

**Town of Harwich
2016 TOWN REPORT - WATER DEPARTMENT**

The Harwich Board of Water Commissioners and Water Department respectfully submit our Annual Report to the Honorable Board of Selectmen and to the citizens of the Town of Harwich for the year ending 2016.

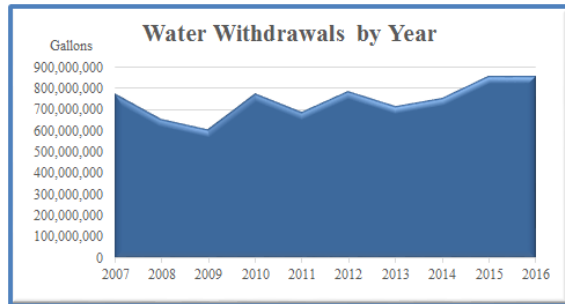
Water System

The original water system was established in 1936. Major expansion projects were undertaken in the 1950s, late 1960s and again in the late 1970s, these expansions made the water distribution system what it is today.

The Water Department operation consists of 14 pump stations, approximately 400 acres of well fields/watershed protection areas, 5 corrosion control facilities, 2 elevated and 1 ground-level water storage tanks and 2 new Greensand Water Treatment facilities which provide service to 9,925 metered accounts, 125 fire sprinkler accounts and 1,360 fire hydrants for fire protection.

Water Withdrawal

The Water Department pumped 853,310,432 million gallons of water from our wellfields during 2016. Most of the water pumped was withdrawn from Chatham Road and Depot Road wells.



Water Department Comparative Table

Year	Rainfall in Inches	Gallons Pumped	Maximum Daily	Year	Rainfall in Inches	Gallons Pumped	Maximum Daily
1997	48.46	620,145,100	5,627,100	2007	30.89	772,525,325	5,659,678
1998	49.93	619,321,800	4,740,800	2008	35.60	649,958,341	5,401,605
1999	44.48	710,729,600	5,681,400	2009	49.89	605,297,549	4,386,341
2000	48.11	644,636,400	5,065,400	2010	46.76	769,662,599	7,062,033
2001	36.76	730,249,000	5,879,600	2011	44.28	683,643,260	5,237,726
2002	50.44	735,869,800	5,666,970	2012	36.10	781,299,860	6,288,802
2003	53.75	687,473,053	5,701,605	2013	44.34	711,486,828	5,515,227
2004	37.88	680,194,630	5,568,509	2014	47.04	751,753,322	5,392,562
2005	61.42	759,802,792	5,728,926	2015	43.74	854,307,602	6,541,071
2006	42.03	666,986,217	5,052,381	2016	51.38	853,310,432	6,053,083

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Water Quality

The Harwich Water Department is constantly striving to provide its consumers with the best water possible. The water provided to the residents of Harwich is tested numerous times a month for a variety of contaminants. Harwich water continues to provide water that meets or exceeds State and Federal standards. The results of this testing are located within the Annual Water Quality Report on the department website. Iron and Manganese levels in the untreated source water have, in the past, caused unfavorable aesthetic qualities in the water. Sources containing these impurities were infrequently pumped. Since the addition of the Bruce Cahoon Greensand Water Treatment Facility and North Westgate Treatment Facility, these minerals are no longer affecting the water quality.

Nitrogen and Phosphorus in fertilizer are the greatest concern to water quality. Generally speaking, lawns need less fertilizer than advertised and there are multitudes of fertilizing alternatives available today. While water quality in Harwich is excellent, let's do our best to keep it that way and protect our precious resource.

System Improvements

During the 2016 calendar year, the department continued its efforts to upgrade the water system & facilities. Most notably, the Lothrop Ave. elevated water storage tank was demolished and replaced with a ground-level storage tank and pumping station. The department also entered into the design phase of the SCADA project which will be completed in 2017. In addition, Well 4 located at the Chatham Rd. wellfield received a new pump & motor and was cleaned and redeveloped.

Other improvements over the past decade consist of a new 1.5 MG water tank on Oak Street, 2 water treatment facilities; Depot Road and North Westgate Road, Route 39 water storage tank rehabilitation, redevelopment of all wells, 5 miles of fiber optics - optimizing SCADA (Supervisory Control and Data Acquisition) system communications for remote monitoring and control, installation of additional generators throughout facilities, electrical system upgrades at 4 stations and 3 buildings and pump upgrades.

The Department's continuous improvements and redevelopment is a symbol to its dedication to providing excellent drinking water. The Department appreciates the continued support of the community. Our Master Plan identifies approximately \$40 million in capital improvements. More current capital items identified in our 7-year capital plan include:

- 2016 Lothrop Avenue Tank Replacement (In Progress)
- 2016 SCADA Upgrade (In Progress)
- 2016 Excavator Acquisition (Complete)
- 2018 Crossover Project / Replace old metal water services along Nat'l Grid project route.

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- 2018 Fleet/Truck Acquisition (2)
- 2020 Pleasant Lake Tank Rehabilitation
- 2021 Asbestos Main Project Engineering
- 2022 Asbestos Main Project; Remove/Replace 7,900 feet of Asbestos Water Main.

System Maintenance

Ongoing maintenance and inspection programs continue for hydrant and valves, wells, pumps and water storage tanks. We continue to increase the number of valves in our system which will decrease the number of customers that could be without water during a water emergency, and provide better isolation control during hydrant flushing. Water meter upgrades continue with meters being replaced if they are 15 years and older.

Operations

The Water Department offers a wide variety of services from seasonal water turn on/off, new and renewal water service installation, utility markouts, final readings for property transfers, backflow inspection and much more. Below is a summary of services performed in 2016:

2016 Annual Statistics of Services Performed

Curb Stop Repair / Renewals	4	Property Transfers Requests	380
Frozen Water Meters / Services	23	Renewal of Water Services	34
Hydrant Maintenance/Repairs	2	Seasonal Turn On / Off	1171
Hydrant Replacement	5	Water Main Repairs	3
Hydrants Installed	0	Meter Change Outs	706
Mark Outs	358	Meters Installed	36
New Water Service Installations	36	Service Repairs	104

E-Coder metering is the latest technology that the department is implementing throughout our customer base. E-Coder meters provide an all-in-one water meter register, encoder and low-frequency radio signal, thus eliminating the need for a separate radio read device.

We are pleased to report that automated meter reading technology now exists for 97% of our customers. We anticipate the remaining 252 customers will be upgraded in 2017. Thanks to this automation, the time allotted for meter reading has been greatly reduced which continues to free up technicians to perform other duties.

Service Tight Protection Plan

Did you know that as a homeowner you are responsible for the water service line that runs from the street to your home? In many cases those lines have been in place since your home was originally built. Many homeowners assume the lines are the water department's responsibility or

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any problems on the lines are covered under their homeowners' insurance policies. Unfortunately, these are false assumptions. Replacing a water service can cost \$2,000 or more.

Why not protect yourself and sign up for our *Service Tight Protection Plan!* For as little as \$68 per year we can protect participants from costly repairs or replacement costs in the event of a water service break at your property. Exclusions do apply so please see our brochure for eligibility. You can learn more about this plan and enroll by visiting our website and/or feel free to contact our office and we'll mail you a brochure.

Drought Management and Conservation

The Water Department has placed drought management signs throughout the Harwich Community. During peak season please refer to the signs around town as well as notices on our website for drought notification. We continue to encourage our customers to be diligent in conserving water even if the supply is abundant.

It is important to keep in mind that the average person uses 80-100 gallons of water per day on the following activities:

Bathing & Hygiene	15 gallons per day	Kitchen	7 gallons per day
Housekeeping	1 gallon per day	Laundry	8 gallons per day
Irrigation/Watering	70 gallons per day	Toilet	19 gallons per day

To review your metered water bill, divide your water usage by the number of days in the billing period (approximately 180 days) and also by the number of residents of your household to determine your average.

High Consumption and Irrigation Systems

The majority of our high consumption calls come in after the fall bills are received. The fall water bills capture most, but not all, of irrigation and/or hand watering usage during the summer season. In general, when we receive these calls, the irrigation system has been shut down for the season and the seasonal home is vacant. We can't stress enough the importance of becoming familiar with their irrigation systems to anticipate this expense. You may need the help of your irrigation company to determine the number of zones, number of heads in each zone, frequency of zones running, and how much water is used for a full cycle and/or each day, each week, each month, etc. Consumption should be monitored on a regular basis by checking your water meter reading so if an issue exists it can be corrected immediately. We would also like to remind our customers who do have an irrigation system that a testable backflow device must be installed on the line that feeds your irrigation system. This device is put in place to protect containments from being pulled back into the public water supply. All water that passes through the meter is the responsibility of the homeowner, and who wants to pay for water that is lost? More importantly, it is a waste of our precious water resource.

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Water Rates and Financial Overview

The Department is pleased to announce that there is no rate increase scheduled for our current fiscal year; FY17, and there will be no rate increase scheduled for FY18.

Water rate increases are necessary when revenues are unable to keep up with inflation and increases to operational and maintenance expenses and/or when a new capital project must be funded. To see whats on the horizon for capital projects for the next seven (7) years, please refer to the System Improvements section earlier in our report.

In addition to water rates and services, the Department continues to look for other revenue sources as well as ways to run more efficiently and economically.

FY16 Financial Summary

Expenses

Salary and Wages	1,066,742
Supplies, Services & Maintenance/Repair	1,067,478
Indirect Expenses; Insurance & Employee Benefits	625,931
Debt	735,046
Articles & Encumbrances	<u>272,469</u>
Total Expenses	3,767,666

Revenues

Water Rates & Recurring Services	4,108,424
Service Repairs & Technical Services	83,732
Service Tight Protection Plan	53,867
Solar Revenue	121,347
Backflow Inspection	12,965
Water Service Installation and Renewals	184,372
Late Fees, Interest, Lien Interest & Penalties	53,733
Wireless Communications Lease	<u>167,798</u>
Total Revenues	4,786,238

Water Enterprise Fund Balance Summary

FY16 Fund Balance	2,976,209
Less May 2016 ATM Articles	1,225,000
Adjusted FY16 Fund Balance	1,751,209

FY16 Abatements & Adjustments	11,043
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Conclusion

As we begin 2017, the Board of Water Commissioners would like to thank the dedicated staff that is continuously providing the consumers with excellent water and customer service. We would also like to welcome the department's newest member, Josh Majka. The Board of Water Commissioners extends our appreciation further to all Town Departments, Town Committees and Boards for the continued support.

Sincerely,

Board of Water Commissioners

Gary Carreiro, Chairman

Allin Thompson, Vice Chairman

Danette Gonsalves, Clerk