Minute No. 462
Report - Executive Policy Committee - June 16, 2004

Item No. 6 Work Schedule and Financing Plan for the Sewer Utility
File WW-2.3

COUNCIL DECISION:

Council concurred in the recommendation of the Executive Policy Committee and adopted the following:

1. That the administrative report dated June 3, 2004, with respect to the work schedule and financing plan for the Sewer Utility, be received as information.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report - Executive Policy Committee - June 16, 2004

DECISION MAKING HISTORY:

Moved by Deputy Mayor Eadie,

That the recommendation of the Executive Policy Committee be adopted by consent.

Carried

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On June 16, 2004, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Public Works, and received as information the administrative report dated June 3, 2004, and submitted the matter to Council.

On November 19, 2003, the Executive Policy Committee requested the Administration to prepare an addendum to the (2004 Water and Sewer Utility) Rate Report that provides a new work schedule and financing plan for the water/sewer utility, including revised water/sewer rates consistent with the 20 to 25 year timeline recommended by the Clean Environment Commission, and that the schedule of work recognize nutrient removal as a priority, with the Administration being asked to table the revised report by June 2004.

Further on November 19, 2003, the Executive Policy Committee instructed the Administration to work with the Province of Manitoba in order to review the proposed work schedule and financing plan and that a final report on the outcome of those discussions be submitted to Executive Policy Committee and Council by June 2004.

RE: REPORT ON DISCUSSIONS WITH THE PROVINCE OF MANITOBA REGARDING THE PROPOSED WORK SCHEDULE AND FINANCING PLAN FOR THE SEWER UTILITY

FOR SUBMISSION TO: Standing Policy Committee on Public Works

ORIGINAL REPORT SIGNED BY: Director of Water and Waste Department

REPORT DATE: June 3, 2004

RECOMMENDATION:

That this report be received as information.

REPORT SUMMARY

KEY ISSUES:

The Water and Waste Department arranged a series of meetings between City and Provincial representatives, to prepare alternative implementation plans for the wastewater improvements for discussion. Alternate rate plans presented are as follows:

Plan 1 - 2004 Rate Report	Plan 2 - Extend Nutrient Removal	Plan 3 - Balanced Distribution
• Finish nutrient removal by 2008	• Finish nutrient removal by 2014	• Spread the work out more evenly over 25 years
• As per 2004 Water and Sewer Utility Rate Report presented to Council November 26, 2003	• Complete CSO implementation in 25 years	
• Ten Year Costs Include: - $451m capital - $287m operating - $274m borrowing - $8.41 per 100 c.f. combined rate	• Ten Year Costs Include: - $411m capital - $188m operating - $229m borrowing - $8.41 per 100 c.f. combined rate	• Ten Year Costs Include: - $287m capital - $160m operating - $105m borrowing - $8.01 per 100 c.f. combined rate

Analysis of these plans by the City of Winnipeg, and their consultants Earth Tech Canada Inc., confirmed that Plan 1 is not possible, Plan 3 does not meet the Provincial goals of nutrient removal, and that Plan 2 was achievable garnering the desired results as fast as possible.

Plan 2 supports Manitoba Conservation and the CEC recommendations in an achievable way. This plan calls for major project sequencing such that, Biosolids are completed by 2010, Nutrient removal by 2014, and CSOs by 2030. This plan meets the short-term reduction targets announced for Lake Winnipeg (10% phosphorous and 13% nitrogen by 2006 for City loads), and project sequencing allows for coordination, and phased implementation between the major

expansions required at the SEWPCC and NEWPCC. Along with providing time for review and regulatory approvals, Plan 2 also provides a more realistic workload for the consulting and contracting communities.

IMPLICATIONS OF THE RECOMMENDATION:

General Implications

	None
X	For the organization overall and/or for other departments
X	For the community and/or organizations external to the City of Winnipeg
	Involves a multi-year contract

Comment: The sewer utility rate is proposed to increase in 2005.

Policy Implications

X	No
	Yes

Environmental Implications

	None
X	Yes - Includes improvements to the City's wastewater system, including nutrient removal and combined sewer overflows.

Human Resources Implications

X	No
	Yes

Financial Implications

X	Within approved current and/or capital budget
	Current and/or capital budget adjustment required

REPORT

REASON FOR THE REPORT:

On November 19, 2003, the Executive Policy Committee (EPC) provided the following instruction:

That the Administration prepare an addendum to the rate report that provides a new work schedule and financing plan for the water/sewer utility, including revised water/sewer rates consistent with the 20 to 25 year timeline recommended by the Clean Environment Commission, and that the schedule of work recognize nutrient removal as a priority...; and

That the Administration be instructed to work with the Province of Manitoba in order to review the proposed work schedule and financing plan, and that a final report on the outcome of those discussions be submitted to Executive Policy Committee and Council by June 2004.

HISTORY:

In January and April 2003, at the request of the Province of Manitoba, the Manitoba Clean Environment Commission (CEC) conducted public hearings on the City of Winnipeg's wastewater collection and treatment systems.

In August of 2003, the CEC recommended that the City of Winnipeg implement a plan directed at improving the City's wastewater treatment and collection system.

On September 26, 2003 the Province of Manitoba directed the City of Winnipeg to implement the CEC recommendations, plus to accelerate the schedule for completion of combined sewer overflow controls (sooner than 20 to 25 years) and full nutrient removal at all three treatment plants by 2008.

The 2004 Water and Sewer Utility Rates were tabled at the meeting of the Standing Policy Committee (SPC) on Public Works on November 23, 2003. The SPC did not concur in the administrative recommendation and recommended to the Executive Policy Committee (EPC):

That the Administration work with the Province of Manitoba to extend the implementation schedule (particularly for nutrient removal) and provide a more realistic time frame in order to reduce City of Winnipeg consumer concerns with respect to Water and Sewer utility rate increase.

On November 19, 2003, the EPC directed:
That the Administration be instructed to work with the Province of Manitoba in order to review the proposed work schedule and financing plan, and that a final report on the outcome of those discussions be submitted to Executive Policy Committee and Council by June 2004.

On November 25, 2003, the EPC further recommended:

1. *That the sewer rates, based on water used, be increased to $3.11 from $2.73 per 100 cubic feet effective January 1, 2004, which rate includes 55 cents per 100 cubic feet for the Environmental Projects Reserve (27.6 cents in 2003).*
2. *That the City Solicitor/Manager of Legal Services be instructed to prepare the necessary by-law for submission to Council at the November 26, 2003 meeting.*

On November 26, 2003, City Council adopted the recommendations of the EPC.

DISCUSSION:

The Water and Waste Department arranged a series of meetings between City and Provincial representatives. The goal of the discussions was to prepare alternative implementation plans for the wastewater improvements for discussion. There were three meetings held between December 2003 and February 2004.

Meeting 1 - December 10, 2003

At the first meeting December 10, 2003, the committee agreed to the following:

- nutrient removal would be a priority;
- overall time limit for implementation of all recommendations would be 25 years consistent with the CEC recommendations and the direction of the EPC;
- alternatives, including implementation timelines, sewer rates and funding alternatives, would be forwarded to the EPC and City Council;
- the Province would consider the results in the licensing process for the three Water Pollution Control Centres; and
- the Province would finalize the license for the West End Water Pollution Control Centre (WEWPCC) since there was agreement on and funding for the improvement to this facility.

The City also agreed to prepare and present alternate rate plans as follows:

Plan 1 – 2004 Rate Report
- finish nutrient removal by 2008
- as per the 2004 Water and Sewer Utility Rate Report presented to Council November 26, 2003

Plan 2 – Extend Nutrient Removal
- finish nutrient removal on an achievable schedule
- complete CSO implementation in 25 years

Plan 3 – Balanced Distribution
- spread the work out more evenly over 25 years

Meeting 2 - February 2, 2004

At the second meeting held February 2, 2004, the City provided analyses of these alternative rate plans. Plan 2 proposed the following program completion dates and capital costs:

PLAN 2 - Extend Nutrient Rmoval	Date	Cost to 2013 ($000s)	Cost to 2030 ($000s)
Disinfection	2006	15,672	15,672
Centrate	2006	21,341	21,341
CSO	2030	76,702	416,814
Biosolids	2010	62,653	62,653
Nutrient Removal	2014	229,533	276,594
Other		4,660	8,278
Total Capital		410,561	801,352
Operating		187,680	1,467,841
Debt		228,500	265,000

Plan 3 offered a longer schedule for nutrient removal compared to either Plans 1 or 2. Plan 3 proposed the following program completion dates and capital costs:

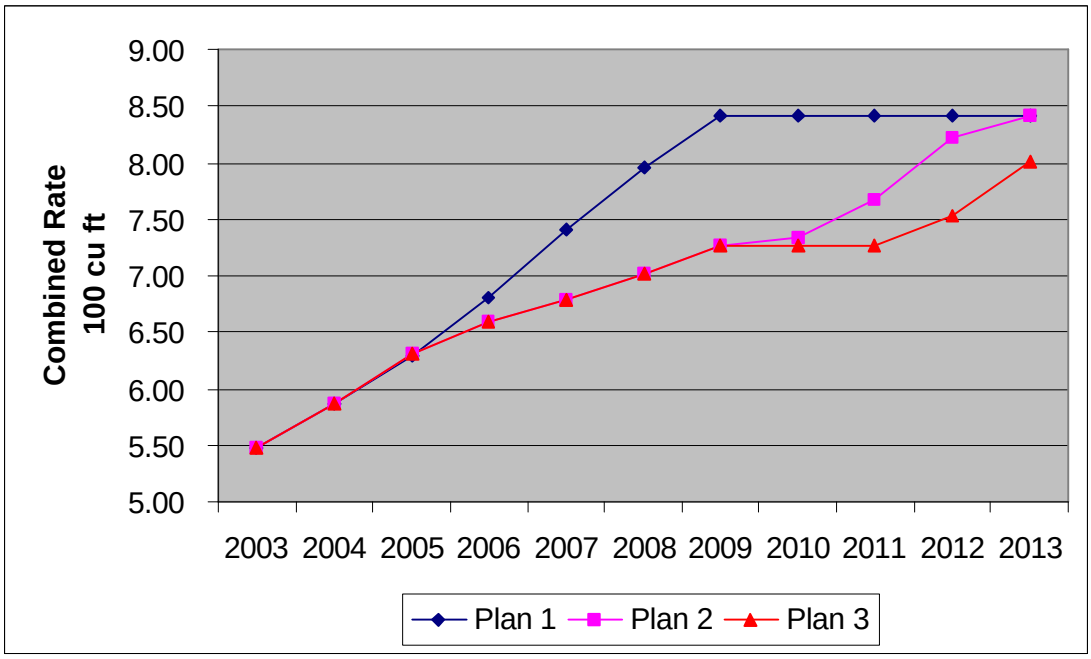
PLAN 3 Balanced Distribution	Completion Date	Cost to 2013 ($000s)	Cost to 2030 ($000s)
Disinfection	2006	15,672	15,672
Centrate	2006	21,341	21,341
CSO	2030	41,605	432,941
Biosolids	2010	62,653	62,653
Nutrient Removal	2017	140,705	285,668
Other		4,660	8,593
Total Capital		286,636	826,868
Operating		159,570	1,359,863
Debt		104,500	200,000

The Department analyzed variations of Plans 2 and 3 whereby the biosolids program was deferred approximately 10 years. This had no significant impact on rates, nor was it amenable to the Province.

Timing of the capital projects will have an effect on the sewer rate. The following table provides a summary of the projected utility rates as at year 2013.

	Plan 1	**Plan 2**	**Plan 3**
Sewer	5.00	5.00	4.60
Water	3.41	3.41	3.41
Combined	8.41	8.41	8.01

Increases to the combined water and sewer rate over the next ten years, range from 46% to 53%, depending on the scheduling of the projects. As the following graph illustrates, all the options reviewed continue to have a large impact on rates, since the Province has not agreed to extend the overall timeframe. Taking into account timing differences, Plans 1 and 2 arrive at the same rate by 2013, with Plan 2 forecasting a decrease in borrowing requirements of $50 million. A summary of financial impacts for Plans 1, 2 and 3 can be found in Appendix A.



The City agreed to:

- further review Plan 2, and quantify the cost per day per customer over the next ten years, as a result of increases associated with environmental projects;
- prepare a written document on why Plan 1 is not achievable and why Plan 2 is the best the City can do in terms of nutrient removal;
- prepare a presentation on the impact of finishing nutrient removal in 2008, 2014 or 2017 in terms of benefits to Lake Winnipeg;
- provide a list of advantages and disadvantages for the three alternative rate models.

Meeting 3 – February 24, 2004

At the third meeting held February 24, 2004, the City provided a consultant's report, as presented by Earth Tech Canada Inc., which confirmed that Plan 1 is not possible, and that Plan 2 is achievable. The advantages and disadvantages of Plans 1, 2 and 3 were discussed. Dr. David Morgan of TetrES Consulting Inc. presented an analysis on nutrient removal. All three analyses concluded that Plan 2 would achieve the desired results as fast as possible.

The City also prepared an analysis, isolating the cost per day per customer over the next ten years, for wastewater improvement projects resulting from the CEC recommendations and Provincial direction. The costs associated with the CEC recommendations and Provincial direction, over and above previously planned projects, make up approximately 71% of the proposed sewer rate increase over the next ten years.

Since Plan 1 is not possible and Plan 3 does not meet the Provincial goals of nutrient removal as fast as possible, Plan 2 is most realistic. This plan is achievable. Plan 2 calls for major project sequencing such that, Biosolids are completed by 2010, Nutrient removal by 2014, and CSOs by 2030. This plan meets the short-term reduction targets announced for Lake Winnipeg (10% phosphorous and 13% nitrogen by 2006 for City loads), and project sequencing allows for coordination, and phased implementation between the major expansions required at the SEWPCC and NEWPCC. Along with providing time for review and regulatory approvals, Plan 2 also provides a more realistic workload for the consulting and contracting communities.

Plan 2 includes $188 million operating costs and $228.5 million in borrowing over 10 years. Total capital costs are estimated at $411 million. Over the next ten years, the combined water and sewer utility rate is forecast to increase by 53% (from the 2003 rate), an increase of 68 cents per day for the average residential customer. Borrowing authority is projected at $228.5 million, $45.5 million lower than first estimated in the 2004 Rate Report (Plan 1). The Department will work with the City's Chief Financial Officer and City Treasurer to determine the best financing alternatives.

Manitoba will review the analyses provided by the City and take into consideration the City's position regarding timing of capital projects, funding alternatives and resulting rate impacts. The Province will then issue licences for the wastewater treatment plants.

The rates and financial plans for the sewer utility for the years 2004 to 2013 for Plan 2 are contained in Appendices B, C, D and E.

On March 19, 2004, an agreement in principle was announced between the City, Province, and Federal governments, to provide up to $165 million in strategic infrastructure funding for three key Winnipeg priorities. Of the three priorities, financial assistance is targeted for improvements to the City of Winnipeg's wastewater treatment systems in response to recommendations from the CEC. Once the agreement has been finalized, the funding can be incorporated into the City's sewer utility rate plan.

Risks

The alternate rate plans are based on a total capital program of approximately $800 million, but there is a significant risk that the capital cost could be higher.

- The Province has not yet issued licenses for the three water treatment pollution control centres. If conditions are more stringent than anticipated, the capital costs will increase.
- A multitude of public works projects are taxing the consultant and construction sectors. Limited supply of these resources could also increase capital costs.

Next Steps

The Department will submit a report on the 2005 water and sewer utility rates in September of 2004. This report will likely be based on the actual or anticipated final direction of Manitoba Conservation as reflected in the Wastewater Facilities' licences.

As part of the City's due diligence process, the Department will undertake a benchmarking exercise to determine trends in the country, specifically long and short term plans for wastewater treatment and improvements.

The City will incorporate the Canada-Manitoba infrastructure funding agreement into the future utility rate calculations upon confirmation of the agreement.

The Department will report the results of the benchmarking study, proposed utility rates and concluding discussions with the Province in the 2005 Water and Sewer Utility Rate Report to be submitted in September 2004.

FINANCIAL IMPACT:

There is no financial impact statement associated with this report.

Moira L. Geer, C.A.
Manager Finance and Administration

APPENDICES:

The following appendices are attached as additional information:

APPENDIX A	Plan 1, 2 and 3 - 10 Year Forecast Summary
APPENDIX B	Sewage Disposal Utility Financial Projections 2004 to 2013 (Plan 2)
APPENDIX C	Environmental Projects Reserve (Plan 2)
APPENDIX D	Customer Impact Analysis, Annual Basis (Plan 2)
APPENDIX E	Capital Projects and Cash Flow funded by the Environmental Projects Reserve Fund (Plan 2)

IN PREPARING THIS REPORT THERE WAS CONSULTATION WITH AND CONCURRENCE BY: N/A

THIS REPORT SUBMITTED BY:

Water and Waste Department
Finance and Administration Division
Prepared by: Moira Geer, Lucy Szkwarek
Date: May 31, 2004
File No: 010-17-06-01-00, 010-07-20-01-00 and 010-07-20-02-00

APPENDIX A

PLAN 1, 2 AND 3 - 10 YEAR FORECAST SUMMARY

Water and Waste Department
Environmental Projects Assumptions $000s

Options	Option Details	10 Year Forecast to 2013							
		Capital	Borrowing	O&M [1]	Sewer Rate $s	Combined Rate $s	Combined Rate % Increase [2]	Customer Impact [3] Utility Bill $dollars	Customer Impact [3] Increase per day
Plan 1	As per 2004 Rate Report NE BNR (2004 to 2008) CSO complete by 2025 Biosolids (2007 to 2010) EPR $21m 2013, $28m 2019 beyond	$451,390	$274,000	$287,390	$5.00	$8.41	53%	$755.25	$0.68
Plan 2	NE BNR (2004 to 2014) CSO complete by 2030 Biosolids (2007 to 2010) EPR $21m 2013 and beyond	$410,560	$228,500	$187,680	$5.00	$8.41	53%	$755.25	$0.68
Plan 3	NE BNR (2010 to 2017) CSO complete by 2030 Biosolids (2007 to 2010) EPR $21m 2013, $28m 2019 beyond	$286,640	$104,500	$159,570	$4.60	$8.01	46%	$721.24	$0.58

APPENDIX B

SEWAGE DISPOSAL SYSTEM FUND Plan 2
Financial Projections 2004 TO 2013

Sewage Disposal System	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Revenue										
Sales Revenue	65,957	76,014	84,464	86,095	86,095	85,826	87,243	94,737	108,021	107,336
Non Rate Revenue	4,796	4,816	4,450	4,727	5,017	5,327	5,184	5,605	6,145	5,015
Environmental Projects Reserve	13,899	13,944	13,990	14,061	14,061	14,016	14,016	14,016	14,016	21,052
Total Revenue	**84,652**	**94,774**	**102,903**	**104,882**	**105,172**	**105,169**	**106,443**	**114,358**	**128,182**	**133,403**
Expenditures										
Operating	29,930	31,765	34,437	36,532	37,468	38,423	42,897	47,260	48,411	50,385
Debt Service	18,538	17,802	15,038	14,905	15,973	20,556	24,042	25,047	31,414	30,989
Other Corporate Expenses	8,588	10,282	10,282	10,282	10,282	10,282	10,282	10,282	10,282	10,282
Transfer to Environmental Projects Reserve	13,899	13,944	13,990	14,061	14,061	14,016	14,016	14,016	14,016	21,052
Transfer to General Revenue Fund	10,034	9,917	9,917	9,917	9,917	9,917	9,917	9,917	9,917	9,917
Total Expenditures	**80,989**	**83,710**	**83,664**	**85,696**	**87,700**	**93,194**	**101,153**	**106,522**	**114,040**	**122,624**
Surplus(Deficit) for the year	3,663	11,064	19,239	19,186	17,472	11,975	5,290	7,836	14,142	10,779
Opening Working Capital	7,821	(4,315)	(3,738)	(1,372)	7,870	13,761	14,002	11,154	6,829	9,611
Appropriated to Capital	(15,834)	(11,249)	(17,199)	(9,850)	(9,300)	(9,800)	(10,000)	(10,000)	(10,000)	(10,000)
Other Changes in Working Capital	35	762	326	(94)	(2,281)	(1,934)	1,862	(2,161)	(1,360)	1,653
Ending Working Capital	(4,315)	(3,738)	(1,372)	7,870	13,761	14,002	11,154	6,829	9,611	12,042
Working Capital as a % of Sales	**-7%**	**-5%**	**-2%**	**9%**	**16%**	**16%**	**13%**	**7%**	**9%**	**11%**
Base rate per 100 cu.ft.	**2.562**	**3.003**	**3.303**	**3.303**	**3.303**	**3.303**	**3.369**	**3.706**	**4.262**	**4.126**
Environmental Reserve Charge	0.550	0.550	0.550	0.550	0.550	0.550	0.550	0.550	0.550	0.875
Overall Sewer Rate	**3.11**	**3.55**	**3.85**	**3.85**	**3.85**	**3.85**	**3.92**	**4.26**	**4.81**	**5.00**
Overall rate increase/(decrease)	**13.92%**	**14.15%**	**8.45%**	**0.00%**	**0.00%**	**0.00%**	**1.82%**	**8.67%**	**12.91%**	**3.95%**
Long-Term Debt Summary										
New debt, Environmental Projects	0	0	0	0	21,500	20,500	42,500	65,000	43,000	36,000
Debt outstanding, closing year end balance	**56,709**	**50,177**	**44,828**	**39,611**	**55,586**	**69,291**	**104,587**	**160,138**	**190,137**	**212,552**

APPENDIX C

Environmental Projects Reserve Plan 2 - Extend Nutrient Removal

Year	Annual Capital Expenditure	Contribution to Reserve		Balance end of year	
		Volume Rate [1]	Debt	Debt	Reserve
to 2002	11,856	44,136			32,280
2003	4,770	7,675			35,185
2004	30,671	14,603			19,116
2005	25,837	14,326			7,605
2006	21,224	14,142			523
2007	11,257	14,071			3,337
2008	37,870	14,127	21,500	21,500	1,094
2009	34,573	14,038	20,500	42,000	1,058
2010	56,286	14,037	42,500	84,500	1,310
2011	79,028	14,042	65,000	149,500	1,323
2012	56,827	14,042	43,000	192,500	1,539
2013	56,988	21,082	36,000	228,500	1,633
2014	58,003	21,033	36,500	265,000	1,163
2015	10,907	21,023			11,279
2016	11,513	21,226			20,992
2017	9,764	21,420			32,648
2018	20,292	21,653			34,009
2019	21,109	21,680			34,580
2020	21,391	21,692			34,880
2021	21,534	21,698			35,044
2022	22,401	21,701			34,344
2023	22,701	21,687			33,330
2024	22,852	21,667			32,144
2025	23,772	21,643			30,015
2026	24,090	21,600			27,525
2027	24,250	21,551			24,826
2028	24,735	21,497			21,587
2029	25,230	21,432			17,789
2030	26,247	21,356			12,898
Total	**$817,979**	**$565,877**	**$265,000**		

[1] includes interest

APPENDIX D

CUSTOMER IMPACT ANALYSIS Plan 2
Annual Basis

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Residential 5/8" meter											
8,400 cu.ft. Water	2.75	2.75	2.75	2.75	2.93	3.16	3.41	3.41	3.41	3.41	3.41
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**5.48**	**5.86**	**6.30**	**6.60**	**6.78**	**7.01**	**7.26**	**7.33**	**7.67**	**8.22**	**8.41**
FQC	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**	**12.10**
	$508.52	$540.25	$577.03	$602.72	$617.64	$637.61	$658.01	$664.40	$692.70	$738.56	$755.25
Overall $ Change	0.00	31.74	36.78	25.69	14.91	19.97	20.40	6.39	28.30	45.86	16.68
Overall % Change	0.00%	6.24%	6.81%	4.45%	2.48%	3.23%	3.20%	0.97%	4.26%	6.62%	2.26%
Small Restaurant 1" meter											
56,000 cu.ft. Water	2.27	2.27	2.27	2.27	2.44	2.67	2.92	2.92	2.92	2.92	2.92
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**5.00**	**5.38**	**5.82**	**6.12**	**6.29**	**6.52**	**6.77**	**6.84**	**7.18**	**7.73**	**7.92**
FQC	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**	**15.92**
	$2,909.05	$3,123.10	$3,368.23	$3,539.62	$3,632.22	$3,760.09	$3,903.71	$3,941.66	$4,130.34	$4,440.70	$4,547.29
Automatic Car Wash 2" meter											
325,400 cu.ft. Water	1.79	1.79	1.79	1.79	1.96	2.19	2.44	2.44	2.44	2.44	2.44
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**4.52**	**4.90**	**5.34**	**5.64**	**5.81**	**6.04**	**6.29**	**6.36**	**6.70**	**7.25**	**7.44**
FQC	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**	**30.28**
	$15,390.85	$16,636.80	$18,065.39	$19,023.49	$19,590.29	$20,348.03	$21,152.87	$21,392.50	$22,492.23	$24,305.82	$24,922.41
Large Restaurant 3" meter											
626,000 cu.ft. Water	1.79	1.79	1.79	1.79	1.96	2.19	2.44	2.44	2.44	2.44	2.44
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**4.52**	**4.90**	**5.34**	**5.64**	**5.81**	**6.04**	**6.29**	**6.36**	**6.70**	**7.25**	**7.44**
FQC	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**
	$29,257.31	$31,815.77	$34,355.61	$36,192.02	$37,276.22	$38,764.75	$40,294.57	$40,782.09	$42,871.25	$46,950.40	$47,583.07
Hotel 3" meter											
1,182,800 cu.ft. Water	1.79	1.79	1.79	1.79	1.96	2.19	2.44	2.44	2.44	2.44	2.44
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**4.52**	**4.90**	**5.34**	**5.64**	**5.81**	**6.04**	**6.29**	**6.36**	**6.71**	**7.25**	**7.44**
FQC	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**	**107.81**
	$54,451.47	$58,901.71	$64,078.48	$67,547.20	$69,592.96	$72,415.47	$75,292.63	$76,183.68	$80,277.52	$86,743.41	$88,975.27
Foundry 4" meter											
8,987,600 cu.ft. Water	1.79	1.79	1.79	1.79	1.96	2.19	2.44	2.44	2.44	2.44	2.44
Sewer	2.73	3.11	3.55	3.85	3.85	3.85	3.85	3.92	4.26	4.81	5.00
Total Volume Rate	**4.52**	**4.90**	**5.34**	**5.64**	**5.81**	**6.04**	**6.29**	**6.36**	**6.70**	**7.25**	**7.44**
FQC	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**	**136.53**
	$407,718.91	$441,490.04	$480,825.66	$507,175.07	$522,699.43	$544,220.55	$565,983.67	$572,611.56	$603,093.16	$653,056.84	$670,009.51

APPENDIX E

Cash flow Projection for Capital Projects Funded by the Environmental Projects Reserve Fund
Sequencing of Future Potential Projects Alternate Rate Model for Plan 2 (including annual Inflation of 2.0%)

WITH Inflation @	2.0%	Year =	0	1	2	3	4	5	6	7	8	9	10	
	Cost in 000's		Cash Expended (Capital Only) by Year End											
Project Description	Capital (2004$)	O & M (2004$)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
EXISTING ENVIRONMENTAL PROJECTS														
WEWPCC-Disinfection of Effluent	3,250	-	-	561	1,405	1,433	-	-	-	-	-	-	-	3,398
SEWPCC-Disinfection of Effluent [1]	1,044		50	-	1,034	-	-	-	-	-	-	-	-	1,034
River Quality Hearings	200		200	-	-	-	-	-	-	-	-	-	-	-
Subtotal	**4,494**	-	**250**	**561**	**2,439**	**1,433**	-	-	-	-	-	-	-	**4,432**
[1] budgets reduced by amount of prior year's spending ($4,477)														
CEC RECOMMENDED PLAN														
Wastewater Sampler Upgrades	**400**		-	**408**	-	-	-	-	-	-	-	-	-	**408**
Effluent Ammonia/Nutrient Related Studies	**500**		-	**510**	-	-	-	-	-	-	-	-	-	**510**
NEWPCC Effluent Disinfection	**15,000**	**550**	**4,000**	**10,200**	**1,040**	-	-	-	-	-	-	-	-	**11,240**
NEWPCC Centrate BNR Treatment	**20,500**	**1,000**	-	**6,630**	**7,283**	**7,428**	-	-	-	-	-	-	-	**21,341**
Combined Sewer Overflow Mitigation														
- CSO Management Strategy	4,000		-	4,080	-	-	-	-	-	-	-	-	-	4,080
- Raise Weirs	1,600		-	612	1,040	-	-	-	-	-	-	-	-	1,652
- Inflatable Dam Pilot Testing	2,700		-	1,122	1,665	-	-	-	-	-	-	-	-	2,787
- Sewer SCADA System	11,100	110	-	1,122	5,202	5,306	-	-	-	-	-	-	-	11,630
- Integration with Basement Flooding Relief	28,000	110	-	1,632	1,665	1,698	1,732	1,767	1,802	1,838	3,046	3,107	3,169	21,456
- Access available system storage	54,000	210	-	-	-	-	-	3,312	3,378	6,892	7,030	7,171	7,314	35,097
- Develop additional storage to achieve 4 o/fs	196,000	750	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	**297,400**	**1,180**	-	**8,568**	**9,572**	**7,004**	**1,732**	**5,079**	**5,180**	**8,730**	**10,076**	**10,278**	**10,483**	**76,702**
Biosolids Management System Modification	**56,000**	**3,400**	-	**510**	**520**	-	**7,144**	**22,082**	**11,262**	**21,136**	-	-	-	**62,653**
Nutrient Removal (N&P) 1														
NEWPCC	164,640	1,900	-	-	666	955	-	7,949	4,054	4,135	46,339	39,976	46,139	150,214
SEWPCC	61,200	630	-	-	-	849	2,057	2,539	14,077	21,940	22,379	6,573	-	70,414
WEWPCC	8,520	130	-	1,448	3,902	3,555	-	-	-	-	-	-	-	8,905
Subtotal	**234,360**	**2,660**	-	**1,448**	**4,567**	**5,359**	**2,057**	**10,489**	**18,131**	**26,075**	**68,718**	**46,549**	**46,139**	**229,532**
CEC Recomenedations														
- #2 Licencing (incl EIS and Hearings)	4,800		-	612	416	-	325	221	-	345	234	-	366	2,518
- #3 Public Notification	250		-	255	-	-	-	-	-	-	-	-	-	255
- #16 EMS, SOP & ERP	500		-	510	-	-	-	-	-	-	-	-	-	510
- #18 & 19 Public/Aboriginal Consultn + annual report c	450		-	459	-	-	-	-	-	-	-	-	-	459
Subtotal	**6,000**	-	-	**1,836**	**416**	-	**325**	**221**	-	**345**	**234**	-	**366**	**3,742**
Subtotal CEC Recommended Plan	**630,160**	**8,790**	**4,000**	**30,110**	**23,399**	**19,792**	**11,257**	**37,870**	**34,573**	**56,286**	**79,028**	**56,827**	**56,988**	**406,130**
Totals for Capital	**634,654**	**na**	**4,250**	**30,671**	**25,837**	**21,224**	**11,257**	**37,870**	**34,573**	**56,286**	**79,028**	**56,827**	**56,988**	**410,562**
Totals for O & M	**na**	**8,790**	-	-	**7**	**597**	**1,958**	**2,004**	**2,064**	**6,032**	**6,187**	**6,351**	**7,287**	**32,487**