COUNTY POTABLE WATER

CONTENTS

- INTRODUCTION
- POTABLE WATER SYSTEM-TREATMENT FACILITIES LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT FOR SERVICE AREA
- POTABLE WATER SYSTEM LOSS CHART
- POTABLE WATER SYSTEM-LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT CHANGES FROM 2009 AUIR
- EXISTING AND FUTURE WATER SERVICE AREAS MAP
- CIE AMENDMENT SUBMITTAL "EXHIBIT A" & "EXHIBIT H"

COLLIER COUNTY WATER SEWER DISTRICT - POTABLE WATER SYSTEM

Introduction:

The Public Utilities Division's 2010 AUIR submittals are based on "Collier County Water & Sewer Districts Population Estimates and Projections" dated June 11, 2010, prepared by Collier County Comprehensive Planning Section. Populations are based on using Bureau of Economic and Business Research (BEBR) Medium Range growth rate through 2029. There is one notable change from the 2009 Collier County Water Sewer District (CCWSD) Potable Water System AUIR:

• The increase in the population projections from Comprehensive Planning led to the need for the hibernated Northeast Regional Water Treatment Plant (NERTWP) to be reactivated, permitted, and constructed by 2027.

Recommendation:

The Public Utilities Division's staff recommends that the Collier County Board of County Commissioners approve the 2010 CCWSD Potable Water System AUIR.

POTABLE WATER SYSTEM - TREATMENT FACILITIES LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT FOR SERVICE AREA

July 15, 2010

1	2	3	4	5	6	7	8	9	10	11
Fiscal Year	Peak Population	Required Treatment Capacity @ 170 gpcd	Required Treatment Capacity Increase from Previous Year	Total Constructed Plant Capacity On- line	New Plant Constructed Capacity	Total Constructed Plant Capacity	Total Treatment Reliable System Capacity	Retained/ (Deficit) Constructed System Capacity	Retained/ (Deficit) Reliable System Capacity	Retained/ (Deficit) Reliable Capacity Target Values
		MGD	MGD	MGD	MGD	MGD	MGD	MGD	MGD	MGD
2001	142,623	24.25		32.00		32.00	28.80	7.75	4.55	1.0 (Min) - 6.0 (Max)
2002	152,936	26.00	1.75	32.00		32.00	28.80	6.00	2.80	1.0 (Min) - 6.0 (Max)
2003	163,345	27.77	1.77	32.00		32.00	28.80	4.23	1.03	1.0 (Min) - 6.0 (Max)
2004	172,912	29.39	1.63	32.00		32.00	28.80	2.61	(0.59)	1.0 (Min) - 6.0 (Max)
2005	180,838	30.74	1.35	32.00	8.00	40.00	36.00	9.26	5.26	1.0 (Min) - 6.0 (Max)
2006	186,654	31.73	0.99	40.00		40.00	36.00	8.27	4.27	1.0 (Min) - 6.0 (Max)
2007	188,751	32.09	0.36	40.00		40.00	36.00	7.91	3.91	1.0 (Min) - 6.0 (Max)
2008	188,587	32.06	-0.03	40.00	12.00	52.00	46.80	19.94	14.74	1.0 (Min) - 6.0 (Max)
2009	189,133	32.15	0.09	52.00		52.00	46.80	19.85	14.65	1.0 (Min) - 6.0 (Max)
2010	191,881	32.62	0.47	52.00		52.00	46.80	19.38	14.18	1.0 (Min) - 6.0 (Max)
2011	196,936	33.48	0.86	52.00		52.00	46.80	18.52	13.32	1.0 (Min) - 6.0 (Max)
2012	202,030	34.35	0.87	52.00		52.00	46.80	17.65	12.45	1.0 (Min) - 6.0 (Max)
2013	207,196	35.22	0.88	52.00		52.00	46.80	16.78	11.58	1.0 (Min) - 6.0 (Max)
2014	212,435	36.11	0.89	52.00		52.00	46.80	15.89	10.69	1.0 (Min) - 6.0 (Max)
2015	218,183	37.09	0.98	52.00		52.00	46.80	14.91	9.71	1.0 (Min) - 6.0 (Max)
2016	224,461	38.16	1.07	52.00		52.00	46.80	13.84	8.64	1.0 (Min) - 6.0 (Max)
2017	230,825	39.24	1.08	52.00	2.00	54.00	48.60	14.76	9.36	1.0 (Min) - 6.0 (Max)
2018	237,279	40.34	1.10	54.00		54.00	48.60	13.66	8.26	1.0 (Min) - 6.0 (Max)
2019	243,536	41.40	1.06	54.00		54.00	48.60	12.60	7.20	1.0 (Min) - 6.0 (Max)
2020	248,892	42.31	0.91	54.00		54.00	48.60	11.69	6.29	1.0 (Min) - 6.0 (Max)
2021	253,666	43.12	0.81	54.00		54.00	48.60	10.88	5.48	1.0 (Min) - 6.0 (Max)
2022	258,542	43.95	0.83	54.00		54.00	48.60	10.05	4.65	1.0 (Min) - 6.0 (Max)
2023	263,522	44.80	0.85	54.00		54.00	48.60	9.20	3.80	1.0 (Min) - 6.0 (Max)
2024	268,606	45.66	0.86	54.00		54.00	48.60	8.34	2.94	1.0 (Min) - 6.0 (Max)
2025	273,635	46.52	0.85	54.00		54.00	48.60	7.48	2.08	1.0 (Min) - 6.0 (Max)
2026	278,337	47.32	0.80	54.00		54.00	48.60	6.68	1.28	1.0 (Min) - 6.0 (Max)
2027	292,538	49.73	2.41	54.00	7.50	61.50	55.35	11.77	5.62	1.0 (Min) - 6.0 (Max)
2028	297,450	50.57	0.83	61.50		61.50	55.35	10.93	4.78	1.0 (Min) - 6.0 (Max)
2029	302,450	51.42	0.85	61.50		61.50	55.35	10.08	3.93	1.0 (Min) - 6.0 (Max)

POTABLE WATER SYSTEM - TREATMENT FACILITIES LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT FOR SERVICE AREA

July 15, 2010

Notes: (References are to the column numbers on previous page)

- 1. Fiscal Year starts October 1 and ends September 30.
- 2. <u>Peak Population</u>. Estimates and projections for the existing service area are based on "Collier County Water & Sewer Districts Population Estimates and Projections" dated June 11, 2010, prepared by Collier County Comprehensive Planning Section. Populations are based on using Bureau of Economic and Business Research (BEBR) Medium Range growth rate through 2029. The peak population projections include the Orange Tree service area beginning in FY 2027.
- 3. Required Treatment Capacity @ 170 gpcd is obtained by multiplying the Peak Population (Column 2) times 170 gallons per capita per day (gpcd). 170 gpcd is the established Level of Service Standard (LOSS) as adopted in the 2008 Water Master Plan Update approved by the Board of County Commissioners on June 24, 2008. Years 2001 to 2009 have been revised using a 170 gpcd LOSS. See graph on page W-4.
- 4. Required Treatment Capacity Increase from Previous Year is the increase of the Required Treatment Capacity @ 170 gpcd (Column 3) for the year listed from the previous year.
- 5. <u>Total Constructed Plant Capacity On-line</u> is the total finished water treatment capacity at the beginning of the Fiscal Year in Million Gallons per Day (MGD). All plant capacities are stated in Maximum Month Daily Demand (MMDD).
- 6. New Plant Constructed Capacity schedule is as follows:

Fiscal year	New Plant Construct ed		Source of Information
2005	8.0 MGD	Reverse osmosis treatment expansion to South County Regional Water Treatment Plant (SCRWTP)	Completed
2008	12.0 MGD	Reverse osmosis treatment expansion to SCRWTP	Completed
2017		High Pressure RO expansion to North County Regional Water Treatment Plant (NCRWTP)	2010 Capital Improvement Plan Analysis
2027		New Northeast Regional Water Treatment Plant (NERWTP)	Recommended based on June 11, 2010 CDES population projections

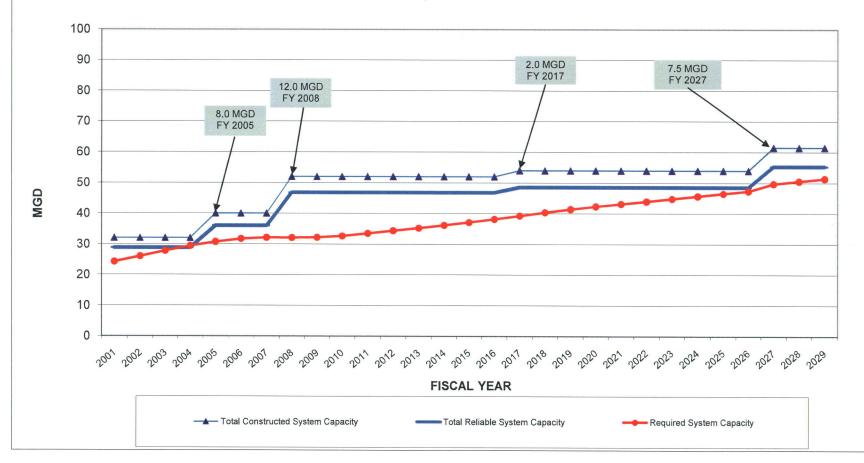
- 7. <u>Total Constructed Plant Capacity</u> is total of Total Constructed Plant Capacity On-line (Column 5) plus New Plant Constructed Capacity (Column 6). See graph on page W-4.
- 8. <u>Total Treatment Reliable System Capacity</u> is the total available system treatment capacity necessary to meet concurrency requirements, and is defined herein as 90-percent of the Total Constructed Plant Capacity (Column 7). See graph on page W-4.
- 9. Retained/(Deficit) Constructed System Capacity is the difference between Total Constructed Plant Capacity (Column 7) and Required Treatment Capacity (Column 3).
- 10. <u>Retained/(Deficit) Reliable System Capacity</u> is the difference between Total Treatment Reliable System Capacity (Column 8) and Required Treatment Capacity (Column 3).
- 11. Retained/(Deficit) Reliable System Capacity Target Values for planning purposes are 1.0 MGD minimum and 6.0 MGD maximum through FY 2029. The target minimum capacities represent the projected increase in the next year's demand and the target maximum capacities represent the projected increase in demand for the next eight years.

Collier County Government Public Utilities Division

2010 ANNUAL UPDATE AND INVENTORY REPORT (AUIR) POTABLE WATER SYSTEM

Level of Service Standard: 170 gpcd

July 15, 2010



NORTHEAST POTABLE WATER SYSTEM - TREATMENT FACILITIES LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT FOR SERVICE AREA

July 15, 2010

1	2	3	4	5	6	7	8	9	10	11
Fiscal Year	Peak Population	Required Treatment Capacity @ 170 gpcd	Required Treatment Capacity Increase from Previous Year	Total Constructed Plant Capacity On- line	New Plant Constructed Capacity	Total Constructed Plant Capacity	Total Treatment Reliable System Capacity	Retained/ (Deficit) Constructed System Capacity	Retained/ (Deficit) Reliable System Capacity	Retained/ (Deficit) Reliable Capacity Target Values
		MGD	MGD	MGD	MGD	MGD	MGD	MGD	MGD	MGD
2001	0	0.00		0.00		0.00	0.00	0.00	0.00	
2002	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2003	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2004	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2005	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2006	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2007	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2008	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2009	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2010	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2011	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2012	5,164	0.88	0.88	0.00	1.90	1.90	1.71	1.02	0.83	0.1 (Min) - 0.6 (Max)
2013	5,448	0.93	0.05	1.90		1.90	1.71	0.97	0.78	0.1 (Min) - 0.6 (Max)
2014	5,737	0.98	0.05	1.90		1.90	1.71	0.92	0.73	0.1 (Min) - 0.6 (Max)
2015	6,055	1.03	0.05	1.90		1.90	1.71	0.87	0.68	0.1 (Min) - 0.6 (Max)
2016	6,404	1.09	0.06	1.90		1.90	1.71	0.81	0.62	0.1 (Min) - 0.6 (Max)
2017	6,760	1.15	0.06	1.90		1.90	1.71	0.75	0.56	0.1 (Min) - 0.6 (Max)
2018	7,123	1.21	0.06	1.90		1.90	1.71	0.69	0.50	0.1 (Min) - 0.6 (Max)
2019	7,496	1.27	0.06	1.90		1.90	1.71	0.63	0.44	0.1 (Min) - 0.6 (Max)
2020	7,852	1.33	0.06	1.90		1.90	1.71	0.57	0.38	0.1 (Min) - 0.6 (Max)
2021	8,193	1.39	0.06	1.90		1.90	1.71	0.51	0.32	0.1 (Min) - 0.6 (Max)
2022	8,541	1.45	0.06	1.90		1.90	1.71	0.45	0.26	0.1 (Min) - 0.6 (Max)
2023	8,895	1.51	0.06	1.90		1.90	1.71	0.39	0.20	0.1 (Min) - 0.6 (Max)
2024	9,256	1.57	0.06	1.90		1.90	1.71	0.33	0.14	0.1 (Min) - 0.6 (Max)
2025	9,334	1.59	0.01	1.90		1.90	1.71	0.31	0.12	0.1 (Min) - 0.6 (Max)
2026	9,377	1.59	0.01	1.90		1.90	1.71	0.31	0.12	0.1 (Min) - 0.6 (Max)
2027	0	0.00	-1.59	1.90	-1.90	0.00	0.00	0.00	0.00	()
2028	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2029	0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	

NORTHEAST POTABLE WATER SYSTEM - TREATMENT FACILITIES LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT FOR SERVICE AREA

July 15, 2010

Notes: (References are to the column numbers on previous page)

- 1. Fiscal Year starts October 1 and ends September 30.
- 2. Peak Population. Estimates and projections for the existing service area are based on "Collier County Water & Sewer Districts Population Estimates and Projections" dated June 11, 2010, prepared by Collier County Comprehensive Planning Section. Populations are based on using Bureau of Economic and Business Research (BEBR) Medium Range growth rate through 2029. The peak populations are the Orange Tree service area. In 2027, the Orange Tree Water Treatment Plant will be decommissioned as the NERWTP begins operation and the Orange Tree Service Area becomes part of the total service area.
- 3. Required Treatment Capacity @ 170 gpcd is obtained by multiplying the Peak Population (Column 2) times 170 gallons per capita per day (gpcd). 170 gpcd is the established Level of Service Standard (LOSS) as adopted in the 2008 Water Master Plan Update approved by the Board of County Commissioners on June 24, 2008. See graph on page W-7.
- 4. Required Treatment Capacity Increase from Previous Year is the increase of the Required Treatment Capacity @ 170 gpcd (Column 3) for the year listed from the previous year.
- 5. <u>Total Constructed Plant Capacity On-line</u> is the total finished water treatment capacity at the beginning of the Fiscal Year in Million Gallons per Day (MGD). All plant capacities are stated in Maximum Month Daily Demand (MMDD).
- 6. New Plant Constructed Capacity schedule is as follows:

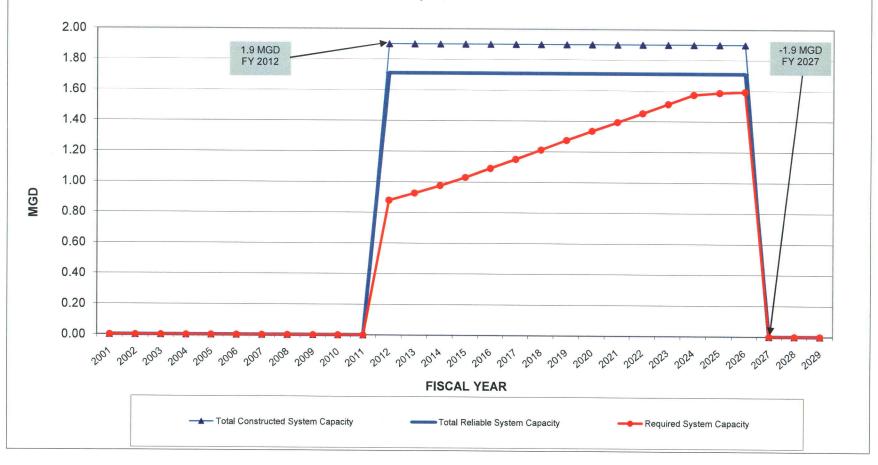
Fiscal year	New Plant Construct ed		Source of Information
2012		Existing 1.9 MGD Orange Tree WTP continues to serve Orange Tree Service Area.	Capacity based on County meeting with Orange Tree Utilities on July 05, 2007.
2027			Recommended based on June 11, 2010 CDES population projections.

- 7. <u>Total Constructed Plant Capacity</u> is total of Total Constructed Plant Capacity On-line (Column 5) plus New Plant Constructed Capacity (Column 6). See graph on page W-7.
- 8. <u>Total Treatment Reliable System Capacity</u> is the total available system treatment capacity necessary to meet concurrency requirements, and is defined herein as 90-percent of the Total Constructed Plant Capacity (Column 7). See graph on page W-7.
- 9. Retained/(Deficit) Constructed System Capacity is the difference between Total Constructed Plant Capacity (Column 7) and Required Treatment Capacity (Column 3).
- 10. <u>Retained/(Deficit) Reliable System Capacity</u> is the difference between Total Treatment Reliable System Capacity (Column 8) and Required Treatment Capacity (Column 3).
- 11. <u>Retained/(Deficit) Reliable System Capacity Target Values</u> for planning purposes are 0.1 MGD minimum and 0.6 MGD maximum through FY 2026. The target minimum capacities represent the projected increase in the next year's demand and the target maximum capacities represent the projected increase in demand for the next eight years.



2010 ANNUAL UPDATE AND INVENTORY REPORT (AUIR) NORTHEAST POTABLE WATER SYSTEM Level of Service Standard: 170 gpcd





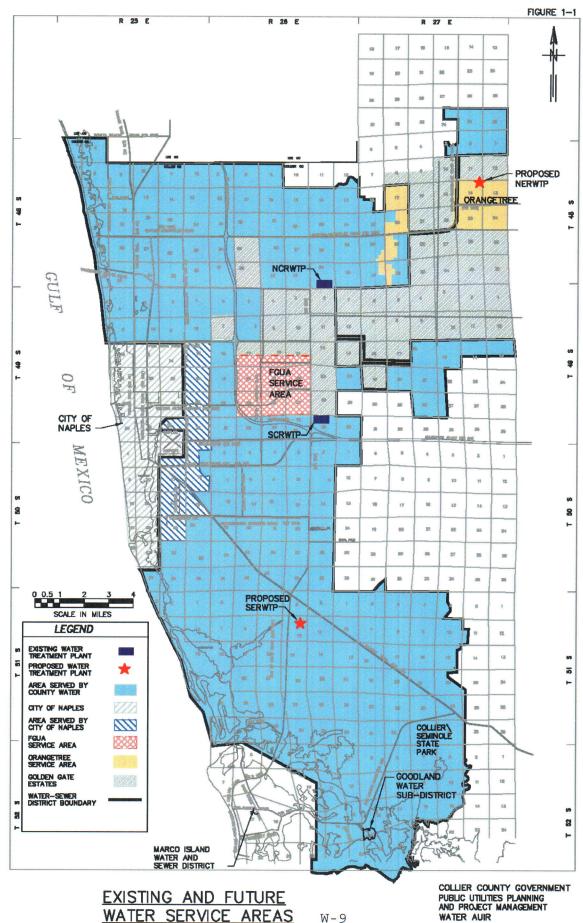
POTABLE WATER SYSTEM - LEVEL OF SERVICE STANDARDS (LOSS) ASSESSMENT CHANGES FROM 2009 AUIR

July 15, 2010

New Plant Constructed Capacity Schedule:

The following changes were made from the 2009 AUIR to match the June 11, 2010 CDES populations and resulting water demands:

- A. NCRWTP: Moved 2 MGD plant expansion in FY 2012 to FY 2017.
- B. NERWTP: New 7.5 MGD plant in 2027.
- C. Orange Tree Utilities: Deleted interconnect with main system from 2023. Now being decommissioned as the new NERWTP comes online in 2027.



W-9

WATER AUIR

Capital Improvement Element Amendment Submittal "Exhibit A" & "Exhibit H"

52

APPENDIX H FUTURE COSTS AND REVENUES BY TYPE OF PUBLIC FACILITY FISCAL YEARS 2016-2020

POTABLE								
		CONSTRUCTION	\$ AMOUNT					
CIE#	PROJECT	SCHEDULE NOTES	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
	Expansion Related Projects - Generally		\$2,602,500	\$2,702,500	\$132,500	\$102,500	\$202,500	\$5,742,500
	Replacement & Rehabilitation Projects - Generally		\$10,877,500	\$10,602,500	\$7,927,500	\$6,927,500	\$6,027,500	\$42,362,500
	Debt Service		\$9,040,000	\$9,040,000	\$9,040,000	\$9,040,000	\$7,710,000	\$43,870,000
	Departmental Capital		\$550,000	\$569,250	\$589,174	\$609,795	\$631,137	\$2,949,356
·	POTABLE WATER PROJECT TOTALS		\$23,070,000	\$22,914,250	\$17,689,174	\$16,679,795	\$14,571,137	\$94,924,356

REVENUE KEY - REVENUE SOURCE	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
WIF - Water System Development Fees	\$3,100,000	\$3,208,500	\$3,320,798	\$3,437,025	\$3,557,321	\$16,623,644
RR - Operating Reserve Revenues	\$8,542,500	\$8,534,000	\$5,851,702	\$5,705,475	\$4,355,179	\$32,988,856
WCA - Water Capital Account	\$550,000	\$569,250	\$589,174	\$609,795	\$631,137	\$2,949,356
REV - Rate Revenue	\$10,877,500	\$10,602,500	\$7,927,500	\$6,927,500	\$6,027,500	\$42,362,500
REVENUE TOTAL	\$23,070,000	\$22,914,250	\$17,689,174	\$16,679,795	\$14,571,137	\$94,924,356

NOTE: Collier County has adopted a two-year Concurrency Management System. Figures provided for years three, four and five of this Schedule of Capital Improvements are not part of the Concurrency Management System but must be financially feasible with a dedicated revenue source or an alternative revenue source if the dedicated revenue source is not realized. Figures provided for years six through ten of the Schedule of Capital Improvements are estimates of revenues versus project costs but do not constitute a long term concurrency system. Revenue sources are estimates only; both the mix of sources and amounts will change when a rate study is conducted. No new revenue bonds or State Revolving Loans are contemplated at this time. The Collier County Public Utilities Division is maintaining a pay as you go posture.

DATA SOURCES:

- Expansion Related and Replacement & Rehabilitation Projects:

FY 2011 is obtained from the 2011 Proposed Budget.

FY 2012 to FY 2020 are obtained from an internal master plan review.

FY 2011 is obtained from the 2011 Proposed Budget, split 50/50 between Water and Wastewater. FY 2012 to FY 2020 uses the FY 2011 amount and increases it 3.5% each year.

- Debt Service:

FY 2011 is obtained from the Comprehensive Annual Financial Report. Summary of Debt Service requirements to maturity. Total Debt Service amount is split 50/50 between Water and Wastewater.

EXHIBIT "A" COLLIER COUNTY SCHEDULE OF CAPITAL IMPROVEMENTS

FISCAL YEARS 2011-2015

POTABLE	WATER SYSTEM PROJECTS							
		CONSTRUCTION	\$ AMOUNT					
CIE#	PROJECT	SCHEDULE NOTES	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	TOTAL
	Debt Service		\$10,600,000	\$10,300,000	\$10,300,000	\$9,800,000	\$9,040,000	\$50,040,000
	Expansion Related Projects - Other		\$222,500	\$102,500	\$102,500	\$202,500	\$102,500	\$732,500
	Replacement & Rehabilitation Projects - Other		\$6,887,500	\$9,052,500	\$6,577,500	\$8,677,500	\$10,327,500	\$41,522,500
	Departmental Capital		\$460,000	\$476,100	\$492,764	\$510,010	\$527,861	\$2,466,735
	POTABLE WATER SYSTEM PROJECT TOTALS		\$18,170,000	\$19,931,100	\$17,472,764	\$19,190,010	\$19,997,861	\$94,761,735

REVENUE KEY - REVENUE SOURCE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	TOTAL
WIF - Water System Development Fees / Impact Fees	\$2,800,000	\$2,800,000	\$2,800,000	\$2,898,000	\$2,999,430	\$14,297,430
B1 - Series 2006 Bonds	\$0	\$0	\$0	\$0		\$0
RR - Operating Reserve Revenues	\$8,022,500	\$7,602,500	\$7,602,500	\$7,104,500	\$6,143,070	\$36,475,070
B3 - Series 2010 Bonds	\$0	\$0	\$0	\$0		\$0
LOC1 - Commercial Paper 1	\$0	\$0	\$0	\$0		\$0
SRF5 - SRF Loan 5	\$0	\$0	\$0	\$0		\$0
SRF6 - SRF Loan 6	\$0	\$0	\$0	\$0		\$0
WCA - Water Capital Account	\$460,000				\$527,861	\$2,466,735
REV - Rate Revenue	\$6,887,500	\$9,052,500	\$6,577,500	\$8,677,500		\$41,522,500
REVENUE TOTAL	\$18,170,000	\$19,931,100	\$17,472,764	\$19,190,010	\$19,997,861	\$94,761,735

NOTE: Collier County has adopted a two-year Concurrency Management System. Figures provided for years three, four and five of this Schedule of Capital Improvements are not part of the Concurrency Management System but must be financially feasible with a dedicated revenue source or an alternative revenue source if the dedicated revenue source is not realized. Figures provided for years six through ten of the Schedule of Capital Improvements are estimates of revenues versus project costs but do not constitute a long term concurrency system. Revenue sources are estimates only; both the mix of sourcesand amounts will change when a rate study is conducted. No new revenue bonds or State Revolving Loans are contemplated at this time. The Collier County Public Utilities Division is maintaining a pay as you go posture.

DATA SOURCES:

- Expansion Related and Replacement & Rehabilitation Projects:
 - FY 2011 is obtained from the 2011 Proposed Budget.
 - FY 2012 to FY 2020 are obtained from an internal master plan review.
- Department Capital:

FY 2011 is obtained from the 2011 Proposed Budget, split 50/50 between Water and Wastewater.

FY 2012 to FY 2020 uses the FY 2011 amount and increases it 3.5% each year.

- Debt Service:

FY 2011 is obtained from the Comprehensive Annual Financial Report, Summary of Debt Service requirements to maturity.

Total Debt Service amount is split 50/50 between Water and Wastewater.