

# AMORY ENGINEERS, P.C.

WATER WORKS • WATER RESOURCES • CIVIL WORKS

25 DEPOT STREET, P.O. BOX 1768  
DUXBURY, MASSACHUSETTS 02331-1768

TEL.: 781-934-0178 • FAX: 781-934-6499  
WWW.AMORYENGINEERS.COM

June 28, 2011

Mr. John Marsh, Superintendent  
Easton Water Division  
417 Bay Road  
South Easton, MA 02375

Subject: **Water Rate Study**

Dear Mr. Marsh:

This report is in response to your request for a water rate study. The purpose of our study has been to assist in establishing a rate structure that will generate revenue required to operate the Water Division for fiscal years 2012 through 2014.

## Revenue Requirements

Water Division annual revenue is derived from fees set in the water rate schedule. Most of the revenue, about 95 percent of the annual total, is generated from the sale of water and quarterly meter rental fees. The remaining, approximately 5 percent, comes from provided services, penalties and interest. The current rate schedule for water sales and meter rental is shown in Table 1.

**TABLE 1 – CURRENT WATER RATE STRUCTURE**

<u>Category (gal.)</u>	<u>Usage (gal./qtr.)</u>	<u>Rate</u>
0 – 25,000	First 25,000	\$3.19 per 1,000 gal.
25,001 – 100,000	Next 75,000	\$3.87 per 1,000 gal.
Over 100,001	All other usage	\$4.86 per 1,000 gal.

<u>Meter Size</u>	<u>Minimum Quarterly Fee</u>
5/8"	\$13.65
3/4"	\$14.72
1"	\$17.94
1-1/4"	\$20.09
1-1/2"	\$22.24
2"	\$34.06
3"	\$121.11
4"	\$153.35
Fire Service	\$156.50

Total revenue collected under the current rate schedule for the last three fiscal years is presented in Table 2. As shown, revenue for two of the last three fiscal years failed to cover expenditures.

**TABLE 2 – ANNUAL REVENUE FISCAL YEARS 2008-2010**

<u>Revenue Category</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Average</u>
Water Sales <sup>1</sup>	\$2,519,759	\$2,354,217	\$1,960,328	\$2,278,102
Meter Rental Fees <sup>1</sup>	\$ 500,060	\$ 501,690	\$ 502,193	\$ 501,314
Services	\$ 78,429	\$ 86,033	\$ 76,824	\$ 80,429
Penalties	\$ 29,178	\$ 27,754	\$ 28,870	\$ 28,601
Interest	\$ 43,634	\$ 46,139	\$ 37,322	\$ 42,365
<b>Total</b>	<b>\$3,171,060</b>	<b>\$3,015,833</b>	<b>\$2,605,537</b>	<b>\$2,930,810</b>
<b>Expenditures</b>	<b>\$2,947,498</b>	<b>\$3,067,801</b>	<b>\$2,798,395</b>	<b>\$2,937,898</b>
<b>NET</b>	<b>\$223,562</b>	<b>\$(51,968)<sup>2</sup></b>	<b>\$(192,858)<sup>2</sup></b>	<b>\$(7,088)<sup>2</sup></b>

The Water Division's Water Management Act (WMA) Permit requires that revenue be adequate to cover all expenditures, including operation and maintenance costs and debt service. We have based our analysis of future revenue requirements on this requirement which includes all projected costs for FY 2012 through FY 2014, including payroll, operating expenses, debt service, interdepartmental costs and planned vehicle/capital improvements.

As directed by you, all projected costs, except salaries and overtime, were essentially flat funded for FY 2012 through FY 2014, starting from the Water Division's FY 2011 budget of \$2,958,634.<sup>3</sup> Salary costs were flat funded for FY 2012. Regular time salary costs were increased by 2.5 percent per year and overtime by 2 percent per year for FY 2013 and FY 2014. Indirect costs were flat funded through FY 2014. We included no allowance for vehicle replacement in our analysis for FY 2012 since we understand that any replacement for that year will be funded from free cash. We included annual costs for debt service, which accounts for one new capital project as approved at the 2011 Town Meeting. Attachment A shows the FY 2011 budgeted amounts for all cost items and projected amounts through FY 2014 used for this analysis.

The ability to generate sufficient revenue to cover anticipated expenditures is dependent on the amount of water sold and the price charged. Water sold during FY 2012 through FY 2014 is the sum of residential and non-residential metered water use. Residential water use is based on estimated per capita consumption and population projections. The Water Division's Water Management Act Permit requires that residential water use not exceed a maximum of 65 gallons

<sup>1</sup> Derived from total reported revenue from water bills, which includes water sales and meter rental fees.

<sup>2</sup> Deficit.

<sup>3</sup> Reference: Town of Easton Detail Budget Requests by Department.

per capita per day (gpcd) as an annual average. This amount was applied to the estimated population served to arrive at the total estimated residential water use for the next three fiscal years. Allowance for non-residential was added to this to get the total estimated water sales for FY 2012 through FY 2014.

The total revenue that we anticipate would be collected under the current rate schedule for FY 2012, 2013 and 2014 is presented in Table 3. As shown, anticipated revenue fails to cover expenditures all three years.

**TABLE 3 – PROJECTED ANNUAL REVENUE – FISCAL YEARS 2012-2014 –  
CURRENT RATE SCHEDULE**

<u>Revenue Category</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Water Sales	\$2,194,355	\$2,209,272	\$2,224,219
Meter Rental Fees	\$ 503,545	\$ 503,545	\$ 503,545
Other Fees <sup>1</sup>	\$ 151,394	\$ 151,394	\$ 151,394
<b>Total</b>	<b>\$2,849,294</b>	<b>\$2,864,211</b>	<b>\$2,879,158</b>
<b>Projected Expenditures</b>	<b><u>\$2,897,593</u></b>	<b><u>\$3,020,422</u></b>	<b><u>\$2,856,627</u></b>
<b>NET</b>	<b>\$(48,299)<sup>2</sup></b>	<b>\$(156,211)<sup>2</sup></b>	<b>\$22,531</b>

**Proposed Rate Structure**

Adjustment in the current water rate structure will be necessary if revenue over the next three fiscal years is to be adequate to cover anticipated expenditures. We believe that sufficient additional revenue can be realized without change to the current cost per 1,000 gallons in any of the three rate steps. We recommend a reduction in the allowable water use within each of the first two steps and a modest increase in the quarterly meter charge. Specifically, we recommend lowering the first-step water use allowance from 25,000 gallons to 20,000 gallons per quarter. The reduced allowance would be sufficient for a typical family of 3.5 persons at 65 gpcd.

We also recommend lowering the second-step water use allowance to a range of 20,001 – 50,000 gallons, which would suffice for a family of 8 persons at 65 gpcd. The third step would then cover any water use over 50,000 gallons. Lowering allowable water usage within each step will increase revenue and should promote water conservation. The proposed rate schedule, changed from the current schedule only in allowable water use within each step, is shown in Table 4.

<sup>1</sup> Other fees include the average Services, Interest and Penalties from FY 2008-2010.

<sup>2</sup> Deficit.

**TABLE 4 – PROPOSED RATE SCHEDULE**

<u>Category (gal.)</u>	<u>Usage (gal.)</u>	<u>Rate</u>
0 – 20,000	First 20,000	\$3.19 per 1,000 gal.
>20,000 – 50,000	Next 30,000	\$3.87 per 1,000 gal.
> 50,000	All other usage	\$4.86 per 1,000 gal.

Adjusting the step water use allowance still does not generate sufficient revenue to cover anticipated expenditures. However, a modest increase in meter rental fees, combined with the recommended water use allowances, should provide the additional revenue to meet anticipated expenditures. We have included a ten percent increase in the quarterly fee for all meter sizes. The recommended revised quarterly fees are shown in Table 5.

**TABLE 5 – PROPOSED QUARTERLY METER RENTAL FEES PER METER SIZE**

<u>Meter Size</u>	<u>Quarterly Fee</u>
5/8"	\$ 15.00
3/4"	\$ 16.00
1"	\$ 19.00
1-1/4"	\$ 22.00
1-1/2"	\$ 25.00
2"	\$ 38.00
3"	\$133.00
4"	\$169.00
Fire Service	\$172.00

**Estimated Revenue Generated with Proposed Rate Structure**

Estimated usage per step and revenue generated from each is shown in Table 6.

**TABLE 6 – WATER USE AND ANTICIPATED REVENUE  
 PER REVISED RATE STEP**

<u>Category (gal.)</u>	<u>Usage (gal.)</u>	<u>Annual Revenue</u>
0 – 20,000	380,273,004	\$1,213,071
>20,000 – 50,000	143,550,241	\$ 555,539
> 50,000	97,956,694	\$ 476,070
<b>Total Water Sales Annual Revenue</b>		<b>\$2,244,680</b>

Estimated revenue generated from the revised rate structure, based on changes described above, would be as shown in Table 7.

**TABLE 7 – ANTICIPATED REVENUE UNDER PROPOSED RATE STRUCTURE**

<u>Revenue Category</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Water Sales	\$2,244,680	\$2,259,939	\$2,275,228
Meter Rental Fees	\$ 544,388	\$ 544,388	\$ 544,388
Penalties, Interest and Services	\$ 151,394	\$ 151,394	\$ 151,394
<b>Total</b>	<b>\$2,940,462</b>	<b>\$2,955,721</b>	<b>\$2,971,010</b>
<b>Projected Expenditures</b>	<b><u>\$2,897,593</u></b>	<b><u>\$3,020,422</u></b>	<b><u>\$2,856,627</u></b>
<b>NET</b>	<b>\$ 42,869</b>	<b>(\$64,701)<sup>1</sup></b>	<b>\$ 114,383</b>

**Summary and Conclusions**

The proposed rate structure is designed to generate sufficient revenue to cover all anticipated expenditures for FY 2012, 2013 and 2014. If residents satisfy the requirement to limit average daily water use to 65 gpcd as required under the Water Division’s Water Management Act Permit, a family using 20,000 gallons per quarter would see an increase of only \$1.35 in the quarterly bill for water use, about a 1.7 percent increase. A family using 50,000 gallons per quarter would see an increase of about \$5 in its quarterly bill, about a 3 percent increase.

We appreciate the opportunity to prepare this rate study. Please call if you have any question.

Very truly yours,

AMORY ENGINEERS, P.C.

By:



*Ryan J. Trahan*  
 Ryan J. Trahan, P.E.

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<sup>1</sup> Deficit.

**PROJECTED WATER DIVISION FY EXPENDITURES  
ATTACHMENT A**

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>AMORY PROJECTED</u>	
						<u>2013</u>	<u>2014</u>
Water Operations Manager	\$ 86,405	\$ 95,086	\$ 97,203	\$ 101,658	\$ 101,658	\$ 104,199	\$ 106,804
Water Systems Supervisor	\$ 72,403	\$ 77,358	\$ 80,625	\$ 89,450	\$ 89,450	\$ 91,686	\$ 93,978
Secretarial Salaries	\$ 46,659	\$ 48,418	\$ -	\$ -	\$ -	\$ -	\$ -
Clerical Salaries	\$ 82,162	\$ 76,732	\$ 126,037	\$ 132,424	\$ 132,424	\$ 135,735	\$ 139,128
Public Works Personnel	\$ 459,174	\$ 484,929	\$ 469,464	\$ 468,570	\$ 468,570	\$ 480,284	\$ 492,291
Overtime	\$ 66,261	\$ 67,184	\$ 66,124	\$ 77,394	\$ 78,942	\$ 80,521	\$ 82,131
Class Differential	\$ 37	\$ 93	\$ 86	\$ 473	\$ 473	\$ 473	\$ 473
Longevity	\$ 3,600	\$ 4,450	\$ 4,600	\$ 4,600	\$ 4,850	\$ 4,600	\$ 4,600
Sick Leave Incentive	\$ -	\$ 1,372	\$ 1,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000
On-Call Status	\$ 14,500	\$ 14,500	\$ 14,500	\$ 14,500	\$ 14,500	\$ 14,500	\$ 14,500
<b>PAYROLL SUBTOTAL</b>	<b>\$ 831,201</b>	<b>\$ 870,122</b>	<b>\$ 859,639</b>	<b>\$ 898,069</b>	<b>\$ 899,867</b>	<b>\$ 920,998</b>	<b>\$ 942,906</b>
Electricity	\$ 194,568	\$ 194,876	\$ 179,936	\$ 205,500	\$ 195,500	\$ 195,500	\$ 195,500
Building Heating	\$ 12,106	\$ 10,993	\$ 10,404	\$ 11,652	\$ 11,652	\$ 11,652	\$ 11,652
R&M - Office Equipment	\$ 7,915	\$ 5,242	\$ 4,161	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
R&M - Vehicles	\$ 5,590	\$ 8,012	\$ 8,534	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500
Testing	\$ 13,920	\$ 19,854	\$ 25,622	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
R&M - Pump Station	\$ 54,725	\$ 39,745	\$ 54,334	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000
Rental Equipment	\$ 3,372	\$ 5,583	\$ 5,085	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
Training	\$ 8,594	\$ 4,525	\$ 6,949	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000
Consulting Services	\$ 22,724	\$ 29,239	\$ 20,287	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Advertising	\$ 3,472	\$ 1,220	\$ 2,020	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Police Details	\$ 10,881	\$ 16,981	\$ 20,174	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Household Hazardous Waste	\$ 12,803	\$ 14,288	\$ 15,563	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Telephone	\$ 10,721	\$ 6,544	\$ 8,418	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000
Postage/Meter	\$ 8,896	\$ 11,379	\$ 10,172	\$ 12,000	\$ 18,000	\$ 12,000	\$ 12,000
R&M - Computers	\$ 10,389	\$ 4,108	\$ 9,494	\$ 9,500	\$ 9,500	\$ 9,500	\$ 9,500
Office Supplies	\$ 6,689	\$ 5,966	\$ 3,319	\$ 7,000	\$ 5,000	\$ 7,000	\$ 7,000
Building Maintenance	\$ 15,253	\$ 9,893	\$ 10,557	\$ 23,000	\$ 23,000	\$ 23,000	\$ 23,000
Gas & Oil	\$ 29,880	\$ 21,188	\$ 19,311	\$ 26,375	\$ 26,375	\$ 26,375	\$ 26,375
Concrete/Asphalt	\$ 20,261	\$ 18,165	\$ 21,927	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Engineering Supplies	\$ 134	\$ -	\$ 859	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100
Misc Water Supplies	\$ 4,964	\$ 3,855	\$ 4,811	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500
Chemical Supplies	\$ 39,791	\$ 33,580	\$ 41,261	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000
Copper & Hardware	\$ 16,720	\$ 5,840	\$ 14,662	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
Meters & Parts	\$ 100,000	\$ 100,000	\$ 70,567	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Tools/Hydrants/Fittings	\$ 40,975	\$ 40,663	\$ 40,556	\$ 41,000	\$ 41,000	\$ 41,000	\$ 41,000
Uniforms/Clothing Allowance	\$ 8,700	\$ 9,174	\$ 9,129	\$ 8,800	\$ 8,000	\$ 8,800	\$ 8,800
Meal Allowances	\$ 370	\$ 170	\$ 65	\$ 250	\$ 250	\$ 250	\$ 250
Dues & Memberships	\$ 1,698	\$ 1,971	\$ 1,813	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Licenses	\$ 1,523	\$ 837	\$ 1,589	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500
SDWA Assessment	\$ 6,571	\$ 5,789	\$ 6,373	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500
Acquisition of New Equipment	\$ 9,501	\$ 5,374	\$ 9,730	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
<b>EXPENSE SUBTOTAL</b>	<b>\$ 683,705</b>	<b>\$ 635,052</b>	<b>\$ 637,682</b>	<b>\$ 774,177</b>	<b>\$ 767,377</b>	<b>\$ 764,177</b>	<b>\$ 764,177</b>
Principal on LT Debt	\$ 707,551	\$ 737,551	\$ 591,342	\$ 586,476	\$ 551,476	\$ 485,000	\$ 360,000
Interest on LT Debt	\$ 156,653	\$ 128,692	\$ 101,877	\$ 84,912	\$ 78,874	\$ 121,246	\$ 99,211
Interest on Notes	\$ 20,634	\$ 9,715	\$ 3,957	\$ 15,000	\$ -	\$ -	\$ -
<b>WATER DEBT SERVICE</b>	<b>\$ 884,838</b>	<b>\$ 875,958</b>	<b>\$ 697,176</b>	<b>\$ 686,388</b>	<b>\$ 630,349</b>	<b>\$ 606,246</b>	<b>\$ 459,211</b>
<b>TOTAL DEPARTMENT</b>	<b>\$ 2,399,745</b>	<b>\$ 2,381,131</b>	<b>\$ 2,194,497</b>	<b>\$ 2,358,634</b>	<b>\$ 2,297,593</b>	<b>\$ 2,291,422</b>	<b>\$ 2,166,295</b>
<b>INDIRECT COSTS</b>	<b>\$ 547,753</b>	<b>\$ 575,141</b>	<b>\$ 603,898</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>
<b>Vehicle/Capital Improvements</b>						<b>\$ 129,000</b>	<b>\$ 90,332</b>
<b>TOTAL EXPENDITURES</b>	<b>\$ 2,947,498</b>	<b>\$ 2,956,272</b>	<b>\$ 2,798,395</b>	<b>\$ 2,958,634</b>	<b>\$ 2,897,593</b>	<b>\$ 3,020,422</b>	<b>\$ 2,856,627</b>