



BETHPAGE WATER DISTRICT
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CONSULTANT TO THE BOARD

MICHAEL F. INGHAM
COUNSEL TO THE DISTRICT

September 6, 2016

Mr. James B. Harrington, P.E.
Director, Remedial Bureau A
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

**Re: Bethpage Water District
NYSDEC Remedial Options Report
Grumman Aerospace Bethpage Facility
Groundwater Plume Hydraulic Containment Report
BPWD 16-50**

Dear Mr. Harrington:

The drinking water supply public health crises in Flint, Michigan, and right here in our very own state in Hoosick Falls, has brought to blinding light the need for proactive protection of public drinking water supplies everywhere. Government at all levels has the duty and responsibility to protect public health and the environment through its laws, regulations and programs. Until recently, the government of New York State has failed in its duty and responsibility over the past three decades to impose its will to deal swiftly and effectively with one of the largest and most complex groundwater contamination crises in the nation, let alone the State. That failure has left the Bethpage Water District on its own to combat the mounting threat and impacts to our drinking water supplies. Over that time, and often with the State as an obstacle, we have been able to overcome the burden this plume has placed and protected the quality of drinking water delivered to our customers every day. Now, with the renewed commitment, force and direction of New York State, we finally, after all these years, have hope our government will exhibit the will we so desperately need for the protection of our public health and the environment. We firmly support the State and call on all interested parties to show their support as well. This mission is about protecting not only ourselves, but our future generations. We cannot afford to get lost in the details. We are obliged to protect our drinking water supplies to sustain our future.

Whenever remedial alternatives are evaluated in the many reports we have seen over the decades, the State has always allowed the cost of alternatives to be an overly significant criteria. In our opinion, the PRPs have been

misleading and essentially forcing the State to accept lesser alternatives based on cost. Likely the single most significant lost opportunity was in the process leading up to the 2001 and 2003 OU-2 RODS, whereby an alternative including extraction and hydraulic containment at Hempstead Turnpike. The alternative included full plume containment at an at the time present value of \$63 million. The alternative, although clearly the most beneficial to protection of public health and the environment, was dismissed due to cost, a huge mistake. Now, after that missed opportunity, the State is proceeding with full plume containment and evaluating alternatives at present value costs ranging from \$200 million to \$600 million. The State should not accept any argument from any interested party that the cost is too much. Yes, be as cost effective as possible. We support and expect that. However, in the context of one of the most complex groundwater disasters in the nation, and the spanning of multiple generations, of course costs will be significant. The plume was permitted to get to this extreme point. Please do not permit it to get even worse because of money.

As you know, the Bethpage Water District has been offering ideas and suggestions to the State for years. Although we support the State, we feel that there are other opportunities that need to be further evaluated and brought into better focus to set the plan on the best course, so we offer the following.

Treated Groundwater Discharge

Unless there was additional analysis performed that did not make it into the report, the discharge of treated groundwater alternatives seem way too limited. The only options identified are in essence single discharge strategies to Massapequa Creek or Cedar Creek WPCP. Although the report makes reference to the potential of combining discharge strategies, no such approach is offered. Whatever decision is made, we feel it's critical to have multiple discharge strategies included in the final selection for purposes of redundancy and water management.

The report dismisses recharge basins and injection wells without detailed evaluation and analysis, with which we completely disagree. Recharge of the aquifer should be an element of the overall discharge strategy. The comment that "...all three of the remedial options will result in the loss of hundreds of billions of gallons of freshwater from a sole source aquifer" is based on a too narrowly focused conclusion of available discharge options, so we disagree.

Recharge Basins - The report grossly overestimates the land area needs of 30 – 60 acres to recharge 10 – 20 MGD. Additionally, the report states that recharge basins are not technically feasible as large groundwater disposal rates prohibit use of recharge basins. Unaware of what detailed analysis was performed to reach these conclusion, we offer, as we know that State already has, 20 years of operational performance of the ONCT recharge basins. Essentially, the existing ONCT recharge basins have the capacity of about 8 MGD using a land area of 8 – 9 acres. Not only are recharge basins feasible, existing or newly constructed basins should be viable alternatives used in combination with other methods of discharge.

Injection Wells – The report rejects injection wells as a potential discharge method because it would require a very large number of wells, require a lot of land, be potentially affected by shallow depth to GW, and high operation and maintenance costs. We are unaware of what technical analysis was performed to reject injection wells, but we disagree with the outright rejection. Yes, there are operational challenges with injection wells, however the benefit of shallow and deep recharge need to be considered. Just as extraction wells are aligned to remove 19 MGD along an approximate 2 mile length, so too the same could be applied to injection wells. Until adequate analysis is performed to reject injection wells, we feel their potential should remain as an alternative.

In addition to the strategies identified for discharge to Massapequa Creek and the Cedar Creek WPCP, an alternative exists that would couple water reuse with recharge to minimize the loss of groundwater to surface waters. We ask that the State include the following scenario in its planning process:

The discharge from the central water treatment plant would be conveyed to a combination of Massapequa Creek, diffusion wells, recharge basins and irrigation pond(s) at Bethpage State Park. Currently, Bethpage State Park utilizes groundwater supply wells with a total authorized capacity of 4.4 MGD to irrigate the golf courses. In lieu of pumping irrigation wells, energy and water conservation could be employed to instead capture a portion of the discharge and convey it to a newly constructed pond(s) at the park. The water collected at the pond could be used for all irrigation (water reuse). Overflow recharge basin(s) could be constructed to accept pond overflow during non-irrigation periods or periods where higher recharge needs exist. 10 – 12 acres could facilitate a recharge of 8 – 10 MGD, depending on the geology. The discharge line to the park could be run along Bethpage State Parkway, which is about a 2+ mile length, depending on the location of the treatment plant, pond and recharge. Over this 2 mile length, diffusion wells could be installed (say 20 wells at 500 feet spacing) to also accept plant discharge. These can be primary, redundant or expansion discharge capacity wells, depending on other discharge methods, and could have a total recharge capacity of 10 – 15 MGD. Such a line of diffusion wells could also have the benefit of creating a clean water boundary east of the OU-3 plume and mitigate its potential to move further east. Lastly, discharge to Massapequa Creek would not have to be at full capacity, but rather have a high to low range depending on precipitation and other relevant factors. This approach to a combined discharge system would provide ample capacity for redundancy and flexibility to meet varying operational conditions.

OU-2 and OU-3 Hot Spot Treatment

The report is silent as to the schedule and impact of the OU-2 and OU-3 hot spot treatment systems required to be installed by the Navy and Northrop Grumman. Collectively, just as the report has identified program schedules for the various alternatives, so to should the schedules for the other two remediation systems be identified. In addition, given the fact that 200 years of operation is a gross guesstimate, does the guesstimate account for the required hot spot remediation? Frankly, hot spot treatment required by the PRPs is crucial to the effectiveness of this program, and we believe that the State must be as diligent with compelling the Navy and Northrop Grumman to complete their programs for hot spot treatment as it is with this hydraulic containment program. Additionally, the evaluation concluding a 200 year operation duration should be substantiated in the report, especially as this number drove the statement regarding the billions of gallons that will be lost from the aquifer, which based on the above we disagree with anyway.

Treatment Technologies

We were very pleased that the report included 1,4-Dioxane as a contaminant of concern amongst the other VOCs on the chemical-specific ARAR table. This contaminant has been detected during the investigations conducted by the Navy and Northrop Grumman, so we know that it is a part of the groundwater plume. Based on our water quality data, this contaminant is not removed by conventional treatment methods (GAC adsorption or aeration). The initial technology screening included in the report dismissed chemical/UV oxidation. Oxidation with UV is an effective treatment process for the removal of 1,4-Dioxane. This treatment methodology is also effective at destroying many other VOCs. So long as 1,4-Dioxane is a contaminant of concern, with which we agree, then we suggest the potential of utilizing advanced oxidation remain as a treatment train alternative.

Direct Re-Use of Treated Water

The report indicates that the direct reuse of the treated water for human consumption has been proven to be an effective approach in meeting remedial objectives and protecting public health, with a primary advantage of not wasting the pumped groundwater. First, as discussed above, we feel that opportunities exist to recharge the treated groundwater, in whole or in part, rendering this advantage insignificant. Second, as we have communicated to the State many times, treatment systems for drinking water protection are not guarantees. Public water suppliers spend tremendous time, attention and resources in operating and monitoring treatment

facilities to protect public health, and we do an outstanding job. However, system wear or failure is always a risk. Assuming that a treatment system will guarantee the delivery of clean drinking water is not advisable. Even though not a suggested alternative, we would suggest removing the discussion from the report.

The Bethpage Water District is thankful to be a partner with the State and pleased to be supportive of this mission. We look forward to the next steps in the planning, design and implementation of the hydraulic containment system and stand ready to assist the State as necessary.

Very truly yours,

Bethpage Water District

A handwritten signature in black ink, appearing to read "Michael Boufis", with a long horizontal line extending to the right.

Michael Boufis
Superintendent

cc: Basil Seggos, Acting NYSDEC Commissioner
Carrie Gallagher, NYSDEC Regional Director
Venetia Lannon, Deputy Secretary for the Environment



Massapequa Water District

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Massapequa, NY 11758

Fax: 516 798-0279

Commissioners
Thomas P. Hand
Joseph T. Tricarico
Raymond J. Aversa

Stanley J. Carey, Superintendent
Constance A. Belegrios, Business Manager

September 8, 2016

Mr. James B. Harrington, P.E.
Director, Remedial Bureau A
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7012

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*Committed to deliver and preserve our water supply for the welfare, health and safety
of the inhabitants of the Massapequa Water District*

Mr. James B. Harrington, P.E.
September 6, 2016
Page 2

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Mr. James B. Harrington, P.E.

September 6, 2016

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Mr. James B. Harrington, P.E.
September 6, 2016
Page 4

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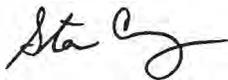
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Very truly yours,

Massapequa Water District



Stan Carey
Superintendent

cc: Assemblyman Joseph Saladino
Basil Seggos, NYSDEC Commissioner
Martin Brand, NYSDEC Remediation Bureau
Carrie Gallagher, NYSDEC Regional Director
Venetia Lannon, Deputy Secretary for the Environment



JOSEPH S. SALADINO
Assemblyman 9th District
Nassau and Suffolk Counties

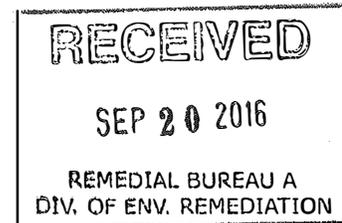
THE ASSEMBLY
STATE OF NEW YORK
ALBANY

RANKING MINORITY MEMBER
Libraries & Education Technology
Committee

COMMITTEES
Environmental Conservation
Governmental Employees
Labor
Ways and Means

September 9, 2016

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



Re: Response to the Remedial Options Report of Grumman-Navy Plume

Dear Mr. Harrington:

As a veteran Member of the New York State Assembly Environmental Conservation Committee I write in response to the Henningson, Durham, and Richardson Architecture and Engineering Remedial Options Report of July 2016. I am the initiator and sponsor of the legislation, A9492, which was passed in the Assembly and Senate and was signed into law by Governor Andrew Cuomo. This legislation mandated that a report be created to delineate the method options of hydraulically containing and remediating the Grumman-Navy Plume of contaminants in a manner which entirely stops its migration along its southerly edge and keeps it from contaminating any more public supply wells including those of the Massapequa Water District. It must also provide solutions on how to filter out these contaminants and return the treated, clean water back into the aquifer and environment.

The Grumman-Navy Plume is a continuous growing and migrating pool of chemicals including the carcinogens TCE, PCE and vinyl chloride as well as unregulated contaminants such as 14 Dioxane.

The plume as it now stands and the area in its path contains approximately 30 public water supply wells serving over 250,000 residents in the central and south shore portion of eastern Nassau County and western Suffolk County. In comparison, the Flint Michigan contamination affects appropriately 100,000 residents. The Grumman-Navy Plume is the largest and highest concentrated of its type in a sole source aquifer found anywhere in the United States. The U.S. Navy's sentinel wells have recorded concentrations of contaminants at over 14,000 parts per billion. New York State and

Nassau County's Health Departments limit the consumption of potable water at no more 5 parts per billion of PCE.

Numerous studies conducted over the past 20 years have detailed and confirmed that this plume should not be resolved with well-head treatment. These studies, provided to the DEC, are the key resource to designing and modeling an effective infrastructure to fully contain and clean up this dangerous and certain threat to our sole source aquifer and to the Great South Bay in its path.

The law, A9294, specifically states that well-head treatment cannot be considered as a remediation option. The report recently completed to meet the regulations of this law provides the proof that hydraulic containment is the viable and effective method of remediating the Grumman-Navy Plume and dispels any concern that this method is not affective.

I submit to you a letter addressed to Governor Cuomo and signed by some 130 members of the New York State Assembly including the Environmental Conservation Committee Chairman Steve Englebright and the Senate Environmental Committee Chairman Thomas O'Mara. This letter states that the intention of passing the bill was to timely facilitate stopping the plume's migration and fully removing these toxins entirely from the aquifer. It also makes clear that the legislature's intention was not just to create the report but as part of the process to design, construct and facilitate the infrastructure and facilities necessary to remediate the entire plume. The New York State Assembly has asserted that they want this facility constructed and the plume cleaned up as soon as possible.

After careful consideration and years of study conferring with numerous experts in this field I have determined that the best plan to embrace adopts many of the details set forth in the report.

Extraction wells should be placed along the right of way of the Southern State Parkway. This extracted contaminated water should be pumped west in conduit and then north along the right of way of Route 135 to Bethpage. This method reduces any need to condemn and acquire private property to this point. Once in Bethpage the contaminated water should be pumped to a modular treatment facility sited on or near the Grumman property in the Bethpage Industrial complex. If the DEC is unable to utilize Grumman's property, Nassau County has expressed interest in providing space for this facility. The written testimony and scientific research supplied to the DEC shows that disposal of the treated water should be discharged utilizing numerous methods. The estimated 19 million gallons per day of treated water must be reintroduced into the

aquifer through a combination of injection wells, and the utilization of recharge basins in the vicinity of Grumman's Bethpage property. A portion of this water could be used to irrigate the greens of the New York State Bethpage Golf facility, its courses and grounds. The last option of choice would be to release only enough water into the creeks and preserves of this area to manage and maintain their flow if needed, but not enough to impact the balance of these environmental wetlands or to impact the salinity of the Great South Bay and its tributaries.

This outline provides for the most sensible, thorough and environmentally sound process for extraction, containment, delivery, remediation and disposal of the treated water. It designs a system with the least impact on private property and thus cost. It must also call for both injection and recharge of the treated water introducing it back to the aquifer to utilize the southerly underflow pushing the plume toward the extraction wells. Injection wells and utilization of existing recharge basins can process the majority of the 19 million gallons per day treated through this system.

I strongly advise that a hybrid of Option 1 which returns the treated water to the aquifer via injection wells and recharge basins as described above be adopted, designed and constructed without delay.

It must be noted that one of the concerns the report suggests regarding hydraulic containment is that the removal of a significant amount of water from the Long Island Aquifer system would be detrimental to our sole source of potable water. Due to the high concentration of contaminants PCE and TCE, vinyl chloride and the unregulated contaminants in the area of the plume makes this water unusable for human consumption. Reintroduction of the treated water will maintain the water balance of our aquifer.

There is significant data to support the fact that left uncontained this plume will not only contaminate more public drinking water wells, but will significantly affect and negatively impact the tidal and intertidal environment of the Great South Bay and could render its resources inedible and unusable as a recreational purposes.

Sincerely,

A handwritten signature in black ink that reads "Joseph S. Saladino". The signature is written in a cursive style with a large initial "J".

Joseph S. Saladino

Member of Assembly 9th District

Cc: NYSDEC Commissioner Basil Seggo

Attached



THE ASSEMBLY
STATE OF NEW YORK
ALBANY

JOSEPH S. SALADINO
Assemblyman 9th District
Nassau and Suffolk Counties

RANKING MINORITY MEMBER
Libraries & Education Technology
Committee

COMMITTEES
Environmental Conservation
Governmental Employees
Labor
Ways and Means

The Honorable Andrew M. Cuomo
Governor of New York State
Albany, NY 12224

Friday, June 19, 2015

Dear Governor Cuomo,

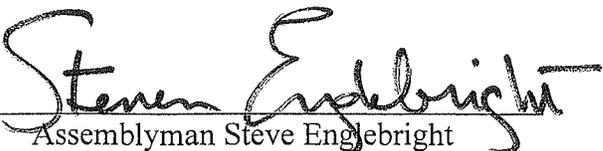
We write regarding chapter 543 of the laws of 2014. This Legislation, A.9492 / S.7832, which was passed and you signed into law, is a critical first step toward remediating the "Grumman Navy Plume" emanating from Bethpage, Long Island. This dangerous plume of chemicals and contaminants is continuing to migrate through Long Island's sole source aquifer system and will reach and contaminate more public drinking water wells and the estuarine environment of the Great South Bay unless it is stopped.

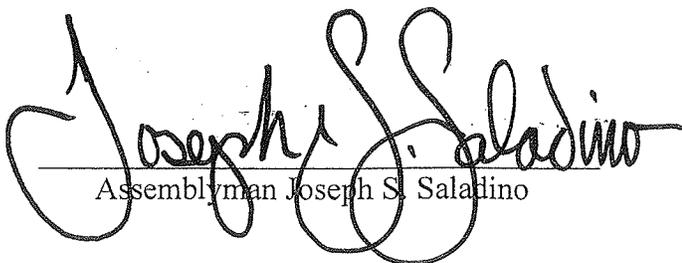
Our intention in passing this bill and sending it to your desk for approval was to timely facilitate: (1) stopping the plume's migration and (2) fully removing these toxins including the carcinogens TCE and PCE. This law calls for a report to be created which "must focus on the utilization of hydraulic containment and state of the art remediation practices to remove these contaminants without utilizing well head treatment." Although Chapter 543 does not include a target date, time is of essence because the plume's contaminants are in hydrodynamic motion.

We urge you to encourage the Department of Environmental Conservation to expedite completion of this report so that the necessary infrastructure for containment and clean up may be planned for including design, construction and operation before the plume reaches and contaminates additional public supply wells and the freshwater, intertidal, and shallow subtidal habitats that help define Long Island's south shore communities.

Thank you for your support of this law. We hope that this correspondence clarifies our intention and ask that this plume be fully remediated and removed from the Long Island Aquifer system without compromise. Your attention to this matter is greatly appreciated.

Sincerely,


Assemblyman Steve Englebright


Assemblyman Joseph S. Saladino


Senator Thomas F. O'Mara

PETER T. KING
Member of Congress
Second District, New York

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MASSEPEQUA PARK, NY 11762
(516) 541-4225

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(631) 541-4225

peteking@mail.house.gov
www.peteking.house.gov
Twitter: @RepPeteKing



Congress of the United States
House of Representatives
Washington, DC 20515-3202

September 9, 2016

COMMITTEE ON HOMELAND SECURITY

CHAIRMAN, COUNTERTERRORISM AND INTELLIGENCE

CYBERSECURITY, INFRASTRUCTURE PROTECTION,
AND SECURITY TECHNOLOGIES

PERMANENT SELECT COMMITTEE
ON INTELLIGENCE

FINANCIAL SERVICES COMMITTEE

SUBCOMMITTEE ON CAPITAL MARKETS

SUBCOMMITTEE ON OVERSIGHT & INVESTIGATIONS

Commissioner Basil Seggos
NYS Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Dear Commissioner Seggos:

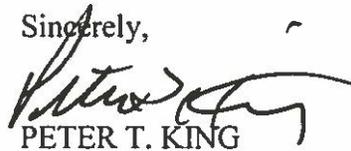
I am writing in reference to the July 2016 Remedial Options Report for the Grumman Aerospace-Bethpage Facility prepared for the New York State Department of Environmental Conservation (NYSDEC) by HDR, Inc. I fully support the immediate containment of the groundwater plume described therein.

The Remedial Report states the groundwater emanating from the Northrop Grumman Bethpage Facilities, the Naval Weapons Industrial Reserve Plant, the Northrop Grumman-Steel-Los Plant 2, and the Bethpage Community Park "contains hazardous chemicals above maximum contaminant level" and "this groundwater is migrating to the south-southeast impacting local water supplies, and potentially impacting additional public water supply wells and other natural resources in its path." I urge NYSDEC to take all requisite action to ensure the plume does not continue to migrate and further contaminate additional public drinking water wells. Unregulated and unknown contaminants continue to be discovered in association with this plume. Protection of public health must be a priority. It is imperative the sole source water aquifer be restored.

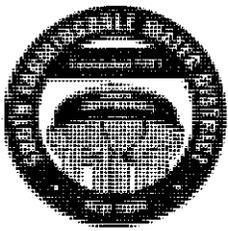
This environmental disaster has been protracted and the necessary cleanup must occur without delay. The Navy and Northrop Grumman must be held accountable for this costly remedial process so that the burden does not fall on the local water districts, which have no choice but to pass it along to the ratepayers.

Thank you for your prompt attention to this matter.

Sincerely,



PETER T. KING
Member of Congress



South Farmingdale Water District

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"Value – Integrity – Service"

Frank Koch P.E., Superintendent
Leonard Constantinopoli, Business Manager
Joseph G. Timpa, Office Manager

September 4, 2016

Commissioner Basil Seggos
New York State Dept. of Environmental Conservation
625 Broadway
Albany, NY 12233

**Re: Remedial Options Report
Grumman Aerospace – Bethpage Facility
SFWD Review Comments**

Dear Commissioner Basil Seggos:

The South Farmingdale Water District (SFWD) has reviewed the Remedial Options Report (Report) for the Grumman Aerospace – Bethpage Facility (dated July 2016) prepared by HDR for your department. The Report was prepared pursuant to the requirement imposed on the NYSDEC by Chapter 543 of the Laws of New York. More specifically, the Report was to delineate options for intercepting and remediating the groundwater plume associated with the above referenced site.

The Report indicates that "Hydraulic capture is one of the few remedial technologies that can be implemented to capture or intercept groundwater over a large area and depth in these hydrogeologic conditions. Hydraulic capture is successfully used to intercept groundwater with hazardous chemicals at many inactive waste disposal sites in Nassau County."

The Report estimates that containment would require the extraction of approximately 11 and 8 million gallons per day (MGD), respectively from wells located in the shallow and deep aquifers.

The report identified three groundwater extraction well systems generally located west to east along the Southern State Parkway. Each of the three options included installing a series of shallow and deep groundwater extraction wells designed to capture a plume 10,000 feet wide and as deep as 800 feet below ground surface (bgs). Option 3 includes utilization of three public water supply wells at SFWD plant sites 6 and 4 for extraction, thereby allowing for a corresponding decrease in the number of new extraction wells.

Once the contaminated groundwater is extracted, the report concludes that there are only two treatment options – Option 1 is to treat the contaminated groundwater for VOCs and discharge the treated water to Massapequa Creek. Under Options 2 and 3, the contaminated groundwater is pumped into the Nassau County sanitary sewer system for subsequent treatment at the wastewater treatment facility at Cedar Creek. HDR proposes to expand the Cedar Creek wastewater treatment facility to treat the contaminated groundwater.

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A review of the extraction, treatment and disposal options that were evaluated and eliminated as well as those that were proposed shows significant deficiencies.

We have categorized and summarized these deficiencies below:

Extraction and Disposal of Treated Groundwater

With regard to the disposal of treated groundwater, the report states that “10 to 20 million gallons of water per day can become impracticable requiring 30 to 60 acres of recharge basins and 20 to 50 injection wells”. HDR proceeds to eliminate all disposal options that collectively could address the entire quantity of extracted water and conveniently concludes that the only viable option is to discharge all the treated water to the Great South Bay and Atlantic Ocean.

The Report should have considered using a combination of the following options to dispose of treated water:

- Irrigation at the five golf courses at Bethpage State Park
- Existing underutilized recharge basins
- Injection wells
- Reliance on flow augmentation during non-irrigation periods

A comprehensive multi-disposal approach would readily dispose of all of the treated groundwater. It is noted that at the Grumman – Aerospace Bethpage Facility site, there have been no issues using 6.0 acres of recharge basins to recharge 5.8 MGD.

HDR’s underestimate of the reliability of the above options and gross over estimate of the number of recharge basins and injection wells required resulted in the elimination of the most practical and environmentally preferred disposal options. Furthermore, returning up to 19 MGD of treated groundwater to the aquifer through a combination of the above noted options is environmentally preferred when compared to pumping treated groundwater to the Great South Bay and Atlantic Ocean.

The SFWD is also concerned as to whether the proposed withdrawal of up to 19 MGD from the aquifer will accelerate the flow of contamination toward District well fields located upgradient of the containment system. What assurances will be incorporated into the groundwater extraction system design so as to ensure that this does not occur?

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Treatment of Contaminated Groundwater

Publicly-owned wastewater treatments use biological processes to treat sanitary wastewater. They are not designed to treat groundwater. In fact, when groundwater enters a sanitary collection system through pipe joints and cracks, the groundwater makes treatment more difficult since it dilutes the sanitary strength of the wastewater. Consequently, NYSDEC and the Ten State Standards, as well as typical sewer use ordinances prohibit the introduction of groundwater into the sanitary sewer system. Consequently, Treatment Options 2 and 3 that call for the expansion of the Cedar Creek POTW are against DEC policy and should have been eliminated from further evaluation. Instead, HDR should have evaluated a combination of treatment facilities designed specifically to treat groundwater in conjunction with the preferred disposal options SFWD noted above. The report should be revised to reflect one or more regional treatment facilities specifically to address VOC contamination.

Failure to protect SFWD plant site 6

SFWD Plant 6 is located just north of the Southern State Parkway and west of Hicksville Road. This plant site contains two of the District's eleven public water supply wells. The proposed extraction well system in Options 1 and 2 are located just downgradient of plant 6 thereby failing to protect these two public water supply wells. There is no basis provided in the Report to substantiate HDR's failure to protect these wells by locating the hydraulic containment down gradient of plant 6. Clearly, hydraulic containment should be placed upgradient of plant 6. The SFWD is also concerned with the justification for the eastern boundary of the hydraulic containment system. As shown in Options 1 and 2, the hydraulic containment system is just to the west of plant 4. Our concern is further substantiated by Option 3, where in HDR is proposing to utilize SFWD plants 4 and 6 as extraction wells. If the plant 4 site could be used as part of an extraction well system, then it must also be hydraulically protected under Options 1 and 2 by ensuring that the containment system is extended to protect plant 4.

SFWD – alternative water supply sites

Under Option 3, HDR is proposing to purchase three existing SFWD water supply wells and states that “one must arrange” for alternative water source to make up lost water capacity. This statement is impractical when the plume has already contaminated the groundwater in the vicinity of Plants 1 and 3, where the District has four public water supply wells. Since the purpose of hydraulic containment is to contain the plume and protect the downgradient wells from contamination, rather than Report considering the use of the uncontaminated public water

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supply wells at plants 4 and 6, the Report should be containing the plume upgradient of SFWD plants 4 and 6.

While the Report focused on the requirement of Chapter 543 of the Laws of New York, the NYSDEC has an obligation to require Grumman and the Navy to address the plume and its impacts. As indicated in the Report, the plume continues to migrate to the south and the SFWD is concerned over how much time is wasted in investigation tactics, as opposed to implementing real solutions to address hot spots. The hot spot downgradient of the ONCT identified in 2001 has still not been addressed, despite the passage of fifteen years. It is clear that the longer it takes to implement hot spot treatment, the greater the potential impact of the plume on the SFWD well fields.

The Board supports all options that can be successfully and timely implemented to reduce the concentration of the plume on SFWD wells where treatment facilities have been constructed and hydraulically contain the plume so as to protect SFWD wells from being impacted in the future. The Report requires significant revisions to address the comments noted above to ensure the evaluation of realistic and implementable extraction, treatment and disposal options, pursuant to the spirit of the enacted legislation.

The SFWD seeks your consideration of its comments and is available to meet should you wish to discuss these comments in more detail.

Very truly yours,

Board of Commissioners



Commissioner Ralph Atoria, Chairman

cc: Supt. Frank Koch, P.E.
Business Manager Len Constantinopoli
Gary E. Loesch, P.E., DEE

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