MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Concerning: Minutes of the meeting of 27 October, 2003
Date: October 29, 2003

PRESENT

H. Bokuniewicz
S. Jones
R. Liebe
R. Mazza
J. Milazzo
J. Munster
J. Naidu
B. Nemickas
M. Nofi
W. Prospect
P. Ramirez
A. Rapiejko
W. Spitz

REGRETS

N. Bartilucci
L. Koppelman
D. Paquette
G. Proios
S. Robbins
K. Roberts
M. Schoonen
K. Willis
P. Witkowski

1. There were comments on the minutes of the last meeting. In particular, corrections were made to the cost of monitoring programs; costs are estimated at $600,000 not $100,000 as written. I understand that Sy Robbins also had some corrections that he would send along later. Amended minutes will be distributed at the next meeting.

2. Jennie Munster presented an update on the nitrate study. Nine sites are being studied using lysimeters in Suffolk County although one has been temporarily interrupted because of landscape changes. Previous studies in other areas have shown that the amount of leaching from fertilizer applications depends on (a) the texture of the soil; peat is the most susceptible to leaching followed, in order, by sand, loam and clay, (b) the amount of fertilizer applied, (c) increased leaching with increased precipitation (and irrigation), (d) decreased leaching from older turf, (e) increased leaching in the fall. After a dry summer, nitrogen stored in the surface soil is carried downward by increased rainfall in the fall. Another study, this one in Japan, showed the slow buildup of nitrogen from organic fertilizer over several years became comparable to concentrations resulting from applications of inorganic fertilizers.

The soil textures for the study sites on Long Island range from sand to clay but most were loamy. The infiltration rates ranged over a factor of 10 being highest in
Huntington and lowest in Hauppauge, East Hampton, and Stony Brook. At each site, the porosity was high (above 60%) in the top 10 to 20 cm and lower (about 55%) below 20 cm. Precipitation this year was similar to the long-term monthly averages except in June when June’03 precipitation amount was three times higher than the long-term average.

Samples were taken monthly since December 2002 or January 2003. Examples of nitrate time-series were presented.

a. At Stony Brook the nitrate levels (at a depth of 100 cm) peaked in June and ranged between 1 and 2 ppm. The new turf fertilized chemically also peaked (5 ppm) in June from low levels of around 2 ppm in the spring.

b. Oakdale has both chemical and organic fertilizer sites. The chemical site remained below 2 ppm, presumably because this is an older turf. Some increased, seasonal, elevated leaching may be beginning to appear in August. At the organic site, nitrate concentrations were higher (2 to 4 ppm) until August when a slight decrease was seen.

In general, the sites are recognizably different with young turf being more prone to leaching, but there have not been marked differences in leaching between the organic and inorganic sites. More inorganic sites might be needed (there are only two in this study) in order to statistically distinguish inorganic and organic fertilizer impacts. Long-term studies may be needed because of multiyear buildup of nitrogen from organic applications in other places (Japan). To date the highest concentration were seen beneath an organically fertilized turf.

Distinguishing features of this particular study are (a) the use of multiples sites with a range of characteristics instead of one site as often was the case in other studies and (b) the use of normal fertilizer application whereas other studies usually used very high application rates. Because of more rapid leaching in the fall, “winter” fertilizing may be ill-advised.

3. Doug Paquette could not attend so we will postpone news about BNL.

4. The Suffolk County Environmental Committee will meet this afternoon to discuss resolution 1841 to establish a centralized surface water and groundwater database for Suffolk County. The resolution would create a database by the Institute in cooperation with the Suffolk County Department of Health Services and the Suffolk County Water Authority. The Water Authority would fund the database in exchange for credit in lieu of payment for easements.

The database specified in the Suffolk County resolution is conceptual in nature. It’s sponsored by Legislator Bishop, Foley, Alden and Caracciolo. This is needed because although the data on drinking water supply is available in the Consumer Confidence reports, other data, like monitoring wells, stream water quality, contaminated site studies, etc. are not available in the same way. (The USGS used to publish the Suffolk County Department of Health Services’ data some 15 years ago, but no longer does so). In addition, not all agencies have adequate staffing to field inquiries about a broad range of aquatic contamination.
The “water quality” database can be a basis leading into a broader concept of a modeling clearinghouse as discussed in the last meeting. The modeling clearinghouse would expect State support. One way to begin to capture state support may be through the requirements of the Brownfield legislation, which mandates the DEC to set up some sort of GIS to track water quality in the state. There has been a precedent for treating LI separately from the rest of the state and, perhaps, the Institute could offer to provide that service here. I will contact Dale Desnoyers (DEC Albany) to discuss this.

5. The SWAP Program is essentially over. Maps have been distributed to water suppliers showing the capture zones of wells in their jurisdiction but these are not generally available because of security concerns. (Not even the DEC or USGS can get them unless the individual suppliers provide access to their own copies, but it is not clear that they have the authority to redistribute the maps they were given.

6. A draft of the proceedings of the 6 June Symposium is available. We hope to have it finalized by December. We need to be sure that it is put to the best use and gets proper distribution. We anticipate doing another such symposium in three years in cooperation with the USGS.

7. The next meeting will be on 24 November at the offices of Dvirka and Bartilucci in Woodbury.