

Barnes Aquifer

Protection Advisory Committee

**Report on Fiscal Year 2012 Activities
(July 2011 to June 2012)**

Prepared by the
Pioneer Valley Planning Commission
in cooperation with
The Barnes Aquifer Protection Advisory Committee
September 2012

**BARNES AQUIFER PROTECTION ADVISORY COMMITTEE
(BAPAC)**

Fiscal Year 2012 (July 2011 to June 2012) Annual Report
Prepared by the Pioneer Valley Planning Commission

Acknowledgements

The Pioneer Valley Planning Commission would like to acknowledge the contributions of Barnes Aquifer Protection Advisory Committee members:

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Executive Summary

Summary of Accomplishments for Fiscal Year 2012

BAPAC met monthly from September to June during Fiscal Year 2012, commenting on four Developments of Regional Impact (DRIs), including one from Easthampton, one from Holyoke; and two from Westfield.

Other accomplishments include the following:

- Supported the implementation of best management practices for developments occurring within the recharge area through commenting on Developments of Regional Impact (DRI);
- Pursued long-term protection of the aquifer by working with municipal officials and local land trusts to identify high priority parcels and to understand where there may be shared interests and possibilities for collaboration;
- Continued public outreach and education about issues concerning the aquifer and actions residents can take to ensure its protection, including beginning to overhaul the BAPAC website with new images and updated information;
- Worked with MassDEP and BAPAC communities to provide safeguards as MassDEP stops its work associated with the TCE investigation, including promoting model regulations that promote testing for TCE whenever a new well is developed or whenever a property with a private well changes hands;
- Identified what recommendations from the 2007 local water supply protection bylaw/ordinance review have been adopted, what remains to be adopted, and what obstacles, and potential strategies there may be to overcoming obstacles;
- Applied for funding to follow up on the surface water quality monitoring done in 1998

Recommendations for Fiscal Year 2013

BAPAC should continue to promote regional action for protecting inter-municipal water resources. For FY2013, the key areas of work are as follows. Among these, the two major priorities are revising the BAPAC website and advancing protection of priority aquifer recharge land.

1. Public outreach and education

- Revise BAPAC website
- Promote BMP toolkit with local developers and DRI proponents

2. Reducing threats to the Aquifer

- Continue to conduct reviews of DRIs
- Advance protection of priority aquifer recharge lands identified in FY2012
- Follow up with Boards of Health on FY2012 letter regarding TCE

- Explore with Board of Health possibility of issuing joint letter to all private well owners about properly maintaining wells, including private irrigation wells
3. Develop additional funding sources
- Identify partner(s) for project to describe the value of the Aquifer in economic terms
 - Identify partner(s) for project to devise a system for organizing, housing, and sharing Aquifer information and data
 - Explore possibility of local sponsorships (perhaps based on revised website) for BAPAC initiatives

Introduction

Importance of the Barnes Aquifer

The Barnes Aquifer has been widely recognized as one of the Commonwealth's most important regional groundwater supplies. Portions of the aquifer in Easthampton have been designated a "sole source aquifer" by the U.S. Environmental Protection Agency.

- The Aquifer extends from the Westfield River northward over 12 miles to Northampton
- It provides water to more than 60,000 residents and many businesses, industries and institutions in the communities of Easthampton, Southampton and Westfield (Holyoke no longer draws water from the Aquifer due to TCE contamination at its wells).¹
- There are 11 active municipal wells, and the 108 unit Hendrick Street Well Field in Easthampton that tap the regional aquifer
- Together these wells draw a total of 1.2 billion gallons per year

Regional Approach to the Barnes Aquifer

The size, importance, and inter-municipal geography of the Barnes Aquifer demands regional cooperation and regional solutions to fully protect this critical water supply. Recognizing this, the PVPC and municipal officials from Easthampton, Holyoke, Southampton, and Westfield convened an initial meeting in March of 1988 to discuss cooperative strategies for protecting the Barnes Aquifer. Out of this meeting grew the idea for creating a regional aquifer protection advisory committee.

On September 26, 1988, the Barnes Regional Aquifer Protection Advisory Committee held its first meeting. This ad hoc committee began work on a regional water supply

¹ The City of Holyoke closed the Pequot and Coronet Homes Wells in 1988.

Barnes Aquifer Service

	Number of registered/permitted wells*	Listed with DEP as active?	Safe Yield (MGD)	Max Single Day Volume	Annual Withdrawal	Number days well active	Number of People Served	Number of private wells
Easthampton	6 registered						16,053	5 est.
	1087000-04G Hendrick Well Field	yes	2.8987	1,409,400	235,485,100	365		
	1087000-05G Pines Well	yes	0.9	313,300	20,043,600	365		
	1087000-06G Nonotuck Road Well	yes	1.0498	0	0	0		
	1087000-08G Nonotuck Park Well	yes	1.1376	1,970,700	252,941,500	348		
	1087000-09G Brook Street Well	yes	1.454	613,000	72,500,300	364		
	1087000-07G** Maloney Well	yes	1.6992	56,000	231,000	4		
Holyoke	2 registered wells							15 est.
	01G	no						
	02G	no						
			Approved Daily Pumping Volume (MGD)					
Southampton	2 permitted						3,688	800 est.
	1276000-01G	yes	.792	0	0	0		
	1276000-02G Glendale Well 2	yes	.792	730,000	104,910,000	365		
Westfield	4 registered wells						42,000	###
	1329000-01G	yes	2.002	2,120,000	269,785,000	301		
	1329000-02G	yes	2.002	1,880,000	102,334,000	121		
	1329000-07G	yes	2.002	2,280,000	140,916,000	171		
	1329000-08G	yes	2.002	330,000	333,000	2		

* Registered wells operate under a 100,000 gallon per day (gpd) threshold.

** This well is not in compliance with MA Wellhead Protection Regulations 310 CMR 22.21(2) because the Zone II of this well is not included in the City's Aquifer Protection District Map

Sources: Public Water Supply Statistical Report (Easthampton and Southampton 2010; Westfield 2011)

protection strategy, and on an inter-municipal compact to formalize municipal commitments to implement the strategy.

Creation of the Barnes Aquifer Protection Advisory Committee

In December 1989, the chief elected officials in the Cities of Westfield and Holyoke, the Towns of Easthampton and Southampton, and the Pioneer Valley Planning Commission signed the “Memorandum of Agreement for Barnes Aquifer Protection” at a public ceremony. This agreement to act cooperatively to protect a natural resource of regional significance was the culmination of a yearlong planning effort by PVPC and a voluntary advisory task force of local officials and residents. The intergovernmental compact created a standing Barnes Aquifer Protection Advisory Committee (BAPAC) with the authority to review and comment on “developments of regional impact” in the aquifer recharge area, and to develop a regional aquifer protection strategy.

Barnes Aquifer Protection Advisory Committee Membership

The inter-municipal contract that created BAPAC specifies how many members are selected to the committee. The chief elected officials of each member community is to appoint three representatives and PVPC is to appoint one representative. BAPAC members for Fiscal Year 2012 were:

Easthampton	Darleen Buttrick, Resident Michael Czerwiec, Water Department Chester Seklecki, Board of Health
Holyoke	John Barrett, Water Commission Jeff Burkott, Planning Department Andrew Smith, Conservation Commission
Southampton	Edward Cauley, Department of Public Works James Labrie, Planning Department Joseph Slattery, Water Department
Westfield	Charles Darling, Water Department Karen Leigh, Conservation Commission
Advisor	Robert Newton, Professor of Geomorphology, Smith College
Pioneer Valley Planning Commission	Patty Gambarini, Senior Environmental Planner, BAPAC Facilitator Anne Capra, Principal Planner

Issues Affecting the Barnes Aquifer

Trichloroethylene (TCE) Contamination

In the early 1990s, the aquifer extending from Easthampton to Westfield was rendered largely unsuitable as a drinking water supply when it was found to be contaminated with trichloroethylene (TCE). At the onset of the investigation, the Hendrick Street Well Field and the adjacent Pines Well supplied drinking water to the City of Easthampton. This public water supply provided more than fifty percent of the City's drinking water needs.

The Massachusetts Department of Environmental Protection (DEP) sampled and inventoried nearly 400 private wells in Easthampton, Southampton, Holyoke and Westfield. Numerous public and private wells in Easthampton, Holyoke and Southampton had to be treated or shut down. In addition, DEP installed hundreds of microwells, enabling the sampling and analysis of groundwater, sampled surface water, and performed soil gas surveys and obtained soil samples to define the extent and pathway, as well as determine the source(s) of the TCE contamination that extended 4.5 miles within the aquifer. Hampton Ponds was also sampled and found not to be contaminated. The TCE contamination within groundwater is found at depth.

DEP's investigation identified Southampton Sanitary Engineering (SSE) and General Electric (GE) as potential responsible parties. GE has denied responsibility for dumping TCE and contaminating the aquifer, but has performed voluntary cleanup activities at the release site on Dupuis Road. SSE claimed they did not have the financial resources to perform further investigation and remediation. Much site assessment and some cleanup activities have been performed at this site by MA DEP.

The City of Holyoke closed two municipal wells in West Holyoke due to the TCE contamination. The City of Easthampton had to construct a water treatment plant for the same reason, costing approximately \$800,000. MA DEP estimates it has expended in excess of \$2 million in private well sampling, assisting in costs for the Easthampton water treatment plant, and risk reduction measures such as supplying bottled water and treatment filters. Approximately 30 homes in Southampton and West Holyoke had TCE at levels of concern. DEP assisted Southampton with more than twenty of the thirty affected residences within their community by applying funding intended for filters to purchasing a pipeline for delivery of municipal water at a cost of approximately \$200,000. Because of the unavailability of public water in most areas of West Holyoke (Rock Valley Road, Labrie Lane, Keyes Road and Mueller Road), DEP arranged for bottled water for the short term and installed and maintained (for two years) whole house granular activated carbon filters in the eight remaining affected residences. Residents were provided with written sampling and maintenance recommendations and are sent annual reminders from DEP. DEP and the City of Holyoke estimate that it will cost approximately \$800,000 to \$1 million to install public water lines on Labrie Lane,

Rock Valley Road, Keyes Road and Mueller Road. The City of Holyoke has stated it is unable to finance such a project at this time.

The activated carbon filters cost approximately \$2,000 per year to maintain and it is unclear how many homeowners are in fact maintaining their filters. It remains unclear whether homes built or purchased after filters were offered by DEP have measures in place to reduce their risk of exposure to harmful levels of TCE. Although public water is available in Southamptton and Westfield, some property owners have chosen not to hook up and are still using TCE contaminated wells. At a public meeting in 2006 held by the Clean Water Coalition at the Hampton Ponds Association's building on Apremont Way numerous residents of the Hampton Ponds area of Westfield, Southamptton and Holyoke stated that they were unaware that there was a contamination issue and that they were utilizing private wells. It is unknown how many people are in this situation. It is likely that these people took ownership of their homes after DEP had performed their outreach and were never contacted directly.

For information about BAPAC's most recent follow up work on TCE contamination, see Accomplishments section that follows.

Development and Abandoned Monitoring Wells

Development pressures within the Barnes Aquifer Zone II are significant. Although each of the four communities enacted aquifer protection district zoning and participate in a regional aquifer oversight committee called the Barnes Aquifer Protection Advisory Committee (BAPAC), commercial, industrial and residential development continues to consume important recharge land, bringing with it new threats and opportunities for aquifer contamination.

One of the greatest threats to the aquifer associated with past contamination and on-going development is the installation of hundreds of monitoring wells within the Zone II. Sites where monitoring wells have been installed include commercial and industrial facilities, and 21E sites. In recent years, BAPAC has become increasingly aware of abandoned monitoring wells that are either not known to the current property owner or long since forgotten by them, yet not decommissioned. Abandoned wells that have not been decommissioned are a direct conduit to the aquifer and serve as a potential avenue for contamination.

In each of the four Barnes Aquifer communities, as well as many statewide, there are no local regulations requiring the decommissioning of monitoring wells once they are no longer of use. Likewise, M.G.L. c. 21E also does not require monitoring wells to be decommissioned once a site is beyond the five year audit period. According to the Office of Water Resources at MA Department of Conservation and Recreation, statewide 10,000 wells (both productive and monitoring) were installed in 2005 and only 750 wells decommissioned.

Examples of this threat to the aquifer are as follows. Beavers dammed Pond Brook near Westfield municipal Well #8. The dammed water came within feet of covering a monitoring well installed during construction of Well #8. It is unknown if monitoring wells exist on other properties inundated by beaver activity. Also, at Westfield municipal Well #3 in 2008, bacteria counts at the well prompted an investigation of monitoring wells in the area which found one monitoring well where the lock had been broken off by vandals and the cap left off. Well #3 and the monitoring well were both disinfected and the monitoring well re-secured. Last, MEPA Environmental Impact Reports from the early 1990s for Summit Lock Industrial Park in Westfield, the site of C&S Wholesale, identify the installation of 17 monitoring wells on a 139 acre parcel and an additional 12 on an adjacent parcel. Under MEPA, these wells were to be monitored annually and data submitted to DEP and the Westfield Water Department. Records indicate that the last round of sampling occurred in 1999. After several recent attempts to communicate with C&S about the status of their wells, the operations manager acknowledged that their monitoring program had been discontinued and he wasn't even sure where the wells are located.

Road Salt Contamination of Domestic Wells

BAPAC and Smith College conducted an on-going investigation of the impacts of road salt on domestic wells in an area of Southamptton and Westfield along Routes 10 and 202. Route 10 is maintained by MassHighway; Route 202 is maintained by the City of Westfield. The investigations have been as follows:

- In three sampling rounds between December 2004, September 2005, and March 2006, approximately 35 private wells were sampled. More than 25 of these wells were determined to be salt impacted with sodium concentrations above the 20 mg/l limit set by the Massachusetts Office of Research Standards and Guidelines (ORSG) and chloride levels above the 250 mg/l Secondary Maximum Contaminant Level (SMCL).
- In April 2008, 90 wells in Southamptton, Westfield and Holyoke were sampled for sodium, chloride, nitrate nitrogen, calcium, magnesium, potassium, lithium, sulfate, nitrate, dissolved silica, arsenic, lead, barium, and hardness. Of those samples, 38 were salt impacted from road salt and 17 other wells had naturally high sodium levels. Ten (10) wells, all in the Round Hill area had arsenic levels above 5 ppb which is considered high but not above the MCL. Also noteworthy, road salt is causing the groundwater to become hard by exchanging sodium for calcium and moving calcium into solution.
- In 2009, Mass DOT initiated a road salt impact study on two private wells at 407 College Highway (Route 10) in Southamptton. The study was the result of a complaint filed by the property owner stating their well had been contaminated by

road salt applied by MassDOT. According to MassDOT, the study was discontinued after one round of sampling found both wells to test positive for bacteria. The property owner was provided instruction on how to sterilize the well. Once completed and free of bacteria, MassDOT would resume the study. According to MassDOT, the property owner was non-responsive and thus the study discontinued. MassDOT is willing to resume the study and work with the property owner if the well is disinfected.

- A fifth round of private well sampling was performed on June 3, 2009 at 16 residences and 1 business on Jaeger Drive, North Road, Southampton Road, and Old Stage Road in Westfield. The sites were selected to gather further information about long term trending of sodium chloride levels in the aquifer.

There are approximately 12 homes on private wells on Route 10 within the vicinity of Swanson Corners in Southampton to the intersection of Route 202 in Westfield. Several of these well owners participated in the road salt study conducted by BAPAC and several of the participating wells were found to be highly impacted by road salt contamination. Along Route 10, there are 4 homes in Southampton and 4 in Westfield that participated in the salt study and were identified as salt impacted. There may be more wells affected, but they did not participate in the study and have not been identified. For people on medically prescribed sodium restricted diets, the high sodium levels in these wells could pose a significant health risk. Therefore, BAPAC continued to investigate options for providing municipal water to this area.

The City of Westfield is currently extending municipal water service along Route 202 to a proposed Assisted Living facility and up to the Purple Onion Restaurant/bar at the intersection of Route 10. One salt impacted well in this area will be provided municipal service via this extension. Due to elevation and head pressure, however, it is not feasible for the City of Westfield to extend its water line to the Southampton border. As an alternative, the Westfield Board of Water Commission voted to support extension of Southampton's municipal water service into Westfield to service private wells impacted by road salt that the City of Westfield is unable to reach. The Southampton Water Department is willing to service the homes in Southampton and Westfield that are affected, but would need funding assistance to implement such a public works project.

The Southampton Water Department provided a cost estimate totaling \$128,700 to install 3,900' of pipeline (\$33/foot installed) with all hydrants services and valves (utilizing Highway/Water Department labor rates).

Community Development Block Grant (CDBG) has been identified as a possible source of funding. The issues that remain outstanding relative to CDBG are:

- Which CDBG National Objective is addressed?

- What were the demographics of the homes being serviced (are they CDBG eligible)? An income survey would be needed.
- Could you use Westfield CDBG funds in Southampton and servicing Southampton homes? Westfield is an entitlement community and Southampton is not.
- Possibility of Southampton applying for MA CDBG Small City's funds for their portion
- Unlikelihood of meeting Westfield's FY11-12 CDBG Program deadline (proposals are due in January)
- Westfield only receives around \$440,000/yr in CDBG funds, of which about half goes to paying back a bunch of bad Section 108 Loans. The Mayor and City Council would need to decide if this was a priority.
- PVPC is administering a FY2010 CDBG program for Southampton. The Town may be eligible to apply for FY2012 in December but there are a number of milestones relative to progress on their current project that need to be accomplished before determining if they would be eligible to apply.

Other possible next steps include: Contacting MassDOT about resuming the road salt study; contacting affected well owners to determine if they would connect to municipal service if available; and, exploring alternative funding sources to extend water service.

Closure of the Northampton Landfill

The City of Northampton currently operates a regional landfill on Glendale Road in Northampton. The landfill is located within the Zone II of Easthampton's Maloney Well. The City of Northampton was planning to expand the operation to increase the lifetime of the facility and allow for the disposal of more municipal waste. Due to strong local opposition to the landfill expansion, The Board of Public Works voted in January 2010 not to seek a Special Permit for the landfill expansion without further guidance from the Mayor and City Council citing costs to prepare such a permit application without really knowing if the Council will approve it. The Northampton City Council also voted in the Spring of 2010 not to support the expansion. The City is preparing for closure of the landfill in March of 2013 and has issued a Request for Proposals for hauling and/or disposal of waste from its two residential drop-off centers.

Meetings

BAPAC met monthly from September 2011 to June 2012. Following is a brief summary of BAPAC meeting dates and key agenda items. Notes from BAPAC meetings are contained in Appendix A.

Monthly Meeting Summary

Date	Key Agenda Items
September 6, 2011	1 DRI; Annual Report; annual membership dues; work plan; status of DEP TCE study; letter of support to Department of Agricultural Resources for land acquisition in Easthampton
October 4, 2011	3 DRIs; Annual Report; work plan
November 8, 2011	Land conservation planning; water supply ordinance review
December 6, 2011	Comments from two members of the public, one regarding EPA hearing on Pioneer Valley Energy Center gas powered plant and the other regarding allowed uses on North Road, Westfield; land conservation planning, water supply ordinance review, outreach; status of DEP TCE study
January 3, 2012	Catherine Skiba report on status of DEP TCE study; land conservation planning, water supply ordinance review, outreach, funding for surface water monitoring follow up
February 7, 2012	1 DRI; TCE contamination study follow up, land conservation planning, water supply ordinance review, outreach; Southampton tie into Westfield for emergency interconnection
March 6, 2012	Land conservation planning, TCE contamination study follow up, water supply ordinance review, outreach
April 3, 2012	Land conservation planning, TCE contamination study follow up, water supply ordinance review, outreach, funding for surface water monitoring follow up; BAPAC distribution lists
May 1, 2012	1 DRI; land conservation planning, TCE contamination study follow up, water supply ordinance review, outreach; monitoring wells sampling results from Army Aviation and Support Facility, Westfield
June 5, 2012	1 DRI; land conservation planning, TCE contamination study follow up, water supply ordinance review, outreach; FY2013 work plan

BAPAC Accomplishments July 2011 to June 2012

The following section summarizes the key issues BAPAC addressed and the accomplishments during Fiscal Year 2012.

Developments of Regional Impact (DRI)

DRIs are defined as any development project which requires: a) state approval under the MEPA process, or b) local approval for a Special Permit, Site Plan Approval, Subdivision Approval, zoning amendment, or withdrawal of property from M.G.L. Chapters 61, 61A, or 61B. In its reviews, BAPAC assesses the potential for water pollution or other adverse impacts to the aquifer from the proposed project and recommends mitigating measures to prevent such impacts.

Municipal representatives in member communities are obligated to submit DRIs to BAPAC for review. This obligation is defined in the Memorandum of Agreement for Barnes Aquifer Protection signed by the chief elected official in each member community. During Fiscal Year 2012, BAPAC reviewed and commented on four DRIs: one from Easthampton; one from Holyoke, and two from Westfield. Appendix B contains copies of submitted DRI comment letters.

Aquifer Land Conservation Program

The protection of important aquifer recharge land has always been a goal of the committee, but BAPAC has recently moved to become more proactive in seeking its protection. During FY2012, BAPAC revised its strategy for identifying land conservation priorities. Rather than meet with land trusts at the outset, PVPC began by meeting with BAPAC representatives and other municipal officials involved in drinking water interests in Easthampton, Westfield, and Southamton.² In this first round of meetings, participants relied on the criteria developed in FY2011 to begin identifying priority lands for conservation. These criteria are:

- Undeveloped land
- Land within the Zone I of any well that is not owned by the municipality and permanently protected as watershed land.
- Parcels within the Zone II with no lacustrine clay layer and the aquifer is recharged through exposed glaciofluvial deposits.
- Land abutting upgradient flowing surface waters in the Zone II contributing to groundwater flow or close to where streams are entering aquifer system. Priority streams include Moose Brook and Manhan River in Southamton; Broad Brook

² Holyoke opted out of BAPAC's land conservation work since the aquifer area in their jurisdiction is primarily residential with 2-acre zoning. Rather, their land protection interests for water supply lie outside of the Barnes Aquifer around the Tighe Carmody Reservoir.

in Holyoke, Southampton, and Easthampton; and, Pond Brook/Sandy Brook in Westfield.

- All land within a 400' radius of future possible wells already owned by a municipality or otherwise permanently protected.

Other considerations involved:

- Level of protection – some municipal land could be converted to other uses if not permanently dedicated to the conservation of open space for water supply protection.
- Creation of large contiguous blocks of protected open space
- Ecological value – higher value land, higher priority

Once a list of conservation priorities were established in terms of drinking water, PVPC then approached local land trusts to understand where there may be shared interests and the possibility for collaborations in working with willing landowners to further protect water quality in the aquifer. Funding for such protections (either through fee or conservation restrictions) might be sought through the Executive Office of Energy and Environmental Affairs' Drinking Water Supply Grants, local Conservation Protection Act programs, or other sources.

Easthampton

Three separate meetings in Easthampton involved: BAPAC Advisor and Smith College Professor Robert Newton, City Planner Stuart Beckley, Tom Newton and Mike Czerwiec of the Water Department, and Gerrit Stover and Doug Wheat of the Pascommuck Conservation Trust.

Priority locations for exploring land conservation opportunities were identified as follows: Undeveloped lands at the top of the Broad Brook watershed in both Southampton and Easthampton; near Brook Street Well and along the base of the mountain on East Street, which is a secondary recharge area; and suspected locations of holes in the clay layer, extending between the Maloney Well and Plain Street and the Brakey Gravel Pit.

Southampton

One meeting involved DPW Superintendent Edward Cauley who consulted with Water Superintendent Joe Slattery in the course of the discussion. The second meeting involved Mark Noonan and Mark Kassis of the Winding River Land Trust.

Priority locations for exploring land conservation opportunities were identified as follows: undeveloped lands along Broad Brook, which is a priority area for Easthampton water supply; and undeveloped lands located west of Pomeroy Meadow Road and Glendale Road. This area though outside of the aquifer's Zone II contributes to both

Wells 1 and 2. Winding River Land Trust representatives noted several landowners in this area that appear willing to explore land protection opportunities.

Westfield

PVPC held two meetings to explore land protection priorities and opportunities in Westfield. One meeting included Westfield Water Department Superintendent Woody Darling, Conservation Coordinator Karen Leigh, and Conservation Commissioner George Martin. The second meeting involved Mark Noonan and Mark Kassis of the Winding River Land Trust.

Priority locations for exploring land conservation opportunities were identified as follows: undeveloped lands around Wells 1, 2, and 5; undeveloped lands along Sandy Brook from Chapin Pond to Holyoke Street.

Possible next steps for 2013:

- Contact Jennifer Soper at the Department of Conservation and Recreation and Kristin DeBoer from the Kestrel Land Trust to talk about priorities and explore shared interests.
- Coordinate with land trusts on contacting landowners to explore possible opportunities for land protection.
- Keep in mind the grant for water supply protection areas offered by the Executive Office of Energy and Environmental Affairs. Deadline is typically November. Projects need to be fairly far along to be eligible for this program, but the land protection effort could conceivably help to line up a project for the next round under this program.

TCE Contamination Follow Up

As part of an Open Space and Recreational Plan update, Holyoke's Conservation Department requested updated information about the status of DEP's study of the TCE contamination. PVPC invited DEP to a BAPAC meeting to discuss the status of the TCE study. DEP however declined and instead provided information for PVPC to bring to BAPAC. PVPC developed a summary document, which raised numerous questions among Committee members regarding status of homeowners who have continued using whole house filters and status of residents living in new homes built in these affected areas, TCE concentrations, and TCE contaminant plume.

Catherine Skiba, Service Center Manager for Mass DEP agreed to attend the January meeting to answer questions and review information from DEP's latest work on the TCE contamination. Following are the main points that arose during the discussion:

- DEP’s work was aimed at identifying the sources of TCE contamination. As such the agency’s mapping is illustrative in nature (a “cartoon”) depicting conservatively the maximum areal extent in which groundwater contamination had been detected and not a delineation of a plume per se. Contamination generally has been detected in some wells in an extensive area from the Pequot Pond area in Southamptton to the Hendrick Street wells in Easthampton. As part of this investigation, DEP sampled more than 400 private wells and also installed 278 micro-wells to identify the approximate area and the source of the TCE contaminant plume. DEP’s work was intended to identify the source(s) of the contamination and to assist in identify impacted private drinking water wells. DEP’s work does not show how concentrations of TCE are trending and it also does not show how the contaminant plume is moving. There is so much variability in the aquifer and it is such a complex hydrogeological environment that it is difficult to do this.

- DEP did a comprehensive investigation and identified 2 Potentially Responsible Parties (PRP), including Southamptton Sanitary Engineering for their site at 80/82 Pequot Road, Southamptton, and GE for two sites in West Holyoke (Dupuis Road and Apremont Highway), which may have been a 1950s dumping area for their Jackson Street facility (PCBs were also detected at these sites and cleaned by GE). The Pequot Road site has been split in two with one part of the site still requiring clean up and the other having had an RAO statement submitted. (An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.) The Dupuis Road site in Holyoke remains in the Bureau of Waste Site Cleanup system; an RAO has not yet been filed. The Apremont Highway site has had an RAO filed.

- Although two locations have received RAO’s, residual contamination remains in the groundwater. A discussion regarding persistence of the contaminants in the groundwater ensued and Bob Newton noted that modeling done by Smith College indicates the contaminants would decrease and eventually be flushed out of the aquifer in a 50 to 60 year time period (this is somewhat speculative based on the assumptions of the model and is not definitive).

- With the discovery of this contamination, major work went into getting affected homes off of private wells and onto public water. Southamptton extended water mains to many of the affected areas. There were 9 affected homes that were provided filters for their private wells. DEP has worked with these homeowners to remind them about the importance of maintaining the filters at their homes. Homes that received the last reminder letter from MassDEP on January 13, 2010 were located on Keyes Road, Mueller Road, Rock Valley Road, and Southamptton Road.³

³ Southamptton’s 2012 annual report for the Water Department notes the following: “It is also important to remind the residents of Southamptton that over a decade ago the Water Department extended its public water service into the eastern section of town....This was done at great

- Holyoke representatives noted there may be additional homes that have since been built in these areas.
- DEP's last letter to homeowners on private wells about filters went out in 2010. It is important for Boards of Health to pick up on this work with those still on private wells. There are no requirements for homeowners to test their wells for TCE. In fact, it was noted that they may be reluctant for fear of impacts on property values.

As a follow up to the update from DEP, BAPAC members agreed that TCE Contamination Study follow up should be added as a work plan item this year. As part of the follow up work, PVPC contacted Boards of Health in each municipality about well regulations, and reviewed DEP's October 2011 revised well recommendations for Boards of Health. Based on this review, PVPC then drafted recommendations to add provisions that: A. require testing of existing private wells for TCE (or possibly all Volatile Organic Compounds/VOCs) during property transfers; and B. to ensure that any new private wells are tested prior to issuance of a building permit. All test results should be submitted to the Board of Health which may at its discretion forward results to BAPAC. Holyoke's Health Director requires testing for all VOCs on all new wells.

Possible next steps for 2013:

- Ask Boards of Health how BAPAC might help with outreach to homeowners in TCE affected areas
- Building on DEP's list of private homes with which they have been in contact regarding TCE and filters, work with Boards of Health to add to this list any homes that have been built in the affected areas and determine whether they are on private or public water supply. (Board of Health should have records on this.)

Water Supply Ordinance Review

BAPAC revisited PVPC's 2007 review of municipal water supply protection bylaws and ordinances to understand what of the recommendations have and have not been adopted and what strategies or next steps might be helpful. Recommendations provided by PVPC were based on DEP's 2005 model ordinance. Implementation of recommendations could qualify communities for waivers on frequency of testing, and also possibly affect ranking in grant applications.

expense to benefit the health and safety of Southampton residents living in that area....Even after all that time, however, roughly one hundred homes in the area have still not connected to the safe public water supply. This means that about three hundred men, women, and children who live in Southampton are still drinking the raw groundwater from the Barnes Aquifer without water treatment and possibly putting their family's health at risk."

Easthampton

Recommendations were not adopted and got bogged down in the discussion about the designation for the northern aquifer area in town. Easthampton sought to propose a standard based on thickness of the clay layer, but DEP at that time did not want to have different standards for the northern part of the aquifer than the southern part of the aquifer in Easthampton. PVPC revisited the question with a DEP official about allowing for a standard based on clay thickness. DEP noted that there are many holes in the clay layer and so many unknowns that it puts a great burden on property owners to prove thickness of the clay layer. DEP does not have a mechanism to allow for such a standard, but the City could formally petition DEP for an allowance, seeking relief from regulation. The DEP official noted that the City ought to not be hopeful about the outcome of such a petition.

Bob Newton observed that the holes in the clay layer are limited to areas where Eskers are present. In addition, the pressure from the underlying aquifer is so high, he noted, that groundwater flows up and out of these holes, which would presumably keep contaminants up and out of the aquifer. Clay ranges in thickness from zero to more than 100 feet in some places and that thickness could be determined based on a method called seismic refraction.

Given DEP's position, PVPC briefly discussed with Easthampton's new Planning Director Jessica Allan how to begin exploring the implications for the City. Extending current aquifer standards to the northern part of the City would result in pre-existing non conforming uses. Any change of use in a particular location would need to conform with the new zoning. Getting answers to several may be important: What studies have been done to date of this aquifer area? To what extent does the northern aquifer area have land uses that are prohibited by current aquifer zoning? Has there been a delineation of the clay layer? Are there ways to manage uses outside of zoning?

Holyoke

Holyoke representatives have noted that the area of Holyoke in the Zone II already has protection through 2-acre lot size and 200-foot frontage requirements and that additional restrictions to the ordinance may not be necessary.

Southampton

Southampton representatives were unable to confer with municipal colleagues to determine whether it may be possible to move forward.

Westfield

There has been no action on the 2006 recommendations. Updates to the ordinance may occur as part of the permitting process for a new well.

Possible next steps for 2013:

DEP has new a new model regulation issued in 2011. It may be worth reviewing where there have been changes from the 2005 model to update BAPAC's recommendations to municipalities.

Easthampton:

- Explore implications of not being able to use a clay thickness standard for the northern Zone II in Easthampton.

- Once a proposal can be made to establish an aquifer protection zone in the north, former City Planner Stuart Beckley has suggested that BAPAC hold one meeting with the planning board to inform them about the ordinance changes and then go to the City Council to present on the issue to them. It would be good to get 10 voters interested in the issue to help support the changes.

Outreach—BMP Toolkit Update and Website

BMP Toolkit Update

PVPC investigated with DEP and with a consultant working for DEP on updates to the Stormwater Manual and particularly changes that would revise regulations involving porous pavements in the Zone IIs. BAPAC had been following DEP guidance on using Massachusetts Stormwater Regulations as guidance on Zone IIs even outside wetlands areas. Porous pavements as a result are not included in BAPAC's BMP Toolkit. This policy came to bear this year with BAPAC's review of a project proposed for Easthampton in which BAPAC recommended not to allow the use of porous pavement.

In March, Thomas MacGuire, a regional coordinator for DEP's wetlands program, responded to PVPC's inquiries, saying that DEP is proposing a revision to its guidance in the Stormwater Regulations about porous pavements, allowing them now in the Zone IIs. Until this recommendation is accepted, any legal actions would be based on the current guidance within the MassDEP Stormwater Handbook. It may be one year's time before DEP's recommendations to allow for porous asphalt are finalized.

Website

PVPC began redesigning and updating the BAPAC website with images and new information. This work is occurring in stages beginning with the home page and meeting notes. The new website will include new images and content, including a library of studies and reports and any modeling video that may help users better understand the aquifer and how it functions.

Possible next steps for 2013:

- Continue work to redesign and update website
- Investigate new proprietary filter media for inclusion in the BMP toolkit, which has multiple media options designed to target different pollutants.

Surface Water Monitoring

As part of a larger grant request to the National Science Foundation from Smith College, Professor Robert Newton submitted a proposal to do analysis of the east west flow of groundwater using fiber optic cable placed in the Manhan River. The cable will enable temperature measurements at 1 meter intervals for about 2 to 3 kilometers. There is a question of how much groundwater flows from the west through existing geophysical gaps with implications on the transport of potential contaminants from the landfills to the Maloney Well. Unfortunately, the request was not funded because the project did not request the minimum \$100,000 for funding though it was part of a much larger proposal that did exceed that threshold.

Fiscal Year 2012 DRI Reviews

DRI / Date	Location and Name of Project	Owner/ Developer	Project Representative	Issues / Requested Info / Actions
EASTHAMPTON				
September 6, 2011 October 4, 2011 May 1, 2012	Parsons Street "Parsons Village"	Valley Community Development Corporation	Berkshire Design Group	Affordable housing development with 37 units of housing on 4.3 acres. Propose to retain all stormwater on site through infiltration catch basins and porous pavement on all paved areas, including parking lot. Recommended not allow porous asphalt parking lot based on current Mass DEP recommendation not to allow in Zone 2. Revised plans submitted in May showed 40 units of housing and revised stormwater management plan: conventional asphalt with routing of runoff to deep sump hooded catch basin that flows into StormCeptor unit and into subsurface infiltrators. Drainage from roof and other areas to be directed to infiltration basin. Recommendations include berming roadways and parking lot, gate valve prior to parking lot stormwater management facilities; assurances for proper operations and maintenance; restrictions on use of sodium chloride and chemical herbicides and pesticides.
HOLYOKE				
October 4, 2011	410 County Road "Ground Mounted Solar Array Project"	Rivermoor Citizens	Tighe & Bond	1 megawatt, ground mounted solar PV array on land leased from owner, Clear Channel. Project limited to 4.29 acres because northern part of parcel priority habitat for midland sedge. Recommendations to preserve hydrology: retain all top soil on site, reexamine tree removal plan to ensure that only trees to be removed are those that will cast shadows on panels.
WESTFIELD				
October 4, 2011 February 7, 2012	Barnes Airport "Gulfstream Service Center"	Gulfstream Aerospace Corporation	None; Recv'd MEPA ENF	Project will create 8.9 acres of impervious surface that will result in two permanent land impacts: stormwater management and reduced infiltration to groundwater recharge. Expansion is

DRI / Date	Location and Name of Project	Owner/ Developer	Project Representative	Issues / Requested Info / Actions
	Expansion"			occurring on City of Westfield owned property. City working to prepare the site by removing an existing access road, relocating water and sewer lines, and cutting in a new road for the Air National Guard. Recommendations: pretreatment of all stormwater runoff from project area, given proximity to Wells 7 and 8; install berms; do direct infiltration of roof runoff instead of using stormwater pond; install monitoring wells, improved spill response, use alternatives to road salt.
June 5, 2012	930 Southampton Road, Parking Lot Expansion	Santorini's Café	Sage Engineering	Conversion of illegal gravel lot to paved lot. Project will create 40,000 square feet of new paved parking for 21 tractor trailers; during winter months, two spaces will be used for snow storage; drainage will be directed to a StormCeptor 450i unit that will discharge to an infiltration basin; gate valve just below StormCeptor unit; infiltration basin designed to manage up to the 100-year storm. Recommendations: Describe operation of gate valve in Operation and Maintenance Plan; request City Engineer double check on calculation for size of StormCeptor unit; restrict use of sodium chloride for ice and snow removal and chemical herbicides and pesticides for lawn and garden care; ensure that plan use of a "submerge kit" since outlet of the stormceptor is near infiltration basin floor, drainage easement should be required from abutting property owner, ensure that location for placement of snow optimal for preventing movement of untreated runoff from infiltration basin.

Recommendations for Fiscal Year 2013

In addition to the administration and reporting required for the 10 annual advisory committees, BAPAC members defined three areas of work for FY2013 shown below. Among these, the two major priorities are revising the BAPAC website and advancing protection of priority aquifer recharge land.

1. Public Education and Outreach

Task	Strategy
A. Revise the BAPAC website	Develop more user friendly format, updating information about aquifer and presenting it in more audience directed and graphically engaging format
B. Promote BMP Toolkit	Specifically reach out to local developers and DRI proponents

2. Reduction of Threats to the Aquifer

Task	Strategy
A. Continue to conduct reviews of Developments of Regional Impact (DRIs)	Seek timely DRI submittals from local communities for BAPAC review and comment
B. Advance protection of priority aquifer recharge lands	Coordinate with local land trusts and state agencies on priorities identified in FY2012; work with willing land owners and seek funding for long-term protection
C. Follow up with Boards of Health on FY2012 letter regarding TCE	Identify ways that BAPAC and Boards of Health might ensure follow through with residents in TCE affected areas
D. Explore with Boards of Health possibility of joint letter to all private well owners	Letter would inform private well owners, including owners of private irrigations wells, what they should and should not do to help ensure Aquifer protection

3. Develop Additional Funding Sources

Task	Strategy
A. Identify partner(s) for project to describe the value of the Aquifer in economic terms	Ask Bob Newton, UMass faculty, and others whether there is grad student interested in this topic for thesis. Possibly apply for funding
B. Identify partner(s) for project to devise a system for organizing, housing, and sharing Aquifer data and information	Ask Bob Newton, UMass faculty, and others whether there is grad student interested in this topic for thesis. Possibly apply for funding
C. Explore possibility of local sponsorships for BAPAC initiatives	Revised website may present opportunities to engage these sponsorships, but need to explore whether possible or not

Proposed Budget for Fiscal Year 2013

	Hours	Cost*	% Total
Administration/Reporting			
▪ Advisory Committee Facilitation (10 meetings and including meeting agendas and notes)	40	\$2,640	
▪ Annual Report	8	\$528	
▪ Postage, copies, travel, computer fee		\$270	
<i>Subtotal</i>	48	\$3,438	33%
Public Education and Outreach	50	\$3,300	34%
Reduction of Threats to the Aquifer	40	\$2,640	27%
Develop Additional Funding Sources	10	\$660	6%
TOTAL	148	\$10,038	100%

*Cost estimates based on PVPC rate of \$66/hour (includes fringe and overhead at 120%)

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Appendices

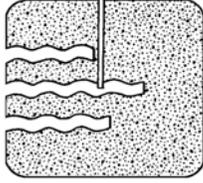
Appendix A Meeting Agendas and Minutes

Appendix B Developments of Regional Impact (DRI) Comment Letters

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Appendix A: Meeting Agendas and Minutes

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BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

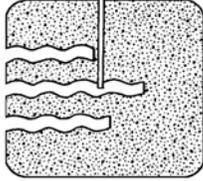
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, September 6, 2011
TIME: 3:30 PM
PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of June 7, 2011 Meeting Minutes**
- 2. Developments of Regional Impact**
- 3. FY11 Annual Report – Review and Comments**
- 4. FY12 Work Plan – Discussion to establish tasks and project priorities**
- 5. FY12 Annual Membership Invoicing**
- 6. Other Business**
- 7. Next Meeting**

**City/Town Clerks: Please post this notice per Massachusetts General Laws,
Chapter 39, Section 23, A-C**



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

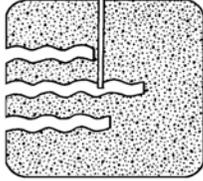
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, October 4, 2011
TIME: 3:30 PM
PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

1. Adoption of September 6, 2011 Meeting Minutes
2. Developments of Regional Impact
Solar photovoltaic array, 410 County Road, Holyoke
3. FY11 Annual Report – Finish review and comments
4. FY12 Work Plan – Set project priorities
5. Other Business
6. Next Meeting

**City/Town Clerks: Please post this notice per Massachusetts General Laws,
Chapter 39, Section 23, A-C**



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

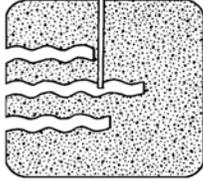
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, November 8, 2011
TIME: 3:30 PM
PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of October 4, 2011 Meeting Minutes**
- 2. Developments of Regional Impact**
- 3. Water Supply Ordinance Reviews**
- 4. Other Business**
- 5. Next Meeting**

**City/Town Clerks: Please post this notice per Massachusetts General Laws,
Chapter 39, Section 23, A-C**



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, December 6, 2011

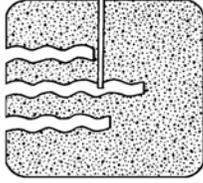
TIME: 3:30 PM

PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
 - October 4, 2011
 - November 8, 2011
- 2. Developments of Regional Impact**
- 3. Work Plan Items**
 - Land Conservation Planning
 - Water Supply Ordinance Reviews
 - Outreach
 - BMP Toolkit Update – Porous Pavement in Zone 2
 - Website
 - Surface Water Monitoring
- 4. Responses from DEP re: TCE contamination study**
- 5. Other Business**
- 6. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

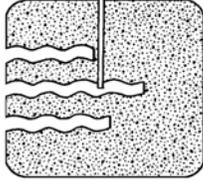
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, January 3, 2012
TIME: 3:30 PM
PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
December 6, 2011
- 2. Developments of Regional Impact**
- 3. DEP re: TCE contamination study**
- 4. Work Plan Items**
 - Land Conservation Planning
 - Water Supply Ordinance Reviews
 - Outreach
 - BMP Toolkit Update – Porous Pavement in Zone 2
 - Website
 - Surface Water Monitoring
- 5. Other Business**
- 6. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, February 7, 2012

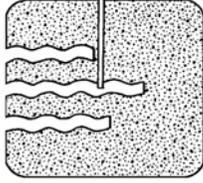
TIME: 3:30 PM

PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
January 3, 2012
- 2. Developments of Regional Impact**
Gulfstream Service Center, Barnes Regional Airport, Westfield, MA
- 3. Work Plan Items**
 - Land Conservation Planning
 - Water Supply Ordinance Reviews
 - Outreach
 - BMP Toolkit Update – Porous Pavement in Zone 2
 - Website
 - Surface Water Monitoring
- 4. Other Business**
- 5. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, March 6, 2012

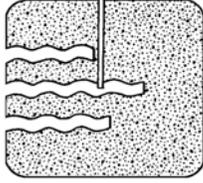
TIME: 3:30 PM

PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
February 7, 2012
- 2. Developments of Regional Impact**
- 3. Work Plan Items**
 - Land Conservation Planning
 - TCE Contamination Follow Up
 - Water Supply Ordinance Reviews
 - Outreach
 - BMP Toolkit Update – Porous Pavement in Zone 2
 - Website
 - Surface Water Monitoring
- 4. Other Business**
- 5. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, April 3, 2012

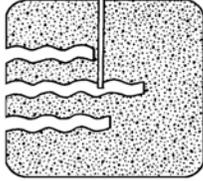
TIME: 3:30 PM

PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
March 6, 2012
- 2. Developments of Regional Impact**
- 3. Work Plan Items**
 - Land Conservation Planning
 - TCE Contamination Follow Up
 - Water Supply Ordinance Reviews
 - Outreach
 - BMP Toolkit Update – Porous Pavement in Zone 2
 - Website
 - Surface Water Monitoring
- 4. Other Business**
- 5. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

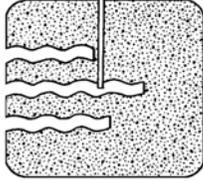
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, May 1, 2012
TIME: 3:30 PM
PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
April 3, 2012
- 2. Developments of Regional Impact**
Parsons Village Development, Easthampton
- 3. Work Plan Items**
Land Conservation Planning
TCE Contamination Follow Up
Water Supply Ordinance Reviews
Website
- 4. Other Business**
- 5. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

MEETING NOTICE

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

DATE: Tuesday, June 5, 2012

TIME: 3:30 PM

PLACE: Easthampton Municipal Office Building
50 Payson Avenue, Easthampton

Agenda

- 1. Adoption of Meeting Minutes from:**
May 1, 2012
- 2. Developments of Regional Impact**
930 Southampton Road, Westfield
- 3. Work Plan Items**
 - Land Conservation Planning
 - TCE Contamination Follow Up
 - Water Supply Ordinance Reviews
 - Outreach - Website
- 4. FY 2013 Work Plan**
- 5. Other Business**
- 6. Next Meeting**

City/Town Clerks: Please post this notice per Massachusetts General Laws, Chapter 39, Section 23, A-C

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 9/6/11

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	A. Smith, Holyoke	<u>X</u>	J. Burkott, Holyoke
<u>X</u> W. Darling, Westfield	Karen Leigh, Westfield	<u>X</u>	C. Seklecki, Easthampton
M. Czerwiec, Easthampton	R. Newton, Easthampton	<u>X</u>	D. Buttrick, Easthampton
T. Newton, Easthampton	James Labrie, Southampton		J. Slattery, Southampton
<u>X</u> P. Gambarini, PVPC			

Others Present: Stuart Beckley, Easthampton City Planner; Peter Wells, Mark Darnold and Brian Darnold of Berkshire Design Group; Erica Ann Flood; Mary Westervelt; and David Gardner

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 5:00 p.m.

1. Adoption of June 7, 2011 Minutes

Adoption of the minutes and meeting notes were recommended by Jeff Burkott, seconded by Woody Darling, and unanimously approved.

2. Developments of Regional Impact

Parsons Village, Easthampton, MA

Patty noted that plans for this project were not initially sent by the Town to BAPAC because though the project lies within the northern Zone II area, it is not currently within the Town's Aquifer Protection District. BAPAC however is interested in understanding more about the nature of porous pavement applications in Zone II areas. Stuart Beckley later clarified that Massachusetts DEP has recommended that this northern Zone II area be included in the Aquifer Protection District. Due to the different nature of this area (it is underlain by clay) compared to the Town's existing Aquifer Protection District (underlain by sand and gravel), however, standards need to be developed that would distinguish this area before it can be included as part of the Town's Aquifer Protection District.

Project designer Peter Wells and his colleagues from the Berkshire Design Group described the affordable housing development planned for Parsons Street. Plans for the 37 units of housing on 4.3 acres seeks to retain all stormwater on site through the following: infiltration catch basins to be located throughout the site; yard drains directed to drywells; porous pavements on all paved areas, including the 76 parking bays; and roof drains that will also be directed to subsurface areas beneath the parking area. The porous surface will be underlain with a choker layer, a 15-inch sand filter, and then stone aggregate. Maintenance of the porous surface would entail: power vacuuming 2 to 3 times per year and plowing of snow to grassed areas. Costs for maintenance will come from rental income. Basements are not part of the plans due to groundwater issues in the neighborhood. Mr. Wells reported that neighbors are using sump pumps and concerned about possible runoff from the development.

A concerned neighbor, Erica Ann Flood, provided additional information:

- A review of the proposed project's drainage by another engineer, Terry Reynolds, who was retained by Amy Heflin and others

- A section from the Massachusetts Stormwater Manual on Porous Pavement that recommends monthly vacuum sweeping, which she noted differs from the project proponent's planned maintenance
- She noted too that this section from the Massachusetts Stormwater Handbook does not recommend porous pavements for Zone IIs

Patty will clarify with Mass DEP whether porous pavements are or are not recommended for Zone IIs as there seems to be a discrepancy in this section of the stormwater manual.

Pending guidance from Mass DEP, committee members offered the following recommendations:

- Ensure that there is a good maintenance plan that can be properly executed as maintenance is central to treatment effectiveness and performance, especially for the porous pavement
- Monitor porous pavement to better understand its treatment effectiveness and performance as it applies to the Town's northern Zone II
- Provide monitoring updates to BAPAC
- Drywells, which are considered Class V Injection Wells, must be registered with Mass DEP's Underground Injection Control Coordinator.

Gulfstream Service Center, Barnes Regional Airport, Westfield, MA

Woody indicated that a proposal is in the works, but there is nothing formal as of yet.

3. FY11 Annual Report

Not all committee members had a chance to review the annual report so this will be continued to the next meeting on October 4th.

4. FY12 Work Plan

Committee members revisited discussion from June about several possible areas of focus for the coming year. Based on this discussion, the notes from June, and follow up research, Patty will put together a work plan to be reviewed at the October meeting.

- *Outreach to Public Officials*
Make the BMP toolkit more available to planning boards, possibly produce hard copies that can be distributed. Patty will look into the page count. Stuart also suggested the possibility of a poster that boards can use as a resource when a project is proposed for the aquifer. It could include the list of BMPs. Darlene also recalled that there had been a grant application for training public officials that went unfunded. She suggested that might be updated for resubmission.
- *Outreach to Homeowners*
Darlene suggested that there could be more done with homeowners about what it means to live in the Zone II and what people can do to minimize impacts. David Gardner, who was videotaping the meeting, suggested that there is an incremental loss of pervious surfaces with the many small unpermitted paving projects in the residential setting. He suggested there could be more education around driveway design standards. Jeff noted that driveways in Holyoke must be permitted.
- *Surface Water Monitoring*
The Committee is interested in performing another round of surface water quality analysis in the Zone II. A similar project was previously performed in 1998 with a grant from MET. Limited information and data is available in the PVPC archives relative to this project. Patty will talk with Bob Newton to see if he has additional information on this study and whether sampling at this point makes sense.

- *Extending Municipal Water Lines to Homes with Salt Impacted Wells*

There was also some discussion about follow up on this project which entails an extension of water lines in Southampton to service several homes where private wells have been impacted by road salt in both Southampton and Westfield. There had been agreement between the respective water departments that the Southampton Water Department could extend its lines to service not only the homes in Southampton, but those in Westfield as well. The City of Westfield cannot extend its lines to the Southampton border to reach the Westfield homes due to elevation and head pressure issues. The Southampton Water Department provided a cost estimate totaling \$128,700 to install 3,900 feet of pipeline (\$33/foot installed) with all hydrants services and valves (using Highway/Water Department labor rates).

BAPAC had hoped that CDBG funding might be used for this project, but it is ineligible according to Stuart Beckley. Without major support from impacted homeowners for a municipal expenditure of funds for this extension the communities will hold off for now.

5. FY12 Annual Membership Invoicing

Patty will get an update on membership payments for the October meeting.

6. Other Business

DEP TCE study - Patty will contact DEP to explore where they are in their study of TCE and when the timing might be best for a presentation to BAPAC.

Darlene asked about getting an update on the status of land protection work. Patty will talk to Anne who is advancing that effort. Committee members also discussed the upcoming grant opportunity for water supply protection areas offered by the Executive Office of Energy and Environmental Affairs. Stuart noted that projects need to be fairly far along to be eligible for this program. It was noted that PVPC's work to help identify priority lands for protection could help in lining up a project for a subsequent round under this grant program.

Members agreed to submit a letter of support to the Department of Agricultural Resources for its consideration of acquiring an interest in approximately 62 acres of land within Easthampton for inclusion in the agricultural preservation restriction Program. These lands are in the Zone II. Patty will draft a letter and circulate for approval to committee members.

Committee members also took note of additional clean up work described by DEP in their Review of Report on the IRP Site 2: Jet Fuel Storage/Tank Sludge Disposal area at the Barnes Air National Guard Base dated August 3.

Next Meeting:

Tuesday, October 4, 2011 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 10/4/11

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	A. Smith, Holyoke	<input checked="" type="checkbox"/>	J. Burkott, Holyoke
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield		C. Seklecki, Easthampton
M. Czerwec, Easthampton	<input checked="" type="checkbox"/> R. Newton, Easthampton	<input checked="" type="checkbox"/>	D. Buttrick, Easthampton
T. Newton, Easthampton	James Labrie, Southampton		J. Slattery, Southampton
<input checked="" type="checkbox"/> P. Gambarini, PVPC			

Others Present: Briony Angus, Tighe & Bond and Ben Axelman, Citizens Energy

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 5:15 p.m.

Action Items from Meeting:

PVPC

- Write up 10-4-11 meeting notes
- Draft letter to Holyoke Planning re: Rivermoor Citizens Solar Project
- Draft letter to Secretary Sullivan re: Gulfstream Service Center Expansion, Barnes Airport, Westfield
- Follow up with DEP on stormwater standards and porous pavement in the Zone II
- Send BAPAC members the Water Supply Ordinance Review documents for their respective municipality
- Update meeting mailing list
- Prepare agenda and send out for 11-1-11 meeting
- Update website (longer term)

Committee Members

- Review draft letters on DRIs (Rivermoor Citizens Solar Project and Gulfstream Service Center Expansion) and submit any changes to Patty
- Review Water Supply Ordinance Review documents and identify which recommendations have been implemented and which have not
- Bob Newton to draft a study design for surface water monitoring project that can then be developed into a proposal (longer term)

1. Adoption of September 6, 2011 Minutes

Adoption of the minutes and meeting notes were recommended by Bob Newton, seconded by Darlene Buttrick, and unanimously approved.

2. Developments of Regional Impact

Rivermoor Citizens Solar Project 410 County Road, Holyoke, MA

Presenting for the applicant, Briony Angus of Tighe & Bond explained that the proposed project consists of the development of a 1 megawatt, ground mounted solar photovoltaic(PV)array with panels in 11 rows with 20-foot gaps between rows. Rivermoor Citizens has a long term lease with Clear Channel, which owns the site. As the entire northern part of the parcel is indicated as priority habitat for midland sedge, the solar project is limited to 4.29 acres in the southwest corner of the parcel. There is a do not disturb perimeter where the project abuts roadway and neighbors. There are no wetland resources.

There were some questions about vegetation management and panel cleaning to which Ms. Angus and Mr. Axelman said there will be no use of chemicals. Panels will be set at an angle, approximately 4 feet from the ground at one end and 8 feet from the ground at the other end, and underplanted with a conservation mix of grass native to Hampden County. Vegetation management will consist only of regular mowing with no use of chemicals and the panels will be cleaned annually or as needed with water and without the use of detergents.

The project site will be accessed using existing unpaved roads. These roads will also be used for operations and maintenance of the project. Due to the relatively flat nature of the site and the calculation that there will be no increase in stormwater runoff from the site, no stormwater management features are proposed. There was some discussion about the clearing of trees and whether it was necessary to remove as many trees as proposed given the shadow shown on the image by the client. It was also recommended that no top soil be removed from the site.

There were several questions of the applicant that could not be answered at the October 4 meeting.

- the size of the transformer relative to the concrete pad on which it would sit
- the type of oil is to be used in the transformer
- potential for solar panels to leak
- the plan for lightening protection
- types of tree species to be removed

Tighe and Bond will provide follow up information on these issues to Patty who will then write the letter of recommendations to the Holyoke Planning Office.

Parsons Village, Easthampton, MA –follow up on porous pavement issue

BAPAC acted on the Parsons Village proposal for porous pavement based on DEP's recommendations. Committee members feel it is important to follow up with DEP to learn if it is planning to revise the Massachusetts stormwater standards to allow porous pavements in the Zone II as several committee members feel that porous pavement is a viable stormwater management approach in the Zone II. Patty will further pursue with DEP whether it is going to change its recommendation on this so that a revised letter might be submitted to the Zoning Board of Appeals on the Parsons Village project. Bob Newton and Darleen Buttrick agreed that monitoring of this porous pavement project could provide some good information. Bob said this could be done through the installation of lysimeters that could then help to ascertain the quantity and quality of water moving through the pavement.

Gulfstream Service Center, Barnes Regional Airport, Westfield, MA

Committee members indicated that for this and other MEPA projects it will be helpful to have a searchable PDF document to make review more efficient and effective. Patty will contact the applicant for a PDF and forward to committee members. Members noted the following:

- the City's wells 7 and 8 are 4,500 feet downgradient of the proposed project site
- maps do not clearly show the wells
- not clear what chemicals will be stored and how much
- not clear the location of the new stormwater pond relative to the project site
- the project creates 8.9 acres of impervious surface

Recommendations are as follows – there may be more once PDF is available.

- Project maps should show wells clearly.
- Parking areas should be bermed to contain any spills.
- Pretreatment of all stormwater should occur for the entire project area

3. FYII Annual Report

Jeff noted the need for correction of two dates on page 8. Approval of the annual report with the date corrections was recommended by Bob Newton and seconded by Jeff Burkott, and unanimously approved.

4. FY12 Work Plan

Committee members agreed that the following should be the areas of focus for the coming year.

Land Conservation Planning

PVPC will continue to work with BAPAC to identify high priority parcels to pursue long-term protection of in the Zone II. BAPAC's priorities will be shared with the local municipalities, land trusts, and state agencies to see where there are shared interests and the possibility for collaboration. Keep in mind the grant for water supply protection areas offered by the Executive Office of Energy and Environmental Affairs. Deadline this year is November 1, 2011. Projects need to be fairly far along to be eligible for this program, but the land protection effort could conceivably help to line up a project for the next round under this program.

Outreach

BMP Toolkit – PVPC will follow up with DEP on porous pavement in the Zone II and if appropriate add porous pavement to the BMPs For Groundwater Protection Fact Sheets.

Website – PVPC will update the BAPAC website with images and new information. Also add library of studies and reports. Make sure each municipality has links to the BAPAC website.

Water Supply Ordinance Review

PVPC will circulate to BAPAC members the recommendations from the 2006 local water supply protection bylaw/ordinance review to determine what has been adopted, what remains to be adopted, and what obstacles, and potential strategies there may be to overcoming obstacles. Work would entail following up with municipal planners to strategize on next steps where necessary.

Surface Water Monitoring

Bob Newton will draft a study design that can then be developed into a proposal. This would be a follow up to the surface water quality monitoring done in 1998. Idea is to monitor when there has been a period of no rain to get a sense of the aquifer's chemistry, which can be obtained from sampling streams when baseflow contributions are likely highest. Streams at this time provide a picture of the whole aquifer whereas a monitoring well is just one location. Is there a change in the overall quality of the system? This is an important question in such a study and the answer will likely not be definitive, but suggestive.

5. Other Business

Members updated a mailing list for meeting agendas that Patty circulated.

Next Meeting:

Tuesday, November 1, 2011 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 11/8/11

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	<input checked="" type="checkbox"/> A. Smith, Holyoke	<input checked="" type="checkbox"/> J. Burkott, Holyoke
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> M. Czerwicz, Easthampton	R. Newton, Easthampton	D. Buttrick, Easthampton
T. Newton, Easthampton	James Labrie, Southampton	J. Slattery, Southampton
P. Gambarini, PVPC		

Others Present: Anne Capra, PVPC

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:30 p.m.

Action Items from Meeting:

PVPC

- Write up 11-8-11 meeting notes
- Continue to follow up with VHB consultant/DEP on stormwater standards and porous pavement in the Zone II
- Send BAPAC members the Water Supply Ordinance Review documents for their respective municipality
- Resend e-mail to DEP regarding update on TCE contamination study
- Explore BAPAC membership invitation to Southwick and West Springfield
- Prepare agenda and send out for 12-6-11 meeting

Committee Members

- Review Water Supply Ordinance Review documents and identify which recommendations have been implemented and which have not

1. Adoption of October 4, 2011 Minutes

The Committee did not take action on the minutes. There was a question as to whether the meeting had been posted within 48 hours at Easthampton Municipal Offices due to rescheduling the meeting. Today is also election day and it was questioned whether meeting when the polls were open was in violation of the Open Meeting Law. *(Post meeting note from Patty Gambarini: Apologies for the confusion, but please note that notice for rescheduled meeting was sent by e-mail 10-31-11 in time to post well in advance of meeting. Also prior to scheduling November 8th meeting, PVPC research indicated that there is nothing within the Open Meeting Law that prohibits meetings during the day of an election day.)*

2. Developments of Regional Impact

No DRIs were presented.

Rivermoor Citizens Solar Project 410 County Road, Holyoke, MA - Jeff Burkott noted that the Planning Board had recognized BAPAC's comment letter and required in their permit that during tree removal at the site, root balls be shaken and as much soil as possible left on site.

Gulfstream Service Center, Barnes Regional Airport, Westfield, MA – Woody Darling noted that the applicant met with City officials last week and BAPAC's comments were recognized.

3. FY12 Work Plan

Land Conservation Planning

Anne Capra recounted her meeting with the Pascommuck Conservation Trust in August relative to their priorities for land protection. PCT noted they were interested in pretty much all undeveloped land in the Easthampton area as well as important habitat and aquifer recharge areas. They did not have a map of their priority areas. Anne Capra also noted that Winding River Land Trust has been unresponsive to requests to meet to discuss their priorities and interest in working with BAPAC on land protection issues.

Local Open Space and Recreation Plans may be a good place to start with identifying each communities priorities for open space protection. Holyoke under Andrew Smith's guidance at the Conservation Commission is currently updating their OSRP.

Water Supply Ordinance Review

Woody Darling asked if PVPC had investigated the status of the aquifer protection ordinance/bylaw recommendations made several years ago. Anne Capra stated that she would refer this question to Patty Gambarini for a report at the next meeting.

4. Other Business

As part of Holyoke's OSRP update, the Conservation Department requested updated information about the status of DEP's study of the TCE contamination. Andrew Smith requested that PVPC contact DEP and ask if they would attend an upcoming BAPAC meeting to discuss the status of the TCE study.

Westfield hired a consultant (Geosphere Environmental Management Inc.) to map private well logs available at DEP (or DCR?) to develop a better understanding of the structure of the aquifer in Westfield. Woody shared the preliminary maps with the committee.

Woody Darling requested that the Committee consider inviting Southwick and West Springfield to join BAPAC since their sources draw from the Great Brook aquifer which is connected to the Barnes Aquifer in the south. Westfield is currently permitting a redundant well (Well 9A) in the Great Brook Aquifer. The well was installed about 2 years ago and an EIR under MEPA is underway.

Next Meeting:

Tuesday, December 6, 2011 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 12/6/11

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	A. Smith, Holyoke	<u>X</u> J. Burkott, Holyoke
<u>X</u> W. Darling, Westfield	Karen Leigh, Westfield	C. Seklecki, Easthampton
<u>X</u> M. Czerwicz, Easthampton	R. Newton, Easthampton	D. Buttrick, Easthampton
T. Newton, Easthampton	James Labrie, Southampton	J. Slattery, Southampton
<u>X</u> P. Gambarini, PVPC		

Others Present: Matthew Roman of Westfield, Jean Carpenter of 31 Barbara Street, Westfield

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:30 p.m.

Action Items from Meeting:

PVPC

- Write up 12-6-11 meeting notes
- Invite DEP to January 3, 2012 meeting to talk about follow up questions on TCE investigation
- Review EPA notification and permit regarding Pioneer Valley Energy Center's proposed gas power plan for Ampad Road in Westfield
- Continue to follow up with DEP/consultant on porous pavement in the Zone II
- Begin organizing for land protection meetings with each municipality
- Prepare agenda and send out for 1-3-11 meeting

Committee Members

- Easthampton and Southampton representatives - review Water Supply Ordinance Review documents and identify which recommendations have been implemented and which have not
- Jeff Burkott to talk with David Conti about whether it makes sense to pursue land protection
- Woody Darling to identify possible sponsor for water supply ordinance amendments in Westfield
- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini

1. Adoption of October 4 and November 8, 2011 Meeting Notes

Adoption of the meeting notes was recommended by Jeff Burkott, seconded by Woody Darling, and unanimously approved.

2. Public Comments

Two members of the public were present at the beginning of the meeting and requested to speak. It was agreed that the agenda will now include a standing item to accommodate such comments.

Matthew Roman said he is working with a bank on a foreclosure involving a 3.1 acre parcel of land located on North Road in Westfield. An auction house had previously occupied the site and since then Mr. Roman reported he has found several interested businesses to use the site, including a towing company and two machine shop operators. He reported that the City of Westfield had said that those types of businesses would not be allowed in the Water Resource Protection Area. Woody Darling and other members noted that BAPAC operates in an advisory capacity and that uses not permitted by local ordinances would be upheld by the committee. If the applicant can find a use that is in keeping with allowed uses, then BAPAC might provide some guidance.

Jean Carpenter reported that EPA had issued a public notice and is holding a hearing relative to a permit of Federal Prevention of Significant Deterioration on Pioneer Valley Energy Center's proposed gas powered plant on Ampad Road in Westfield. Ms. Carpenter requested that BAPAC come to the hearing and make comments or provide comments to her that she can then read at the meeting. BAPAC first provided comments on this project during the MEPA review. During the Special Permit and Site Plan Approval process in Westfield, BAPAC saw revised plans in January 2010. At the time, the letter issued by BAPAC read as follows:

The revised plans submitted for this review, sufficiently address pre-treatment, infiltration and containment of spills. BAPAC continues to be concerned with the long-term cumulative effects of emission particulate deposition over the aquifer. This area includes deposition on land as well as surface water resources, both of which can contribute pollutants to the aquifer. We ask that the Planning Board review information carefully relative to this issue, considering cumulative impacts for the anticipated lifespan of the facility

Patty will look more closely at the EPA notification and permit and make a recommendation to other board members for the January 3 meeting. The public hearing is January 12 and the public comment period ends January 24, 2012.

3. Developments of Regional Impact

No DRIs were presented.

4. FY12 Work Plan

Land Conservation Planning

Patty Gambarini talked about revising the approach to identifying land protection priorities, beginning with meetings in each community, involving BAPAC representatives and Water Department superintendents. At these meetings, the idea could be to develop a top 10 list for each community with a possible ranking of land protection in priority order. This list can then be used in a meeting with the local land trusts to determine where land protection priorities between municipalities and land trusts overlap. This would help to build a good foundation for joint land protection grant applications. Members discussed who ought to be invited to such a meeting in each community. Jeff Burkott noted that the aquifer area in Southampton is so residential with 2-acre zoning that he believes spending money on land protection will be a very low priority. He will talk with Dave Conti to get a better read on this issue and let Patty know.

Water Supply Ordinance Review

Based on each municipality's receipt of the aquifer protection ordinance/bylaw recommendations (from 2007 and resent by Patty on November 28, 2011), members had the following comments:

- Woody said that there has been no action on the recommendations in Westfield and that it would be important to identify a sponsor on the City Council. He will look at the Council's Subcommittee on Natural Resources to determine who might best help to move these recommendations forward. He observed that there is an important distinction to be made in the ordinances between the Great Brook and Barnes Aquifers.
- Jeff said that in Holyoke the aquifer area is so residential, as mentioned above, that he believes there is not much political will to make any changes to the ordinance.

Outreach (BMP Toolkit Update and Website)

DEP and DEP's consultant working on updates to the stormwater manual have not been able to provide an answer as to whether the wetlands program will be changing regulations involving porous pavements in the Zone IIs (DEP's drinking water program had earlier advised that BAPAC use the Massachusetts

Stormwater Regulations as guidance on Zone IIs even outside wetlands areas). Patty will continue to pursue an answer.

Updates to the website have not yet begun. There was discussion about the need for photos. BAPAC members will look for photos, current and historical, that may be useful for this update.

Surface Water Monitoring

Patty was not sure about the status of this, but will check in with Bob Newton in the New Year to get an update on a study design for surface water monitoring project that can then be developed into a proposal.

5. Responses from DEP re: TCE Contamination Study

Committee members reviewed the summary document prepared by Patty and had several questions and concerns. Patty will request that a DEP representative come to BAPAC's January 3rd meeting to talk about these with committee members.

Status of homeowners who have continued using whole house filters and status of residents living in new homes built in these affected areas

In 1997, DEP had provided several homes with whole house filters where public water was not available. DEP sent reminders for several years after returning responsibility of filter care to homeowners in 1999. DEP notes that some of these homes connected to public water lines and a few homes continue to use whole house filters were necessary. Have reminders been issued more recently? Is DEP continuing to work with these homeowners? What about new homes built in these affected areas? Are they using filters as well and are they receiving regular reminders?

TCE Concentrations

How are concentrations of TCE trending? Is there anything in DEP's study that shows what has been happening through the course of the years?

TCE Contaminant Plume

Does DEP's study show anything about how the contaminant plume is moving?

6. Other Business

There was no other business.

Next Meeting:

Tuesday, January 3, 2012 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 1/3/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	<input checked="" type="checkbox"/> A. Smith, Holyoke	<input checked="" type="checkbox"/> J. Burkott, Holyoke
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> M. Czerwiec, Easthampton	<input checked="" type="checkbox"/> R. Newton, Easthampton	<input checked="" type="checkbox"/> D. Buttrick, Easthampton
T. Newton, Easthampton	<input checked="" type="checkbox"/> James Labrie, Southampton	J. Slattery, Southampton
<input checked="" type="checkbox"/> P. Gambarini, PVPC		

Others Present: Catherine Skiba, Mass DEP; Stuart Beckley and Ben Webb, City of Easthampton

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:45 p.m.

Action Items from Meeting:

PVPC

- Write up 1-3-12 meeting notes
- Get list from DEP of private homes with which they have been in contact regarding TCE and filters. Add to this list any homes that have been built in the affected areas and determine whether they are on private or public water supply. (Board of Health should have records on this)
- If able to identify help in reviewing EPA draft permit for Pioneer Valley Energy Center's proposed gas powered plant for Ampad Road in Westfield, make comments before deadline.
- Continue to follow up with DEP/consultant on porous pavement in the Zone II
- Meet with Easthampton, Westfield, and Southampton on land protection priorities
- Get a sense from DEP as to whether they are amenable to a northern aquifer area in Easthampton as previously proposed with a standard for development based on clay thickness
- Review ordinances within each municipality and take note where to add provisions on: A. to require testing of existing private wells for TCE during property transfers; and B. to ensure that any new private wells are tested prior to issuance of a building permit. All test results should be submitted to the Board of Health and to BAPAC.
- Prepare agenda and send out for 2-7-12 meeting

Committee Members

- Woody Darling to identify possible sponsor for water supply ordinance amendments in Westfield
- Jeff Burkott will look at the substance of the recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Holyoke
- Jim Labrie will talk with colleagues in Southampton to review recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Southampton
- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini
- Bob Newton to locate standard for clay thickness and development in Easthampton's northern aquifer area

1. Adoption of December 6, 2011 Meeting Notes

Adoption of the meeting notes was recommended by Bob Newton, seconded by Mike Czerwiec, and unanimously approved.

2. Developments of Regional Impact

No DRIs were presented.

Pioneer Valley Energy Center, Westfield - Patty indicated that had written to Bob Newton about the possibility of identifying someone who has the expertise to look at the draft permit and help BAPAC to understand whether there are any air quality implications for the aquifer.

Gulfstream Service Center, Barnes Regional Airport, Westfield, MA – Woody Darling noted that the applicant will be meeting with the Planning Board on January 5th.

3. DEP re: TCE Contamination Study

Catherine Skiba, Service Center Manager for Mass DEP, attended the meeting to answer questions that had come up previously about DEP's follow up TCE contamination work. Following are the main points that arose during the discussion:

- DEP's work was aimed at identifying the sources of TCE contamination. As such the agency's mapping is illustrative in nature (a "cartoon") depicting conservatively the maximum areal extent in which groundwater contamination had been detected and not a delineation of a plume per se. Contamination generally has been detected in some wells in an extensive area from the Pequot Pond area in Southamptton to the Hendrick Street wells in Easthampton. As part of this investigation, DEP sampled more than 400 private wells and also installed 278 micro-wells to identify the approximate area and the source of the TCE contaminant plume. DEP's work was intended to identify the source(s) of the contamination and to assist in identify impacted private drinking water wells. DEP's work does not show how concentrations of TCE are trending and it also does not show how the contaminant plume is moving. There is so much variability in the aquifer and it is such a complex hydrogeological environment that Bob and Catherine noted it is difficult to do this.
- DEP did a comprehensive investigation and identified 2 Potentially Responsible Parties (PRP), including Southamptton Sanitary Engineering for their site at 80/82 Pequot Road, Southamptton, and GE for two sites in West Holyoke (Dupuis Road and Apremont Highway), which may have been a 1950s dumping area for their Jackson Street facility (PCBs were also detected at these sites and cleaned by GE). The Pequot Road site has been split in two with one part of the site still requiring clean up and the other having had an RAO statement submitted. (An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.) The Dupuis Road site in Holyoke remains in the Bureau of Waste Site Cleanup system; an RAO has not yet been filed. The Apremont Highway site has had an RAO filed.
- Although two locations have received RAO's, residual contamination remains in the groundwater. A discussion regarding persistence of the contaminants in the groundwater ensued and Bob Newton noted that modeling done by Smith College indicates the contaminants would decrease and eventually be flushed out of the aquifer in a 50 to 60 year time period. Bob also noted that this is somewhat speculative based on the assumptions of the model and is not definitive.
- With the discovery of this contamination, major work went into getting affected homes off of private wells and onto public water. Southamptton extended water mains to many of the affected areas. There were 9 affected homes that were provided filters for their private wells. DEP has worked with these homeowners to remind them about the importance of maintaining the filters at their homes. Addresses for the homes that received the last reminder letter from MassDEP on January 13, 2010 were as follows: 45 Keyes Road, 67 Keyes Road, 69 Keyes Road (67 and 69 may now be on public water but BAPAC will have to contact Holyoke Water to confirm); 45 Mueller Road; 2 Rock Valley Road, 5 Rock Valley Road, 23 and 43 Rock Valley Road ; and 348 Southamptton Road.

- Andrew and Jeff noted that there may be additional homes that have since been built in these areas.
- DEP's last letter to homeowners on private wells about filters went out in 2010. It is important for Boards of Health to pick up on this work with those still on private wells. There are no requirements for homeowners to test their wells for TCE. In fact, it was noted that they may be reluctant for fear of impacts on property values.

BAPAC members discussed the following next steps:

Review ordinances within each municipality and take note where to add provisions on: A. to require testing of existing private wells for TCE during property transfers; and B. to ensure that any new private wells are tested prior to issuance of a building permit. All test results should be submitted to the Board of Health and to BAPAC.

Get list from DEP of private homes with which they have been in contact regarding TCE and filters. Since the meeting, DEP provided the list of residents and they are included within these meeting notes. Add to this list any homes that have been built in the affected areas and determine whether they are on private or public water supply. (Board of Health should have records on this.)

4. FY12 Work Plan

Land Conservation Planning

Patty Gambarini is setting up meetings with Easthampton representatives and Westfield representatives to identify land protection priorities for water supply in each municipality. Anne Capra is setting up a meeting with Southamptton. Holyoke is not interested in pursuing land protection at this point, though water supply lands owned by Holyoke in Southamptton may be included in the priorities.

Water Supply Ordinance Review

Easthampton – Recommendations were not adopted and got bogged down in the discussion about the designation for the northern aquifer area in town. DEP at that time did not want to have different standards for the northern part of the aquifer than the southern part of the aquifer in Easthampton. Bob Newton was also going to develop a standard for thickness of clay. Stuart suggested that for next step that BAPAC hold one meeting with the planning board to inform them about the ordinance changes and then go to the City Council to present on the issue to them. Stuart noted that it would be good to get 10 voters interested in the issue to help support the changes.

Holyoke – Jeff Burkott will look at the substance of the recommendations to determine whether it may be possible to move forward in Holyoke

Southamptton – Jim Labrie will talk with colleagues in Southamptton about the recommendations to determine whether it may be possible to move forward in Southamptton

Westfield – The subcommittee on Natural Resources has changed and Woody will identify possible sponsor for water supply ordinance amendments for BAPAC's next meeting

Outreach (BMP Toolkit Update and Website)

DEP's consultant also tried to get an answer as to whether the wetlands program will be changing regulations involving porous pavements in the Zone IIs (DEP's drinking water program had earlier advised that BAPAC use the Massachusetts Stormwater Regulations as guidance on Zone IIs even outside wetlands areas). She noted that DEP is likely mulling the issue over and reluctant to communicate about this until they've made a determination. Patty will continue to pursue an answer.

Updates to the website have not yet begun. Patty reminded BAPAC members to look for photos, current and historical, that may be useful for this update.

Surface Water Monitoring

Bob Newton noted that he has submitted a proposal to do analysis of the east west flow of groundwater using fiber optic cable placed in the Manhan River. The cable will enable temperature measurements at 1 meter intervals for about 2 to 3 kilometers. There is a question of how much groundwater flows from the west through existing geophysical gaps with implications on the transport of potential contaminants from the landfills to the Maloney Well.

5. Other Business

There was no other business.

Next Meeting:

Tuesday, February 7, 2012 @ 3:30 PM
Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 2/7/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	A. Smith, Holyoke	J. Burkott, Holyoke
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> M. Czerwiec, Easthampton	R. Newton, Easthampton	D. Buttrick, Easthampton
T. Newton, Easthampton	<input checked="" type="checkbox"/> James Labrie, Southampton	J. Slattery, Southampton
<input checked="" type="checkbox"/> P. Gambarini, PVPC		

Others Present: None

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:40 p.m.

Action Items from Meeting:

PVPC

- Write up 2-7-12 meeting notes
- Draft letter from BAPAC to Westfield Planning Board re: Gulfstream Service Center Expansion
- Get information on BMP filter media for committee members
- Talk with DEP about whether there are any homes in Southampton that should be on our list regarding TCE follow up. They have provided list of homes in Holyoke and need to add to this list any homes that have been built in the affected areas and determine whether they are on private or public water supply. (Board of Health should have records on this)
- Continue to follow up with DEP/consultant on porous pavement in the Zone II
- Meet with Southampton on land protection priorities
- Follow up with land protection agents in Easthampton, Westfield on BAPAC interests
- Get a sense from DEP as to whether they are amenable to a northern aquifer area in Easthampton as previously proposed with a standard for development based on clay thickness
- Continue contacting Board of Health agents in each community regarding provisions on: A. to require testing of existing private wells for TCE during property transfers; and B. to ensure that any new private wells are tested prior to issuance of a building permit. All test results should be submitted to the Board of Health and to BAPAC.
- Prepare agenda and send out for 3-6-12 meeting

Committee Members

- Jeff Burkott will look at the substance of the recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Holyoke
- Jim Labrie will talk again with colleagues in Southampton to review recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Southampton
- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini
- Bob Newton to locate standard for clay thickness and development in Easthampton's northern aquifer area

1. Adoption of January 3, 2012 Meeting Notes

Adoption of the meeting notes was recommended by Mike Czerwiec, seconded by Woody Darling, and unanimously approved.

Patty Gambarini suggested that in order to facilitate follow up on action items by committee members, she will work to get meeting notes out well in advance of upcoming meetings. Committee members agreed that this would be a good approach.

2. Developments of Regional Impact

Gulfstream Service Center Expansion, Barnes Regional Airport, Westfield, MA – Woody Darling brought plans for the proposed project and explained that Gulfstream’s expansion is occurring on City of Westfield owned property. The City will be working to prepare the site by removing an existing access road, relocating water and sewer lines, and cutting in a new road for the Air National Guard. To manage drainage off the new road, the City will use leaching catch basins. While this approach is standard practice for runways and taxiways at the airport, roads typically have pretreatment before infiltration. The City is indicating that due to the low volume of traffic to be handled by this road that direct infiltration should suffice. The expansion of the Gulfstream facility will involve the creation of 8.9 acres of impervious surface. Woody Darling noted that while the project itself is not in the aquifer protection overaly district, it is located upgradient of the City’s wells #7 and 8.

Committee members discussed several recommendations that would help to reduce the potential for the introduction of contaminants into the aquifer:

- ☞ Install monitoring wells between Infiltration Basin IB—1 and City Well #8 for the purpose of safeguarding groundwater quality. Monitoring well locations and depths should be coordinated with the City’s Water Resources Department. Sampling should occur annually, or following any reportable release. A report of all sampling results should be forwarded to the Westfield Water Resources Department and to BAPAC.
- ☞ Emergency Spill Response Plan should address how the plan itself will be maintained and updated over time and who will have that responsibility.
- ☞ Spill response practices should include shutting off the automated valve between the Stormceptor/Oil and Water Separator and Infiltration Basin IB—1. Valve shut off procedures should be regularly tested.
- ☞ Controls should include minimizing compaction of soils, especially in infiltration basin areas during construction so as to ensure that these basins function properly once they are on line
- ☞ Ensure that the drywells on site recover only unpolluted stormwater
- ☞ Alternatives to road salt should be used for de-icing parking areas and roads
- ☞ Any lawn care at this location should not involve the use of chemical fertilizers or pesticides
- ☞ Provide a Hazardous Materials Storage Plan and an Operations and Maintenance Plan

Patty will draft the letter of recommendations for the committee to the Westfield Planning Board.

3. FY12 Work Plan

It was agreed that Patty should add the TCE Contamination Study Follow Up as a work plan item for this year.

TCE Contamination Study Follow Up

Committee members reviewed the list of homes that received the last reminder letter from MassDEP on January 13, 2010 and noted that they are all in Holyoke. A question arose as to whether there are any homes that may be of concern in Southampton. Patty will follow up with MassDEP with this question and with Boards of Health on any homes that have been built recently in the affected areas and determine whether they are on private or public water supply.

Patty has been in touch with the Boards of Health in each municipality to understand whether there are any provisions to: A. require testing of existing private wells for TCE during property transfers; and B. ensure that any new private wells are tested prior to issuance of a building permit.

Based on responses to date from Southampton, Easthampton, and Holyoke, no provisions currently exist. It has been recommended that BAPAC draft language for consideration by Boards of Health in each of the communities. It will be important to include that all test results should be submitted to the Board of Health and to BAPAC.

Land Conservation Planning

Patty reported that she has met with Easthampton representatives and Westfield representatives to identify land protection priorities for water supply in each municipality. She will follow up with land trust representatives in each of these communities to determine whether there may be joint interests and potential for collaborations. Anne Capra is setting up a meeting with Southampton.

Water Supply Ordinance Review

Southampton – Jim Labrie reported that he will allocate more time to talking with colleagues in Southampton about the recommendations to determine whether it may be possible to move forward.

Westfield – Woody Darling reported that Mary O’Connell who is on the City Council’s Natural Resources Subcommittee will help advance these changes, but this should be on hold for now until there is a new planner for the City.

Outreach (BMP Toolkit Update and Website)

There has been no progress in getting an answer from DEP about porous pavements in the Zone IIs (DEP’s drinking water program had earlier advised that BAPAC use the Massachusetts Stormwater Regulations as guidance on Zone IIs even outside wetlands areas). Patty will continue to pursue an answer.

Patty reported that she had learned about a new proprietary filter media that the Berkshire Design Group is using at a project in Sturbridge. It has multiple media options designed to target different pollutants. She will get more information for committee members.

Updates to the website have not yet begun. Patty reminded BAPAC members to look for photos, current and historical, that may be useful for this update.

5. Other Business

Woody Darling noted that Southampton is planning to tie into Westfield’s water system for emergency interconnection.

Next Meeting:

Tuesday, March 6, 2012 @ 3:30 PM
Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 3/6/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	<input checked="" type="checkbox"/> A. Smith, Holyoke	<input checked="" type="checkbox"/> J. Burkott, Holyoke
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> M. Czerwiec, Easthampton	R. Newton, Easthampton	D. Buttrick, Easthampton
T. Newton, Easthampton	James Labrie, Southampton	J. Slattery, Southampton
<input checked="" type="checkbox"/> P. Gambarini, PVPC		

Others Present: Jessica Allan, Planning Director in Easthampton

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:40 p.m.

Action Items from Meeting:

PVPC

- Write up 3-6-12 meeting notes
- Get information on BMP filter media for committee members
- Follow up with DEP on the following: how to interpret the proposed revision on porous pavement in the Zone II; flexibility on a northern aquifer area in Easthampton as previously proposed with a standard for development based on clay thickness; and whether there are any homes in Southampton that should be on our list regarding TCE follow up.
- Meet with Southampton on land protection priorities; once done, meet with Winding River Land Trust on BAPAC land protection interests in Westfield and Southampton
- Follow up with Pascommuck Conservation Trust on BAPAC land protection interests in Easthampton
- Prepare agenda and send out for 4-3-12 meeting along with DRI review information

Committee Members

- Jim Labrie will talk again with colleagues in Southampton to review recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Southampton
- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini
- Bob Newton to locate standard for clay thickness and development in Easthampton's northern aquifer area

1. Adoption of February 7, 2012 Meeting Notes

Adoption of the meeting notes was recommended by Jeff Burkott, seconded by Woody Darling, and unanimously approved.

2. Developments of Regional Impact

Gulfstream Service Center Expansion, Barnes Regional Airport, Westfield, MA – Woody Darling noted that the Planning Board received BAPAC's letter and that the City's part of the project--to prepare the site by removing an existing access road, relocating water and sewer lines, and cutting in a new road for the Air National Guard--is currently out to bid.

Woody Darling asked Patty Gambarini to distribute a document entitled “Developments of Regional Impact Review Procedure and Comments” so that any new BAPAC members would have this information at hand.

3. FY12 Work Plan

Land Conservation Planning

Patty Gambarini reported that she has been in touch with Gerrit Stover of the Pascommuck Conservation Trust and with Mark Noonan from the Winding River Land Trust to describe BAPAC’s work and interest in determining whether there may be joint interests and potential for collaborations on land protection.

TCE Contamination Study Follow Up

Committee members discussed the draft proposed additions to Board of Health well regulations. Patty Gambarini explained that these proposed additions were prepared based on the committee’s recent discussion about adding provisions to require testing of TCE at any proposed new wells or existing private wells during property transfers. The proposed additions are based on the water quality section of the model well regulations developed by Mass DEP and issued by them October 2011. From conversations with Board of Health agents in Easthampton, Holyoke, and Southamptton, it sounded like each of the Boards of Health are beginning the process of reviewing and possibly adopting all or part of these model regulations. Patty had not yet heard back from Westfield. These proposed additions could go out in the form of a letter to Boards of Health requesting that they consider these additions in the course of reviewing their regulations.

Woody Darling suggested that maybe the test include all VOCs not just TCE. Patty will check on the difference in costs.

Andrew Smith expressed concern about the passage in the draft proposed additions that indicates, “The applicant shall submit to the Board of Health and the Barnes Aquifer Protection Advisory Committee the well completion report and a copy of the certified laboratory’s text results.” He noted that he did not think it enforceable and questioned whether BAPAC should be copied.

Jeff Burkott noted that based on a conversation with the Board of Health Agent, Holyoke will already be including TCE and other VOC’s as one of the parameters to be tested on new wells. A letter from BAPAC may not be necessary.

Woody suggested and members agreed to table the discussion until the next meeting.

Water Supply Ordinance Review

Holyoke – Jeff Burkott noted that the area of Holyoke in the Zone II already has protection through 2-acre lot size and 200-foot frontage requirements and that additional restrictions may not be necessary. .

Westfield – Woody Darling noted that this is still on hold until the new planner for the City is on board, but that the City is permitting a new well and the updates may happen as part of that process. He noted that the recommendations provided by PVPC under its water supply ordinance review in 2007 were based on DEP’s model ordinance. Implementation of recommendations could qualify communities for waivers on frequency of testing, and also possibly affect ranking in grant applications.

Outreach (BMP Toolkit Update and Website)

Patty reported that she talked with Tom MacGuire a regional coordinator for DEP's wetlands program. He said that DEP is proposing a revision to its guidance in the Stormwater Regulations about porous pavements, allowing them now in the Zone IIs. Until this recommendation is accepted, any legal actions would be based on the current guidance within the MassDEP Stormwater Handbook.

5. Other Business

No other business

Next Meeting:

Tuesday, April 3, 2012 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 4/3/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	<input checked="" type="checkbox"/> J. Burkott, Holyoke	<input checked="" type="checkbox"/> A. Smith, Holyoke
<input checked="" type="checkbox"/> D. Buttrick, Easthampton	M. Czerwiec, Easthampton	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	
James Labrie, Southampton	J. Slattery, Southampton	
<input checked="" type="checkbox"/> R. Newton	<input checked="" type="checkbox"/> P. Gambarini, PVPC	

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:55 p.m.

Action Items from Meeting:

PVPC

- Correct minutes from 3-6-12 meeting and write up 4-3-12 meeting notes
- Update and correct distribution lists
- Get information on BMP filter media for committee members
- Meet with Southampton on land protection priorities; once done, meet with Winding River Land Trust on BAPAC land protection interests in Westfield and Southampton
- Begin exploring implications of not being able to use a clay thickness standard for the northern Zone II in Easthampton
- Finalize proposed additions to Board of Health Regulations and prepare a draft letter to Boards of Health for review at next meeting.
- Prepare agenda and send out for 5-1-12 meeting

Committee Members

- Jim Labrie will talk with colleagues in Southampton to review recommendations from the Water Supply Ordinance Review to determine whether it may be possible to move forward in Southampton
- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini

1. Adoption of March 6, 2012 Meeting Notes

Adoption of the meeting notes was recommended by Bob Newton, seconded by Mike Czerwiec, and unanimously approved subject to corrections provided by Andrew Smith and Jeff Burkott.

2. Developments of Regional Impact

Gulfstream Service Center Expansion, Barnes Regional Airport, Westfield, MA – Woody Darling noted the project will be going to the Planning Board the next day and that Gulfstream will likely be required to install monitoring wells between Infiltration Basin IB—1 and City Well #8 for the purpose of safeguarding groundwater quality. Monitoring will be done annually by Gulfstream and results will be forwarded to the Water Department.

New elementary school in Westfield -- Woody mentioned that a new elementary school planned for Westfield will include rain gardens.

DRI Review -- Patty suggested that based on the BAPAC document “Developments of Regional Impact Review Procedure and Comments” that she create a checklist that can be used at all future BAPAC meetings for review of DRIs. Members were in agreement. Patty will put this on next year’s work plan.

3. FY12 Work Plan

Land Conservation Planning

Patty Gambarini reported that she had just met with the Easthampton Water Department and is planning to meet with Pascommuck Conservation Trust to determine where there may be joint interests and potential for collaborations on land protection. She is trying to arrange a meeting with Southampton officials and will then follow up with Mark Noonan from the Winding River Land Trust. Andrew Smith suggested also contacting Kristin DeBoer from the Kestrel Land Trust to talk about priorities.

TCE Contamination Study Follow Up

Patty reported that she had talked with DEP's Catherine Skiba about the completeness of the list of homeowners with whom DEP had been working as it included only homes in Holyoke. Patty had been told that the list is complete and included all of the homes that received the last mailing from DEP. Ms. Skiba noted that she believes that homes in Southampton were addressed through the water main extensions and noted that Ed Cauley would know best.

Committee members continued discussion from the last meeting about the proposed additions to the Board of Health well regulations. Andrew Smith remained concerned about the inclusion of a requirement for applicants to submit copies of well completion reports to BAPAC. Bob Newton noted that this had been included because there was no one entity to pull together information about TCE in the aquifer. Woody Darling noted that at one time it had been suggested that PVPC would serve this role. Members agreed that the proposed language for #3 in the regulation should be amended to read, "The applicant shall submit to the Board of Health the Well Completion Report and a copy of the certified laboratory test results showing the location/address of the well water tested, the name of the well owner, the name of the individual who performed the sampling, and the location in the system of where the sample was obtained. The Board of Health may at its discretion share well reports and test results with the Barnes Aquifer Protection Advisory Committee."

Andrew noted that the last paragraph in the proposed regulations document, which was pulled from an alternative used in Williamsburg, is useful as a blanket policy. Patty will finalize the proposed additions and prepare a draft letter to Boards of Health for review by members at the next meeting.

Water Supply Ordinance Review

Easthampton – Patty reported that she had talked with Catherine Skiba about DEP's flexibility in allowing for a standard for development based on the thickness of the clay layer so that many properties in the northern part of town do not become nonconforming uses. Ms. Skiba indicated that there are many holes in the clay layer and so many unknowns that it puts a great burden on property owners to prove thickness of the clay layer. She said DEP does not have a mechanism to allow for such a standard, but that the City could formally petition DEP for an allowance, seeking relief from regulation. She indicated she would not be hopeful about the outcome of such a petition.

Bob Newton observed that the holes in the clay layer are limited to areas where Eskers are present. In addition, the pressure from the underlying aquifer is so high, he noted, that groundwater flows up and out of these holes, which would presumably keep contaminants up and out of the aquifer. Clay ranges in thickness from zero to more than 100 feet in some places and that thickness could be determined based on a method called seismic refraction. Given DEP's position, he noted it will be important to understand what the implications will be for the City.

Andrew Smith said that pre-existing non conforming use means that any uses in the area not allowed by the new zoning are grandfathered. Any change of use in a particular location, however, would need to conform with the new zoning.

Patty will do some initial investigation of what the implications may be for Easthampton.

Outreach (BMP Toolkit Update and Website)

BMP Toolkit - Patty reported that as part of her conversation with Catherine Skiba she inquired as to whether DEP might change its recommendation about porous asphalt relative to the Parsons Street project based on DEP's recommended change for the MA Stormwater Handbook to allow for porous pavements in critical areas, including the Zone II. Ms. Skiba said that until the proposal to allow porous asphalt in critical areas had been finalized for the Stormwater Handbook, DEP could not change its guidance. Patty asked whether DEP's influence might be overextended here since the project is not in a wetlands jurisdictional area. Woody Darling responded saying that BAPAC did not include porous asphalt in its recommended BMPs for the aquifer based on DEP's guidance and that also many communities had incorporated the Stormwater Handbook by reference within local regulations to apply to areas not within the wetlands jurisdictional area. Patty noted that it may be one year's time before finalization of DEP's recommendation to allow for porous asphalt.

Website - Patty circulated a mock up of a revised home page along with an index showing contents for additional pages. Overall members liked the look and it was suggested that website revisions occur in stages. Darlene Buttrick noted that simplest would be best as she had seen too many websites that were complicated and overwhelming. She also suggested that perhaps information be organized for audiences "information for homeowners," which could include such things and lawn care guidance, and "information for developers," which could include information on BMPs. She asked how it might be best to inform new homeowners that they live in the aquifer. Andrew suggested that this information could go on a tax bill.

Following are content suggestions from members:

- GIS/Google Earth tools
- new USGS surficial geology maps
- studies related to the aquifer
- AVI on landfill contamination
- AVI on TCE plume movement
- Tracking for site activity
- Link to UNH Stormwater Center

Patty noted that photos are essential. Bob suggested sending out an e-mail to BAPAC members specifically requesting photos. Patty will follow up.

Surface Water Monitoring

Bob reported that he did not get the grant from the National Science Foundation for work along the Manhan River because the project did not request the minimum \$100,000 for funding though it was part of a much larger proposal that did exceed that threshold.

5. Other Business

Jeff Burkott recommended updating and correcting BAPAC's distribution lists. Patty will follow through on this.

Jeff noted that the MOA sent by e-mail did not include Holyoke. Mike Czerwiec found the original MOA in his BAPAC notebook with Holyoke's signature. Patty will locate the original and create a PDF.

Next Meeting:

Tuesday, May 1, 2012 @ 3:30 PM
Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 5/1/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	J. Burkott, Holyoke	A. Smith, Holyoke
D. Buttrick, Easthampton	<input checked="" type="checkbox"/> M. Czerwiec, Easthampton	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	
James Labrie, Southampton	J. Slattery, Southampton	
R. Newton	<input checked="" type="checkbox"/> P. Gambarini, PVPC	

Others present: Jess Allan, Easthampton Planning Director; Peter Wells and Brian D'Arnold of Berkshire Design Group; Douglas Niedzwecki and Barbara Tillman residents of Easthampton, and Tony Swiez of NCNA.

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 4:55 p.m.

Action Items from Meeting:

PVPC

- Write up 5-1-12 meeting notes
- Meet with Winding River Land Trust on BAPAC land protection interests in Westfield and Southampton
- Work on improvements to BAPAC website
- Prepare and distribute agenda for 6-1-12 meeting

Committee Members

- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini

1. Adoption of April 3, 2012 Meeting Notes

Adoption of the meeting notes was recommended by Mike Czerwiec, seconded by Woody Darling, and unanimously approved.

2. Developments of Regional Impact

Parsons Village, Easthampton, MA – Peter Wells and Brian D'Arnold of Berkshire Design explained that based in large part on current DEP recommendation to not allow porous pavement in the Zone II, stormwater management design has changed course since last reviewed. The project is also increasing the number of units to 40. While the layout has not changed, the proposal entails conventional asphalt for the parking lot with stormwater being routed to a deep sump hooded catch basin that flows into a StormCeptor treatment chamber and then into subsurface infiltrators. Drainage from roof and other areas are directed to an infiltration basin. The stormceptor will need to be cleaned once every year, but more frequently in the first year according to the manufacturer's recommendations. The catch basin will require clean out once each year or more frequently if need be. Entire system will also be inspected annually. After construction HAP Housing will be responsible for operation and maintenance. Berkshire Design provided a copy of the operation and maintenance plan to BAPAC members. Based on questions from BAPAC members and others present, Brian DArnold also addressed the following topics:

Depth to groundwater and distance of infiltrators to groundwater: Average depth is 7 to 7.5 feet. There will be a three-foot separation between the infiltrators and groundwater.

Erosion and sediment control during construction: Prior to construction, hay bales, silt fences will be placed were needed. Because the site involves disturbance of more than 1 acre, the project requires an approved stormwater pollution and prevention plan.

Lawn and garden: Will encourage native drought tolerant species. Patty noted that should also discourage use of chemical fertilizers and pesticides.

Standing water in the parking lot with extreme storms: standing water is part of the design and will still allow for vehicular and pedestrian access. Will not overwhelm quality of treatment by StormCeptor.

Removal of topsoil: During construction topsoil will remain on site and will be seeded and surrounded by haybales to prevent erosion. Topsoil will be amended to improve absorptive capacity.

Water quality treatment: StormCeptor is designed so that after the first half inch of rainfall from the drainage area passes, waters overtop the weir. It is this first half inch of rainfall that carries pollutants and it is known as the “first flush.” Thereafter stormflow will be relatively clean.

Amount of TSS to be removed: Minimum of 80% TSS will be removed from paved and roof areas.

Residents present also questioned: the project’s ability to ensure that there will be good follow through on maintenance and operation with HAP managing property; how the project can justify the current stormwater management proposal when proponents had indicated that the last proposal was environmentally and ecologically the best product. Jess Allan asked that a letter of recommendation from BAPAC be submitted in advance of the Zoning Board’s May 10 meeting.

3. FY12 Work Plan

Land Conservation Planning

Patty reported that she had met with Pascommuck Conservation Trust to talk about land protection priorities in Easthampton and with the Southampton Department of Public Works to talk about land protection priorities in Southampton. She is planning to meet with representatives from the Winding River Land Trust to talk about their land protection priorities in Southampton and Westfield.

TCE Contamination Study Follow Up

Committee members discussed the draft letter with proposed recommendations for Board of Health well regulations regarding TCE. Woody recommended that on the list of parameters for testing, where it reads Trichloroethylene (TCE), it should also read, “or perhaps substitute here with All Volatile Organic Compounds (VOCs).” Mike moved to approve the letter be sent with recommended change, the move was seconded by Woody, and unanimously approved.

Water Supply Ordinance Review

Easthampton – Patty reported that she met with Easthampton Planning Director Jess Allan to identify what might be done to explore implications of DEP’s not allowing clay thickness as a standard in the northern part of the aquifer. Getting answers to several questions could be included in next year’s work plan.

Outreach (BMP Toolkit Update and Website)

Website – Patty is planning to meet with PVPC’s web designer to begin making changes. Photos are badly needed for the improved website. Since Patty has not received any photos from BAPAC members, she asked to help brainstorm image ideas that might be available or that she could go and shoot. The following ideas came up:

Well heads flowing at Maloney Well
Streams, including Sandy Brook in Westfield
Photo of committee members
Drilling of Well #9 (Woody has this image)
Newspaper headlines about “best water” awards

5. Other Business

Army Aviation and Support Facility, Westfield, Monitoring Wells Sampling Results

Woody provided a sampling well report, noting that it was the first he had received in several years. Two questions arose: How can municipalities remind property owners about well sampling? How can these well monitoring results be tracked by BAPAC? Exploration of possible solutions might be included in the upcoming work plan.

Next Meeting:

Tuesday, June 5, 2012 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**MEETING NOTES OF
BARNES AQUIFER PROTECTION ADVISORY COMMITTEE**

DATE: 6/5/12

LOCATION: Easthampton Municipal Offices, Easthampton

MEMBERS AND DESIGNEES PRESENT:

J. Barrett, Holyoke	J. Burkott, Holyoke	<input checked="" type="checkbox"/> A. Smith, Holyoke
<input checked="" type="checkbox"/> D. Buttrick, Easthampton	<input checked="" type="checkbox"/> M. Czerwiec, Easthampton	C. Seklecki, Easthampton
<input checked="" type="checkbox"/> W. Darling, Westfield	Karen Leigh, Westfield	
James Labrie, Southampton	J. Slattery, Southampton	
R. Newton	<input checked="" type="checkbox"/> P. Gambarini, PVPC	

Others present: Luke Showalter and Bryan Balicki, Sage Engineering

TIME OF CALL TO ORDER: 3:35 p.m.

TIME OF ADJOURNMENT: 5:15 p.m.

Action Items from Meeting:

PVPC

- Write up 6-5-12 meeting notes
- Work on FY 2012 Report
- Incorporate changes to FY 2013 work plan
- Prepare and distribute agenda for 9-4-12 meeting

Committee Members

- All members to look for photos for possible use on BAPAC website and send to Patty Gambarini

1. Adoption of May 1, 2012 Meeting Notes

Adoption of the meeting notes was recommended by Mike Czerwiec, seconded by Woody Darling, and unanimously approved.

2. Developments of Regional Impact

930 Southampton Road, Santorini's Café, Westfield – Luke Showalter and Bryan Balicki from Sage Engineering explained that the property currently has paved parking for approximately 14 cars in the front as well as a gravel area in the back for parking by tractor trailers. The City had issued a cease and desist order for illegal use of the gravel lot. The gravel lot can have anywhere up to 12 trucks parked at a time based on the 6 to 7 distribution centers in the area. The applicant is proposing changes in an effort to comply with City regulations. BAPAC received incorrect plans prior to the meeting, but was provided correct plans at the meeting. Based on the presentation and the plans, the proposal includes the following:

- 40,000 square feet of new paved parking, including 21, 12x65' spaces to accommodate parking for 21 tractor trailers
- During winter months, two of these parking spaces will be used for snow storage
- Parking area will be edged with a Cape Cod berm
- Drainage will be directed to a StormCeptor 450i unit that will discharge to an infiltration basin
- There will be a gate valve just below the StormCeptor 450i unit so that in the event of a release of hazardous material, the valve can be closed to keep hazardous material from entering the infiltration basin and contaminating groundwater.
- The infiltration basin is designed to manage up to the 100-year storm

Woody asked if the applicant needs an easement to drain flows to the adjacent conservation land property from larger storm events. The applicant responded that stormwater is already moving in the direction of the adjacent property.

Patty asked what would be done to ensure that the infiltration capacity of the basin is not compromised by equipment during construction. The applicant said that the plan is to excavate the basin and then “not touch” it during construction of the parking lot.

Because the Westfield Planning Board sought BAPAC’s comments for a meeting that same evening, Patty sought immediate confirmation from BAPAC members as to their recommendations for the proposal. Rather than draft a letter, she relayed these in a phone call to Westfield City Planner Jay Vinsky:

- Operation of the gate valve should be described in the Stormwater Management System Operation and Maintenance Plan
- Request that City Engineer double check on the calculation used to size the StormCeptor unit.
- Ensure proper maintenance and operation of the system over the long term with: 1. annual submission of operation and maintenance reports to the appropriate authority in the City; 2: record plan with the registry of deeds to ensure future owners of the property are aware of responsibilities.
- Prevent contamination of the aquifer by including within the Stormwater Management System Operation and Maintenance Plan restrictions on the use of both sodium chloride for ice and snow removal and chemical herbicides and pesticides for lawn and garden care. The use of salt as a deicer should be limited.
- Ensure that the plan includes use of a “submerge kit” since the outlet of the stormceptor is near to the floor of the infiltration basin (creating a submerged pipe situation as the basin fills and defeating the ability of the stormceptor to act as a pretreatment BMP.
- The emergency spillway will discharge water to the adjoining parcel. A drainage easement should be required from that property owner.
- Stockpiled snow and ice must be placed in a location to prevent untreated runoff from entering the infiltration basin. This should be clearly articulated in the plan and in the Operation and Maintenance Plan.

3. Work Plan Items (2012)

Land Conservation Planning

Patty reported that she met with Ed Cauley in Southampton and with representatives from the Winding River Land Trust to talk about their land protection priorities in Southampton and Westfield.

TCE Contamination Study Follow Up

Patty reported that the letter to Boards of Health with proposed recommendations for well regulations regarding TCE was sent as requested. There was some question about how these letters had been received by Boards of Health. Patty noted that she had received an inquiry from a concerned by a new homeowner at 23 Mueller Road in Holyoke about the TCE contamination. This inquiry had been passed to the Holyoke Water Dept. Patty also said that in the meeting with Ed Cauley on land conservation planning he had noted from the Annual Report of the Water Department his concern that 100 homes/approximately 300 people are still drinking water from private wells in the affected area.

Water Supply Ordinance Review

There was nothing new to report, but Patty noted that DEP has a 2011 model ordinance. Subsequent ordinance reviews could use this model. (The former review had been based on DEP's 2005 model ordinance).

Outreach (BMP Toolkit Update and Website)

Website – Patty provided outline of the website structure and two example web pages, Home page and Meeting Notes, Annual Reports page. Members agreed that they liked the direction of the work. There were some good suggestions:

- Promote the website through Town and PVPC Face Book pages
- Link to the waterworks departments in each BAPAC community
- Aquifer protection tools for homeowners should address private wells
- For photos, include image of Ashley Reservoir

4. FY2013 Work Plan

One of the documents provided by Patty summarized work for the past year and listed possible next steps for the coming year. The other document listed ideas for the 2013 work plan. Members agreed that the top two priorities ought to be Land Conservation Planning and Outreach.

Land Conservation Planning

Members agreed that next steps here seemed reasonable.

Outreach (BMP Toolkit Update and Website)

BMP Toolkit Update – Members agreed the toolkit should be featured on the website. Need to think about other ways to disseminate effectively.

Website – Work here is productive and members agreed should continue in the coming year.

DRI Checklist -- As BAPAC develops/revises this document, perhaps include mention of ordinances and what DEP recommending

Other – It was suggested that BAPAC ought to brainstorm ideas for informing homeowners (perhaps inform in tax bill that they are on an aquifer)

See below suggestion on conferring with Board of Health to see how BAPAC can help with outreach about TCE to homeowners.

TCE Contamination Study Follow Up

It was suggested that Patty ask BOH agents how BAPAC might be able to help with outreach to homeowners, though with some caution that this work might be too much to take on. It was noted that BAPAC worked with Boards of Health on letters to homeowners regarding salt contamination. At the least, BAPAC could include information on its updated website.

Water Supply Ordinance Review

It was noted that BAPAC had done enough in this area in the past year and that the seeming lack of progress is really tied to a question of timing. In the two communities where work could advance, Westfield would likely be revising ordinances based on the permitting process for a new well. Easthampton officials should be notified that BAPAC will be available to help when and where needed.

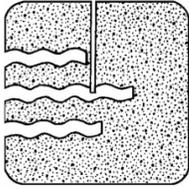
Next Meeting:

Tuesday, September 4, 2012 @ 3:30 PM

Easthampton Municipal Office Building, 50 Payson Avenue, Easthampton

**Appendix B: Developments of Regional Impact (DRI)
Comment Letters**

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BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

September 13, 2011

Ms. Ann Parizo, Chair
Easthampton Planning Board
50 Payson Avenue
Easthampton, MA 01027

Reference: Parsons Village

Dear Ms. Parizo:

The Barnes Aquifer Protection Advisory Committee is composed of representatives from the four jurisdictions with permitted withdrawals from the Barnes Aquifer. The committee was created in 1989 to address developments of regional impact that are proposed within the aquifer to ensure their drinking water resources remain safe and abundant for the more than 60,000 people served by it.

BAPAC reviewed the proposal for Parsons Village at its September 6 meeting and was particularly interested in the use of porous pavement for stormwater management in the Zone II. Since our meeting, we have been in contact with the Department of Environmental Protection for guidance. We understand the following from Fred Civian, Massachusetts DEP's Stormwater Coordinator.

“In Volume 1 Chapter 1 page 16 of the Stormwater Handbook, there is language restricting stormwater BMPs that can be used in Critical Areas:

A stormwater discharge within a Zone II... requires the use of a treatment train that provides 80% TSS removal prior to discharge. This treatment train must use the structural BMPs determined by MassDEP to be suitable for such areas as set forth in Tables CA1 through CA4.

Table CA 3 on page 19 lists permitted BMPs that are allowed within Zone 2s. Since Porous Pavement is not listed in Table CA 3, it may not be used in any Zone 2.”

While we understand that there is no jurisdiction relative to wetlands on this project and hence the state stormwater standards do not apply, DEP's sourcewater protection section is recommending that municipalities follow the guidance of the stormwater regulations for all Zone 2s. We have inquired as to whether porous pavements will be included in a revised list of BMPs for Zone 2s, but have not yet heard back.

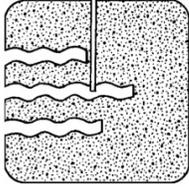
The project also includes yard drains that will be directed to drywells. Please note that drywells are considered Class V Injection Wells and must be registered with Massachusetts DEP's Underground Injection Control Coordinator.

Thank you for the opportunity to comment.

Sincerely,

Charles Darling, Chair

cc: Peter Wells, Berkshire Design Group



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

May 9, 2012

Ms. Margaret Solis, Chair Easthampton Zoning Board of Appeals
50 Payson Avenue
Easthampton, MA 01027

Reference: Parsons Village

Dear Ms. Solis:

The Barnes Aquifer Protection Advisory Committee is composed of representatives from the four jurisdictions with permitted withdrawals from the Barnes Aquifer. The committee was created in 1989 to address developments of regional impact that are proposed within the aquifer to ensure their drinking water resources remain safe and abundant for the more than 60,000 people served by it.

BAPAC reviewed the proposal for Parsons Village at its May 1 meeting and was particularly interested in the proper management of stormwater so as not to impact groundwater resources in this Zone II area of the aquifer. Conducting routine inspections of stormwater control during the construction phase will be an important first step. BAPAC has five other recommendations for this project:

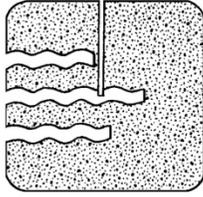
- Berm roadways and parking lots so that all runoff from these surfaces are directed to the treatment BMPs and does not sheet flow onto open areas where it can infiltrate untreated.
- Install a gate valve prior to the parking lot's stormwater management facilities so that in the event of a release of a hazardous material, the recharge BMP can be separated from the system to prevent the hazardous material from contaminating groundwater. Operation of this gate valve should be described in the Stormwater Management System Operation and Maintenance plan.
- Ensure proper construction of the stormwater system and proper operations and maintenance according to the plan submitted by the applicant. A performance guarantee should help in this regard for the near future. Good construction and maintenance and effective operation of the facilities receiving storm flow from the parking lot and road, namely the catch basin and StormCeptor, are especially important to ensuring pretreatment of pollutants prior to recharge through the subsurface infiltrators.
- Ensure proper maintenance and operation over the long term. Annual submissions of operation and maintenance reports to the appropriate authority in the City should be included in the Stormwater Management System Operation and Maintenance plan. In addition, recording this plan with the registry of deeds will ensure that future owners of the property are aware of their responsibilities.
- Prevent contamination of the aquifer by including within the Stormwater Management System Operation and Maintenance plan restrictions on the use of both sodium chloride for ice and snow removal and chemical herbicides and pesticides for lawn and garden care.

Thank you for the opportunity to comment.

Sincerely,

Charles Darling, Chair

cc: Peter Wells, Berkshire Design Group



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

October 21, 2011

Kathleen Anderson, Director
City of Holyoke
Office of Planning and Economic Development
One Court Plaza
Holyoke, MA 01040

Reference: Ground Mounted Solar Array Project, Rivermoor Citizens, 410 County Road, Holyoke, MA

Dear Ms. Anderson:

I am writing to you on behalf of the Barnes Aquifer Protection Advisory Committee (BAPAC) to provide our comments regarding plans for the Ground Mounted Solar Array Project, Rivermoor Citizens at 410 County Road, Holyoke, MA as presented at our October 4 meeting and the Site Plan dated September 2011. BAPAC is composed of representatives from the four jurisdictions in which the Barnes Aquifer is located. The committee was created in 1989 to address developments of regional impact proposed within the aquifer to ensure drinking water resources remain safe for the more than 60,000 people served by the aquifer.

Rivermoor Citizens has proposed to construct a 1 MW ground mounted solar array on a site it has leased from the owner, Clear Channel, at 410 County Road in Holyoke. Because the entire northern part of the parcel is indicated as priority habitat for midland sedge, the solar project is limited to 4.29 acres in the southwest corner. Trees will be cleared for this project though the applicant indicates they will have a do not disturb perimeter where the project abuts roadway and neighbors.

We understand from the applicant that the proposed project consists of 11 rows of panels with 20-foot gaps between rows. Panels will be set at an angle, approximately 4 feet from the ground at one end and 8 feet from the ground at the other end, and underplanted with a conservation mix of grass. Vegetation management will consist only of regular mowing with no use of chemicals and the panels will be cleaned annually or as needed with water and without the use of detergents. The project site will be accessed using existing unpaved roads. These roads will also be used for operations and maintenance of the project. Due to the relatively flat nature of the site and the calculation that there will be no increase in stormwater runoff from the site, no stormwater management features are proposed.

BAPAC members had several questions of the applicant that could not be answered at the October 4 meeting. I understand the answers to these questions have been provided.

- the size of the transformer relative to the concrete pad on which it would sit
- the type of oil is to be used in the transformer
- potential for solar panels to leak
- the plan for lightning protection
- types of tree species to be removed

BAPAC has two recommendations aimed at preserving the site's predevelopment hydrologic regime as much as possible:

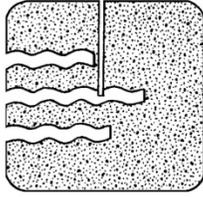
- Retain all top soil on site
- Reexamine the tree removal plan. It appears from an image shown to BAPAC by the applicant that the shadow cast by the current line of trees will not interfere with the panels.

Thank you for your consideration and the opportunity to comment.

Sincerely,

Charles Darling, Chair

cc: Ben Axelman, Citizens Energy
Briony Angus, Tighe & Bond
Jeff Burkott, Holyoke Planning Department
Andrew Smith, Holyoke Conservation Commission



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

October 21, 2011

Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and Environmental Affairs (EEA)
100 Cambridge Street, Suite 900
Boston MA 02114

Attention: MEPA Unit

Reference: Review Comments on the Environmental Notification Form for the proposed Gulfstream Maintenance Facility Expansion, Westfield, Massachusetts, EEA # 141538

Dear Secretary Sullivan:

The Barnes Aquifer Protection Advisory Committee (BAPAC) has reviewed the above referenced document and has several concerns. According to the ENF, the project will create 8.9 acres of impervious surface that will result in two permanent land impacts: stormwater management and reduced infiltration for groundwater recharge. BAPAC is composed of representatives from the four jurisdictions in which the Barnes Aquifer is located. The committee was created in 1989 to address developments of regional impact proposed within the aquifer to ensure drinking water resources remain safe for the more than 60,000 people served by the aquifer.

As the City of Westfield's Wells #7 and #8 are 4,500 feet downgradient of the proposed project and stormwater runoff from nearly all of the site carries the potential to contaminate ground water, BAPAC recommends pretreatment of stormwater runoff from the entire project area. Further these areas should all be bermed to contain any spills. From the ENF, it is not clear what chemicals and how much will be stored on site. It is also difficult to discern the location of the new stormwater pond based on the project plans. BAPAC recommends that selected stormwater BMP's should address all of the potential groundwater contaminants from this site. Monitoring wells should also be considered between the infiltration basin and City Well # 8 with periodic sampling required. The project should also consider directly infiltrating the roof runoff from non metal roofs instead of sending it to the stormwater pond.

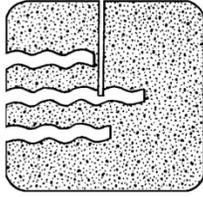
Page 2-3 notes that Gulfstream will coordinate with BAPAC during final project design and in advance of any construction to ensure that drinking water quality is not adversely impaired. We are glad of this consideration and look forward to a copy of the plans from Gulfstream for review.

Thank you for your consideration and the opportunity to comment.

Sincerely,

Michael Czerwec, Vice-Chair

Cc: Ed Zimmerman, Brown and Caldwell



BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 60 Congress Street, Springfield, MA 01104-3419

February 22, 2012

Mr. Phillip McEwan, Chair
Westfield Planning Board
City Hall - 59 Court Street
Westfield, MA 01085

Reference: Proposed Gulfstream Maintenance Facility Expansion

Dear Mr. McEwan:

I am writing to you on behalf of the Barnes Aquifer Protection Advisory Committee (BAPAC) to provide our comments regarding the proposed Gulfstream Maintenance Facility Expansion. BAPAC is composed of representatives from the four jurisdictions in which the Barnes Aquifer is located. The committee was created in 1989 to address developments of regional impact that are proposed within the aquifer to ensure that drinking water resources remain safe for the more-than 60,000 people that it serves.

BAPAC has reviewed plans for the Gulfstream Maintenance Facility Expansion and has several concerns. According to the plans, the project will create 8.9 acres of impervious surface that will result in stormwater runoff from these surfaces and reduced infiltration for groundwater recharge. Furthermore, the City of Westfield's Wells #7 and #8 are located 4,500 feet downgradient of the proposed project and stormwater runoff from nearly the entire site carries the potential to contaminate ground water. As such, BAPAC has the following recommendations:

- ☞ Install monitoring wells between Infiltration Basin IB—1 and City Well #8 for the purpose of safeguarding groundwater quality. Monitoring well locations and depths should be coordinated with the City's Water Resources Department. Sampling should occur annually, or following any reportable release. A report of all sampling results should be forwarded to the Westfield Water Resources Department and to BAPAC.
- ☞ Emergency Spill Response Plan should address how the plan itself will be maintained and updated over time and who will have that responsibility.

- ☞ Spill response practices should include shutting off the automated valve between the Stormceptor/Oil and Water Separator and Infiltration Basin IB—1. Valve shut off procedures should be regularly tested.
- ☞ Controls should include minimizing compaction of soils, especially in infiltration basin areas during construction so as to ensure that these basins function properly once they are on line
- ☞ Ensure that the drywells on site recover only unpolluted stormwater
- ☞ Alternatives to road salt should be used for de-icing parking areas and roads
- ☞ Any lawn care at this location should not involve the use of chemical fertilizers or pesticides
- ☞ Provide a Hazardous Materials Storage Plan and an Operations and Maintenance Plan

Please let us know if you have any questions. Thank you for the opportunity to comment on this proposed project and your consideration of BAPAC's recommendations.

Sincerely,

Michael Czerwiec, Vice-Chairman

930 Southampton Road, Parking Lot Expansion

BAPAC reviewed this project on June 5, 2012, the same day as the Westfield Planning Board sought comments. As such, Patty Gambarini provided BAPAC's comments via phone to Westfield Planner Jay Vinsky. Comments are as shown on page 19 of this report.