

Ed Barry, ASST
TOWN OF ORLEANS
TOWN CLERKS OFFICE

**MEETING OF THE ORLEANS
BOARD OF WATER/SEWER COMMISSIONERS**

July 7, 2010

10 DEC -1 PM 3:08

A meeting of the Board of Water and Sewer Commissioners was held Wednesday, July 7, 2010 in the Nauset Room, Town Hall:

Those present were Kenneth McKusick, Jimmy Dishner, Robert Rich, Judith Bruce and Ann Hodgkinson of the Board, associate member, Leonard Short, Lou Briganti, Water Superintendent, Sims McGrath, Selectmen liaison, Ed Barr, Finance Committee liaison. Absent was associate member Ken Rowell.

Kenneth McKusick called the Board of Water and Sewer Commissioners meeting to order at 1:30 p.m.

Reorganization of the Board

On a motion by Robert Rich seconded by Jimmy Dishner the Board voted to elect Ann Hodgkinson as Chairman of the Board of Water and Sewer Commissioners. The vote by the Board was 5-0-0.

On a motion by Kenneth McKusick seconded by Judith Bruce the Board voted to elect Robert Rich as Vice Chairman of the Board of Water and Sewer Commissioners. The vote by the Board was 5-0-0.

MINUTES

A motion was made by Jimmy Dishner seconded by Judith Bruce to approve the minutes of the meeting of June 2, 2010 as written. The vote by the Board was 5-0-0.

SUPERINTENDENT'S REPORT

SEE ATTACHED REPORT

TOTAL COLIFORM

The Board reminded the Water Department that in the event of a boil order notice the Orleans reverse 911 system will not notify the water customers in Brewster, Eastham and Harwich.

WATER USE

Pumping for May and June is above the 3-year average.

OLD BUSINESS

WASTEWATER SUB-COMMITTEE

Each member of the sub-committee was given a task for the summer. The sub-
Minutes 7/07/2010

committee will have a report for the full Board in the fall.

NEW BUSINESS

COMMITMENTS/ABATEMENTS/REFUNDS

A motion was made by Kenneth McKusick seconded by Judith Bruce to commit for the month of May 2010 to rate \$0.00, to services \$4,480.00, to usage \$0.00, to installations \$80.00 and to added billing \$108.14. The vote by the Board was 5-0-0.

A motion was made by Kenneth McKusick seconded by Judith Bruce to commit for the month of June 2010 to rate \$0.00, to services \$1,160.00, to usage \$0.00, to installations \$1,855.10 and to added billing \$1,050.23. The vote by the Board was 5-0-0.

The Board was presented with a list of interest abatements. Account 443 was the amount of interest after the June 2, 2010 abatement and account 3994 was interest which accrued during a dispute where it was determined that there was a mix-up between meters in a condo unit.

A motion was made by Judith Bruce and seconded by Jimmy Dishner to abate \$0.59 from account #443 and \$6.30 from account #3994. The vote by the Board was 5-0-0.


LIST OF DOCUMENTS USED

1. June 25, 2010 letter from Louis Briganti, Water Superintendent to Marilyn McCrory, Office of Water Resources Dept. of Conservation & Recreation, 251 Causeway St., Boston, Ma 02114 regarding Orleans water needs forecast.
2. December 15 2003 letter from Wright Pierce to George Meservy regarding wastewater planning and analysis of residential water use data.
3. Commitments May and June 2010
4. July 7, 2010 monthly abatement form.
5. July 7, 2010 Water Superintendents Report.

ADJOURNMENT

At 2:20 p.m., a motion was made by Jimmy Dishner and seconded by Judith Bruce to adjourn the meeting. The vote by the Board was 5-0-0.

The next regular meeting is scheduled for August 18, 2010 at 1:30 p.m.



Secretary, Board of Water/Sewer Commissioners

Board of Water & Sewer Commissioners

07Jul10

Brewster Land Purchase

Letters of support for the Brewster/Orleans purchase of the "Matthew's Property" were provided by the Town Administrator and Town Planner;



TOWN OF ORLEANS

19 SCHOOL ROAD ORLEANS MASSACHUSETTS 02653-3699
Telephone (508) 240-3703 — Fax (508) 240-3703
<http://www.town.orleans.ma.us>

BOARD OF
SELECTMEN

TOWN
ADMINISTRATOR

June 8, 2010

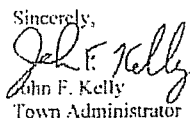
Ms. Celia Riechel
Div. of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston MA 02114

Dear Ms. Riechel:

On behalf of the Town of Orleans, I am writing in strong support of the Town of Brewster's intended purchase of the Matthews property, the largest, undeveloped woodland in single private ownership remaining in the Zone II Area of Contribution to our Town's wellfields. At our Annual Town Meeting last month, Orleans voters voted overwhelmingly to support this cooperative project between our two towns and to devote town funds to purchase a conservation restriction on the land. A special town election ratified that vote, exempting the cost of the CR from the limits of Proposition 2 ½.

We believe that preservation of these 22.5 acres is crucial to protecting sensitive groundwater resources, and the quality of our Town's drinking water supply. Designation of the area in southeast Brewster where the property lies as a District of Critical Planning Concern was an important step in protecting these regionally significant resources, and we applaud the Town of Brewster for its efforts in this regard. More specifically, acquisition of the Matthews property by the Town of Brewster for conservation and water protection purposes, with a conservation restriction held by the Town of Orleans Board of Selectmen, will directly protect land so critical to the protection of our Town's water supply. We are also pleased to see that the Brewster Conservation Trust will grant Orleans a conservation restriction on its eight acres next to Matthews' land, and the Town of Brewster will grant Orleans a conservation restriction on an additional eight acres of Brewster tax title land. In all, Orleans will have 39 acres of newly-protected land in our Zone II by this joint venture.

Beyond the significance of the parcel, however, there lies the significance of this project as the first in what we hope will be future cooperative efforts between our two towns. We hope you agree and will fund the Town of Brewster's application.

Sincerely,

John F. Kelly
Town Administrator

cc: Board of Selectmen: Water Dept.
Charles Sumner, Brewster Town Administrator
Sen. O'Leary; Rep. Peake

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners



Town of Orleans

19 School Road Orleans Massachusetts 02655-3699
Telephone (508) 240-3700 - Fax (508) 240-3388

George Meservey
Director of Planning &
Community Development

June 15, 2010

Ms. Celia Riechel
Div. of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston MA 02114

RE: Joint land protection purchase, Orleans and Brewster

Dear Ms. Riechel:

As Planning Director of the Town of Orleans, I support the partnership between the Towns of Orleans and Brewster in the proposed acquisition of the 22.57-acre Matthews property in southeast Brewster for habitat protection. This purchase will have the beneficial effect of preserving and anchoring a large forest area proximate to Orleans Wellfield and within the Zone of Contribution to our public water supply wells.

This office coordinated the 2006 update to the Orleans Conservation, Recreation and Open Space (CROS) Plan. In that plan, approved by your office, we included a very specific objective of encouraging more open space protection on the Brewster side of the Orleans Watershed, owing to the fact that most of the large Zone II parcels in Orleans have already been either developed or preserved. Below is an excerpt from the CROS Plan:

OPEN SPACE GOAL: PRESERVE AND MANAGE UNSPOILED NATURAL AREAS TO PROTECT THE TOWN'S SPECIAL PLACES, MAINTAIN A HEALTHY NATURAL ENVIRONMENT, PROVIDE HABITAT FOR WILDLIFE, AND RETAIN ORLEANS' RURAL CHARACTER

H. COORDINATE OPEN SPACE PROTECTION WITH ADJACENT TOWNS AND REGIONALLY ACROSS CAPE COD.

1. Cooperate with nearby jurisdictions to promote protection of regional resources. Seek State funding assistance to create the Namskaket beach conservation/recreation area, and to protect lands in Brewster that are adjacent to the Orleans watershed. (p. 65)

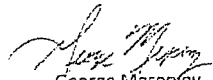
Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners

Thank you for the opportunity to support this proposal.

Sincerely,


George Meservey
Director of Planning

cc: Board of Selectmen
Lou Briganti, Water Supt.
Charles Sumner, Brewster Town Administrator
Senator Robert O'Leary
Representative Sarah Peake

Coliform Tabletop

Staff held a tabletop exercise of a coliform incident on 06/23. The scenario included preparation for a boil water notice. The Department's Emergency Response Plan was utilized.

Board of Water & Sewer Commissioners

The exercise proved useful and was good practice for a potential event.

Eastham

The Superintendent met with Paul Gabriel of EPG on June 2nd to discuss "pricing" alternatives for potential water sales to Eastham. Eastham is interested in "doing something" with Wellfleet. An interconnection to Orleans would be part of phase 5 (the last phase) of the water system.

Pump tests will be continuing to determine if Eastham can supply the Town with their 3-proposed wells. EPG ran our hydraulic model and have stated that fire flows would not be affected by a 500,000 GPD draw by Eastham.

Wright-Pierce has been retained by the Department to assist with the development of a wholesale price for water wheeled to Eastham at the rotary. Jeff Musich agreed to a simple continuing services agreement based on tasks / hours (\$4,800).

Environmental Partners feasibility study

1. IMA analysis:
 - a. quantity of water, initially and long-term, with DEP WMA approvals.
 - b. pricing structure under an IMA.
 - c. likely connection points and Orleans-improvements.
 - d. infrastructure requirements for adequate pressure and flow to the Eastham business district (needs for storage and pressure boosting stations).
 - e. potential for Orleans providing operations and maintenance services.
2. Cost-effectiveness analysis:
 - a. Eastham in-town sources vs. purchase from Orleans.
 - b. O&M options, including municipal staff, privatization, or Orleans.
3. Draft report.
4. Final report.

Lab Certification

The three required Proficiency Tests (PT) have been completed. As the results are reported to MASS DEP by the PT-providers, we'll be that much closer to certification.

It appears that too much interest is growing in the potential for Orleans to have a Lab.

We have received a letter from DEP's Laboratory Certification Office. They have asked that we complete 2-rounds of Proficiency Testing (PT) before they consider our application for administrative completeness.

MASS General Fund

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners

Below is Senator O'Leary's response to *Safe Drinking Water Act Assessment* funding issue that the Senate rejected.



COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS SENATE
STATE HOUSE, BOSTON 02133-1000

SENATOR ROBERT A. O'LEARY
CAPE AND ISLAND DISTRICT
STATE HOUSE ROOM 511F
TEL: (617) 725-1540
FAX: (617) 725-1271
DISTRICT OFFICE: (508) 775-0162
E-MAIL: Robert.O'Leary@state.ma.us

COMMITTEES
EDUCATION (CHAIR)
STATE ADMINISTRATION & REGULATORY OVERSIGHT (VICE CHAIR)
LABOR & WORKFORCE DEVELOPMENT
ENVIRONMENT, NATURAL RESOURCES & AGRICULTURE
COMMUNITY DEVELOPMENT & SMALL BUSINESS
MENTAL HEALTH & SUBSTANCE ABUSE

June 10, 2010

Mr. Louis Brignanti
19 School Road
Orleans, MA 02653

Dear Mr. Brignanti,

Thank you for contacting me regarding the Fiscal Year 2011 budget process. Last month, the Senate passed a \$28.4 billion balanced budget that focuses on prudent expenditures, reforms and economic development. In a conscious effort to unburden residents and keep the Commonwealth on solid fiscal footing, the Senate's budget does not contain any earmarks or rely on any additional taxes or withdrawals from the stabilization fund. The Senate used a combination of spending reductions and legislative reforms to close the \$2.85 billion budget gap.

There were a number of items that I supported in the state budget that made it into the final version that were important to many of my constituents. With respect to education, I co-sponsored and supported amendments aimed at restoring funding to key programs. These included an increase of \$13.5 million for the Special Education Circuit Breaker, bringing the total funding to \$146.4 million and increasing regional school transportation funding by \$4 million. In addition, I also voted to include an additional \$6.7 million for Kindergarten Development Grants that expand classroom time from half day to full day and voted to increase the line item for income-eligible early childcare by \$5 million. I was supportive of a measure to change the charter school mechanism to make accounting easier for districts, but recognized the vulnerability that charter schools might feel and advocated for a language change that puts off the change for a year and further clarifies that charter funding cannot be subject to disproportionate cuts.

Other issues that I heard about from constituents include nursing homes, tourism and developmental services. I was proud to support an amendment aimed at easing the financial burden on nursing homes, while providing additional funds for employees. I also supported an amendment which would have increased funding for the Massachusetts Cultural Council, which is a key funding source for cultural and tourist attractions in my district. I was also supportive of increasing early intervention dollars through the First Dollar program that was adopted in the budget. Other increases in disability services were not adopted and these will now be reconciled in the conference committee process.

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Board of Water & Sewer Commissioners

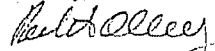
In addition to increasing support for vital programs, I supported a number of statewide reforms in the areas of probation and immigration. In an effort to overhaul the state's probation department, I voted for an amendment that limits the probation commissioner's term to five years and requires all appointments to the trial court to be approved by the Chief Justice, stripping the exclusive authority from the Commissioner of Probation. The Senate amendment also establishes a task force that is charged with making recommendations on placing the department under the executive branch or elsewhere.

I also voted for an amendment to reform and codify state regulations relative to illegal immigrants. The final Senate budget includes a comprehensive bipartisan amendment that will bar illegal immigrants from public health care, housing, and higher education benefits. The amendment requires state contractors to verify citizenship status of their employees and any contractors found in violation of federal law will be debarred from public projects. It also includes new penalties for falsifying state IDs and driver's licenses, denies illegal immigrants access to in-state tuition rates at state colleges and gives priority to eligible housing applicants over non-legal residents.

I was not supportive of the amendment regarding municipal employee health insurance that ultimately got into the budget, because I felt that there was not enough time to properly consider the matter or get the input of employees affected by the change. It is my hope that throughout the rest of the budgetary process, a compromise will be reached that all sides can agree on.

This was an extremely difficult budget process due to the economic situation facing the Commonwealth, and I believe that the budget that was passed by the Senate was both responsible and responsive to the concerns of citizens. Thank you again for contacting me regarding your concerns in the Senate budget, and please feel free to contact myself or my Budget Director, Michele Shelton, at 617-722-1570 if you have any further questions.

Sincerely,



ROBERT A. O'LEARY
Cape and the Islands

WTP Membranes

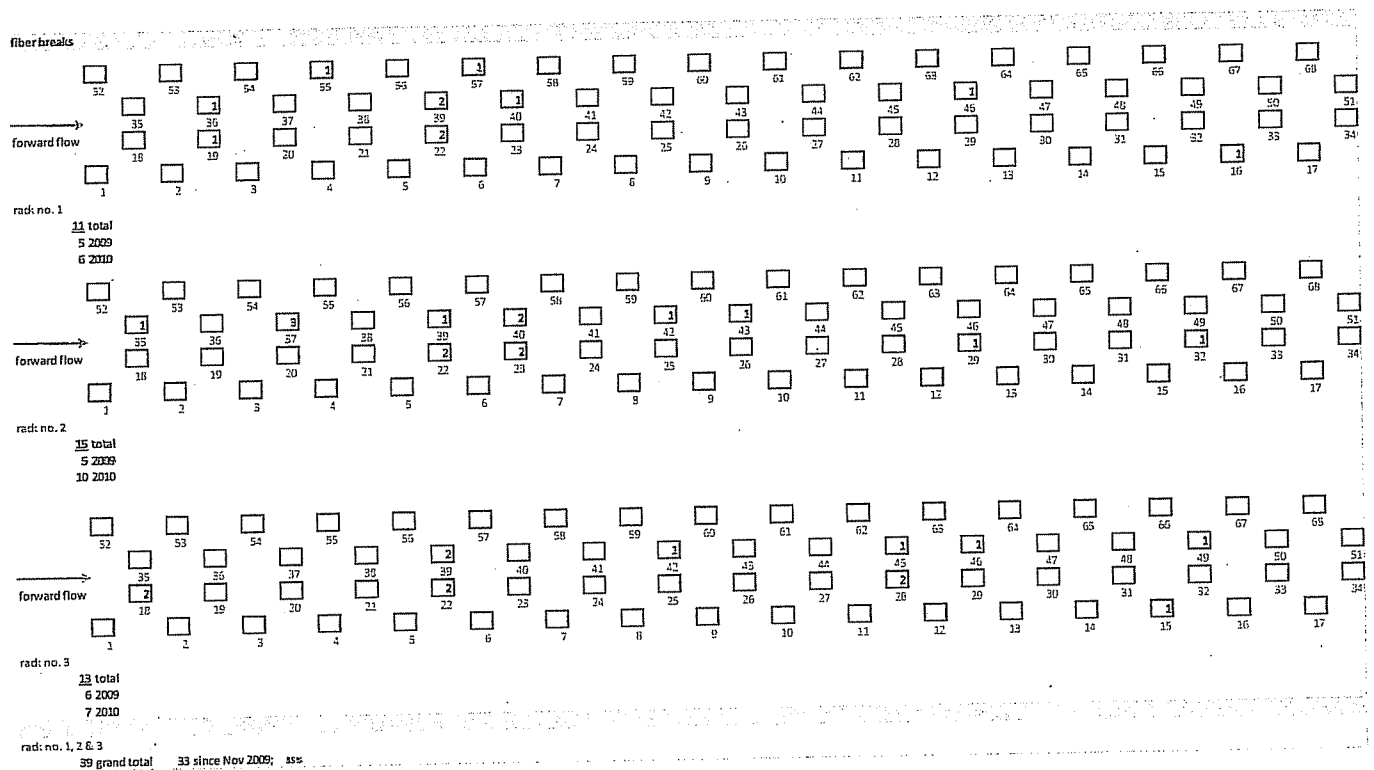
1. CIP

Board of Water & Sewer Commissioners

An aggressive CIP was performed on rack no. 3, 06/21 to 06/23. Results were adequate achieving a permeability of 6 gfd. This completes the annual aggressive CIP's for all racks.

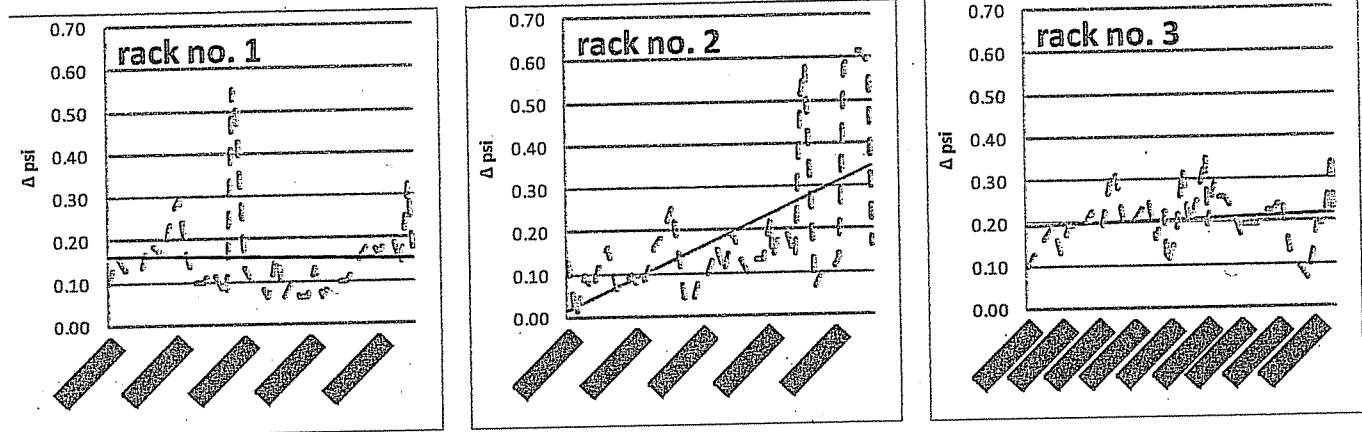
2. Membrane Fiber Breaks

There were 10+ fiber breaks during June – coincident with higher production rates. The breaks continue to be mapped and I have started plotting the frequency of fiber breaks for each rack. This should help determine the correct rack for the first replacement.



Board of Water & Sewer Commissioners

Integrity Test Data



3. Membrane Replacement

The Notice of Award was apparently sent to the wrong PALL-address and the project schedule has been duly affected. We are trying to expedite the process to prevent lost time.

*Pall Corp. was awarded the contract to supply replacement membranes.
We will be purchasing and replacing 50 modules rather than the 68 that are currently installed.
Being micro- UNA620A modules, plant production capacity will not change.*

Remaining Project Schedule:

- Notice of Award
- Submission of General Arrangement Drawings/Shop Drawings
- Approval of Final Submittals by Engineer/Owner
- Membrane Equipment to Be Delivered to Project Site
- Installation and Construction Support for Installation (Rack No. 1)
- Completion of Start-up Testing and Training for Rack No. 1

May 20, 2010
June 15, 2010
July 15, 2010
September 1, 2010
Sept-Nov 2010
November 2010

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners



TOWN OF ORLEANS

19 SCHOOL ROAD ORLEANS MASSACHUSETTS 02655-2699
Telephone (508) 240-3700 — Fax (508) 240-3703
<http://www.town.orleans.ma.us>

BOARD OF
SELECTMEN

TOWN
ADMINISTRATOR

May 20, 2010

Mr. Robert Cundall
Pall Corporation
25 Harbor Park Dr.
Port Washington, NY 11548

Dear Mr. Cundall:

Town Administrator John F. Kelly wishes to inform you that the Town of Orleans will accept your price and non-price proposals dated, May 6, 2010, for supplying a replacement of Microfiltration Membranes for Orleans Water Treatment Facility in the amount of \$284,750.00 for Rack 1 consisting of the Base Bid (Items 1, 2 and 3), less Alternative C in accordance with the specifications.

Enclosed are three copies of the contract to perform the work. Please sign all three copies and return to my attention with a current Certificate of Insurance showing your liability and workers' compensation limits. An executed contract with all attachments will be returned to you for your records.

We look forward to working with your firm. If you have any questions or need additional information please do not hesitate to contact the Water Superintendent Louis A. Briganti at 508-255-1200.

Sincerely,

Liana Surdut
Office Manager

cc: Water Superintendent Louis Briganti

WMA Renewal

Below is the *Orleans Water Needs Forecast* prepared by the Office of Water Resources;

Board of Water & Sewer Commissioners



June 16, 2010

Mr. Louis Briganti, Water Superintendent
Orleans Water Dept.
19 School Rd
Orleans, MA 02653

Dear Mr. Briganti,

The Department of Conservation and Recreation's Office of Water Resources (OWR) has developed draft water needs forecasts (demand projections) for your water supply system, using the water needs forecasting methodology adopted by the Water Resources Commission. These projections are for use in Water Management Act permit renewals. The projections are based on information contained in the annual statistical reports (ASR) filed with the Massachusetts Department of Environmental Protection (DEP) for the years 2004 through 2008; year-round employment and population projections prepared by the Executive Office of Transportation (EOT) and the Cape Cod Commission (CCC); seasonal population estimates developed from the 2008 Survey of Cape Cod Second-Home Owners prepared by the UMass Donahue Institute, in combination with information on vacant (seasonal) homes from the 2000 U.S. Census; and information concerning water-use patterns and service area obtained through conversations with you.

The projections provided in this letter assume that future water consumption will reflect current trends in residential per capita per day usage (RGPCD) and unaccounted-for water (UAW). *Please note that these projections indicate potential water needs for your water supply service area, but do not indicate whether water is available from your current sources.* The methodology allows for a buffer of 5%, to accommodate for uncertainty in growth projections. DEP will use its permitting discretion during its five-year review process to determine if the additional 5% buffer is warranted for your system.

Please bear in mind that this is a draft forecast. Please review these projections, and, if additional information has arisen since you spoke with OWR staff, or if you have questions about these projections, please contact Marilyn McCrory at (617) 626-1423 as soon as possible.

Board of Water & Sewer Commissioners

Orleans Water Department
June 16, 2010

2

DATA SOURCES AND ASSUMPTIONS

Baseline

Base water use: 0.94 MGD
Base UAW: 4.5%
Base residential volume: 0.68 MGD
Base nonresidential volume: 0.21 MGD

Source: Volumes reported in the Annual Statistical Reports (ASR) submitted to DEP, 2004 – 2008.

Base employment: 4,937

Source: Executive Office of Transportation/Cape Cod Commission (EOT/CCC) (2006). Interpolated for 2008 based on employment population recorded by EOT for 2000 and projected for 2010.

Out-of-town Population: 45

Base service population: 8,364 (6,349 year-round; 2,408 annualized seasonal; 45 out of town)

Base calculated RGPCD: 81.3

Source: Base population is the average year-round population from the years 2004 – 2008 (U.S. Census Bureau population estimates). The town of Orleans serves approximately 20 homes in Eastham; the average household size for Eastham of 2.24 was used to estimate the out-of-town population served. Base service population includes average year-round population, out-of-town population, and annualized seasonal population (see below). Base service population was calculated as 95% of town-wide year-round and seasonal population, based on conversations with the supplier. RGPCD was derived from base residential volume and base service population.

Seasonal Population

Seasonal population represents resident population (owners or renters) staying in homes that are not their primary residence. It is not meant to include day visitors or hotel/campground/B&B guests. Total seasonal population estimates for Orleans were derived from records of vacant housing units reported in the 2000 U.S. Census and data obtained from Tables 18 and 19 in the UMass Donahue Institute's *2008 Survey of Cape Cod Second-Home Owners* (<http://www.capecodcommission.org/econdev/SecondHomeSurveyRept.pdf>), as follows:

Number of vacant homes (Source: U.S. Census)

x Ave. number of people in house during given month (Source: Donahue, Table 18)

x Ave. number of days home is used in given month (Source: Donahue, Table 19) ÷ # days in month

= Seasonal population for each month

Annualized seasonal population =

Average of monthly seasonal populations (January through December)

Board of Water & Sewer Commissioners

Orleans Water Department
June 16, 2010

3

Population and Employment Projections

	2015	2020	2025	2030
Service Population Projections (includes annualized seasonal population and out-of-town population)	9,238	9,701	10,130	10,560
Employment Projections	5,287	5,500	5,620	5,740

Source: Projections are interpolated from population and employment projections developed by EOT/CCC (2006). Service population projections are based on the assumption that the percent of the town served by public water will remain at 95% over the 20-year period, per information provided by the water supplier. Service population projections include annualized seasonal population, which was held constant at 2,408 (see formula above), and out-of-town population in Eastham.

DRAFT WATER NEEDS FORECAST

Assuming water use continues at current rgped and unaccounted-for water levels during the permitting period:

	2015	2020	2025	2030
Projected Water Use (mgd)	1.02	1.07	1.11	1.15
Five Percent Buffer:				+0.06

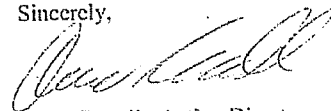
Water Sales and Purchases:

The Orleans Water Department has provided documentation to DCR indicating that it is currently in discussions to sell a minimum of 500,000 gallons per day (0.5 mgd) of water to the town of Eastham. Potential water sales to Eastham should be considered in permitting of withdrawals for the town of Orleans.

The permit renewal filing dates for the Cape Cod communities are August 1 – 31, 2010. DEP will discuss these projection scenarios with you during the permit renewal process.

Thank you for your cooperation with this process. As stated, if you have any questions concerning these projections, please contact Marilyn McCrory at (617) 626-1423.

Sincerely,



Anne Carroll, Acting Director
Office of Water Resources

Attachment: Letter dated June 16, 2010, from the Town of Orleans Water Department

cc: Marilyn McCrory, OWR
Susan Brown, Orleans Water Department
Kathleen Baskin, EEA
Leslie O'Shea, DEP SERO
Tom Cambareri, Cape Cod Commission (per request)

Duane Levangie, MassDEP
Elizabeth McCann, MassDEP
Jennifer Pederson, MWWA (per request)
Carol Harris, Woodard & Curran (per request)

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners

My response follows. The Planning Dept.'s input was greatly appreciated. Attached was the Wright-Pierce, Wastewater Planning Analysis of Residential Water Use Data (included in the Board's packet);

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners



Town of Orleans Water Department

19 SCHOOL ROAD
ORLEANS, MA 02653

TELEPHONE: 508-255-1200 ~ FAX: 508-240-3702

Louis A. Briganti, SUPERINTENDENT

BOARD OF WATER & SEWER COMMISSIONERS

June 25, 2010

Marilyn McCrory
Water Resources Planner
Office of Water Resources
Dept. of Conservation & Recreation
251 Causeway St., Suite 800
Boston, MA 02114

Re: Orleans Water Needs Forecast.

Dear Ms. McCrory:

Thank you for the *Water Needs Forecast* prepared for the Orleans' Water System and also for the opportunity to comment. In reviewing the *Forecast* we have developed a number of questions and a concern for the RGPCD determination (81.3).

1. As stated, the *Forecast* is prepared using methodology adopted by the Water Resources Commission. Can the most current methodology be found in the document; *Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodology for Implementation, December 13, 2007, Revised May 1, 2009*?
2. If possible we would like to obtain copies of the documents where the Executive Office of Transportation (EOT) and the Cape Cod Commission provided the year-round employment and population projections that were used to help develop the *Water Needs Forecast*. I have searched the internet to no avail.
3. It is our understanding that seasonal population estimates were taken from *The 2008 Survey of Cape Cod Second-Home Owners* prepared by the UMASS Donahue Institute, in combination with information from the *2000 U.S. Census*. It is not clear how the census data was integrated into the findings of the UMASS report.

Having read the UMASS report I believe the seasonal population could easily be underestimated when only 31% of those surveyed responded. At the very least there is a built in error in the fact that seasonal visitors to year-round residents have been discounted from the calculations. It is thus probable that seasonal population has been underestimated, resulting in an inflated RGPCD.

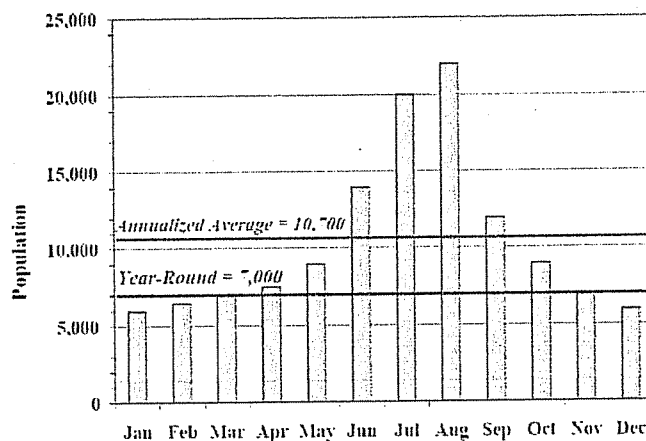
Board of Water & Sewer Commissioners

June 25, 2010
Orleans Water Needs Forecast
page. 2

The estimates of conversions of seasonal homes to year-round use appears to be based solely on opinions of survey respondents, and may not result in the water demand changes predicted. Indeed, the report fails to account for the corollary effect, i.e. year-round homes which over the same time period will again become 2nd homes occupied only on a seasonal basis. This effect has been observed in Orleans and many other communities with a long history of seasonal occupancy.

Related to the seasonality of the local population, I have taken the liberty of including a report prepared by Wright-Pierce (W-P) for the Town of Orleans. As part of extensive wastewater planning efforts W-P was asked to determine Orleans' population distribution. With what we consider to be sound methodology 10,700 was determined to be the annualized average residential population with a 61.9 RGPCD.

MONTHLY VARIATION IN RESIDENT POPULATION



Source: Orleans Planning Dept.

4. Increased seasonal occupancy of year-round homes – The projections appear to have left out a significant segment of the summer population which has an impact on water use. Year-round homes in Orleans are occupied more densely in the summer with guests of the residents. There are also many year-round occupied homes which are rented during peak summer weeks resulting in a far greater density than the average year-round occupancy. This omission may be the difference between

Board of Water & Sewer Commissioners

June 25, 2010
Orleans Water Needs Forecast
page. 3

your department's annualized population and that developed by W-P and shown on the chart above.

5. The *Water Needs Forecast* – methodology allows for a 5% buffer due to uncertainty in growth projections. However, DEP will use its discretion to determine if the buffer is warranted for the Orleans' system. Please provide us with the justification and methodology that DEP will use to overrule the methodology adopted by the Water Resources Commission.
6. Base employment is listed as 4,937. The source of this number is listed as the *Executive Office of Transportation/Cape Cod Commission (EOT/CCC) (2006). Interpolated for 2008 based on employment population recorded by EOT for 2000 and projected for 2010.* It is not clear where or how this number (4,937) is used in any of the calculations.
7. To better understand the process we would greatly appreciate the calculations and/or spreadsheets that were developed for the *Orleans Water Needs Forecast*. The information provided by your office is not consistent with the historic water use in Orleans, and we would like to work together to reconcile the differences.

I would be happy to discuss these issues. Please feel free to contact me at (508) 962-2658, or via email (lbriganti@town.orleans.ma.us).

Lastly, I would like to express my appreciation for your efforts to develop the *Orleans Forecast* and to communicate freely with our Department. We are especially appreciative of the inclusion of potential water sales to the Town of Eastham in the report.

Thank you for your kind consideration.

Sincerely,

Louis A. Briganti

Louis A. Briganti
Superintendent

cc: Anne Carroll, OWR
John Kelly, Town Administrator
Board of Water & Sewer Commissioners

Town of Orleans
Water Department

Lou Briganti
7/5/2010

Board of Water & Sewer Commissioners

The DCR's response follows;

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July 2, 2010

Mr. Louis Briganti, Water Superintendent
Orleans Water Dept.
19 School Rd
Orleans, MA 02653

Subject: Response to your questions on draft water needs forecast for Orleans

Dear Mr. Briganti,

Thank you for the additional information you sent in your letter dated June 25, 2010. I have reviewed the information. I hope the following responses address your questions and concerns.

1. Yes, the most recent Water Needs Forecasting Policy and Methodology document is dated May 1, 2009. Attached is a copy.
2. "If possible we would like to obtain copies of the documents where the Executive Office of Transportation (EOT) and the Cape Cod Commission provided the yearround employment and population projections."

EOT provided DCR with a summary of the population and employment projections for all communities, statewide. For the Cape Cod communities, EOT attributed the individual community projections to the Cape Cod Commission; however, in conversations with the CCC, it appeared that no one presently at the commission was involved in developing these projections. Attached are the projections EOT provided for Orleans. Note that, in our forecast, we interpolated the population and employment projections for the in-between years (2015 and 2025).

3. "It is not clear how the census data was integrated into the findings of the UMASS report."
(Comment #3)

See attachment 3a, the Census Bureau town profile for Orleans from the 2000 census. Under "Housing Occupancy," note the number of "Vacant housing units" (1,986). The number of vacant housing units (1,986) was multiplied by the average daily population per month, as determined from the Donahue Institute tables. The monthly population in second homes was then averaged from January to December to obtain the annualized seasonal population in second homes. See attachment 3b, which explains how the seasonal population calculation was done for Orleans. I hope this helps. If it is not clear, please feel free to call me.

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4. "Having read the UMASS report I believe the seasonal population could easily be underestimated when only 31% of those surveyed responded." (Comment #3 continued)

A 31% response rate is considered a very robust response to a survey, and was more than three times the expected response rate. As a result, the margin of error for the survey results was 1.3%, which is considered very good. DCR therefore has considerable confidence in the survey results.

5. "At the very least there is a built in error in the fact that seasonal visitors to year-round residents have been discounted from the calculations. It is thus probable that seasonal population has been underestimated, resulting in an inflated RGPCD." (Comment #3 continued)

DCR has acknowledged that it has no data from which to estimate the number of visitors to year-round residents. For that reason, we have recommended to DEP that the "Current Trends" forecast, rather than the forecast using the water conservation standards of 65 gpcd and 10% UAW, be used in projecting water needs for Cape Cod communities. The Current Trends forecast reflects the current rate of residential consumption for Orleans, which we have calculated as 81.3 gpcd. This rate of consumption reflects the use of water by all the people presently using water in Orleans. It may reflect the presence of more people using water (such as visitors to year-round residents), or it may reflect more uses of water in the summer (such as for outdoor watering purposes), or, more likely, both.

6. "...the [UMass] report fails to account for the corollary effect, i.e. year-round homes which over the same time period will again become 2nd homes occupied only on a seasonal basis. This effect has been observed in Orleans and many other communities with a long history of seasonal occupancy." (Comment #3 continued):

As with response #5 above, DCR acknowledges that it has no data on conversions of homes in either direction. We assume it is reasonable to conclude that the conversion of year-round homes to seasonal homes is balanced by conversions of seasonal homes to year-round homes. We have been unable to find a credible source of data that supports any other assumption. I would be happy to look at any data you may have on this phenomenon.

7. "As part of extensive wastewater planning efforts W-P [Wright-Pierce] was asked to determine Orleans' population distribution. With what we consider to be sound methodology 10,700 was determined to be the annualized average residential population with a 61.9 RGPCD." (Comment #3 continued)

I have reviewed the December 2003 report from Wright-Pierce. However, I did not find a discussion of the data on which the estimate of 10,700 for the annualized average population was based. Does this number include transient visitors to Orleans who stay in hotels, motels, and campgrounds? If so, please note that water use by transient visitors is reflected in the

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nonresidential sector of water use, and users of water in the nonresidential sector should not be included in calculating residential gpcd. If you can provide more detail on the basis for the 10,700 number, I would be happy to review it. I have talked with both the town planning and town clerk's offices, but have not been able to identify the basis for this estimate.

In the "Current Trends" forecast, we assume that future residential water consumption will continue at the current rate, which we have calculated at 81.3 gpcd. This rate of consumption captures water use by your current resident population; if there are more people using water, the gpcd would be lower, and this lower gpcd would be carried forward in the "Current Trends" forecast.

8. "Increased seasonal occupancy of year-round homes" (Comment #4): Please see the discussion in #5 and #7 above. Again, if you have a source of data on this aspect of seasonal use, I would be happy to review it. As noted above, the calculated gpcd of 81.3 reflects water use by all of the people associated with your residential water accounts. For communities with a substantial influx of seasonal residents, we are not using the water conservation standard of 65 gpcd to project future water needs; we are using the current gpcd, which, in Orleans's case, is higher than 65.

9. 5% buffer: "Please provide us with the justification and methodology that DEP will use to overrule the methodology adopted by the Water Resources Commission." (Comment #5)

The Water Needs Forecasting Policy and Methodology (see Attachment #1) states:
"This 5% buffer is intended as a contingency in the event that unanticipated growth results in a need for additional water during the forecast period. This buffer will be used at MassDEP's discretion, after a review of the system's water use patterns."

The water needs forecast is a projection of future water needs, based on the best data we have available at the time of the forecast. The buffer is an "extra" amount that can be added to the permit, upon review by DEP, should the community demonstrate, at some time in the future, that additional water is needed to serve its customers and its system's needs. You should feel free to discuss with DEP how they intend to make decisions about the 5% buffer and what documentation they may expect.

10. Base employment: "It is not clear where or how this number (4,937) is used in any of the calculations." (Comment #6)

Please see the explanation in the Water Needs Forecasting Policy and Methodology, page 10. Briefly, we use the base employment to calculate a percent change (increase or decrease) in employment from present to future. First, we average your system's water use in the nonresidential sector (industrial, commercial, institutional, etc.) over the past five years. Then, from the base employment (4,937), we calculate a percent change in employment from 2008 to 2015, from 2015 to 2020, etc., over the planning period. We multiply the percent change in

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each five-year planning period by the base water use in the nonresidential sector to project future water use in that sector. I'd be happy to walk you through the steps if that would help.

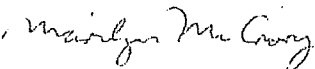
11. "To better understand the process we would greatly appreciate the calculations and/or spreadsheets that were developed for the Orleans Water Needs Forecast. The information provided by your office is not consistent with the historic water use in Orleans, and we would like to work together to reconcile the differences." (Comment #7)

Please see Attachment #4, which summarizes the data on water use by Orleans from 2004 through 2008. These data are from your ASRs for those years. Please review and let me know if you see any discrepancies.

Our records indicate that water pumping in Orleans has remained relatively stable since the mid-1980s. Between 1986 and 1990, the amount Orleans pumped ranged from 0.88 mgd to 1.0 mgd, while between 2004 and 2008, pumping ranged from 0.84 mgd to 1.02 mgd. Please keep in mind that the forecast that DCR (then the Department of Environmental Management or DEM) prepared in 1992 appears to have overestimated water demand for Orleans. The 1992 forecast of 1.90 mgd for 2008 was more than double the actual water use in 2008 (0.92 mgd). Even the town's highest water use in the past five years (1.02 mgd in 2007) was well below the projections. This likely reflects your water efficiency and conservation efforts, or slower-than-expected population growth, or both.

I hope the above provides more clarity on the draft water needs forecast. Please feel free to contact me to discuss any additional concerns, questions, or information that may help in improving the forecast.

Best regards,



Marilyn McCrory
Water Resources Planner
Office of Water Resources
Direct Tel.: (617) 626-1423

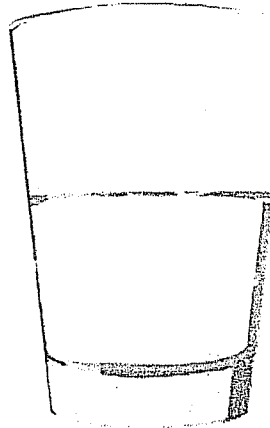
Cc: Susan Brown, Orleans Water Department
Anne Carroll, Acting Director, DCR Office of Water Resources

Attachments:

- 1 - waterneedsforecast_policy_and_method_May_01_09.pdf
- 2 - EOT summary.xls
- 3a - QTTable__OrleansTown.pdf (Census Bureau town profile, Orleans)
- 3b - Cape Cod Seasonal Pop Methodology - Orleans.doc
- 4 - Summary of water use for Orleans, 2004 - 2008

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BCWUA is working to place an AD in the Cape Cod Times;



Would you want to pay more for less?

Water withdrawals in Massachusetts are regulated by the Massachusetts Department of Environmental Protection (DEP). On Cape Cod, DEP is proposing to incorporate strict conservation conditions during the renewal process for Water Management Permits. These conditions will regulate the amount of water that you can use on a daily basis and will lead to higher increases in your water bill. DEP is mandating water use restrictions which will be required from May-September each year regardless of pond levels or rainfall. If these conditions are incorporated into the Water Management Permits, **you will only be allowed to water outdoors two days a week**--this includes watering your landscaping, watering your lawn, washing your cars, washing windows, hosing down your porch and the list goes on and on.

There is no scientific data justifying the implementation of this program. The DEP hired the United States Geological Survey (USGS) to develop a groundwater model which showed that public water purveyors cape-wide withdraw approximately 5% of the water stored underground. The USGS science proves there is no need for such strict measures on Cape Cod. Public water suppliers have fixed costs that are met through water revenues. If water usage decreases, which is the goal of this proposed plan, water rates will have to increase to meet those fixed costs. If you don't want to pay more for less, act now and say **NO** to DEP's one-size-fits-all approach for water permitting. Don't allow them to arbitrarily restrict your water use, but rather to manage our aquifers based on sound science. For more information on this subject please go to the web page of the Barnstable County Water Utilities Association at www.bcwua.org.

Contact your local legislators and tell them to say **NO** to DEP's approach on telling you how much water you may use in any one day.

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State Representative Sarah Peake @ (617) 722-2210
State Senator Robert O'Leary @ (617) 722-1570

Reference

From MWWA, 05/24/2010;

Update on Regulations to condition Water Management Act Registrations:

At the WMA Advisory Committee meeting last week, DEP unveiled their draft outline for how they envision proceeding with regulations to condition WMA Registrations.

DRAFT

**WMA Regulations on Performance Standards for Registered Withdrawals
OUTLINE**

1. Regulations will identify the performance standards applicable to registrants as of the effective date of the regulations.
2. Registrants will be grouped into categories (PWS, Cape PWS, non-PWS).
3. Standards will be applied in the same way as they were in the renewal registration statement (i.e., not all standards will apply to all categories of users).
4. Performance standards will be the same as the conditions imposed in the renewal registration statements (65 RGPCD with the exception of the Cape and Islands, 10% UAW, and restrictions on nonessential outdoor water use).
5. Performance standards will include an option allowing registrants to finance, implement and enforce Mass DEP's model conservation plans for RGPCD and UAW as the functional equivalent of meeting the applicable standard.
6. Regulations may include incentives for early compliance.
7. Definition of "nonessential water use" will be added (as defined in the renewal registration statements) to 310 CMR 36.03.
8. Final compliance date (December 31, 2017) will remain the same in order to be consistent with the expiration date of the current (renewal) registration statements.
9. Regulations will authorize Mass DEP to include a condition in renewal registration statements effective January 1, 2018 setting a compliance schedule for registrants not meeting performance standards to adopt Mass DEP's model conservation plans.
10. Regulations will establish an administrative appeal process for registrants.
11. Mass DEP will notify all registrants that new regulations applicable to all registrants have been promulgated that incorporate the performance standards set forth above.

Mass DEP also passed out the definition of "Nonessential Water Use" and is looking for feedback from the advisory committee if there are items that should be included or excluded from the definition. The current definition being used is:

"Nonessential Water Use": As used herein, "nonessential outdoor water use" means uses that are not required: (a) for health or safety reasons; (b) by regulation; (c) for the production of food and fiber; (d) for the maintenance of livestock; or (e) to meet the core functions of a business.

Examples of nonessential outdoor water uses include: the irrigation of lawns or landscaping, except by means of a hand-held hose outside the hours of 9:00 a.m. to 5:00 p.m.; washing vehicles other than by means of a commercial car wash or except as necessary for operator safety; and washing of exterior building surfaces, parking lots, driveways and/or sidewalks, except as necessary to apply paint, preservatives, stucco, pavement, cement, or the like.

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Examples of acceptable outdoor water uses outside the hours of 9:00 a.m. to 5:00 p.m. include: irrigation to establish a new lawn during the months of May and September; irrigation for the production of food and fiber or the maintenance of livestock; irrigation by plant nurseries as necessary to maintain stock; irrigation by golf courses as necessary to maintain greens and tees, and limited fairway watering; and irrigation of public parks and recreational fields."

Miscellaneous

1. We are continuing to work with Haley & Ward to replace the tank-finials and hope we are getting closer to someone who is interested in the job.
2. The WTP Compressor was serviced on June 9th. This is an annual service in preparation for summer. The service technician commented that wear and tear is reduced since we replaced the desiccant air dryer with our refrigerant dryer.
3. Our annual pump maintenance was performed on all of our pumps & motors on June 15 to 17 by Maher Services.
4. The final report for the phase 2- Wildfire Management grant was submitted to the Cape Cod Cooperative. That will allow for the release of the final \$7,000.
5. As all Department's were requested to reduce their consumption of fuel, Water achieved a 12% vehicle fuel reduction for FY10 for vs. FY09
6. So far, so good;

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