

EDWARD P. MANGANO
COUNTY EXECUTIVE



LAWRENCE E. EISENSTEIN, M.D., M.P.H., F.A.C.P.
COMMISSIONER OF HEALTH

SHILA SHAH-GAVNOUDIAS, P.E.
COMMISSIONER OF PUBLIC WORKS

**NASSAU COUNTY
DEPARTMENT OF HEALTH
DEPARTMENT OF PUBLIC WORKS**

Health: 516 227-9500
Public Works: 516 571-9600

September 8, 2016

By Email

James B. Harrington
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233 - 7012

Re: Nassau County review and comment regarding: *Remedial Options Report for the Grumman Aerospace Bethpage Facility in Bethpage New York* – (NYSDEC Site Number 130003) July 2016

Dear Mr. Harrington:

The Nassau County Department of Public Works and Department of Health, have reviewed the above referenced report and offer the following comments:

Remedial Option # 1

The County has concerns regarding both the proposed rate of flow of treated groundwater into the Massapequa Creek (31 cubic feet per second (cfs)) and the proposed total daily flow of 19 million gallons per day (mgd). The additional flow to the watershed will reduce the streams capacity to safely convey surface water away from residential areas during periods of rapid rainfall related to local storm events. The stream is also constricted as it flows through culverts beneath high traffic areas which could lead to localized flooding of these roadways. The Massapequa Creek has had instances of flooding, overtopping of the creek on numerous occasions in the past. In addition in 2011, the County completed a flow augmentation and storm water improvement project. This project utilized New York State Bond Act funds and there are anticipated improvements expected as a result of the project. This project was designed with certain projected flowrates and stream velocities. The capacity of the creek and its watershed would have to be modeled and updated to determine the feasibility of this disposal method on both capacity and the impact on the flow augmentation and storm water improvement project.

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Review of GW Treatment Alternatives

Remedial Option # 2

The siting of ten (10) groundwater recovery wells in County owned storm water basins would be extremely difficult due to the limited available space. The grading of the basins for construction and installation of the conveyance of piping (up to 12,000 feet) through several residential areas to sewer trunk mains and interceptors also presents several technical problems. The additional flow of 19 MGD of untreated groundwater to the Cedar Creek Water Pollution Control Plant (CCWPCP) also presents a series of technical and treatment challenges.

Depending on the concentration and composition of the Volatile Organic Compounds (VOC's) in the newly introduced influent, the biological treatment processes at the plant may be compromised. The proposed total volume of flow, when combined with the existing plant flow, approaches the treatment capacity of the CCWPCP. This would impact both the current County plan, which is under the review of the NYSDEC related to utilizing the Cedar Creek Outfall pipe to take additional effluent from the Bay Park Sewage Treatment Plant and any future development or the inclusion of other areas. The cost of proposed plant upgrades and the O&M costs of up to *200 years* of groundwater treatment would also have to be carefully examined.

Remedial Option # 3

Analogous to *remedial option # 2*, the physical and technical difficulties encountered in the use of existing recharge basins, finding points of connection to the sanitary sewer system which are hydraulically acceptable for both new wells and existing public supply wells coupled with physical space limitations for necessary construction and expansion for the treatment of contaminated groundwater at the CCWPC Plant make this option infeasible.

Aquifer and Public Water Supply Concerns

The three options presented in the report all indicate that 19 MGD of groundwater would be extracted from the sole source aquifer and primarily discharged to the ocean. This amount of withdrawal is one billion gallons per year greater than the combined pumping of four of the closest public water systems in this area (Bethpage WD, Massapequa WD, South Farmingdale WD and the Village of Farmingdale). However, the report does not provide details on the effects to the aquifer (water balance, salt water intrusion, movement of other existing or newly discovered contamination plumes) or water availability for existing public supply wells if such a massive quantity of groundwater withdrawal was implemented.

Additionally, the report mentions of the use of interconnections or the installation of new wells for public water supply if existing public supply wells were to be converted to remedial wells. However, the use of interconnections is intended for short term, emergency water supply only and not as a permanent, sustainable source of public water supply and the installation of new wells always presents challenges in terms of land availability, acceptable water quality and suitable placement in the distribution system.

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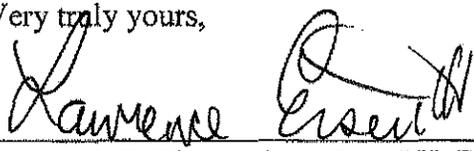
Summary

The County believes that the continued identification and mapping of hot spots associated with the *Grumman Aerospace Bethpage Facility VOC Plume(s)* coupled with the focused interception, removal and treatment of these volatile contaminants is the most efficient way to remediate this problem and conserve water resources for future use. Although the recommended alternatives strive to provide a “hydraulic barrier” preventing any and all contamination from reaching unaffected area public supply wells, even with the proposed high volume (19 MGD) of groundwater withdrawal, complete capture of these volatile organic contaminants cannot be assured. The variability of geologic materials within the local aquifer system combined with pumping effects created by public supply, heating / cooling and industrial wells in the area can alter plume migration and reduce treatment efficiency. These effects have been documented at other Long Island Legacy sites including Lake Success.

Although the three remedial options currently under consideration do not appear to be technically feasible for the reasons stated above, Nassau County remains committed to assisting the NYSDEC and all responsible parties in achieving hydraulic control of the Grumman Aerospace Bethpage Facility VOC plume and reaching all stated treatment objectives. The County is willing to make any and all of its resources available for the remediation of this problem as long as the selected remedial alternative does not disrupt the normal operation of the of the sanitary sewer system and the Cedar Creek Water Pollution Control Plant. Finally, any remedial option that is implemented must account for the sustainability of our sole source aquifer and be protective of public health.

If you require any additional information or would like to meet and discuss other remedial options, please contact Brian Schneider at the Department of Public Works and Donald Irwin at the Department of Health.

Very truly yours,



Lawrence E. Eisenstein, MD, MPH, FACP
Commissioner of Health



Shila Shah-Gavnoudias, P.E.
Commissioner of Public Works

cc: Walter J. Parish, P.E., NYSDEC
Joseph L. Davenport, NCDPW
Brian J. Schneider, NCDPW
Michael Flaherty, NCDPW
Donald Irwin, NCDOH
Joseph DeFranco, NCDOH