

# **Section IV**

## **Water Fund**

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Mission Statement

The mission of Water Division is to enhance Concord's quality of life, and through sound management, innovation, teamwork and vision, provide dependable, high quality, responsive water utility services, consistent with values and at reasonable costs to Concord's citizens, businesses, institutions and visitors.

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**Highlights**

- The proposed FY12 base level (Step 1) water rate of \$4.10 per unit represents a 3.5% increase over the FY11 rate of \$3.96 per unit. \*See pages IV-3 and IV-15.
- The proposed FY12 capital investment plan is \$2.3 million of which \$1.4 million is funded from a \$1.9 million debt authorization.
- Article 23 "Nagog Pond Water Supply System Improvements" passed at the 2009 Town meeting authorized the appropriation of \$1,900,000 for the construction of water supply and water treatment facilities and improvements associated with Nagog Pond reservoir, Nagog Dam and Route 2A pump station including engineering, permitting and other related services and costs.
- The proposed FY12 Operating Income is \$548,243 and Net Income is \$367,245.

**Expenditure Summary**

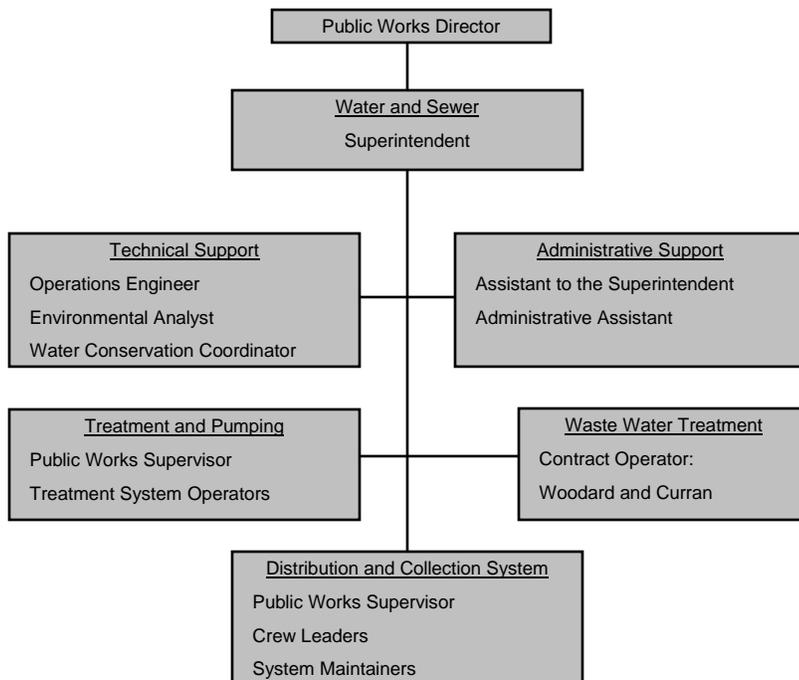
	FY09 Actual	FY10 Actual	FY11 Budget	FY12 Proposed
Operating Income	\$ 592,272	\$ 646,395	\$ 830,227	\$ 548,243
Net Income	\$ 466,977	\$ 477,365	\$ 665,787	\$ 367,245
Fund Balance	\$ 3,829,818	\$ 4,040,863	\$ 3,709,662	\$ 3,411,769

**Description**

Concord received legislative authority to establish a public water system in 1872. Today the system consists of ground-water and surface water sources, a total of seven pumping stations, two advanced treatment facilities, and a high pressure water main network consisting of over 130 miles of pipe. Two covered storage reservoirs, one located at Annursnac Hill and the other located at Pine Hill in Lincoln provide total reserve capacity of 7.5 million gallons.

The 1974 Annual Town Meeting established the Water Fund. Expenses for the water system are covered entirely by user fees. The Water and Sewer Division of Concord Public Works is responsible for managing the day-to-day operations of the water infrastructure. As of June 30, 2010, the total value of infrastructure assets was approximately \$18.5 million.

There are presently 5,475 customers receiving potable water service and fire protection from the Town water system. This represents approximately 95% of Concord residents and businesses, along with a small number of Acton properties located on Route 2A.



**The Concord Water System** is designed to meet a variety of customer needs and interests, which include the provision of safe and reliable potable water, high volume flows for fire protection and integrated water resource protection. Activities involving drinking water quality and water withdrawal issues are strictly regulated by the Massachusetts Department of Environmental Protection (MA DEP) and the federal Environmental Protection Agency (EPA).



**Long Term Financial Stability**

Along with its core mission to operate and maintain the Town’s water system in a reliable and efficient manner, the Water Enterprise must also be financially self-supporting. This means that the Water Division is expected to cover all costs associated with operations, capital maintenance and repairs by generating sufficient revenue through user fees and special service fees. The Water Division maintains a detailed 10-year financial proforma to facilitate long range planning for all revenues and anticipated investments.

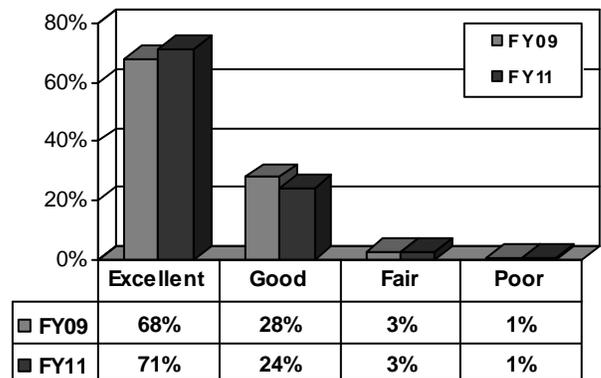
Since the Water Enterprise fund was formally established in 1974, there have been no property tax contributions requested to subsidize annual operations or maintenance of pre-existing infrastructure. Taxpayer contributions would only be sought for major system expansion projects or facility upgrades designed to meet broader community interests. No such projects are presently contemplated.

**Citizen Survey**

In the fall of 2006, 2008, and 2010 the Town conducted telephone surveys of 300 randomly selected Concord residents. For the Water Division, two questions were asked. To the right are the results of the question, “How would you rate the overall quality of water service?” Of those who said they use the service, the vast majority (71%) thought that the quality is Excellent and another (24%) thought it is Good.

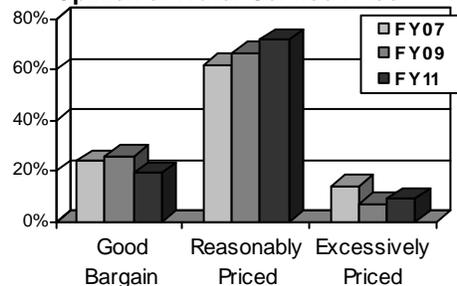
Below are the results of the question, “What is your opinion of the price of water service?” In FY11, of those who said they use the service, 19% thought that the price is a Good Bargain and 72% thought that it is Reasonably Priced. From FY07 to FY11, there has been a trend toward the opinion that the cost for water service is reasonably priced.

**How would you rate the overall quality of water services provided by the Town?**



What is your opinion of the price of Town water Services?	FY05	FY07	FY09	FY11
Good Bargain	N/A	24%	26%	19%
Reasonably Priced	N/A	62%	67%	72%
Excessively Priced	N/A	14%	7%	9%

**Opinion of Water Service Price**



\*Data Source: Fall of 2006, 2008, and 2010 telephone surveys (300+ residents).

Water Rates

The total revenue projected to be raised through water user fees in FY12 is: **\$3,973,000** which represents 98% of total Water Fund revenues.

User fees are assessed according to actual measured (metered) use.

Rates are set each year by the Public Works Commission following a public hearing with the following goals:

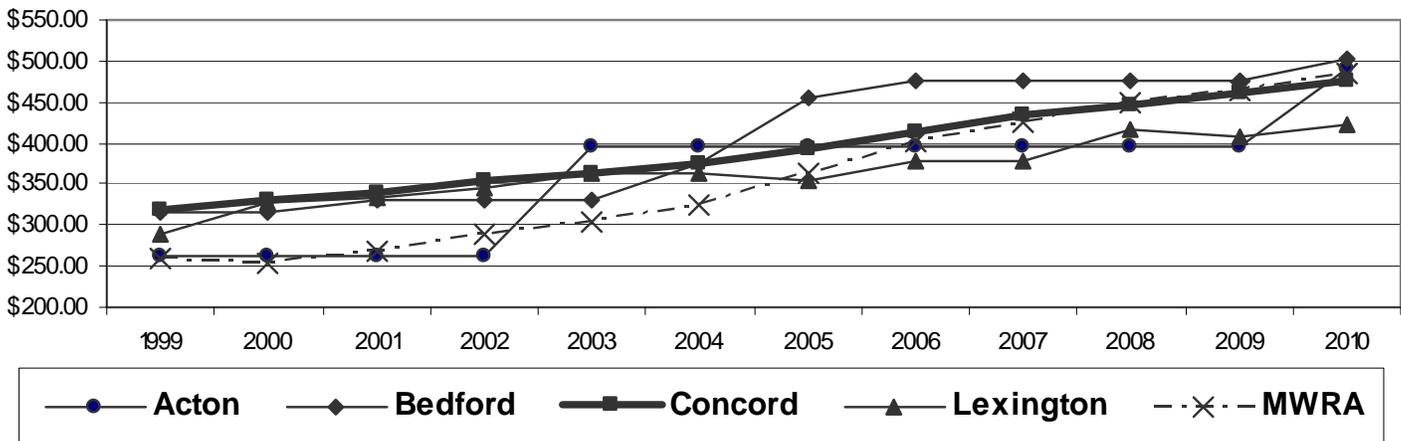
1. To ensure that the Division has the resources to operate, maintain, and improve the system;
2. To encourage users to conserve water; and
3. To minimize rate changes so that water use can be a relatively predictable expense for customers.

**Water Rate Highlights**

***The FY12 proposed Residential Service (Step 1) water rate is \$4.10 per unit (1 unit = 748 gallons)***

- The FY12 rate of \$4.10 represents a 3.5% increase over the FY11 rate of \$3.96.
- In FY12, the typical residential customer, assumed to use an average of 15 units bimonthly at the Step 1 rate, can expect to pay a total of \$369 in water use over the course of the year. Customers who consume 25 or more units of water bimonthly will pay at higher rates (Conservation Steps).
- Property owners that meet certain income criteria may qualify for a 50% discount on the Step 1 residential rates.

**Comparison of Annual Residential Water Bills**



Water bill comparisons in the accompanying chart are based on average annual usage of 120 units in order to be consistent with MWRA data. Concord's residential customers typically use less water on an annual basis.

Rate comparisons are provided for general information only; differences exist in the management and financial structure of every system. Concord prides itself on operating as a full cost accounting enterprise where rates are designed to cover O&M, depreciation and long-term investment needs. Statewide, 35% of communities have adopted a flat rate structure, 63% use an ascending rate structure and 2% assess a flat fee. Concord is one of only 6% of systems within Massachusetts which have adopted a seasonal ascending-block conservation rate structure.

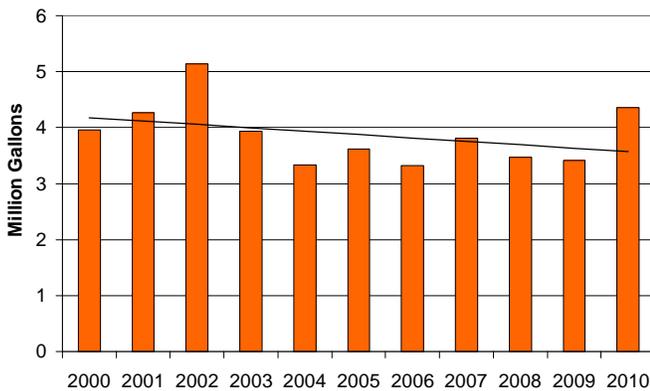
Program Highlights

The programs and initiatives highlighted below represent the most current efforts undertaken by the Division to address both customer needs and regulatory requirements.

**Capacity:** Up until mid-1980's the quantity of water available to each community within Massachusetts was primarily dictated by local interests, needs, investments and available resources. Over the past several decades, the Commonwealth of Massachusetts has imposed regulatory controls pursuant to the Water Management Act, CMR Chapter 21G. Most recently, water rights have been increasingly challenged through conditional permits and registrations which include prescribed requirements intended to manage water use demand. Proposed controls including "mandatory" water use restrictions have already been imposed in some communities with an increasing likelihood of spreading to others such as Concord in the not-too-distant future. In January of 2008, Concord, along with over 40 other water systems, appealed terms and conditions included in a twenty-year "Water Management Act Registration Statement". Legal and regulatory findings are pending. Concord continues to believe that it is its responsibility to adopt and promote long-term sustainable and environmentally responsible water resource management practices while challenging those state policies which have the potential to negatively impact the Town's water system. The Water Division will continue to focus its efforts on developing effective customer outreach programs to increase voluntary participation in wise water-use practices as well as to evaluate the impacts of state policies and take appropriate action to ensure the on-going financial health of Concord's water system.

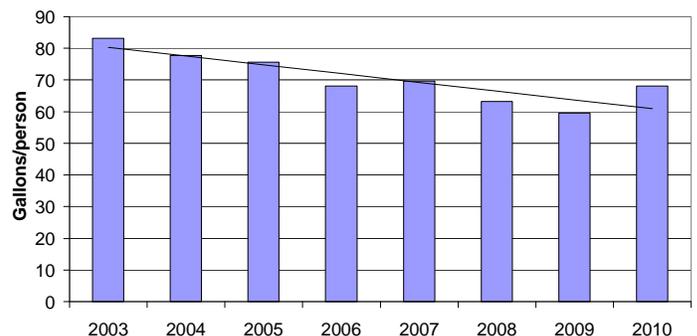
Within the past decade, the Water Division has invested considerable effort to identify and eliminate unaccounted-for water (losses through leaking pipes or inaccurate metering) and reduce wasteful consumption. The combination of infrastructure improvements coupled with increased customer awareness via conservation activities has resulted in long-term savings as measured in daily average demand as well as peak daily demand over the past decade. The increase noted in 2010 is attributed to the extended period of hot dry weather experienced during the summer.

**Max. Day Consumption 2000-2010**



**Water Conservation Program:** Ongoing promotion of water conservation and sustainable development approaches continue to play an important role in Concord's water supply demand management strategies. As shown in the graph to the right, the average daily residential per capita consumption increased in 2010. This is primarily attributed to an increase in outdoor water use. Such behavior suggests that we have more work to do with respect to our outreach and education initiatives.

**Residential per Capita per Day Consumption**



Program Highlights (continued)

**Water Testing:** Concord's water system continues to meet or surpass state and federal standards for regulated drinking water quality. As a public water system, Concord is required to perform routine monitoring of regulated water quality parameters in accordance with a regularly updated DEP issued compliance schedule. This past year, DEP issued Concord a new three-year monitoring plan (2011-2013).

**Replacement Wells:** The White Pond well is a 36"x24"x18" gravel-packed well installed in 1970 with a registered withdrawal of 550 gallons per minute (gpm). Approximately ten years ago, the Town installed two (2) 16"x10" gravel-packed replacement wells at the White Pond well site for the purpose of improving water quality from this well site. Following extensive evaluation, it was determined that the activation of these wells would not have provided sufficient water quality benefit and no additional action was taken. Now that all water from this site is pumped to and treated at the Deaconess Water Treatment Facility, it was determined that the activation of these replacement wells could successfully restore the available yield from this well site without compromising water quality. Stantec Consulting Services Inc. (Westford MA) performed the design, bidding and construction administration services for the construction of mechanical, electrical and instrumentation systems required to bring these two replacement wells on-line.

**Reservoir Improvements:** The Annursnac Hill Reservoir (2.5 million gallon) and Pine Hill Reservoir (5.0 million gallon) drinking water storage structures were drained, cleaned and inspected to identify short-term and long-term maintenance and structural needs. Weston & Sampson (Peabody, MA) assisted in these efforts which also included an evaluation of state-of-the-art mixing systems. The addition of such systems will allow for more turnover within these large storage chambers and improved water quality.

**Nagog Treatment Plant:** Nagog Pond continues to operate under a federal filtration waiver which was issued in 1993 as a result of a highly successful watershed protection program. Regulations promulgated by the EPA, effective in 2013, will require enhanced disinfection including cryptosporidium inactivation in accordance with the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWT). To meet this regulatory requirement, Stantec Consulting Services Inc. (Westford, MA) was retained to develop plans and specifications for the rehabilitation of the Rt 2A booster facility. The plan of work identified for this 60 year old pump station includes the complete replacement of all electrical, mechanical and chemical feed systems, the addition of a new ultra-violet disinfection system, and modest building improvements.

**Nagog Pond Dam:** In accordance with a request by Department of Conservation and Recreation's Office of Dam Safety, Pare Associates (Foxborough, MA) completed a Phase II Nagog Dam Assessment Report for this structure. This work was required to characterize the condition of this 100-year-old dam and associated control structures and to determine if additional inspection, maintenance or rehabilitation is needed. While the dam was reported to be stable, the following needs/recommendations were made: address concrete spalling/deterioration of dam structure, enhance freeboard system, remove vegetation, and restore functional operation of the associated gatehouse. Pare Associates was subsequently tasked to develop the design documents for this rehabilitation effort.

**Mains (New/Replacement):** Fenton & Sons (Acton, MA) performed water main replacement activities along Whittemore Street. Water mains were replaced with 8-inch cement-lined ductile iron pipe (CLDI), in place of 6-inch transite pipe. To avoid unnecessary handling costs, the older transite main was abandoned in place and the newer main was installed along the same general route. This work was coordinated with other public works improvements including drainage and a complete road surface overlay. In-house resources were used to install approximately 750 feet of new 8-inch CLDI water main along Farmer's Cliff Road in concert with a culvert replacement project performed in the same general area. This main will remain inactive until the Division (or private contractor) returns to complete this project at some time in the future.

**Meter Replacement Program:** Effort and investment continued on the multi-year meter system upgrade, performed in conjunction with CMLP, which involves the installation of a radio-based technology which will allow for more efficient and customer-friendly meter-reading capabilities. Now that this phase of the conversion process has been completed, advanced meter reading and billing system opportunities can be explored.

Program Implementation

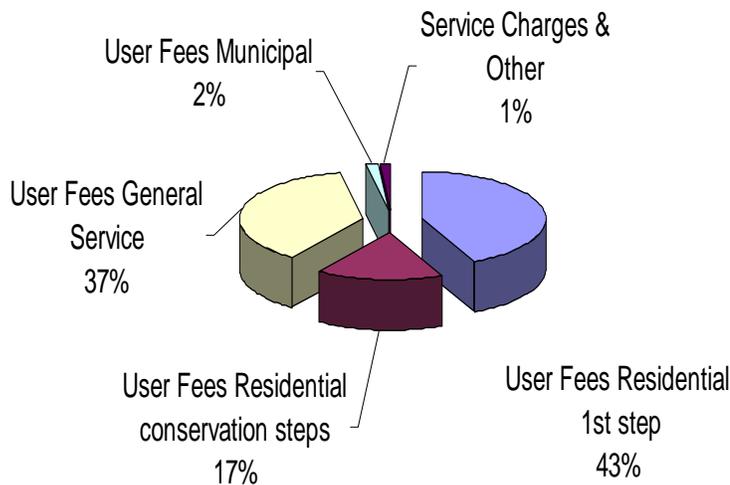
The proposed fiscal year 2012 budget provides for an operating income of \$548,243 and a net income of \$367,245.

Depreciation expense reflects the cost imposed by the annual use, or wear-and-tear, of the Water Division's approximately \$18.5 million worth of infrastructure (as of the end of FY10). The budgeted depreciation expense, totaling \$819,862, therefore reflects a depreciation of roughly 4.4% of these capital assets in FY12.

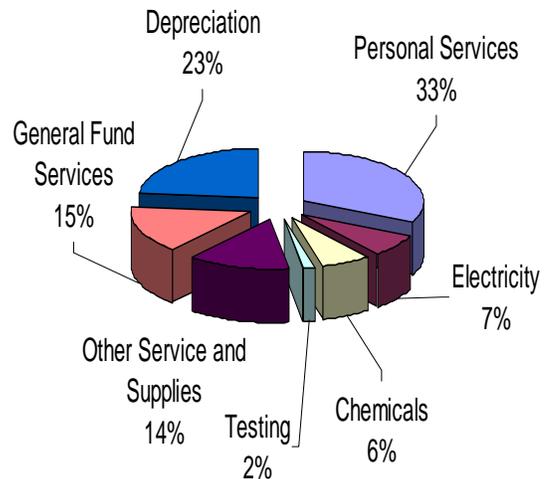
Personnel Services are budgeted to total \$1,122,576 in FY12, a 9.3% increase from the revised FY11 total of \$1,026,601. While no additional personnel positions have been requested, the budget does provide for the re-assessment and re-allocation of "stand-by" duties pay to ensure uniquely qualified supervisors are available 24/7 for two distinct operational groups. This assessment will include the possible re-assignment of scheduled station duties performed during weekends and holidays to ensure a properly trained and licensed operators is available and compensated in accordance with FLMA requirements. It also includes re-staffing the position of Water Conservation Specialist, which was vacant during FY2011.

The most significant change in operating expense for FY 2012 is the increased cost of electricity. There was an 8% increase in electric rates in December of 2010 and costs are projected to increase by 4% per year as use of the stabilization fund to reduce charges to the customer goes down. The impact on the O&M budget was a net increase of approximately \$56,000 over a two-year period.

**Water Operating Revenue**  
**Totaling \$4,053,000**



**Water Operating Expenses**  
**Totaling \$3,504,757**



**OPERATING REVENUES (\$)**

	FY09 Actual	FY10 Actual	Rev. FY11 Budget	FY12 Estimate
Water User Fees	\$ 3,469,141	\$ 3,668,448	\$ 4,118,000	\$ 3,973,000
Service Charges	28,783	23,545	61,000	50,000
Liens and Tax Titles	25,917	21,867	26,000	26,000
Other	7,350	5,474	5,000	4,000
<b>Operating Revenues Total</b>	<b>\$ 3,531,191</b>	<b>\$ 3,719,334</b>	<b>\$ 4,210,000</b>	<b>\$ 4,053,000</b>

**OPERATING EXPENSES (\$)**

	FY09 Actual	FY10 Actual	Rev. FY11 Budget	FY12 Estimate
<b><u>Personnel Services</u></b>				
Personnel Expenses	\$ 971,095	\$ 940,758	\$ 1,026,601	\$ 1,122,576
Audit Adjustment	19,877	17,939	-	-
<b>Subtotal</b>	<b>\$ 990,972</b>	<b>\$ 958,697</b>	<b>\$ 1,026,601</b>	<b>\$ 1,122,576</b>
<b><u>Non-Personnel Services</u></b>				
Purchased Services	401,024	399,865	576,838	574,176
Supplies & Materials	357,005	381,121	427,057	372,897
Other Charges & Expenses	92,084	88,420	80,364	77,412
Audit Adjustment	(141,836)	(40,462)	-	-
<b>Subtotal</b>	<b>\$ 708,277</b>	<b>\$ 828,944</b>	<b>\$ 1,084,259</b>	<b>\$ 1,024,485</b>
<b><u>Other</u></b>				
General Fund Services	505,496	513,281	516,941	537,834
Transfer to Road Repair Fund	-	40,511	-	-
Adjustment Allowance (3% EST)	-	-	-	-
Depreciation Expense	702,636	731,506	751,972	819,862
Capital Reserve	31,538	-	-	-
<b>Subtotal</b>	<b>\$ 1,239,670</b>	<b>\$ 1,285,298</b>	<b>\$ 1,268,913</b>	<b>\$ 1,357,696</b>
<b>Total Operating Expense</b>	<b>\$ 2,938,919</b>	<b>\$ 3,072,939</b>	<b>\$ 3,379,773</b>	<b>\$ 3,504,757</b>

## AUTHORIZED POSITIONS (\$)

Regular Staff	FY11 Revised Budget		FY12 Initial Budget	
	Positions/Hours	\$ Amount	Positions/Hours	\$ Amount
Water and Sewer Superintendent	0.80 FTEs	\$ 78,648	0.80 FTEs	\$ 78,726
Public Works Engineer	0.20	10,629	0.20	12,915
Assistant to Superintendent	0.80	60,653	0.80	60,653
Env. & Reg. Coord.	0.80	50,551	0.80	50,551
Administrative Assistant	0.80	42,411	0.80	42,411
Public Works Supervisor	1.60	112,719	1.60	115,395
Crew Leader	1.60	94,511	1.60	94,511
Treatment System Operator	2.40	122,653	2.40	126,772
System Maintainer	4.00	176,147	4.00	176,147
Water Conservation Specialist	0.65	37,233	0.65	37,218
Standby Pay (5111)	0.43	27,608	0.17	12,607
Charges to Snow Account	-0.08	(4,046)	-0.08	(5,198)
Charges to Capital Projects	N/A	(19,662)	N/A	(17,990)
Vacancy Savings	N/A	(37,233)		
Salary Adjustments	N/A	-	N/A	35,400
<b>Subtotal</b>	<b>14.00 FTEs</b>	<b>\$ 752,822</b>	<b>13.75 FTEs</b>	<b>\$ 820,118</b>
5120				
Environmental Technology Intern	800 hrs.	\$ 8,000	800 hrs.	\$ 8,800
GIS Project Specialist	624 hrs.	10,920	624 hrs.	12,012
<b>Subtotal</b>	<b>0.68 FTEs</b>	<b>\$ 18,920</b>	<b>0.68 FTEs</b>	<b>\$ 20,812</b>
Employee Benefits				
Health Insurance	N/A	\$ 65,174	N/A	\$ 72,782
Life Insurance	N/A	300	N/A	300
Dental Insurance	N/A	3,400	N/A	3,500
Retirement Contribution	N/A	24,966	N/A	35,345
OPEB Contribution	N/A	68,097	N/A	74,498
<b>Subtotal</b>	<b>N/A</b>	<b>\$ 161,937</b>	<b>N/A</b>	<b>\$ 186,425</b>
Payroll Taxes				
Medicare Tax	N/A	\$ 10,000	N/A	\$ 9,500
Social Security Contribution	N/A	1,500	N/A	1,500
<b>Subtotal</b>	<b>N/A</b>	<b>\$ 11,500</b>	<b>N/A</b>	<b>\$ 11,000</b>
Other Personnel Costs				
Overtime (5130)	1250 hrs.	\$ 70,566	1800 hrs.	\$ 70,182
Overtime Adjustments (5130)	N/A	-	N/A	3,183
Police Overtime (5131)	250 hrs.	7,400	185 hrs.	7,400
Mobile Phone Allowance	N/A	3,456	N/A	3,456
<b>Subtotal</b>	<b>N/A</b>	<b>\$ 81,422</b>	<b>N/A</b>	<b>\$ 84,221</b>
<b>Total Personnel Costs</b>	<b>14.68 FTEs</b>	<b>\$ 1,026,601</b>	<b>14.43 FTEs</b>	<b>\$ 1,122,576</b>

**NET INCOME (\$)**

	FY09 Actual	FY10 Actual	Rev. FY11 Budget	FY12 Estimate
<b>Statement of Net Income:</b>				
Operating Revenues	\$ 3,531,191	\$ 3,719,334	\$ 4,210,000	\$ 4,053,000
Less Operating Expenses	(2,938,919)	(3,072,939)	(3,379,773)	(3,504,757)
<b>Operating Income</b>	<b>\$ 592,272</b>	<b>\$ 646,395</b>	<b>\$ 830,227</b>	<b>\$ 548,243</b>
<b><u>Nonoperating Revenues (Expenses)</u></b>				
Add Investment Income	\$ 90,025	\$ 23,813	\$ 16,129	\$ 14,870
Less Interest Expense	(215,320)	(192,843)	(178,669)	(176,869)
Issuance Expense	-	-	(1,900)	(19,000)
<b>Nonoperating Income</b>	<b>\$ (125,295)</b>	<b>\$ (169,030)</b>	<b>\$ (164,440)</b>	<b>\$ (180,999)</b>
<b>Net Income</b>	<b>\$ 466,977</b>	<b>\$ 477,365</b>	<b>\$ 665,787</b>	<b>\$ 367,245</b>

**AVAILABLE RESOURCES (\$)**

<b>Resources Available from Current Operations for Replacement &amp; Renewal of Facility:</b>				
	FY09 Actual	FY10 Actual	Rev. FY11 Budget	FY12 Estimate
<b><u>Capital Purposes</u></b>				
Add Depreciation Exp. & Cap. Rsv.	\$ 702,636	\$ 731,506	\$ 751,972	\$ 819,862
Add Net Income	466,977	477,365	665,787	367,245
Add Debt Financing	-	-	1,900,000	-
Less Bonds Payable	(585,000)	(560,000)	(550,000)	(550,000)
<b>Net Available for Capital</b>	<b>\$ 584,613</b>	<b>\$ 648,871</b>	<b>\$ 2,767,759</b>	<b>\$ 637,107</b>

**CASH POSITION AND FUND BALANCE FORECAST**

<b>Cash at Year Opening</b>	FY11		FY12	
	Operating Fund	Depreciation Fund	Operating Fund	Depreciation Fund
<b>Cash on July 1st</b>	\$ 3,494,851		\$ 4,569,650	
Add Receivables	815,313		815,313	
Add Inventory	38,322		38,322	
Less Cash held for Liabilities	(307,623)		(307,623)	
<b>Fund Balance on July 1st</b>	<b>\$ 4,040,863</b>		<b>\$ 3,709,662</b>	
<b><u>Fund Balance Details (projected)</u></b>	Operating Fund	Depreciation Fund	Operating Fund	Depreciation Fund
Fund Balance on July 1st	\$ 2,860,919	\$ 1,179,944	\$ 2,976,706	\$ 732,956
Net Income	665,787	-	367,245	-
Borrowing Proceeds (Repayment)	(550,000)	-	(550,000)	-
User Fee Supported Capital Outlay	-	(1,198,960)	-	(935,000)
Add Depreciation Exp./Capital Rsv.	-	751,972	-	819,862
Balance Projected at June 30th	2,976,706	732,956	2,793,951	617,818
<b>Fund Balance on June 30th</b>	<b>\$ 3,709,662</b>		<b>\$ 3,411,769</b>	
<b><u>Cash at Year End (projected)</u></b>				
Fund Balance on June 30th	\$ 3,709,662		\$ 3,411,769	
Less Receivables	(815,313)		(815,313)	
Less Inventory	(38,322)		(38,322)	
Add Unspent Borrowing	1,406,000		-	
Add Cash Held for Liabilities	307,623		307,623	
<b>Projected Cash at June 30th</b>	<b>\$ 4,569,650</b>		<b>\$ 2,865,756</b>	

**DEBT SERVICE (\$)**

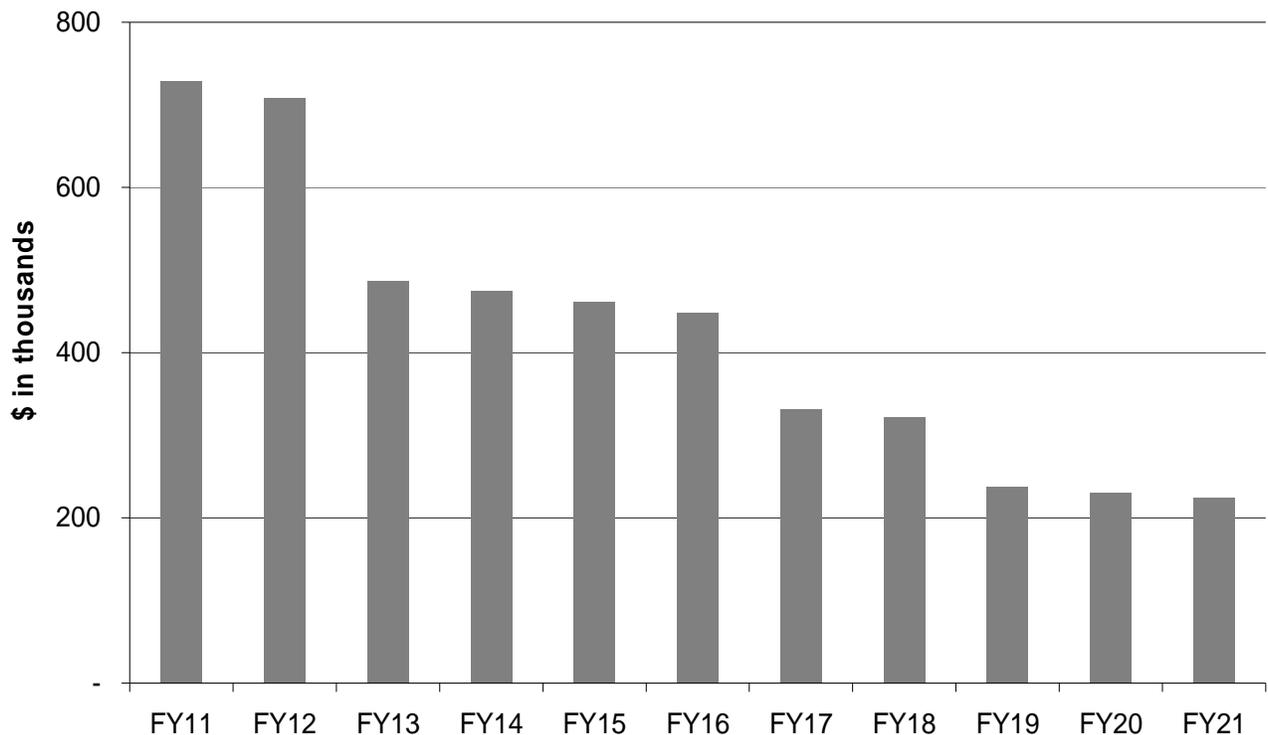
	FY09	FY10	Rev. FY11	FY12
	Actual	Actual	Budget	Estimate
<b>Long-Term Debt Repayment</b>				
Principal	\$ 585,000	\$ 560,000	\$ 550,000	\$ 550,000
Interest	215,320	192,843	178,669	176,869
Debt Issuance Expense	-	-	1,900	19,000
<b>Total</b>	<b>\$ 800,320</b>	<b>\$ 752,843</b>	<b>\$ 730,569</b>	<b>\$ 745,869</b>

**PAYMENTS TO THE GENERAL FUND (\$)**

	FY09	FY10	Rev. FY11	FY12
	Actual	Actual	Budget	Estimate
<b><u>Management &amp; Engineering</u></b>				
Highway Maintenance	\$ 15,312	\$ 15,677	\$ 15,995	\$ 16,003
133/135 Keyes Road	52,820	52,371	49,476	45,187
Public Works Engineering	64,383	64,717	74,190	65,692
Public Works Administration	69,675	72,197	62,752	74,195
<b>Subtotal</b>	<b>\$ 202,190</b>	<b>\$ 204,962</b>	<b>\$ 202,413</b>	<b>\$ 201,077</b>
<b><u>Finance &amp; Administrative</u></b>				
Town Manager	\$ 52,167	\$ 52,627	\$ 52,800	\$ 53,082
Human Resources	10,770	13,500	14,233	14,839
Town Accountant				
Accounting Services	41,996	43,770	43,494	43,708
Audit Services	5,640	6,000	6,000	6,000
Treasurer-Collector	43,500	44,845	46,652	47,217
Finance Administration	67,639	66,234	62,390	64,528
Information Systems	-	-	5,209	5,261
Town House Facility	5,921	5,973	6,990	6,964
<b>Subtotal</b>	<b>\$ 227,633</b>	<b>\$ 232,949</b>	<b>\$ 237,768</b>	<b>\$ 241,599</b>
<b><u>Natural Resources</u></b>				
Planning Administration	\$ 32,809	\$ 32,925	\$ 33,903	\$ 34,223
Natural Resource Protection	20,928	20,675	21,065	22,037
Health Department Services	21,051	21,770	21,792	22,474
<b>Subtotal</b>	<b>\$ 74,788</b>	<b>\$ 75,370</b>	<b>\$ 76,760</b>	<b>\$ 78,734</b>
Salary Reserve	-	-	-	16,424
Audit Adjustments	885	-	-	-
<b>Totals</b>	<b>\$ 505,496</b>	<b>\$ 513,281</b>	<b>\$ 516,941</b>	<b>\$ 537,834</b>

**Water Debt Service**

<b>Fiscal Year</b>	<b>Principal</b>	<b>Interest</b>	<b>Totals</b>
FY11	550,000	178,669	728,669
FY12	550,000	157,869	707,869
FY13	350,000	136,869	486,869
FY14	350,000	124,119	474,119
FY15	350,000	111,269	461,269
FY16	350,000	98,206	448,206
FY17	250,000	81,831	331,831
FY18	250,000	72,113	322,113
FY19	175,000	62,738	237,738
FY20	175,000	56,175	231,175
FY21	175,000	49,175	224,175
<b>Totals</b>	<b>\$ 3,525,000</b>	<b>\$ 1,129,033</b>	<b>\$ 4,654,033</b>



DISTRIBUTION SYSTEM

**Mains (New/Replacement): \$320,000** - Annual capital outlay for improvements and extensions to the distribution system. This ongoing investment is designed to ensure that aging deteriorating main is replaced in a methodical and prudent manner. The Water Division will continue to coordinate system upgrades with other Town Departments to insure division needs are considered in light of other public work improvement efforts (such as Roads Program and CMLP initiatives). Work is tentatively planned for a section of Belknap Street, Union Street, and Fielding Street during the summer of 2011 and a portion of Hunters Ridge Road beginning in the spring of 2012.

**Meter Replacement Program: \$36,000** - Water fund portion (80%) of costs associated with multi-year system-wide meter replacement efforts. Recent advancements in meter reading technologies coupled with potential opportunities made available through Concord Municipal Light Plant's "smart grid" initiative will be explored to evaluate customer-friendly water consumption reporting tools.

**Hydrants: \$33,000** - Concord Water is involved in annual hydrant inspection and replacement activities to insure all hydrants operate properly. This budget allowance includes the costs for approximately 16 new hydrants. There are approximately 1,263 hydrants presently in our system.

**Building Services: \$13,000** - Costs associated with the replacement/installation (street to property line) of approximately 10-15 new water services within our distribution system. Sites have been prioritized in conjunction with the Roads Program.

STRUCTURES

**Station Structures: \$280,000** - Annual capital outlay for improvements and replacement of water station structures. In accordance with a five year plan to restore the withdrawal capacity of several aging wells, planned work includes the installation and activation of one of two possible replacement wells to be located at the Deaconess well site. The original well was installed in 1948 and has served its useful life.

**Pumping Station Equipment: \$21,000** - Annual capital outlay for improvements and replacement of station equipment used to control, monitor, pump, store, and treat water including motors, pumps, motor control panels, and chemical feed systems.

**Reservoir Improvements: \$50,000** - In accordance with recent assessment and mixing system investments identified at both the Annursnac and Pine Hill drinking water storage structures, provisions have been made to allow for the construction of a permanent or portable disinfection boosting facility for enhanced micro-biological control.

**Nagog Treatment Plant: \$1,406,000** - The budget plan provides for the construction/rehabilitation of the 60-yr old Rt. 2A pump station including addition of new UV disinfection process. UV treatment is being added to comply with Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The work will include a complete replacement of all electrical, mechanical and chemical feed systems, the addition of a new ultra-violet disinfection system, and modest building improvements.

GENERAL PLANT

**Keys Road Facility \$24,000** - Water Fund portion (80%) of capital outlay for improvements to Water/Sewer Administrative Office and Garage facilities.

**Vehicles \$134,000** - Water Fund portion (80%) of fleet replacement costs. Water/Sewer Fleet consists of 17 vehicles and miscellaneous service equipment such as compressor, vacuum, etc. Budget allowance includes the addition of a new portable emergency generator required as back-up supply for essential water and sewer pumping facilities.

SUPPLY/CAPACITY

**Source Protection \$12,000** - Funds for ongoing implementation of water resource protection program.

**Capital Spending Plan**

<b>Capital Activities</b>	<b>FY09</b>	<b>FY10</b>	<b>Rev. FY11</b>	<b>FY12</b>
	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>	<b>Estimate</b>
<b><u>Distribution System</u></b>				
Mains (0111)	\$ 461,958	\$ 238,041	\$ 195,000	\$ 320,000
Meters (0112)	30,809	19,576	36,000	36,000
Hydrants (0114)	9,749	-	30,000	33,000
Services (0113)	366	-	12,000	13,000
Bridge Main (0116)	54,316	10,836	-	-
<b>Subtotal</b>	<b>\$ 557,198</b>	<b>\$ 268,453</b>	<b>\$ 273,000</b>	<b>\$ 402,000</b>
<b><u>Structures</u></b>				
Station Structures (0121)	\$ 1,616	\$ -	\$ 343,000	\$ 280,000
Pumping Station Equipment (0122)	7,336	26,021	30,000	21,000
Reservoir Improvements	-	-	250,000	50,000
Nagog Filtration (0136)	73,241	60,414	629,000	1,406,000
Art 52 Water Supply (0456)	71,321	-	19,960	-
Treatment Optimization (0134)	9,423	-	-	-
<b>Subtotal</b>	<b>\$ 162,937</b>	<b>\$ 86,435</b>	<b>\$ 1,271,960</b>	<b>\$ 1,757,000</b>
<b><u>General Plant</u></b>				
135 Keyes Road (0135)	\$ 1,597	\$ -	\$ 29,000	\$ 24,000
Vehicles (0236)	41,288	27,366	108,000	134,000
Miscellaneous Equipment	-	-	-	12,000
Depreciable - Personnel (0899)	13,294	14,403	-	-
Depreciable - Equipment (0899)	3,962	-	-	-
<b>Subtotal</b>	<b>\$ 60,141</b>	<b>\$ 41,769</b>	<b>\$ 137,000</b>	<b>\$ 170,000</b>
<b><u>Supply and Capacity</u></b>				
Source Protection (0124)	\$ 3,149	\$ -	\$ 11,000	\$ 12,000
<b>Subtotal</b>	<b>\$ 3,149</b>	<b>\$ -</b>	<b>\$ 11,000</b>	<b>\$ 12,000</b>
<b><u>Audit Adjustments</u></b>				
Audit Adjustment (Personnel)	\$ 53,546	\$ -	\$ -	\$ -
Audit Adjustment (Other)	(33,475)	41,169	-	-
<b>Subtotal</b>	<b>\$ 20,071</b>	<b>\$ 41,169</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Capital Uses</b>	<b>\$ 803,496</b>	<b>\$ 437,826</b>	<b>\$ 1,692,960</b>	<b>\$ 2,341,000</b>
<b>Funding the Capital Plan</b>				
From Debt	144,562	-	494,000	1,406,000
From Water Fund Resources	658,934	437,826	1,198,960	935,000
<b>Total Capital Sources</b>	<b>\$ 803,496</b>	<b>\$ 437,826</b>	<b>\$ 1,692,960</b>	<b>\$ 2,341,000</b>

A	B	C										R			
		F	G	H	I	J	K	L	M	N	O		P	Q	
		ACTUAL	BUDGET	PROJECTION											
		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY12-21	
1	Water Fund: Plan and Projection														
2	Operating Revenue	3,668,448	4,118,000	3,973,000	4,109,000	4,239,000	4,357,000	4,510,000	4,672,000	4,841,000	5,019,000	5,204,000	5,389,000	46,313,000	
3	User Fees	50,886	92,000	80,000	81,000	82,000	83,000	84,000	85,000	86,000	87,000	88,000	89,000	845,000	
4	Other	3,719,334	4,210,000	4,063,000	4,190,000	4,321,000	4,440,000	4,594,000	4,757,000	4,927,000	5,106,000	5,292,000	5,478,000	47,158,000	
5	Subtotal														
6	Operating Expense	2,341,433	2,627,801	2,684,895	2,690,413	2,774,314	2,860,955	2,950,434	3,042,853	3,138,318	3,353,915	3,331,316	3,431,255	30,258,668	
7	O & M	731,506	751,972	819,862	811,870	867,845	933,119	930,360	950,164	938,362	962,670	1,066,903	1,152,875	9,434,031	
8	Depreciation	3,072,939	3,379,773	3,504,757	3,502,283	3,642,159	3,794,074	3,880,794	3,993,018	4,076,680	4,316,585	4,398,219	4,584,131	39,692,700	
9	Subtotal														
10	Operating Income	646,395	830,227	548,243	687,717	678,841	645,926	713,206	763,982	850,320	789,415	893,781	893,869	7,465,300	
11	ADD: Interest Income	23,813	16,129	14,870	29,602	63,196	65,788	67,796	72,903	80,401	89,109	99,009	106,154	688,827	
12	Miscellaneous Non-Operating Income	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	LESS: Interest Expense	192,843	178,669	157,869	136,869	124,119	111,269	98,206	81,831	72,113	62,738	56,175	49,175	950,364	
14	Existing Debt														
15	Future Debt														
16	Bond Anticipation Notes (BANs)														
17	Issuance expense														
18	Net Income	477,365	665,787	367,245	483,659	492,143	434,945	535,746	626,455	748,458	717,836	691,490	583,548	5,681,524	
19	Available Resources from:														
20	Net income	477,365	665,787	367,245	483,659	492,143	434,945	535,746	626,455	748,458	717,836	691,490	583,548	5,681,524	
21	Depreciation expense & capital reserve	731,506	751,972	819,862	811,870	867,845	933,119	930,360	950,164	938,362	962,670	1,066,903	1,152,875	9,434,031	
22	subtotal	1,208,871	1,417,759	1,187,106	1,295,530	1,359,988	1,368,064	1,466,106	1,576,619	1,686,820	1,680,506	1,758,393	1,736,423	15,115,555	
23	Bond proceeds													9,940,000	
24	Loan proceeds		1,900,000	1,900,000	1,790,000	1,790,000					6,250,000			9,940,000	
25	LESS: Principal repayments	560,000	550,000	550,000	350,000	350,000	350,000	350,000	250,000	250,000	175,000	175,000	175,000	2,975,000	
26	Existing Debt														
27	New Debt		0	0	190,000	190,000	369,000	369,000	369,000	369,000	369,000	369,000	682,000	3,276,000	
28	BAN Repayment			1,900,000	1,900,000	1,790,000						6,250,000		9,940,000	
29	Net Available for Capital Purposes	648,871	2,767,759	637,106	2,545,530	819,988	649,064	747,106	957,619	1,067,820	7,386,506	1,214,393	879,423	16,904,555	
30	Capital Plan	437,826	1,692,960	2,341,000	2,356,000	608,000	597,000	591,000	593,000	670,000	6,898,000	694,000	663,000	16,011,000	
31	Cash Position														
32	Beginning balance	3,431,144	3,494,851	4,569,649	2,865,756	3,055,286	3,267,274	3,319,337	3,475,443	3,840,062	4,237,882	4,726,388	5,246,781		
33	ADD: Net available	648,871	2,767,759	637,106	2,545,530	819,988	649,064	747,106	957,619	1,067,820	7,386,506	1,214,393	879,423		
34	LESS: Planned Capital adjustment to cash flow	437,826	1,692,960	2,341,000	2,356,000	608,000	597,000	591,000	593,000	670,000	6,898,000	694,000	663,000		
35	Ending balance	3,494,851	4,569,649	2,865,756	3,055,286	3,267,274	3,319,337	3,475,443	3,840,062	4,237,882	4,726,388	5,246,781	5,463,204		

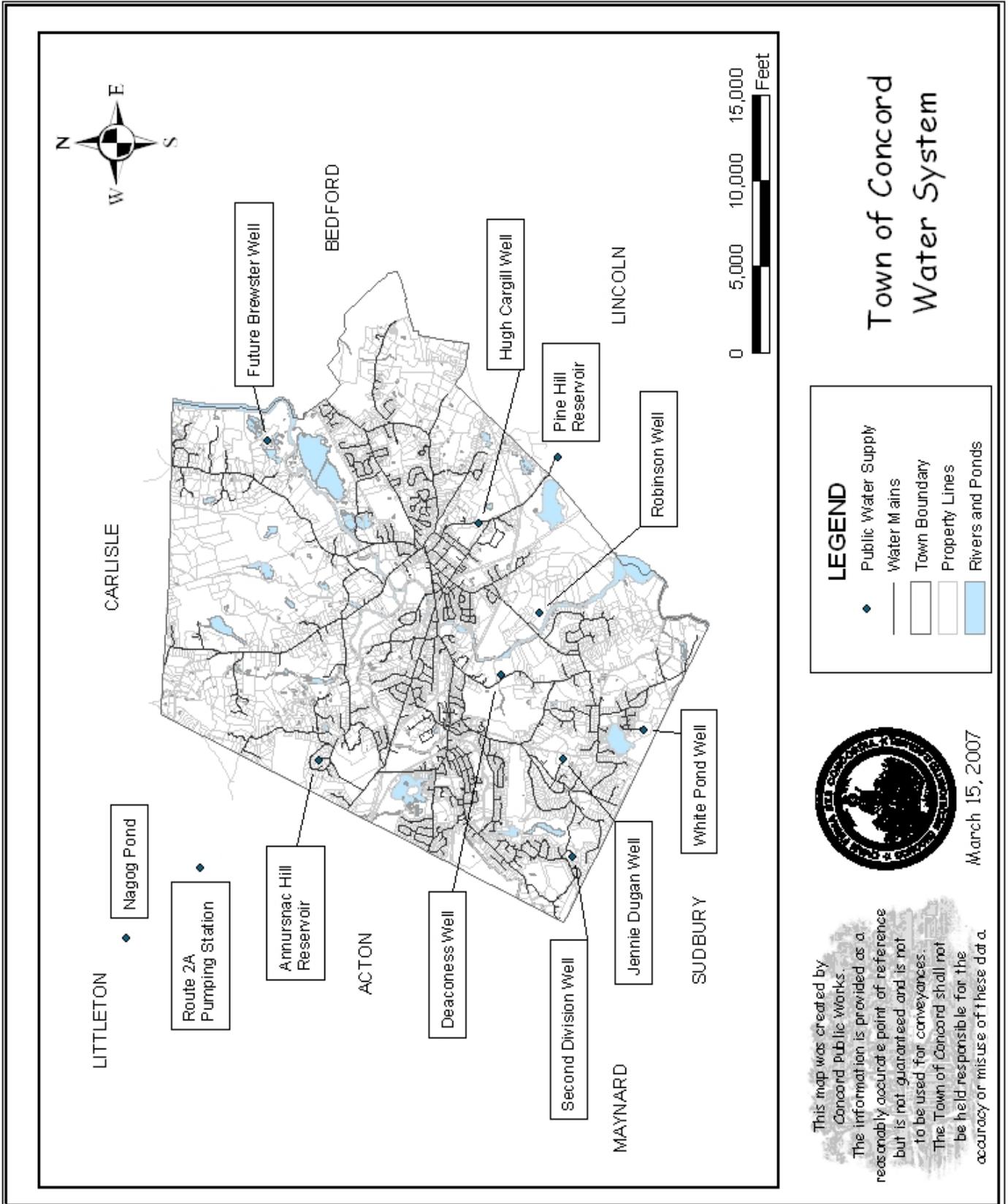
**WATER RATES**

(Per 100 Cubic Feet)

<b>W-11 Class of Customer</b>	<b>Current FY11</b>	<b>Proposed FY12</b>	<b>%Chg.</b>
<b>1 &amp; 2 Residential Service</b>	(1 unit = 100 cubic feet = 748 gallons)		
1st Step: (all year)	\$ 3.96	\$ 4.10 **	3.5%
Conservation Step*: (25 - 48 units)	\$ 7.76	\$ 8.20	5.7%
Conservation Step*: (over 48 units)	\$ 9.90	\$ 10.25	3.5%
*May 1st through October 31st			
<b>3 General Service</b>			
1st Step: (all year)	\$ 3.96	\$ 4.10	3.5%
2nd Step: (all year) (over 50 units bimonthly)	\$ 5.03	\$ 5.21	3.6%
<b>4 Municipal Service</b>			
1st Step: (all year)	\$ 3.90	\$ 4.04	3.6%
Interruption Outdoor Irrigation use			
<b>5 Second Meter Service</b>			
A. Irrigation/Pool or Accessory use:			
1st Step: (all year)	\$ 7.76	\$ 8.20	5.7%
Conservation Step: (over 48 units bimonthly, May 1st through October 31st)	\$ 9.90	\$ 10.25	3.5%
B. Non-Irrigation Commercial/Industrial			
	\$ 5.03	\$ 5.21	3.6%

\*\*A 50% discount on Step 1 water consumption, up to a maximum of 24 units in a bimonthly billing period, is provided for customers of record who meet certain age and income eligibility criteria.

<b>Sample Impacts</b>	<b>Current Annual</b>	<b>Proposed Annual</b>	<b>Annual Change</b>	<b>Monthly Change</b>	<b>% Chg.</b>
<b>1a Average Residential Customer</b> (15 units bimonthly) <i>Approximately two-thirds of residential customers normally use less than the Conservation step threshold.</i>	\$ 356	\$ 369	\$ 12.60	\$ 1.05	4%
<b>1b Large Summertime Residential Customer</b> (40 units bimonthly during summer; 25 units bimonthly rest of year)	\$ 955	\$ 996	\$ 41.70	\$ 3.47	4%
<b>1c Larger Summertime Residential Customer</b> (60 units bimonthly during summer; 25 units bimonthly rest of year)	\$ 1,497	\$ 1,562	\$ 64.86	\$ 5.40	4%
<b>3a Small Commercial Customer</b> (40 units bimonthly) <i>Approximately two-thirds of commercial/institutional/Gov't customers normally use less than than the 2nd step threshold.</i>	\$ 950	\$ 984	\$ 33.60	\$ 2.80	4%
<b>3b Large Commercial Customer</b> (5,000 units bimonthly)	\$ 150,579	\$ 155,967	\$ 5,388	\$ 449.00	4%
<b>5a Small Municipal Customer</b> (47 units bimonthly)	\$ 1,100	\$ 1,139	\$ 39	\$ 3.29	4%
<b>5b Large Municipal Customer</b> (600 units bimonthly)	\$ 14,040	\$ 14,544	\$ 504	\$ 42.00	4%



**LEGEND**

- ◆ Public Water Supply
- Water Mains
- ▭ Town Boundary
- ▭ Property Lines
- ▭ Rivers and Ponds



March 15, 2007

This map was created by Concord Public Works. The information is provided as a reasonably accurate point of reference but is not guaranteed and is not to be used for conveyances. The Town of Concord shall not be held responsible for the accuracy or misuse of these data.

Town of Concord  
Water System