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MEMORANDUM

TO: **Robert Schick, Director**

FROM: **James B. Harrington**

SUBJECT: **Suspected Drums at Bethpage Community Park**

DATE: **May 4, 2016**

We have completed our review of the potential for buried drums to still exist within Bethpage Community Park. Our review included the final engineering report for the removal action that the town of Oyster Bay conducted around 2006, several investigations of the area by Northrop Grumman as well as aerial photography from the 1960's. It is our conclusion that buried drums do not exist beneath the park. If they did exist, as the tipster seems to suggest, they were likely removed by the town.

The report is attached.

BETHPAGE COMMUNITY PARK REVIEW

Bethpage Community Park is a 17 acre recreation facility owned and operated by the Town of Oyster Bay in Nassau County. The Park is located at the intersection of Stewart Avenue and Grumman Road East. The dominant facilities located at the Park are the Town of Oyster Bay Ice Skating Center and Pool. There is also a playground, basketball courts, tennis courts and significant parking. From about 1949 to 1962 a portion of this property was used by the Grumman Aircraft Engineering Corporation (now Northrop-Grumman) for the dewatering of sludge, including neutralized chromic acid waste, from the waste water treatment facility which was located within the Grumman Bethpage complex. The treatment plant accepted waste from both the Grumman and Navy manufacturing plants. Grumman donated this property to the Town in 1962.

For the purposes of this analysis, the Park was evaluated as comprised of five segments (see Figure 1):

- the IRM area excavated by the Town of Oyster Bay in 2006-2007, as described below;
- the tennis courts and playground areas which are both located on the perimeter of the IRM excavation area;
- the swimming pool area;
- the closed former ballfield area which will be remediated by Northrop-Grumman as part of the OU3 Record of Decision (ROD), which is not currently accessible to the public; and
- a fenced off recharge basin area, also not accessible to the public.

IRM Area: In 2006, the Town of Oyster Bay entered into an Order on Consent with DEC to excavate a significant portion of the Park due to concerns over PCB contamination. The Town performed a focused Remedial Investigation which included a comprehensive soil boring and sampling program with 1,005 samples collected and analyzed. The investigation delineated the contamination to the then applicable TAGM 4046 Soil Cleanup Objectives. Following DEC approval of a proposed Remedial Action Plan (RAP), the Town removed all contaminated soil down to 10 feet in the entire area (see Figure 2), as well as targeted removal of selected fill areas down to 20 feet. Over 173,000 tons of soil and all debris, including crushed drums and aircraft parts encountered, were removed for off-site disposal. Approximately 50 crushed steel drums were uncovered and removed during this work, none of which were reported to have had any liquids in them. The excavation area encompassed the extent of where debris was identified or sampling identified levels above TAGM cleanup objectives. As specified in the RAP, the remedial investigation sample results were utilized as endpoint samples, however, additional endpoint samples were collected at locations where the excavation depth went deeper than anticipated based on debris encountered. Following completion of this IRM, the Town constructed the new Park access road, parking lots, and Ice Skating Center on this portion of the property.

Tennis Court/Playground Areas: The areas of the Park where the tennis courts and playground are located are adjacent to the IRM area. They each existed at the time of the IRM excavation and were not included in the Town's IRM because they had already been investigated extensively by Northrop-Grumman under DEC oversight in 2002-2003. The tennis courts were encircled with soil borings and surface soil samples. The courts themselves were not sampled since they were paved. Arsenic was found below the turf in 2 of the 4 near surface samples at levels close to the current restricted residential soil cleanup objective (RRUSCO) of 16 parts per million (ppm) which is also applied to active recreational areas such as this. The reported results were 16.0 ppm and 16.4 ppm. Mercury was also identified in the same samples at levels

of 0.3 ppm, below the RRUSCO of 0.81 ppm. The only notable contaminant identified in subsurface samples (which extended down to 8 feet) was chromium in the 60 to 176 ppm range in 6 of the 16 subsurface samples analyzed (compared to a RRUSCO of 180 ppm for trivalent chromium. A similar investigation was conducted at the playground which at that time consisted of pressure treated wood structures of a type popular in playgrounds constructed in the 1990's. Chromium was found at levels above the RRUSCO in shallow soil, and elevated chromium and arsenic also were present above their RRUSCOs in deeper soil. It was determined that this contamination was related to the copper- chromated-arsenic (CCA) pressure-treated timber structures in the playground. These structures were removed by the Town and the top 2 feet of soil were also removed and replaced with clean soil. Subsequent to this investigation, new playground equipment was installed along with a 2-inch thick rubber mat surface. Additional shallow soil sample in the playground area was performed by Northrop-Grumman in February 2015. The results from two of the nine surface soil samples taken in grassed areas around the fenced playground equipment identified levels of PCBs marginally above the RRUSCO (2.7 ppm and 1.9 ppm vs. a surface soil clean-up level of 1.0 ppm). NYSDOH reviewed these results and determined that the potential for contact with areas of bare soil containing PCBs above RRSCO is unlikely as those two sample locations were isolated in nature, and both sample locations have an existing cover, either grass covering or matting under playground equipment, which limits direct contact with the soil. The grass covering on the areas surrounding the playground equipment and the matting under the playground equipment will be maintained until the area is remediated by Northrop-Grumman under the Operable Unit 3 Order on Consent.

Swimming Pool Area: Based on 1962 aerial photography (see attached Figure 3) the pool area is located on a portion of the property which was an undisturbed woodland prior to the pool construction. Most of the original soil was removed during construction, and the remainder was covered with concrete walkways. In 2002-2003, Northrop Grumman conducted surface and subsurface soil sampling outside the fenced perimeter of the Park property, adjacent to the pool area near Stewart Avenue. Some of the surface soil samples (taken from below the turf) were found to be marginally impacted with PCBs. PCB levels found at the surface were between 1 to 3 ppm in 5 of the 16 samples, compared to the surface soil RRSCO of 1 ppm, and in only 3 of 64 subsurface sample locations, with only 1 exceeding the RRUSCO. The shallow soil sampled was likely backfill placed at the time of construction of the pool area. Chromium was detected in 2 samples in this area at 201 and 645 ppm (trivalent chromium RRSCO 180 ppm) in 5 of 32 samples taken between 2 inches and 4 feet, with the highest level being 645 ppm and the 2nd highest at 208 ppm. Mercury and arsenic were also detected below their RRUSCOs in fewer than a quarter of surface samples. As with the playground area, the potential for contact with areas of bare soil above RRSCO is unlikely as the few exceedances were isolated in nature and all locations have an existing cover, which limits direct contact with the soil.

Former Ballfield Area: The former ballfield area is the location where the bulk of the disposal took place while the property was owned by Grumman. This area was fenced when the Town closed the ballfield in 2003 and is inaccessible to the public. Grumman completed an intensive sampling program in this area in 2007-2008 during the remedial investigation overseen by DEC and additional delineation was completed under the OU3 Order on Consent in 2015, as part of the design of the cleanup. Grumman is currently preparing the design to remediate this area, which will also address the volatile organic compounds (solvents), chromium and PCB contaminated soil.

Fenced Recharge Basin Area: The recharge basin was investigated in 2003 by DEC, including 4 soil borings in the bottom of the basin and 4 at the top of the basin. No levels of contaminants

exceeding the soil cleanup objectives were identified. The basin is fenced and is not accessible to the public.

Groundwater: Monitoring wells on the southern border of the Park show that groundwater beneath the publically accessible park area is not impacted by the chlorinated solvents still present in the former ballfield area. These wells do however identify the presence of Freon which is associated with the Ice Rink and being addressed by the Town of Oyster Bay under the DEC brownfield cleanup program (BCP). The contaminated groundwater present beneath the former ballfield area is being addressed under the operable unit 3 (OU3) Order on Consent with Northrop Grumman. There is no exposure to this contamination as potable water is supplied by the Bethpage Water District and vapor intrusion was evaluated during the BCP investigation for the ice rink as well as Northrop Grumman's OU3 remedial investigation.

Summary and Conclusion: DEC has completed a review of the documentation of prior investigations of the Bethpage Community Park and, based on that review and in consultation with the NYSDOH, has concluded that there are is no information to suggest that buried drums or significant levels of contaminants remain in the publically accessible areas of the Park which would result in an exposure to Park users. DEC believes that the drums referenced by the anonymous tipster were likely removed during the Town's IRM, based on subsequent discussions with Town employees familiar with the IRM. The Final Engineering Report prepared by the Town and approved by DEC indicates that the IRM area is uncontaminated. The area where the pool was constructed was not used by Grumman and was a wooded area during the period of Northrop Grumman ownership.

The data indicates that the area near the Tennis Courts is uncontaminated and if there were any contamination beneath the Tennis Courts, there is no potential exposure since they are paved. Only two shallow samples of the many taken around the playground in 2015 had levels marginally above the RRSCO, which also is the level utilized by DEC and NYSDOH to evaluate soil levels for recreational uses state-wide. NYSDOH has reviewed this data and determined that contact with soil is not expected to occur and therefore there is not a need to restrict access to the playground equipment, or the grassed area just outside the fence. Likewise, while there were some random levels of contaminants in the subsurface in the grassed area around the pool, similar to the playground, they are present in a controlled area below the ground surface so there is no likelihood of exposure. There is contamination beneath the former ballfield area that will be addressed in the near future, since the area is fenced and access is limited this should not be a concern to the public. The areas of the Bethpage Community Park property identified above, other than the ballfield area, are available for use as a restricted residential development, which includes active recreational use, as defined by 6NYCRR Part 375-1.8(g)(2)(ii).

It is the DECs conclusion, after consultation with NYSDOH, that there is no indication that significant levels of contaminants remain within the areas used as Bethpage Community Park that would represent an exposure to the public using the facilities as intended. DEC does recommend that the Town continue to maintain the asphalt on the tennis courts, the grassed areas around the pool and surfaces in the playground area.

References:

1. Bethpage Community Park Soil Investigation Findings, NYSDEC, March 2002.

2. Bethpage Community Park (Baseball Field and Playground) Soil Investigation Findings, NYSDEC, March 2003.

3. Town of Oyster Bay Bethpage Community Park Interim Remedial Measure Construction Area Final Engineering Report, March 2008.

4. Bethpage Community Park Playground Surface Soil Sampling Report, Northrop-Grumman Corporation, May 2015.