

September 9, 2002

Wareham Planning Board
54 Marion Road
Wareham, MA 02571

Re: Tihonet Pond proposed subdivision A.D. Makepeace, Co.; update on activities

Dear Honourable Board Members:

Upon your request, the Buzzards Bay Project met with the proponents of the Tihonet Pond Subdivision on August 23 to discuss issues raised in the Buzzards Bay Project's letter dated August 7, 2002. To provide a review of this project, the Buzzards Bay Project required an onsite investigation of the site. The onsite occurred on September 6, and included Charles Gricus of the Planning Department, David Pichette of the Conservation Commission, John Rockwell and myself from the Buzzards Bay Project, Bernadette Taber (NRCS/BBP), and representatives from the Tihonet Subdivision project.

With access to the site, the Buzzards Bay Project has clarified several issues as outlined below.

Wetland Related Issues

1. We confirmed the existence of the isolated wetland identified by the Massachusetts Wetland Conservancy Program using aerial photographs. The conservancy maps show an estimated wetland area more than 30,000 square feet located towards the back of lots 30 and 35. The actual wetland boundary was being delineated the day of our visit and will be reviewed by the Conservation Commission. The previous Request for Determination to the Conservation Commission cannot be amended so the new wetland area will require a new Request for Determination filing.
2. The new isolated wetland and the previously mapped isolated wetland were connected by a presently dry ditch, portions of which were not considered wetlands. An additional deep ditch at the south end of the property was also examined. The Conservation Commission will determine if there are any wetland issues associated with this ditch.

3. The Natural Heritage and Endangered Species Program has identified a Potential Vernal Pool in the first isolated wetland (see attached map). Both our March 1995 and March 2000 aerial photographs show standing water in the wetland. As might be expected from an early September site visit, there was no standing water present, and we are unable to determine whether standing water remains at the site long enough to support the hatching and survival of amphibians to meet the regulatory definition of a vernal pool.

Stormwater Issues

This site has sandy porous soils (Carver sands) that can easily infiltrate stormwater. With the gentle rolling landscapes at the site, we believe this project is an excellent opportunity for the Planning Board to permit several “low impact development” principals at this site. Previously we recommended reducing road widths to minimize stormwater flow. This strategy, together with minimizing stormwater piping within the site, better utilizing using natural depressed areas as infiltration swales, and allowing the road to follow original landscape elevations, along with a slight super-elevation of the road in some areas, will allow the stormwater to infiltrate into undisturbed wooded areas. This practice will greatly reduce the area of natural landscape cleared at the site and preserve more habitat and water quality protection values of the land. Such a low impact strategy will require a variance from certain hard construction stormwater requirements of your regulations. It will also require plan changes and field evaluations by the applicant.

Nutrient Issues

Tihonet Pond has been identified (Commonwealth of Massachusetts 303d list) as a water body not expected to meet surface water quality standards; organic enrichment and low dissolved oxygen are the pollutants/stressors of concern. Like most freshwater ponds, phosphorus is the nutrient most likely to affect the pond. At our August 23 meeting, the proponents indicated they would adopt a 150-foot construction and septic system setback from the bordering vegetated wetland along the pond. Because of the ability of soils to bind phosphorus, this setback would minimize phosphorus impacts to the pond.

Nitrogen from septic systems and lawns in this development is not similarly attenuated, and remains a concern for the Wareham River Estuary, which has been documented as impacted by excessive nitrogen inputs. The Wareham River Estuary receives inputs from sources along the estuary, as well as from sources up stream in both the Wankinko and Agawam Rivers. The Town of Wareham has agreed with the US EPA to upgrade its wastewater facility to achieve Tertiary Level nitrogen removal (less than 5 ppm). EPA however has indicated that it remains concerned with new development inputs from the watershed, which could negate the benefits achieved by the wastewater facility upgrade. We concur with these concerns, and have proposed that Wareham adopt bylaws and regulations to establish a nitrogen-loading standard for new development.

Next week we will send the Planning Board sample subdivision regulations for its consideration for future projects. The approach will be a simple one, where a specific limit on pounds per acre are adopted for a subdivision using specified standards. The goal could be met through one or more strategies including limiting lawn size, bedroom number, or requiring more advanced wastewater treatment for nitrogen removal. Such regulations could serve as a model for Carver

and Plymouth, which share the Wareham River watershed and have expressed similar interests in adopting nitrogen performance standards for new development.

We recognize that such unadopted standards cannot be required for the Tihonet Subdivision, but the Town and the proponent could agree on certain elements of a nitrogen reduction strategy. For example, the proponent has already indicated a willingness to reduce lawn size from the original proposed 15,000 square feet, to a smaller number.

If you have any questions, please call the Buzzards Bay Project.

Sincerely,

Joseph E. Costa, Ph.D.
Executive Director

cc: Wareham Conservation Commission