC	**2.43**	**2.61**	**2.54**	**1.55**	**1.45**	**1.41**
Total Sr. Lien and SRF Debt Service	19,905,339	18,075,414	17,886,072	26,989,314	27,261,478	26,753,254
Total Sr. Lien and SRF DSC	**2.16**	**2.29**	**2.23**	**1.42**	**1.34**	**1.30**
Total Annual Debt Service incl. TECP Interest	20,371,505	18,700,035	18,700,685	28,004,471	28,418,287	27,918,759
Total Subordinate DSC	**2.11**	**2.21**	**2.14**	**1.37**	**1.28**	**1.25**
TMWA's Asset/Liability Matching	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Unrestricted Cash and Investments (End of Year)	**$ 84,489,640**	**$ 76,189,757**	**$ 75,562,415**	**$ 67,160,263**	**$ 51,881,874**	**$ 38,908,794**
Projected oustanding Tax-Exempt Comercial Paper	**83,400,000**	**78,400,000**	**73,600,000**	**68,000,000**	**62,800,000**	**57,800,000**
Asset/Liability-Match (Mismatch)	**$ 1,089,640**	**$ (2,210,243)**	**$ 1,962,415**	**$ (839,737)**	**$ (10,918,126)**	**$ (18,891,206)**

Truckee Meadows Water Authority
Debt Service Coverage Ratios (DSCs) Senior and Subordinate

TMWA's Revenue Sufficiency and Cost of Service	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Projected Rate Increases	**0.0%**	**3.0%**	**3.0%**	**2.5%**	**2.5%**	**2.5%**
Operating Expenses	$ 53,731,126	$ 55,821,167	$ 57,688,696	$ 59,640,994	$ 61,933,775	$ 63,517,771
Principal and Interest on all outstanding debt	20,371,505	18,700,035	18,700,685	28,004,471	28,418,287	27,918,759
Rehabilitative Capital Spending	36,347,500	30,818,000	23,569,500	21,272,000	21,207,000	20,000,000
Total Projected Cost of Service	**$ 110,450,131**	**$ 105,339,202**	**$ 99,958,881**	**$ 108,917,465**	**$ 111,559,062**	**$ 111,436,530**
Recurring Revenues	**$ 96,766,148**	**$ 99,880,351**	**$ 103,177,501**	**$ 106,040,114**	**$ 108,820,671**	**$ 111,371,214**
Surplus (Deficiency)	**$ (13,683,983)**	**$ (5,458,851)**	**$ 3,218,620**	**$ (2,877,351)**	**$ (2,738,391)**	**$ (65,316)**
Surplus (Deficiency) as a % of Cost of Service	**-12.4%**	**-5.2%**	**3.2%**	**-2.6%**	**-2.5%**	**-0.1%**

Debt Service Coverage Ratios	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Operating Revenues	94,924,988	99,397,455	102,524,155	105,018,793	107,611,879	110,227,831
Investment Income	1,841,160	482,896	653,346	1,021,321	1,208,792	1,143,383
Total Revenues	96,766,148	99,880,351	103,177,501	106,040,114	108,820,671	111,371,214
Operating Expenses	(53,731,126)	(55,821,167)	(57,688,696)	(59,640,994)	(61,933,775)	(63,517,771)
Net Revenues	43,035,022	44,059,184	45,488,805	46,399,120	46,886,896	47,853,443
Senior Lien Debt Service	17,694,242	15,863,075	15,715,950	24,862,625	25,179,475	24,717,225
Senior Lien DSC	**2.43**	**2.78**	**2.89**	**1.87**	**1.86**	**1.94**
Total Sr. Lien and SRF Debt Service	19,905,339	18,075,414	17,886,072	26,989,314	27,261,478	26,753,254
Total Sr. Lien and SRF DSC	**2.16**	**2.44**	**2.54**	**1.72**	**1.72**	**1.79**
Total Annual Debt Service incl. TECP Interest	20,371,505	18,700,035	18,700,685	28,004,471	28,418,287	27,918,759
Total Subordinate DSC	**2.11**	**2.36**	**2.43**	**1.66**	**1.65**	**1.71**

TMWA's Asset/Liability Matching	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Unrestricted Cash and Investments (End of Year)	**$ 84,489,640**	**$ 78,912,077**	**$ 83,834,669**	**$ 83,409,637**	**$ 78,565,846**	**$ 78,541,131**
Projected oustanding Tax-Exempt Comercial Paper	**83,400,000**	**78,400,000**	**73,600,000**	**68,000,000**	**62,800,000**	**57,800,000**
Asset/Liability-Match (Mismatch)	**$ 1,089,640**	**$ 512,077**	**$ 10,234,669**	**$ 15,409,637**	**$ 15,765,846**	**$ 20,741,131**

2017-2022 Draft Funding Plan Assumptions
(ATTACHMENT C)

Operational Assumptions

1) Greater reliance on surface water in fiscal year 2017 due to improved weather patterns with groundwater supplies augmenting the surface water treatment plants. Both surface water treatment plants to operate.

2) The Longley Lane Water Treatment Plant will be operated more as a pump transfer station rather than using the treatment membranes in order to reduce operating expenses.

3) The North Valleys Integration Pipeline Project should be completed during fiscal year 2017. Fish Springs Ranch (Vidler) groundwater will be made available to the North Valleys reducing reliance on groundwater in the Lemmon Valley Basin. Water flow maintained to optimize water quality.

4) The Mt. Rose/Galena Surface Water Treatment Plant operational in the middle of fiscal year 2018 with operating costs assumed to be $600 per mgal.

5) River flows are assumed to be adequate to operate the hydroelectric facilities with the exception of fiscal year 2017 when river flows are anticipated to drop off in October and return in the February 2017 timeframe.

6) Truckee River Operating Agreement (TROA) is expected to diminish hydroelectric revenues by at least $0.5 million per year due to storage activities of the various parties to the agreement and bypass flows.

Revenue/Capital Contribution Assumptions

1) Projected water sale revenues for FY 2017-FY2022 are based upon calendar year 2015 customer demands, with a 3% rebound in customer demand. This includes the impact of the drought and converting flat rate customers to metered billing.

2) Hydroelectric sales assumed to be based on median river flows except for fiscal year 2017.

3) Growth in service connections is consistent with growth projections presented in the Draft 2015-2035 Water Resource Plan. The Draft Funding Plan anticipates an additional 10,630 service connections over the six year period from approximately 2,400 connections in fiscal year 2017 decreasing to 1,630 connections in fiscal year 2022.

4) Weighted average yield on investable cash is estimated to be 0.40% in fiscal year 2017 rising to 1.27% in fiscal year 2022. These yields are sufficient to maintain prudent asset/liability management practices. The Forward Delivery Agreements for the Debt Service Reserve Fund and part of the Operations and Maintenance Fund are assumed to continue in effect yielding 5.5%

5) Will serve sales are expected to be approximately $30.4 million over the ensuing period. Other developer contributions are projected to be $40.8 million over the ensuing period, sufficient to pay for expanded capacity projects.

6) Collection of Water Meter Retrofit fees are suspended in fiscal year 2019 after sufficient funds are collected to finalize meter installations on the remaining non-metered connections.

<u>Operating Expense Assumptions</u>

1) Wages and salaries are assumed to increase by 2.0% in fiscal year 2017 as previously approved by the TMWA Board pursuant to labor negotiations with IBEW Local 1245. Thereafter wages and salaries are assumed to increase 2.5% annually.

2) Headcount is increased by two positions annually in years 2018 thru 2022.

3) Public Employee contribution rates are assumed to increase to 29% in fiscal year 2018 and 2019 and to 30% in fiscal years 2020 and 2021.

4) Health care premiums are assumed to increase 5% annually. No change to employer/employee allocation of costs. OPEB trust contributions are assumed to increase 4% per year - less than health premiums due to funded status of the trusts.

5) Life and disability premiums assumed to increase 4% annually. Workmen's compensation premiums assumed to increase 2.5% annually due to favorable loss modification factors to premium calculations.

6) General inflation on all service and supplies assumed to increase by 2.5% annually with the exception of power and fuel assumed to increase 3% annually and postal rates 5% annually.

7) Power consumption is estimated to be approximately 51,500 megawatt hours in fiscal year 2017 increasing to 52,900 megawatt hours in fiscal year 2021.

<u>Debt Management Assumptions</u>

1) The Draft Funding Plan presented in Attachments B-1 and B-2 assumes benefits as stated in the staff report from a Series 2007 Refunding Bonds defeasance in the fourth quarter of fiscal year 2017. The springing of the debt service reserve fund and termination of operations and maintenance reserve forward delivery agreements are included in this scenario. Assumptions are based on analysis provided by JP Morgan, net of 20% lower principal savings than anticipated from a positive interest rate environment in JP Morgan's projections.

3) Tax-exempt commercial paper interest rates are assumed to be 0.60% in fiscal year 2017 increasing to 1.86% in fiscal year 2022.

4) Total draws on the 2015 Drinking Water State Revolving Fund Loan (DWSRF) is expected to be $12.0 million, $3.0 million less than the $15.0 million authorization.

<u>Treasury Assumptions</u>

1) Total cash and investments at the beginning of fiscal year 2017 are estimated to be $187.5 million. Of this total $98.3 million is restricted and $95.0 million unrestricted.

2) Restricted reserves that were transferred from the South Truckee Meadows General Improvement District (STMGID) are sufficient to fund all capital improvements in this former service area through 2021.

3) Collection of the Water Meter Retrofit Fee is suspended in fiscal year 2019 since sufficient proceeds are projected to be collected to fund the remaining services with no meter currently installed.