

DENNIS WATER DISTRICT

Board of Water Commissioners

Minutes of Workshop Meeting held

November 18, 2010

A meeting, having been duly posted, was held this date at the Dennis Police Station, 96 Bob Crowell Rd, S Dennis. The meeting was called to order by Paul F. Prue, Chairman at 6:00 PM. Also in attendance were Charles F. Crowell and Peter L. McDowell and the following District official:

Sheryl A McMahon, Clerk & Treasurer
David Larkowski, Superintendent
David Talbott, District Finance Committee Chair
Peter J Nyberg, District Finance Committee

Public Information & Comment:

Ms. McMahon announced the dates of the Massachusetts Municipal Conference for January 2011 and asked that those Board members wishing to attend let her know so she could reserve rooms and complete the conference registrations.

Continued Discussions on Wind Power Development:

Mr. McDowell stated that he had information on the Cape & Vineyard Electric Cooperative (CVEC) that he wanted to share with the Board members. Mr. Larkowski said that he had spoken with Maggie Downey regarding the possibility of CVEC developing the wind turbine project. She had expressed concerns about the set backs as proposed. Mr. Crowell supported going forward with presenting the wind turbine to the Dennis Old Kings Highway Historic District Committee.

Drought Management Plan:

The Superintendent advised the Board that the he has been working on the District's water withdrawal permit renewal. He began the discussion with a Power Point presentation for the Board and the viewing audience which outlined the major components of the draft Drought Management Plan for the District. The plan is an integral part of the permitting process and the District's Emergency Response Plan. Kristen Berger, PE with AECOM, Inc. has provided technical assistance on development of the Drought Management Plan.

The Massachusetts Department of Environmental Protection (DEP) guidelines for development of a Drought Management Plan include a mandatory 2-day per week limit on lawn irrigation from May 1 through September 30. He stated that in the case of Dennis Water, the District experienced one of the heaviest demand seasons on record and the water tables are still normal so why would the District be required to impose mandatory irrigation restrictions on its customers?

Some of the key elements that are apparently of concern to DEP are:

- Establishing a per capita limit of 65 gallons per day per person as a constant goal. The Cape's is closer to 88 gallons per day per person.
- Reducing the total permitted withdrawal by water purveyors across the State, including the District.

Mr. Larkowski noted that most water departments in Massachusetts are in river basins and rely on surface water to a great degree where the Cape is almost exclusively groundwater.

A key part of the Emergency Response Plan is to know how to operate the system, and what restrictions need to be in place under drought conditions.

The District is the responsible guardian of our water resources. Over the years, some people have expressed concerns that the District is “pumping” down local ponds. This District has good documentation that it has not done so.

Key elements of the Drought Management Plan are to -

- Monitor groundwater and precipitation
- Establish historical conditions to create a baseline or “normal condition”
- Develop a set of conditions or steps that require certain responses and actions

Rainfall data from 1960 to the present was compiled. Barnstable rainfall averages are 50” per year. Dennis receives slightly more rainfall than Hyannis does on average.

For developing groundwater monitoring analysis the following data was collected:

- District’s own data collection for Well 12 off Old Chatham Rd (White’s Pond) Pond levels measured monthly by District
- USGS MA DWG-158
- USGS data for Wells 1-2-3 off Airline Road
- USGS #BMW-22 at Nickerson state park which is measured daily by USGS

DEP wants to use BMW-22 because they can read the level without having to physically visit the site. The patterns appear to be consistent with each other. “Normal Condition” will be defined as 25% to 75% of normal groundwater conditions at USGS BMW-22

Drought Action Levels are defined as follows:

- Normal – continue monthly monitoring
- Advisory – declare voluntary water restrictions – suggested odd/even watering days
- Watch – declare mandatory water restricts such as odd/even watering days
- Warning – declare mandatory outdoor water use limited to two days per week
- Emergency – declare an outdoor watering ban as well as all none-essential outdoor water use (may not be just drought conditions but could be a major water main break or major loss of pumping capacity due to extraordinary conditions such as a hurricane).

On a motion made by Charles F. Crowell, and duly seconded, the ***support the draft Drought Management Plan as presented by the Superintendent.***

Minutes:

On a motion made by Charles F. Crowell, and duly seconded, Board ***UNANIMOUSLY VOTED: to*** accept the minutes of August 26, 2010 as presented.

On a motion made by Charles F. Crowell, and duly seconded, Board ***UNANIMOUSLY VOTED: to accept the minutes of September 23, 2010 as presented.***

On a motion made by Peter L. McDowell, and duly seconded, Board ***VOTED 2-0-1 (CFC): to accept the minutes of October 28, 2010 as presented.***

Respectfully submitted,

Sheryl A McMahon, Clerk

The Power Point presentation by Superintendent Larkowski is attached as part of the meeting record.

Dennis Water District Drought Management Plan DRAFT

November 2010

Background

- Water Management Act Permit (20 years)
- 1,189,000,000 gallons per year
- Leak Detection
- Meter Replacement Program
- Establish Water Conservation Program
- Keep records and file ASR with DEP
- 10% unaccounted for water

Highlights of new WMA permit

- Currently in our WMA 20 Year Renewal Period
- 65 gallons per capita per day
- Reduce our permitted withdrawal
- Mandatory two days a week outdoor watering from May 1 to September 31

Purpose of a Drought Plan

- Key part of our Emergency Response Plan
- Water Management Act Permit
- Drought Plan
- Conservation Plan
- Responsible guardian of our resources

Key Elements of the Plan

- Monitor Groundwater and Precipitation
- Establish historical conditions to create a base line or normal conditions
- Develop a set of conditions or steps that require a response
- Develop those responses to the conditions

Precipitation Monitoring Analysis

- Rainfall
- Dennis rainfall data from 1960 to present

- Barnstable Airport rainfall data 1980 to present
- Average rainfall per year is 50.73"
- Lowest 36.5"
- Highest 69.12"

Groundwater Monitoring Analysis

- Well #12 Old Chatham Road
- Measured monthly by the District
- USGS MA-DWG-158 north of Rte 6
- Measured about every other month by the County
- USGS MA-DWG-123 Airline Road
- Measured Monthly by the County
- USGS MA-BMW-22 Nickerson State Park
- Measured daily by USGS

Drought Action Levels

- Normal
- Advisory
- Watch
- Warning
- Emergency

Drought Action Response

- Normal - District monitors monthly
- Advisory - District declares voluntary water reductions odd/even watering
- Watch - District declares mandatory water restrictions odd/even watering
- Warning - District declares mandatory outdoor water use limited to two day a week
- Emergency - District declares an outdoor watering ban as well as all nonessential outdoor water use

What Triggers a Drought Action Level

- Use Well #12 & USGS Well BMW #22
- Use Dennis Rainfall Data
- This info helped developed the following tables to best track and implement any necessary actions
 - *Table 5-1 Drought Action Levels*
 - *Table 5-2 Normal Monthly Rain and Groundwater levels*

■ *Section 6.3 Response to Drought Action Levels*

Response to Drought Action Levels

- 6.3.1 Normal
- A normal condition allows the District's Superintendent to monitor monthly precipitation and groundwater levels and compare to the normal levels.
- 6.3.2 Advisory
- A Drought Advisory condition requires the District move to a heightened awareness of the drought triggers and requests voluntary water use restrictions.
- 6.3.3 Watch
- A Drought Watch condition requires the District impose mandatory water restrictions of Odd/Even out door water use.
- The District would post this request on the District website and notify Town officials, local newspapers and local cable television.
- The District would request permission from the MADEP to impose a mandatory water restriction.
- 6.3.4 Warning
- A Drought Warning condition requires the District impose mandatory water restrictions of out door water use limited to two days a week.

Historical responses

- 1991 Response
- 1995 Response
- 2002 Response

Water Use Restriction By-Law

- By-Law gives the District authority to regulate water use through any declaration by the Board
- Defines the purpose of the by-law
- Defines the types of restricted water uses
- Defines public notification of a declaration
- Defines the penalties assessed by the District
- \$50 first violation
- \$100 for each subsequent violation

Questions

