

2012 WATER WASTEWATER STORM RATE BUDGET

December 2nd, 2011

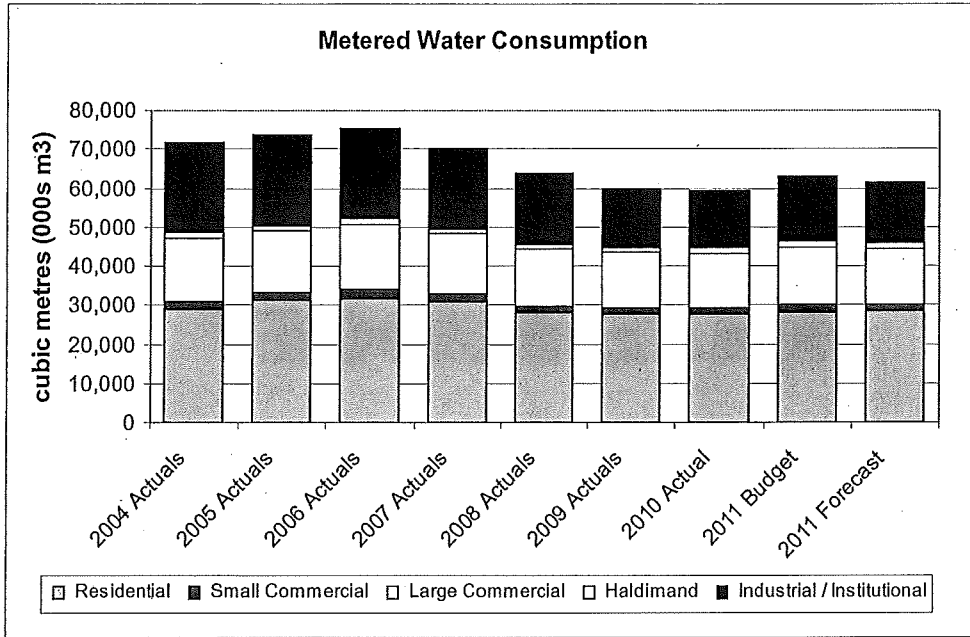
OVERVIEW

- Consumption & Rate Trends
- Planning Issues
- Program Delivery
- Operating Forecast
- Capital Forecast



Hamilton

METERED WATER CONSUMPTION BY SECTOR (m³)



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Hamilton

AVERAGE PER CAPITA WATER USE

Average Per Capita Residential Water Use (Litres per capita day- lpcd)

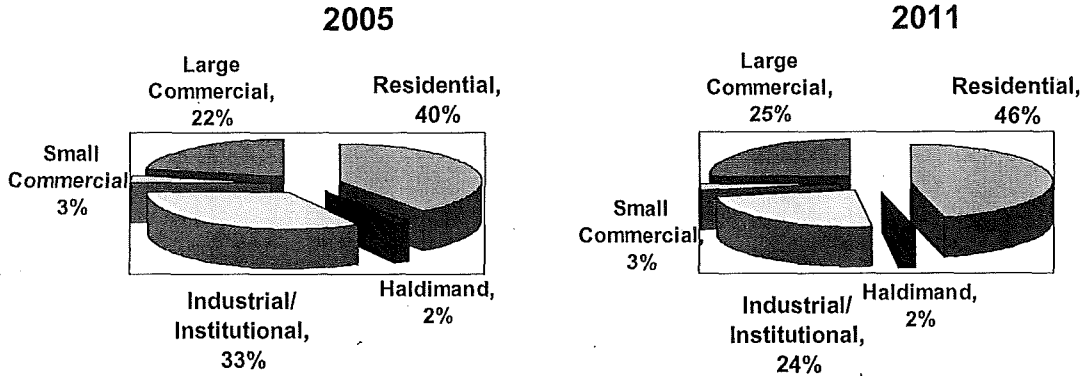
	Canada	Ontario
2001	335	285
2004	329	260
2006	327	267
2009	274	225

Total Water Use (Including Residential, Industrial & Commercial Customers)

	Canada (lpcd)	Ontario (lpcd)
2001	622	533
2004	609	481
2006	591	493
2009	510	409

Source: "Municipal Water Use 2009 Summary Tables" – Environment Canada Survey of Canadian Municipalities

METERED CONSUMPTION BY SECTOR



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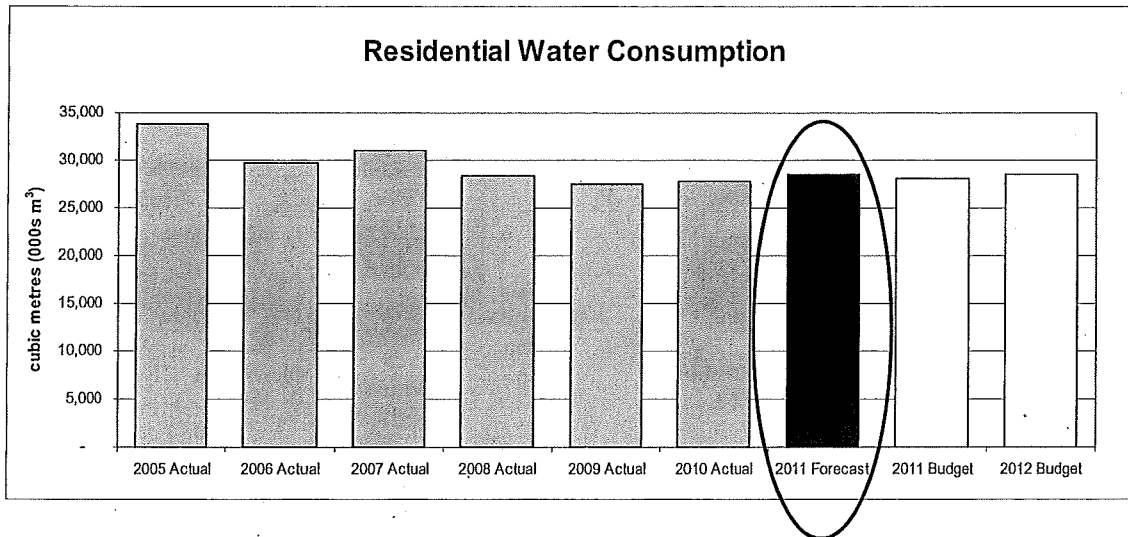
4 YR ACTUAL VS. BUDGET REVENUE VARIANCE

4 YR Actual vs. Budget Revenue Variance

REVENUES (000's)	2008		2009		2010		2011	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Residential	66,037	60,960	69,880	63,303	74,419	66,367	68,660	69,137
ICI	81,039	72,829	81,105	68,593	80,984	70,324	80,355	74,359
Haldimand/Halton	2,113	1,994	2,183	2,106	2,341	2,325	2,447	2,467
Non-metered	461	892	282	566	293	573	570	590
RATE REVENUES	149,650	136,676	153,449	134,568	158,038	139,588	152,032	146,552
Surplus/(Deficit)		(12,974)		(18,881)		(18,450)		(5,480)

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RESIDENTIAL WATER CONSUMPTION (m³)



Residential consumption decline since 2003 equivalent to about 400 loads of laundry per household annually.

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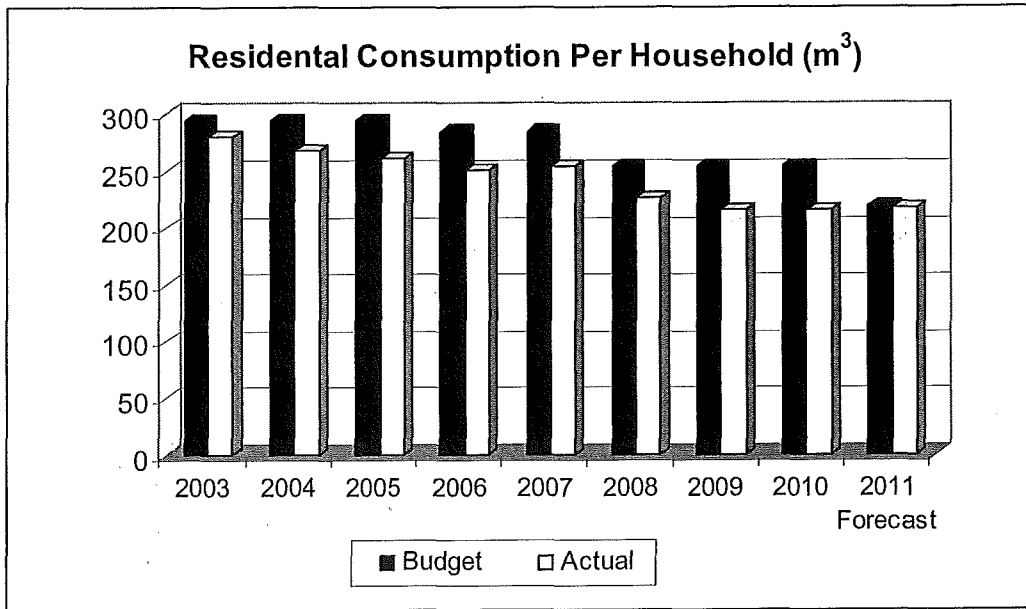
RESIDENTIAL WATER CONSUMPTION



- Hamilton's residents use on average 220m³ of water each year
- For 2012, average residential water/wastewater annual billing of \$578

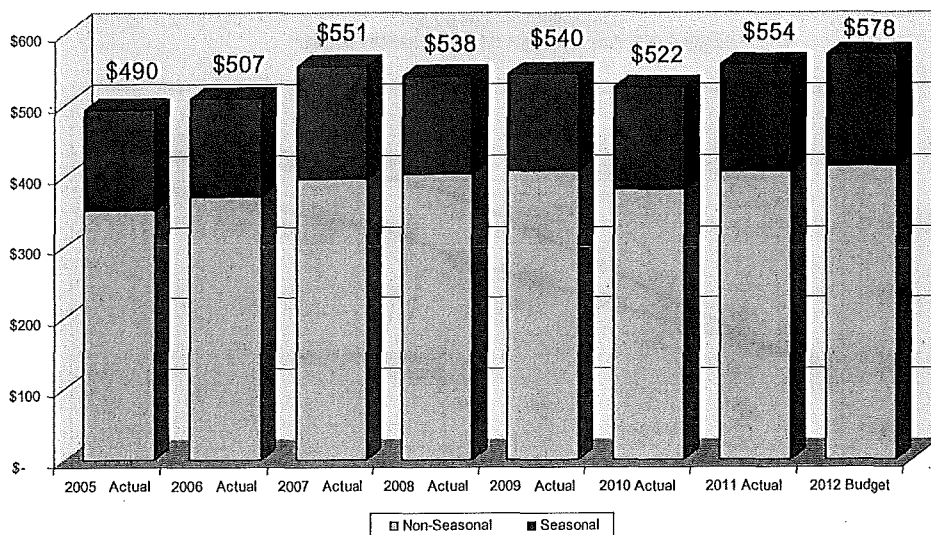
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RESIDENTIAL CONSUMPTION PER HOUSEHOLD (m³)



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AVERAGE ACTUAL ANNUAL COST per HOUSEHOLD (\$)



	2005	2006	2007	2008	2009	2010	2011	2012 Budget
Approved Rate Increase / Requested	8.10%	7.50%	7.25%	8.90%	4.50%	4.00%	4.25%	4.25%

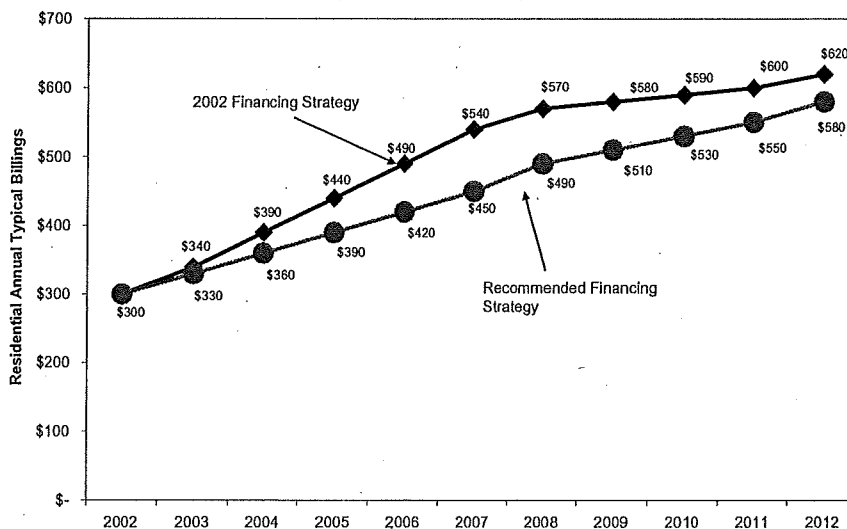
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IMPACT ON A TYPICAL RESIDENTIAL WATER BILL

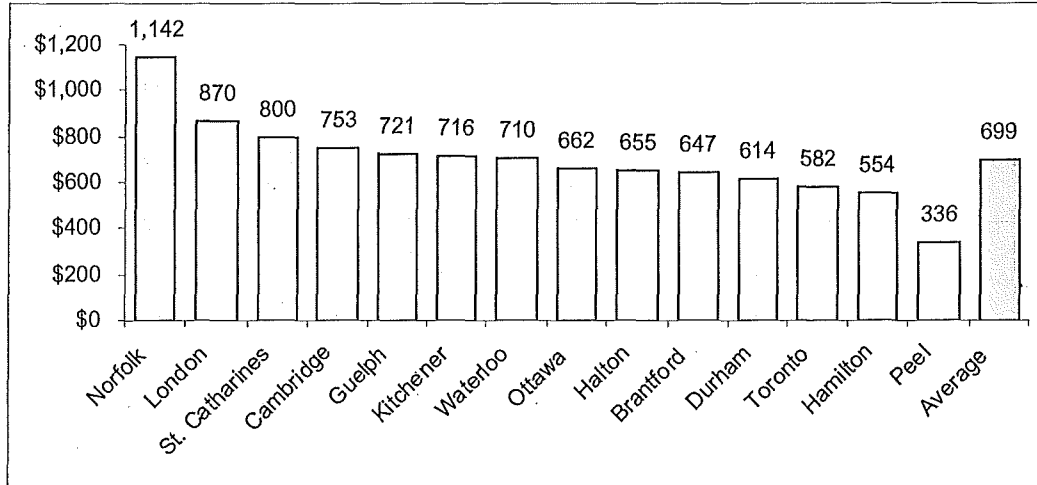
IMPACT OF RECOMMENDED 2012 WATER AND WASTEWATER RATE INCREASE ON A TYPICAL RESIDENTIAL BILL		
(based on annual water consumption of 220m ³)		
2011 Residential Bill		\$554
2012 Residential Bill		\$578
<i>Recommended Change (\$)</i>		<i>\$24</i>
<i>Recommended Change (%)</i>		<i>4.25%</i>

2006 vs. 2011 TYPICAL RESIDENTIAL WATER BILLING

Sustainability Strategy Plans
Comparison of 2002 vs Approved/Recommended Strategies
(assuming 220m³ annually)



ANNUAL BILLING COMPARISON per HOUSEHOLD (2011 \$)



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MUNICIPAL WATER* RATE INCREASE TREND

MUNICIPALITY	2007	2008	2009	2010	2011	2012
Guelph	7.1%	8.9%	6.6%	5.6%	6.2%	6.8%
Halton	4.0%	5.9%	6.7%	0.0%	6.0%	3.5%
London	N/A**	8.0%	8.0%	8.0%	0.0%	8.0%
Norfolk	7.1%	8.9%	6.6%	4.9%	6.2%	6.8%
Ottawa	9.0%	9.0%	9.0%	9.0%	3.9%	TBD
Toronto	10.8%	9.0%	9.0%	9.0%	9.0%	9.0% (P)
Hamilton	7.25%	8.9%	4.5%	4.0%	4.25%	4.25% (P)
Average	7.5% ↑	8.4% ↑	7.2% ↑	5.8% ↑	5.1%	6.4%

* Most municipalities have separate water and wastewater rate increases; generally wastewater rates are higher than water rates

** Rate structure change undertaken for 2007 fiscal year; no rate change in given year

(P) = proposed

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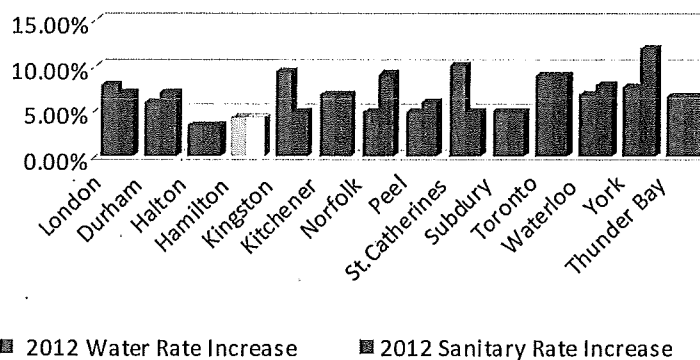
2011 – 2012 MUNICIPAL WATER/SEWER RATES

Municipality	Rate Change			
	2011		2012	
	Water	Sewer	Water	Sewer
London	0.00%	0.00%	8.00%	7.00%
Cambridge	8.60%	13.20%	N/A	N/A
Durham	2.40%	6.40%	6.00%	7.00%
Haldimand	4.60%	6.00%	N/A	N/A
Halton	6.00%	2.30%	3.50%	3.50%
Hamilton	4.25%	4.25%	4.25%	4.25%
Kingston	9.50%	5.00%	9.50%	5.00%
Kitchener	2.90%	0.00%	6.90%	6.90%
Norfolk	4.90%	7.80%	4.90%	9.10%
Peel	9.10%	9.10%	5.00%	6.00%
St.Catherines	4.80%	9.00%	10.00%	5.00%
Subdury	5.10%	5.10%	5.00%	5.00%
Toronto	9.00%	9.00%	9.00%	9.00%
Waterloo	6.90%	7.90%	6.90%	7.90%
York	10.00%	10.00%	7.70%	12.00%
Thunder Bay	14.30%	10.73%	6.70%	6.70%

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2011 – 2012 MUNICIPAL WATER/SEWER RATES

2012 Water and Wastewater Rate Increase



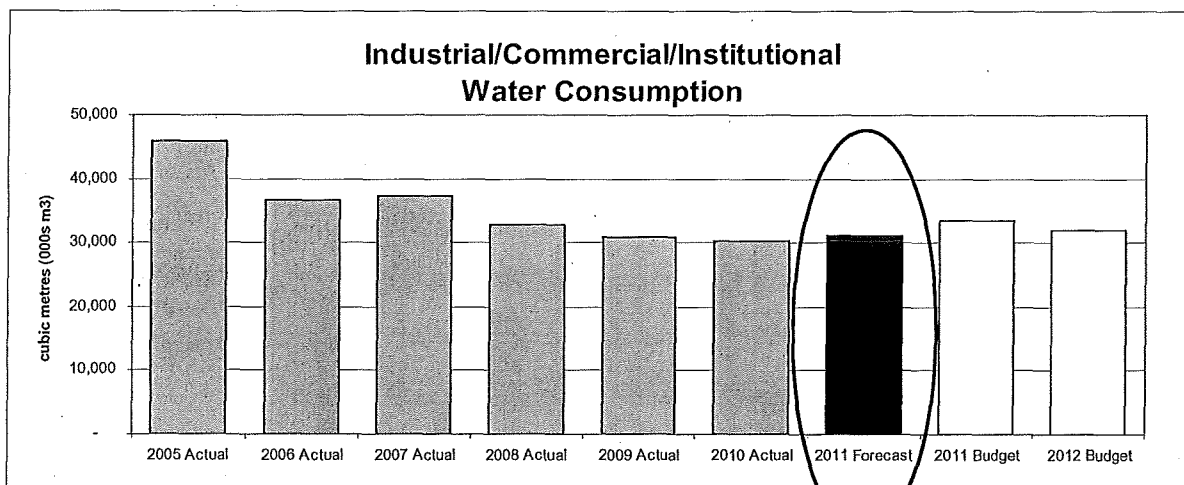
AFFORDABILITY

Municipality	2010 Avg. Household Income (\$)	2010 Residential Water/WW Costs (\$) *	2010 Water/WW as a % of Household Income
Mississauga	100,827	325	0.32%
Toronto	89,519	515	0.58%
Burlington	108,310	681	0.63%
Ottawa	95,462	689	0.72%
Waterloo	100,835	746	0.74%
Hamilton	78,087	596	0.76%
Guelph	85,054	723	0.85%
Cambridge	85,514	772	0.90%
London	77,218	771	1.00%
Kitchener	80,375	814	1.01%
Brantford	70,952	800	1.13%
St Catherines	69,291	833	1.20%
Sudbury	75,633	925	1.22%
Windsor	69,043	1,018	1.47%
BMA Study Average	88,785	773	0.87%

Source: BMA Management Consulting Inc. - Municipal Study 2010 (* based on 250m3 p.a.)

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INDUSTRIAL, COMMERCIAL, INSTITUTIONAL CONSUMPTION (m3)



ICI consumption decline since 2003 equivalent to about 19 Lakeports or almost 44,200 households.

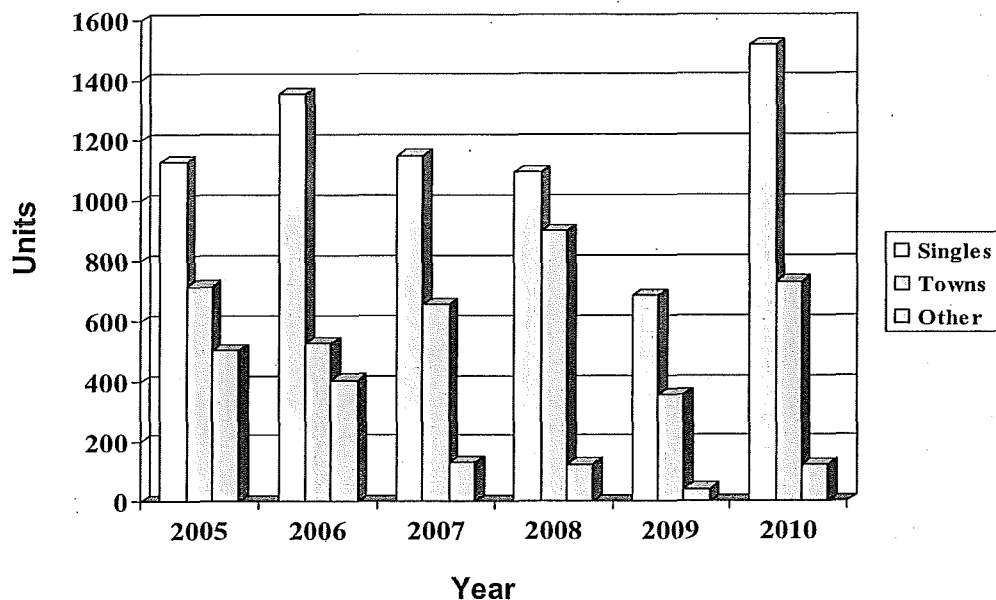
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PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT



Historical Trends Residential Units by Dwelling Types

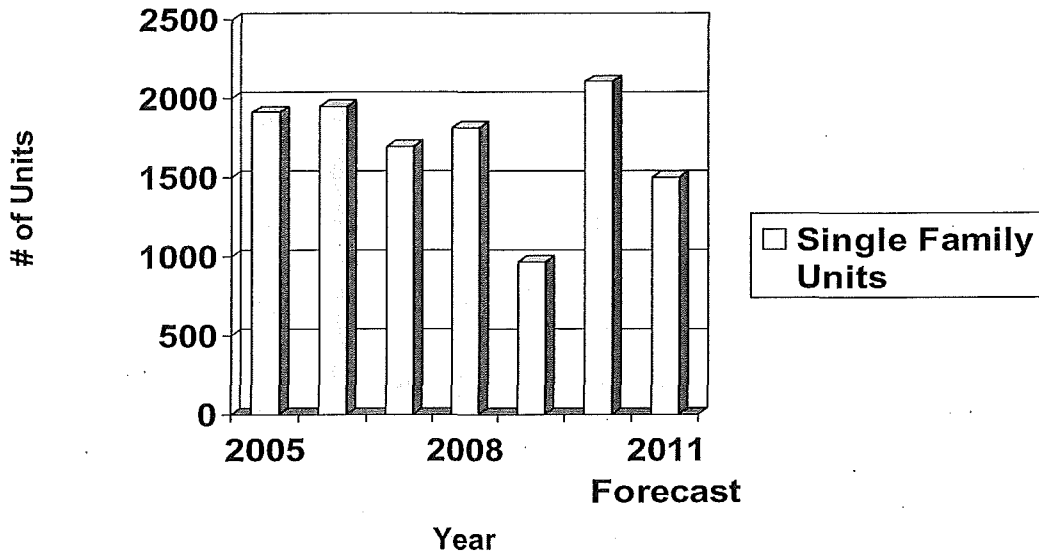




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Historical Trends

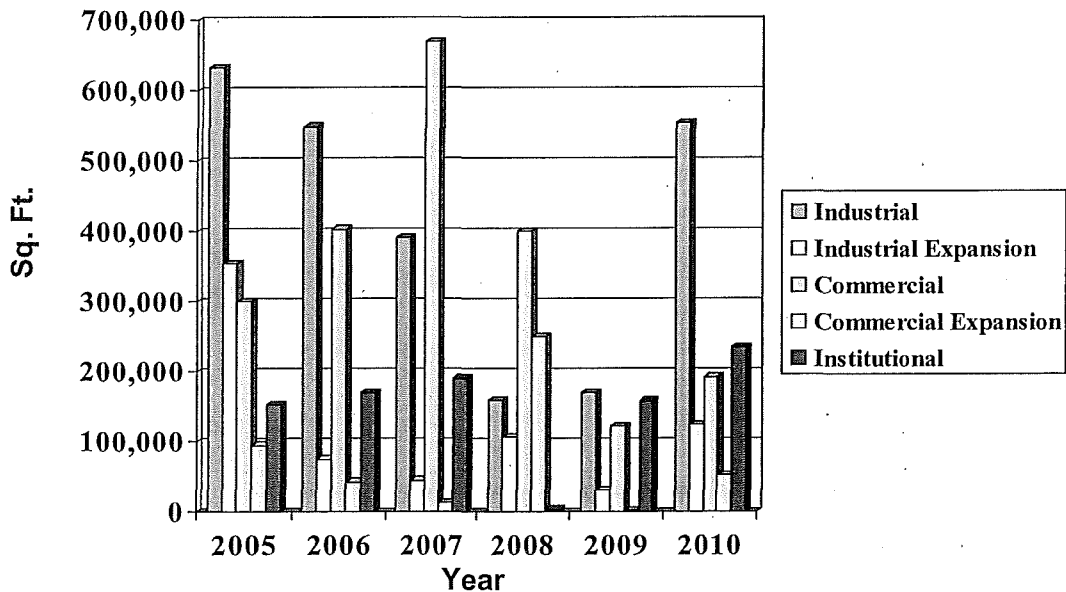
Equivalent Residential Single Family Units



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Historical Trends

Industrial-Commercial-Institutional (sq.ft)

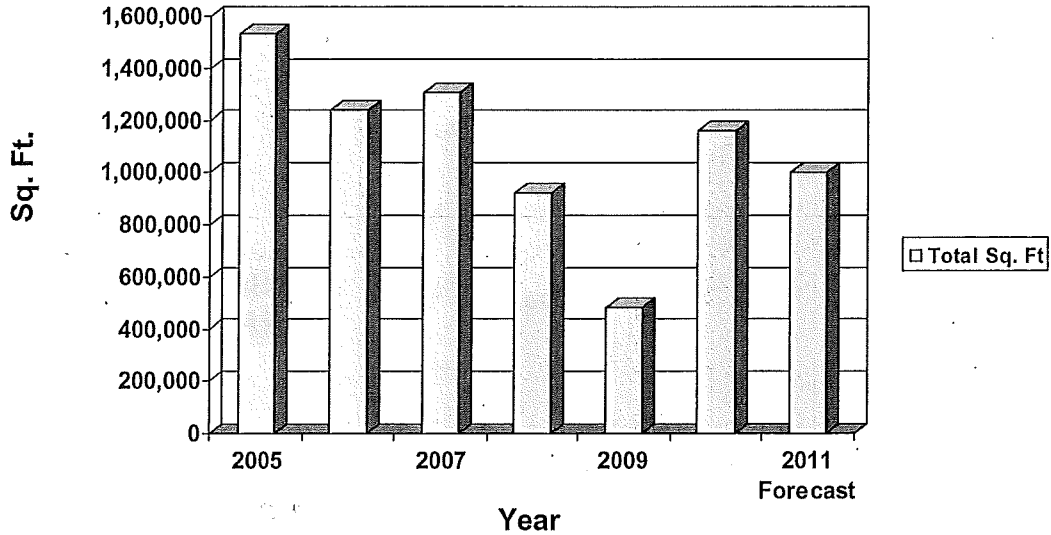


* Net square footage (demolitions deducted)



Historical Trends

Industrial-Commercial-Institutional (Total sq.ft)



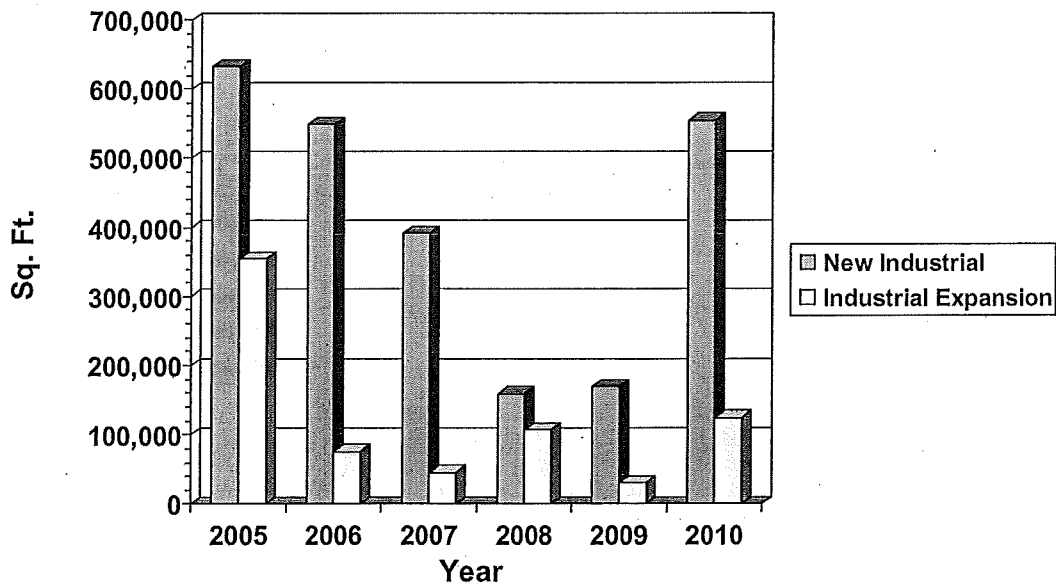
* Totals include industrial and commercial expansions.
 ** Net square footage (demolitions deducted)



Historical Trends

Hamilton

New Industrial vs. Industrial Expansion (Total sq.ft)



* Net square footage (demolitions deducted)



Factors Influencing Growth:

- Public Confidence - World Economy
- Available Credit
- Duration of Process
- Land Availability



Managing Growth

- Staging of Development Program
- Evaluation Criteria - Prioritizing Projects
- Monitor Multi-year Budgets
- Establish a Capacity Allocation Policy



PUBLIC WORKS

Rate Supported Program Overview



RATE SUPPORTED PROGRAM

Overview:

- Woodward Wastewater Treatment Plant Expansion – Strategy Update
 - Plant Optimization
 - Green Infrastructure Funding (GIF)
 - Development and Growth
- Biosolids Management Program
- SERG Initiatives – Capital Projects
- Water and Wastewater Vertical Capital Projects
- 2011 Key Accomplishments
- 2012 Outlook
- Operating Budget

WOODWARD WWTP Expansion Strategy Update

Context of Original Woodward Wastewater Treatment Plant Expansion Plan (pre-2011)

- The base plan for the Woodward Wastewater Treatment Plant Expansion included the following **Key Program Drivers** as identified through master planning process:
 - 2014 – new capacity required
 - 2014 – Green Infrastructure Fund spending completed
 - 2015 – Hamilton Harbour Remedial Action Plan targets met

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WOODWARD WWTP Expansion Strategy Update

Since the development of the original Base Plan, three key variables have emerged creating a direct impact on the Key Program Drivers, most notably:

- **Growth:** For budgeting purposes adjusted flow projections to better reflect 'most likely' scenario (from 3000 as per Master Plan to 1500 homes/yr)
 - **Declining Consumption:** Adjustment made as a result of declining consumption across all sectors
 - **Declining Flow:** Adjustment made resulting in decline Woodward base flow (i.e., 2008 - 84% from Master Plan, 2010 – 71% capacity)
- The Capacity Assessment Model was then recalibrated with the revised key variables resulting in the Revised Plan.

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WOODWARD WWTP Expansion Strategy Update

Revised Plan (as per 2011 approved budget):

- 2019 – new capacity required
- 2014 – Green Infrastructure Fund (GIF) spending completed
- 2015 – Hamilton Harbour Remedial Action Plan targets met

Strategy (as per 2011 approved budget):

- Implement Operational Control Study (Plant Optimization) at Woodward
 - Goal will be to optimize WWTP to meet HHRAP targets at existing flows until plant expansion is undertaken
- Work with senior levels of government to redefine end date of GIF funding, or repurpose the grant to other water quality initiatives at the plant
- Execute a construction program that delivers additional capacity in time for development needs

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WOODWARD WWTP Expansion Strategy Update

Strategy Update (Dec. 2, 2011) ...

Operational Control Study (Plant Optimization)

- Consultant retained and Optimization efforts underway and continuing throughout 2012.

Green Infrastructure Funding

- Staff continuing to meet with government representatives to establish alternatives to meet current funding conditions (i.e., extending deadline to 2019 or separate growth component and proceed with a water quality upgrade)

Development and Growth

- Staff are continuing to monitor growth to ensure a construction program that delivers additional capacity in time for development needs
- Development numbers in 2011 remain consistent with a 2019 Plant Expansion

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WOODWARD WWTP Expansion Strategy Update

Biosolids Management Program (P3 Canada Update):

- Hamilton was screened in to the P3 Canada process and approved to proceed to next phase - Business Case Development
- Staff are working with Deloitte to develop a Workplan to complete the Business Case that meets a deadline for presentation to P3 Canada Board of June 2012
- Staff will bring a Report forward to Council on December 12th, 2011 with a detailed outline of the proposed Workplan including associated costs estimates and schedules



STORM EMERGENCY RESPONSE GROUP (SERG)

Key Projects/Assessments Completed

Fessenden Neighbourhood Drainage Improvements (2011)

- High priority capital program developed to increase the level of stormwater services (new Pond, Trunk Sewer, and Storage Tank)

Lower East End Drainage Improvements (2011)

- Increased sewer capacities at the following locations
 - London St, Barton at Ottawa,
 - Park Row: Main to Roxborough
 - Province: Main to Dunsmure
 - Graham: Main to Dunsmure
 - Dunsmure: Park Row to Graham
- Whitfield at Gage Avenue flow control



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STORM EMERGENCY RESPONSE GROUP (SERG)

Ongoing Work

Design, Tendering & Construction

- Garside – Main to Dunsmure (\$1,050K)
- Houghton, Wexford and Huxley Avenues - Main to Roxborough (~\$5,000K)
- Large Sewer Cleaning and Rehabilitation (\$3,860K)
- Lower Davis Creek Erosion Mitigation (\$2,200k)
- Fessenden Pond/Trunk Sewer/Tank (\$9,800k)

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STORM EMERGENCY RESPONSE GROUP (SERG)

Ongoing Work

Investigation, Assessments & Recommendations

- Jasper & Bland Street; Whitfield Avenue; Charlton Avenue; Stewartdale; Parkside/Kipling; Centennial Underpass; Kenilworth Underpass; Gage Park Pond & Rothsay; Greenhill Flooding Class EA
- Low Impact Development – evolution of technology and design standards to augment traditional stormwater management
- Coordination with the Insurance Bureau of Canada & Institute Catastrophic Loss Reduction – ICLR (in kind)
- Private Drainage Pilot Program (Planning & Ec. Dev)

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STORM EMERGENCY RESPONSE GROUP (SERG)

Key Future Work

Coordination, Design & Tendering

- MacNab - Strachan to Ferrie & Ferrie - MacNab to James (\$350K)
- Main - Cope to Barons & Barons - Main to Maple (\$360K)
- Mary/Brock/Catharine (\$280K)
- Queenston Rd/Walter Ave (\$3,750K)
- Overflow/Flow Balancing between systems (\$200K)

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STORM EMERGENCY RESPONSE GROUP (SERG)

Budget Summary – SERG/Flooding & Stormwater Infrastructure \$(000)

2005 – 2010

SERG Initiatives	\$ 5,550
Pipe Upgrades/Replacements	\$ 1,340
Inspection, Maintenance & Rehabilitation	\$ 13,180
CSO Upgrades	\$ 50,032
Investigations	\$ 3,120
Backwater Valve Pilot Project	\$ 100
TOTAL	\$ 73,322

2011 to 2015 (subject to Council approval)

SERG Initiatives	\$ 47,640
Inspection, Maintenance & Rehabilitation	\$ 7,900
Real Time Control	\$ 20,000
Protective Plumbing Program (3P)	\$ 4,000
TOTAL	\$ 79,540

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STORM EMERGENCY RESPONSE GROUP (SERG)

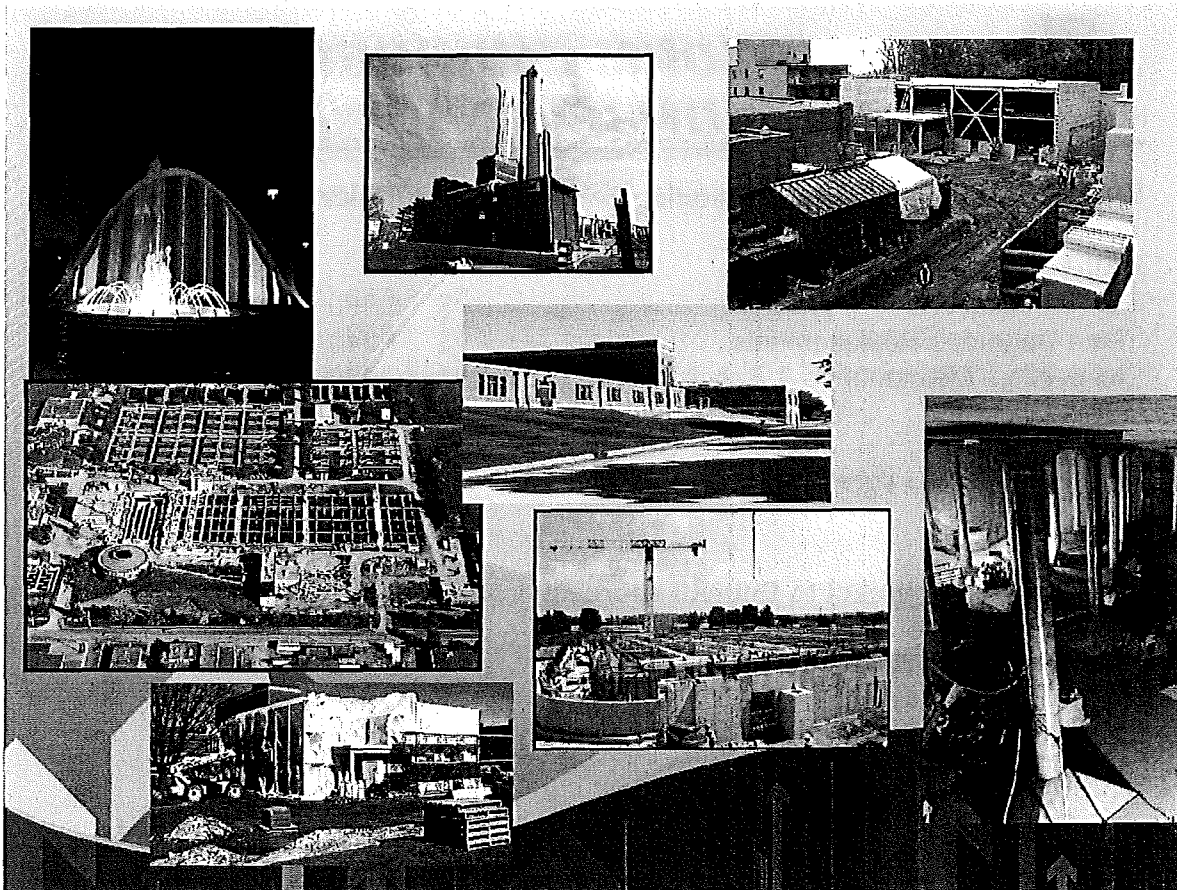
Stormwater Funding Pressures – Level of Service Improvements

Process Improvement and Analysis

- Stoney Creek & Battlefield Creek Flood & Erosion Control (\$1,000K/yr over 6 years)
- Citywide Erosion Mitigation (\$350K/year over 10 years)
- Pond & Catchbasin Maintenance (subject to enhancement – Road Ops)
- Development of comprehensive inventory and ongoing condition assessment of all City Stormwater Management Ponds

There is no correlation between water consumption and storm water costs

Storm capital represents 26% of 2012 Rates capital displacing water and wastewater projects



2011 WWW Vertical Capital Projects Overview

- 35 Complex, Multidiscipline Capital Projects at Various Phases in 2011:

Phase	# of Projects	Value
RFP Preparation In Process	11	\$ 4.5M Design (estimate) \$35.6M Construction (estimate)
Design In Process	7	\$14.3M Design \$54.8M Construction (estimate)
Construction In Process	9	\$189.7M Capital
Commissioned Facilities	8	\$83.9M Capital

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2011 WWW Vertical Capital Projects Highlights

Key Projects In Design

- Woodward WWTP - Raw Wastewater Pumping Station
- Real Time Control – Phase 1

Key Project In Construction

- Lowlift Pumping Station Upgrades
- Ferguson Avenue Pumping Station Upgrades
- Biogas / Digester Energy Recovery
- Primary Clarifiers and Disinfection Upgrades
- Windemere Basin

Key Projects Reaching Substantial Completion

- Water Treatment Plant Upgrades
- Kenilworth Pumping Station Upgrades
- Hillcrest Reservation Upgrades – Phase 1
- Freelton Well System Upgrades

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2012 WWW Vertical Capital Projects Highlights

- 38 Complex, Multidiscipline Capital Projects at Various Phases in 2012:

Phase	# of Projects	Value
RFP Preparation In Process	3	\$ 3.8M Design (estimate) \$43.9M Construction (estimate)
Design In Process	14	\$15.0M Design \$38.3M Construction (estimate)
Construction In Process	12	\$70.2M Capital
Commissioned Facilities	9	\$174.9M Capital

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2012 WWW Capital Projects Highlights

Key Projects In Design

- Water Treatment Plant Process Upgrades
- Highland Gardens Water Booster Station
- Lynden Well Replacement
- Highland Reservoir Upgrades
- Real Time Control – Phase 2

Key Project In Construction

- Hillcrest Reservoir – Phase 2
- Real Time Control – Phase 1
- Carlisle Communal Well Upgrades

Key Projects Reaching Substantial Completion

- Lowlift Pumping Station Upgrades
- Ferguson Avenue Pumping Station Upgrades
- Biogas / Digester Energy Recovery
- Primary Clarifiers and Disinfection Upgrades
- Windemere Basin

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2011 Key Accomplishments...

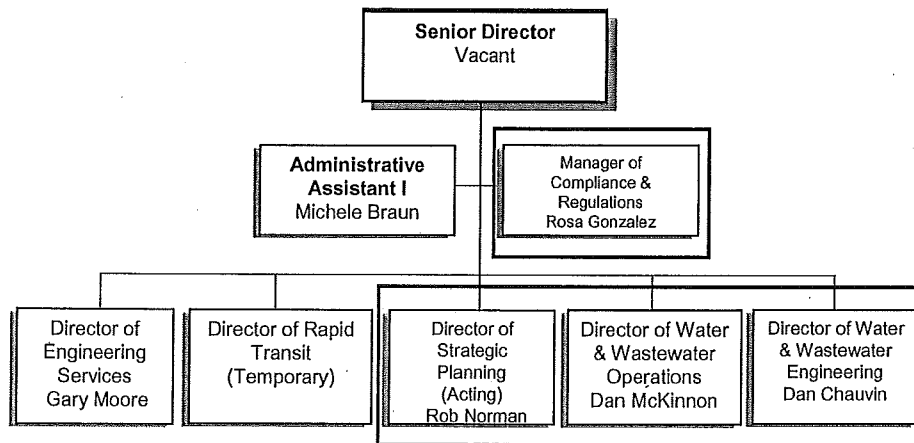
- DWQMS Accreditation
- Met ISF Completion deadline for 7 Water and Wastewater Projects with a combined project value of \$150 million
- Backflow Prevention Program (Drinking Water System)
- Hansen 8 Standard approval
- SCADA Standard approval



2012 Outlook...

- Revised Sewer Use Bylaw
- Municipal Water Bylaw
- Automated Metering Business Case Development
- Continued implementation Backflow Prevention Program (Drinking Water System)
- Hansen 8 Migration
- SCADA PLC Capital Replacement
- Biosolids Management Program
- Wastewater Treatment Plant – Water Quality Options

ENVIRONMENT & SUSTAINABLE INFRASTRUCTURE – Rate Supported



Complement Summary

Complement (FTE)	Management	Other	Total	# of staff/ Management
2010	8.0	264.6	272.6	33.1
2011	8.0	264.6	272.6	33.1
Change	0.0	0.0	0.0	0.0

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Proposed 2012 Net Operating Budget by Cost Category

Cost Category	2011 Restated	2012 Requested	\$ Change	% Change
Employee Related	\$27,162,260	\$28,169,177	\$1,006,917	3.7%
Materials & Supplies	\$7,641,430	\$8,232,280	\$590,850	7.7%
Vehicle Expenses	\$1,144,740	\$1,177,760	\$33,020	2.9%
Buildings & Grounds	\$12,558,110	\$13,438,160	\$880,050	7.0%
Consulting & Contractual	\$14,099,460	\$13,958,260	(\$141,200)	(1.0%)
Agencies / Support Payments	\$215,000	\$216,500	\$1,500	0.7%
Reserves / Recoveries	\$4,121,230	\$7,787,584	\$3,666,344	89.0%
Financial	\$2,670,330	\$2,313,273	(\$357,057)	(13.4%)
Cost Allocations	\$5,622,950	\$5,406,290	(\$216,660)	(3.9%)
Capital Financing	\$84,032,170	\$84,012,665	\$19,505	0.0%
TOTAL EXPENDITURES	\$159,267,680	\$164,711,949	\$5,444,269	3.4%

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Proposed Net 2012 Operating Budget by Cost Category (continued...)

Cost Category	2011 Restated	2012 Requested	\$ Change	% Change
Rate Revenue	(\$156,649,000)	(\$162,230,204)	(\$5,581,204)	(3.6)%
Non-Rate Revenue	(\$2,618,680)	(\$2,481,745)	\$136,935	5.2%
TOTAL REVENUES	(\$159,267,680)	(\$164,711,949)	(\$5,444,269)	(3.4)%
NET EXPENDITURES	\$0	\$0	\$0	

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2012 Budget Drivers

Expenditures	
• Salaries & Wages	\$516,000
• Benefits (OMERS \$269K; Other \$125K)	\$394,000
• Overtime	\$97,000
• Hydro	\$933,000
• Chemicals	\$445,000
• Insurance Recovery	\$269,000
• Horizon Utilities (billing & reading contract)	\$100,000
• Capital Recoveries	(\$318,000)
• Trslr to/from Reserves	\$3,721,000
• Pavement Cut Restorations (moved to Capital)	(\$500,000)
• Share the Warmth Program (Utility Arrears Program)	(\$150,000)
• Other Miscellaneous	(\$63,000)
Total Expenditures Increase	\$5,444,000
Revenues	
• Rate Revenues Increase	\$5,113,000
• Private Fire Lines – new revenue source	\$200,000
• Sewer Surcharge Agreements Revenue Increase	\$120,000
• Other Miscellaneous	\$11,000
Total Revenues Increase	\$5,444,000

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OPERATING CAPITAL FORECAST

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2012 OPERATING HIGHLIGHTS

- \$164.7 million budget
- Increase of \$5.4 million vs. 2011 budget
- Program Expenditures increasing 3.4%
- 2% Consumption decline from 2011 budget
 - Residential increase of 1.1%
 - ICI decline of 5.1%
- No change in staff complement
- User fees and charges generally increasing by inflation
- 1% change in Water Rates = \$1.5 million in Rate Revenues (water & wastewater)

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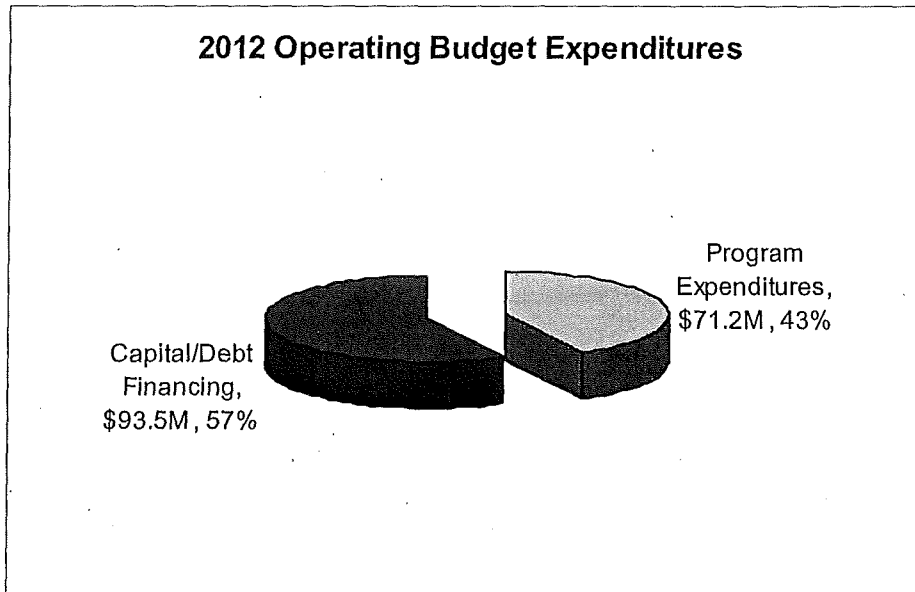


OPERATING SUMMARY

Summary of the 2012 Operating Budget				
(\$ million's)	2011 Restated Budget	2012 Requested Budget	2012 Requested /2011 Restated Change	
			\$	%
Expenditures				
Program Expenditures	\$69.5	\$71.2	\$1.7	2.5%
Capital/Debt Financing	\$89.8	\$93.5	\$3.7	4.1%
Total Expenditures	\$159.3	\$164.7	\$5.4	3.4%
Revenues				
Rate Revenue	\$156.7	\$162.2	\$5.5	3.5%
Non-Rate Revenue	\$2.6	\$2.5	(\$0.1)	(0.1)%
Total Revenue	\$159.3	\$164.7	\$5.4	3.4%

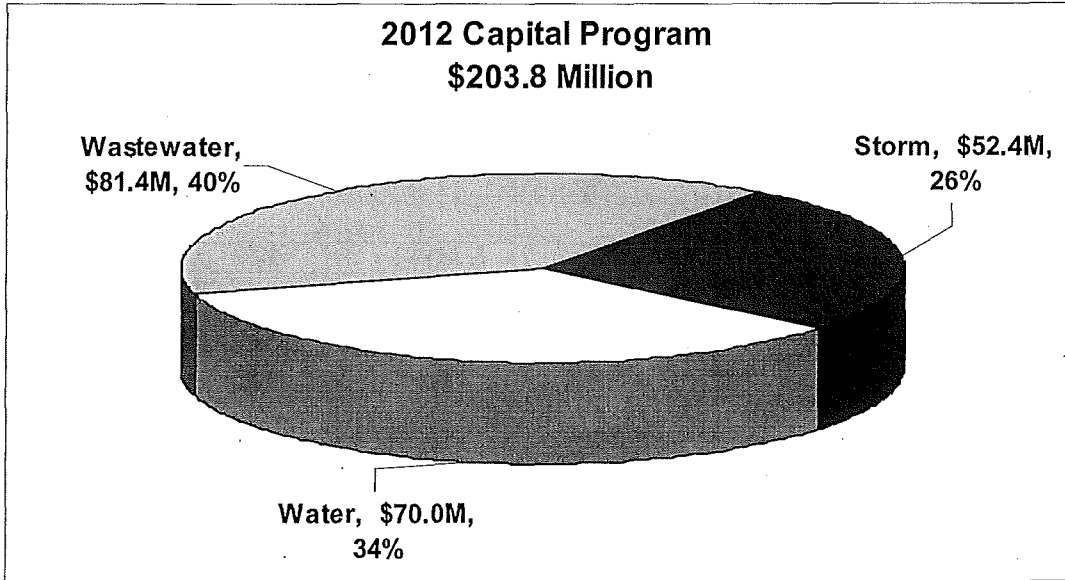


2012 OPERATING BUDGET

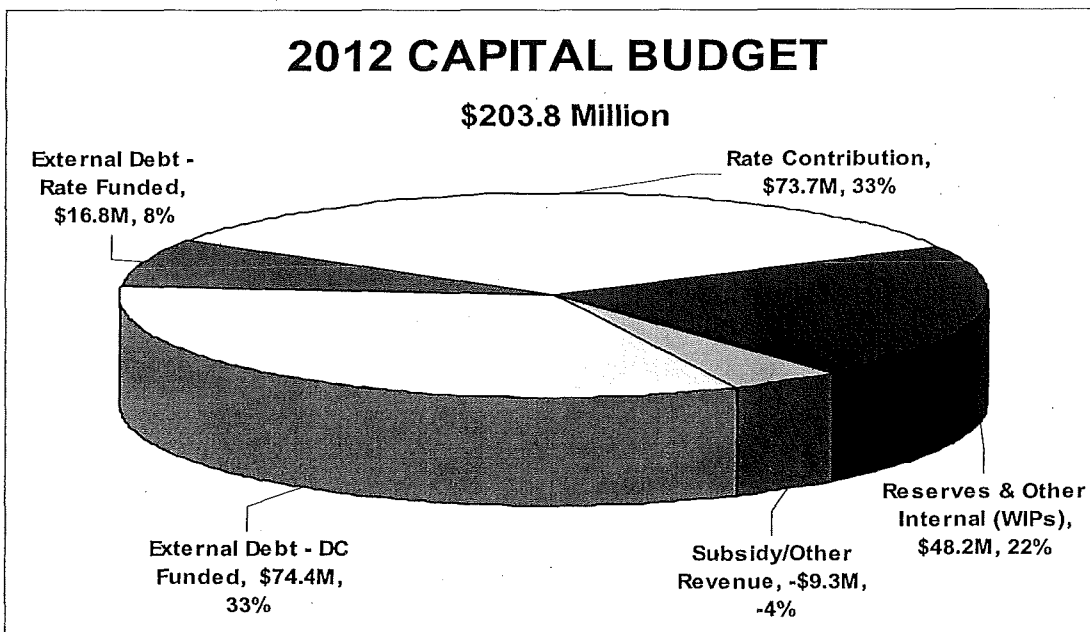




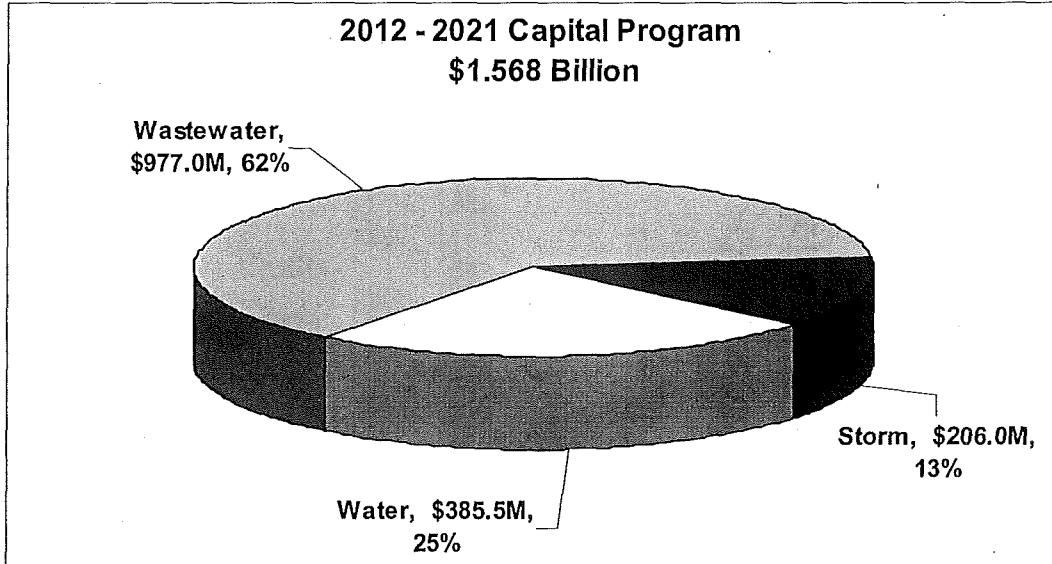
2012 CAPITAL PROGRAM



2012 CAPITAL FUNDING

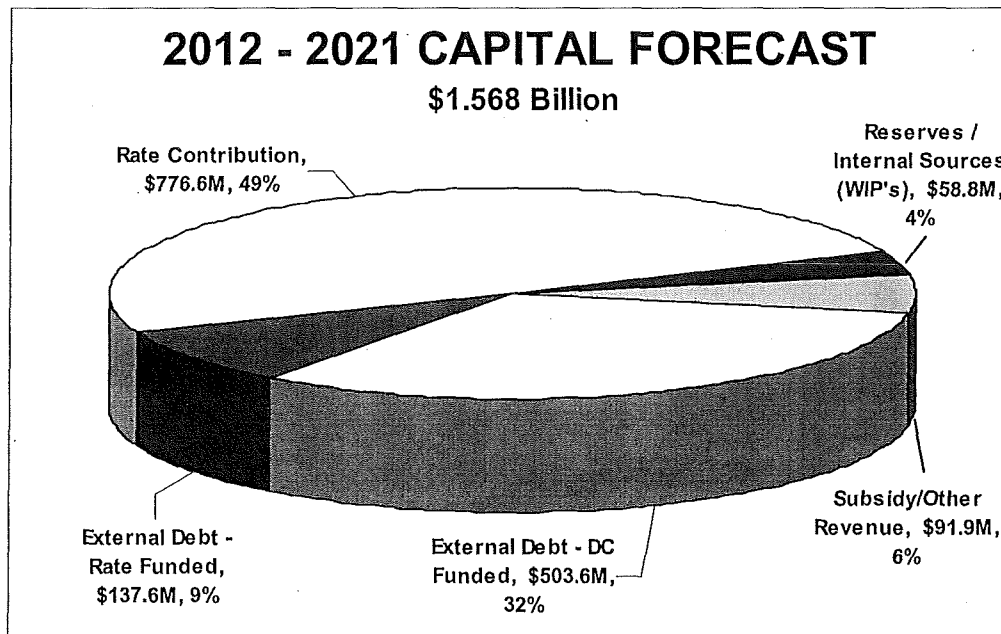


2012-2021 CAPITAL BY PROGRAM



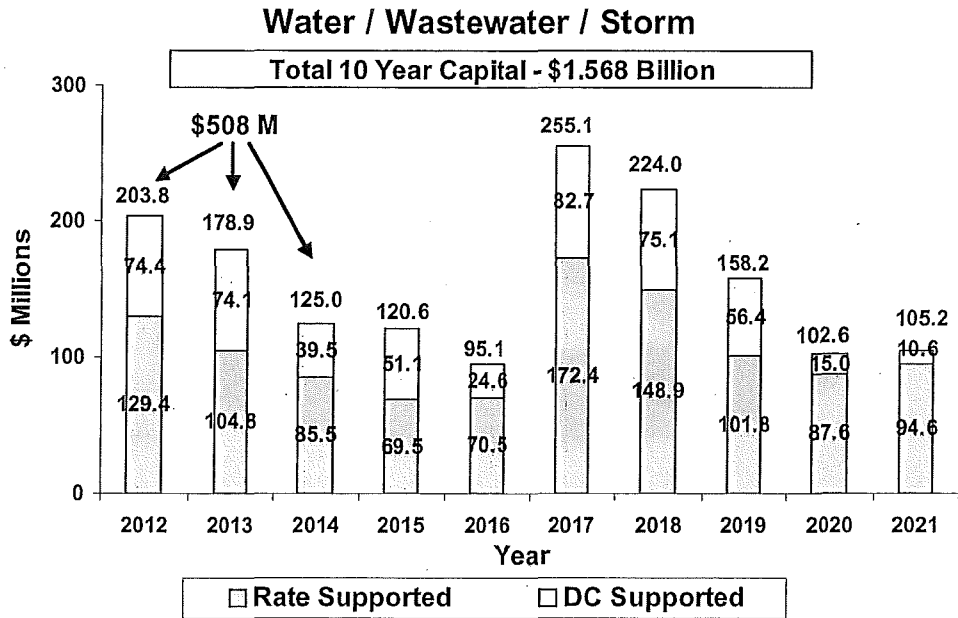
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2012-2021 CAPITAL FUNDING

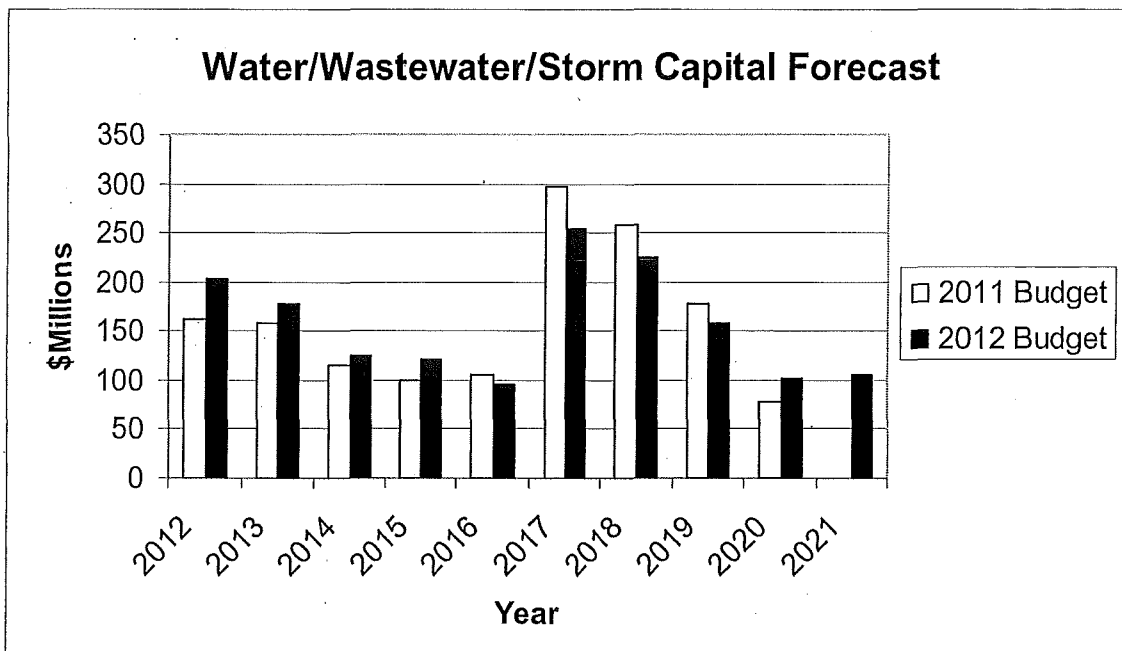


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CAPITAL BUDGET FORECAST



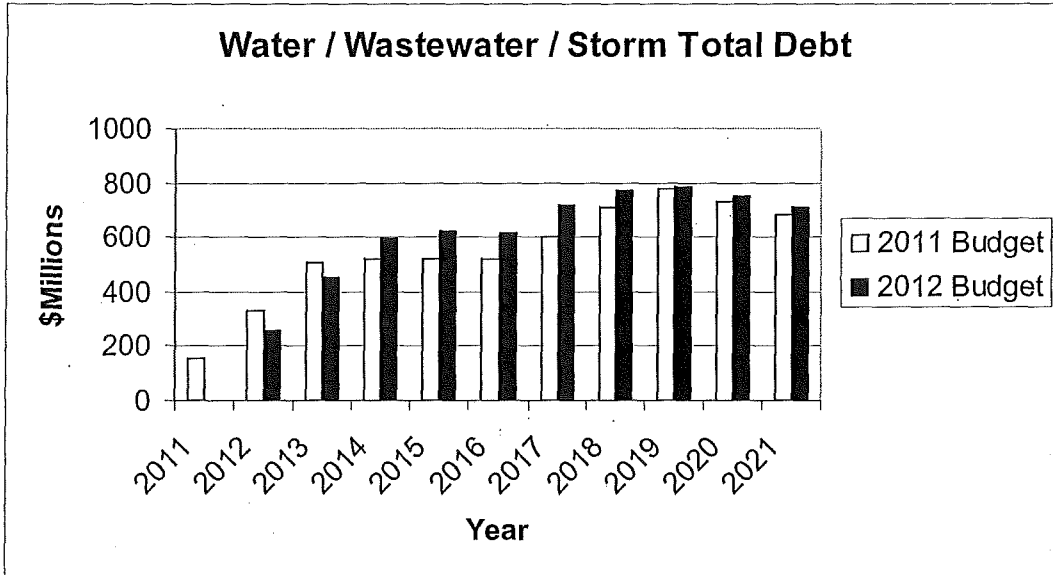
10 YEAR CAPITAL FORECAST COMPARISON





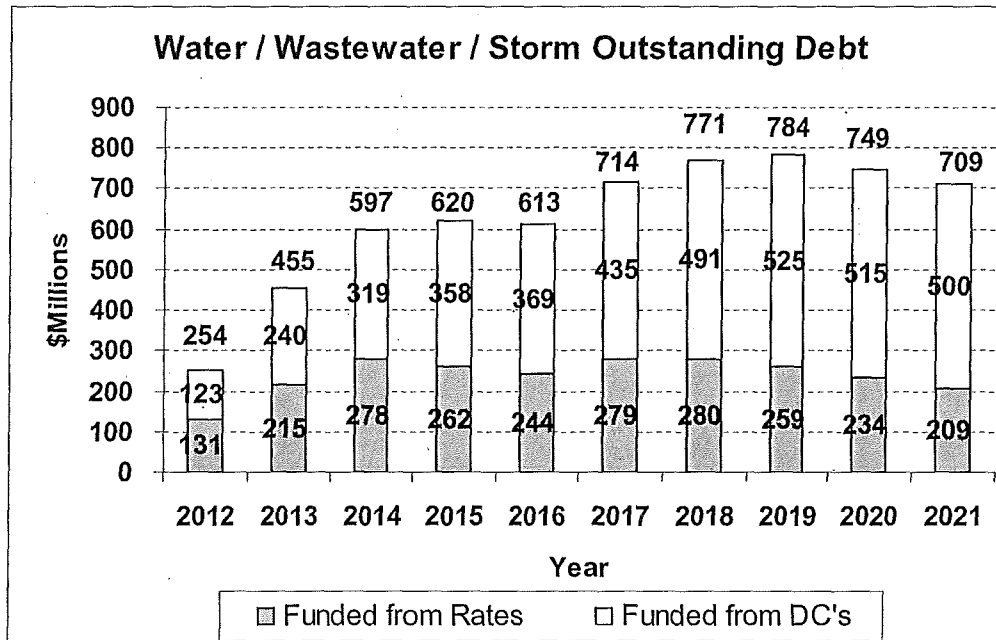
Hamilton

DEBT COMPARISON



Hamilton

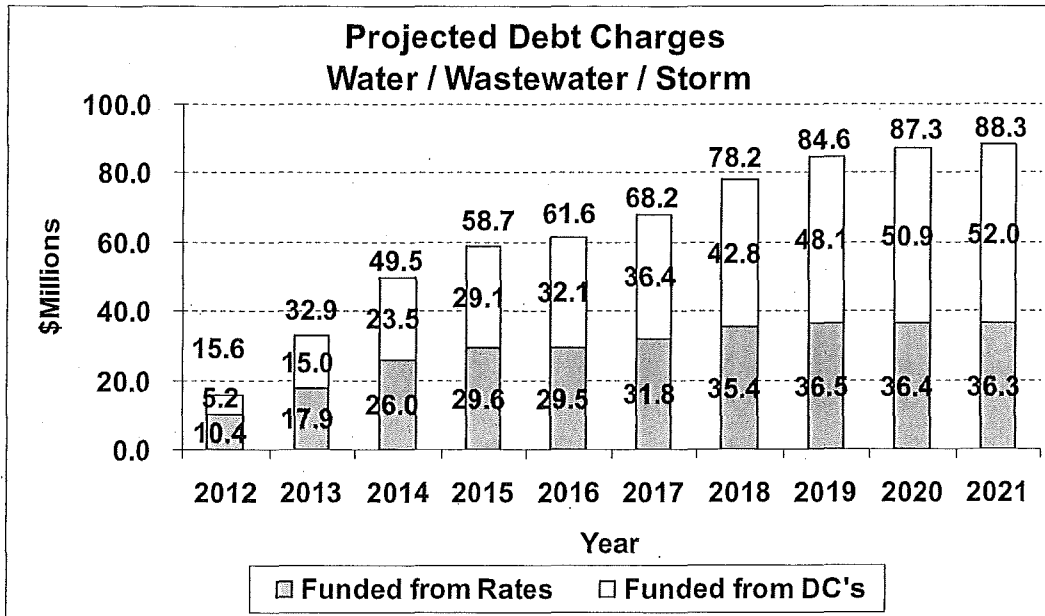
DEBT FORECAST





Hamilton

PROJECTED DEBT CHARGES

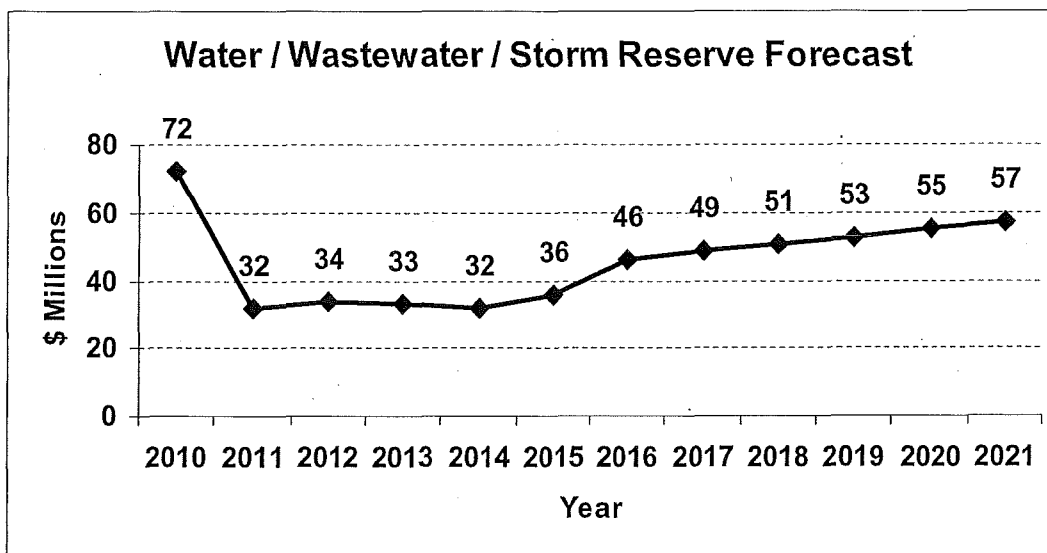


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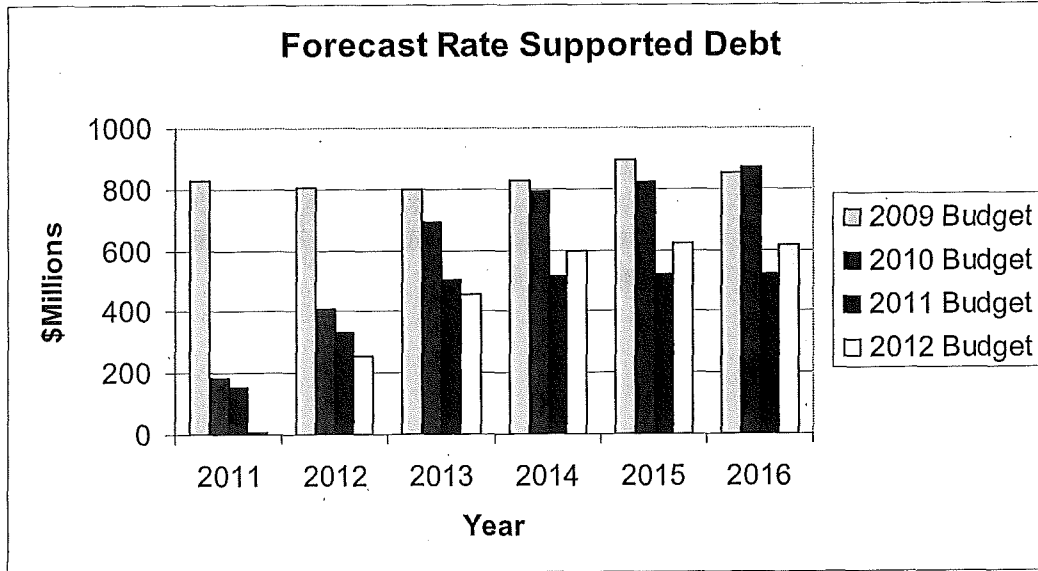
RESERVE FORECAST



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BENEFIT OF WATER EFFICIENCY



FINANCIAL SUSTAINABILITY RISKS

- ICI declining consumption
- Pace of Development
- Future development charges and the level of debt to be recovered from growth
- Reserve Capacity
- Stormwater management program



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VALUE

Bottled Domestic Water by the Case from Grocery Store: \$0.125 per 0.5 Litre
City of Hamilton Tap Water: \$0.00059 per 0.5 Litre



For the price of a single 0.5 Litre bottle of water bought by the case, you can fill up the same container with City of Hamilton tap water 212 times.

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RATE STRUCTURE REVIEW

- Direction: *“Staff to report back by June, 2012 with an updated water and wastewater rate structure.”*
- Guiding Principles also approved which form the foundation of the rate setting options

Process:

- Evaluate existing rate structure relative to Principles
- Review alternative structures & Best Practices
- Develop structure options & conduct impact analysis
- Report to Council

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CONCLUSION

- Approve Recommendations A to J of Report FCS11100/PW11086
- Approve agenda item 6.1 Private Fire Lines Report

PROPOSED PRIVATE FIRE LINE FEE

- Fee applicable only to private unmetered connections (primarily ICI) which serve the purpose of supplying water to private fire protection systems – sprinklers, standpipes & private hydrants
- Cost recovery of:
 - water used for testing sprinklers, private hydrants, etc
 - inspection/maintenance of street valves that service private fire lines
 - ultimate replacement of related oversized City infrastructure
- Fee effective July 1, 2012; budgeted \$200K revenue in 2012

PROPOSED PRIVATE FIRE LINE FEE

