

ENVIRONMENTAL SERVICES

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Environmental Services was requested to provide an independent assessment of the handling and condition of excess material that was generated during the recent expansion of the Senior Center located at 21 Imperial Avenue occupying on the northwest corner of property referred to as Barons South.

The original construction of the Senior Center was completed in 2004. An expansion was initiated in April 2018 that would add 4500 sq ft of interior space primarily to the east of the existing structure and 27 parking spaces primarily to the southwest of the existing building. The building expansion to the east extended into a gravel knoll that generated several thousand yards of clean gravel that would be repurposed as base material for the new parking area. The expansion of the parking lot was into an area that had previously been occupied by a storage building and gardens. In order to prepare the base for the proposed parking area, approximately five thousand yards of common fill were excavated out of that area and replaced with the structural gravel that was generated by the building expansion. The project had anticipated generating surplus fill material that was being considered for other town projects. Unfortunately the projects that had been considered appropriate locations for the material were not yet underway.

In lieu of hauling the surplus fill material off site and paying for trucking and disposal at a cost of approximately \$40,000, it was determined to temporarily stockpile the material on-site pending development of one of the scheduled projects that would need common fill.

The material was stockpiled immediately to the south of the parking lot expansion in a location that had recently been cleared of numerous dead trees and invasive plants. This area was formerly the location of a greenhouse and swimming pool when owned by the Baron. Due to their deteriorated condition, both structures were removed in 1999 when the Town of Westport took ownership of the property. The stockpiled material was covered with erosion fabric and seeded to stabilize the material from erosion.

On May 1, 2019, I inspected the stockpile and found no evidence of erosion and the seed was starting to germinate. The stockpile area is approximately 250 feet by 150 feet with an average depth of 4 feet. The volume of the pile is approximately 5,500 cu yds. Visual observation of the material suggested a native gravel subsoil material with an occasional piece of brick and asphalt. A small piece of plastic drainage pipe and two small pieces of rusted metal were also found. No significant quantities of demolition or anthropic relics were observed.

In order to fully characterize the stockpiled material, Cody Ehlers Group of Trumbull, CT was contracted to perform chemical analyses on the material. A sampling effort was scheduled for May 6, 2019. For testing purposes, the stockpile was divided into four quadrants and a test pit was excavated in each of the four quadrants. Approximately 5 to 6 cu yds of material was excavated from each pit. No non-native material was present in any of the excavations. A composite soil sample was collected from each test pit for chemical analysis. The report provided by Cody Ehlers Group summarized below is attached as Appendix A.

For reference purposes, the sample results were compared to the CT Department of Energy and Environmental Protection (CT DEEP) Remediation Standard Regulations (RSR's). It should be noted that the site is not subject to the RSR's but the standards are being used for guidance purposes. RSR's provide detailed standards that may be used at any site to determine whether or not remediation of contamination is necessary to protect human health.

Arsenic. Arsenic was present in one of the samples at a concentration of 13 mg/kg which is above both the Residential and Industrial/Commercial Direct Exposure (Res DEC, I/C DEC) criteria. All other metals were either not detected or present at concentrations well below their respective Res DEC. No silver, mercury, antimony, cadmium, beryllium, and thallium were detected above laboratory reporting levels.

Arsenic is a naturally occurring metal found in soil, bedrock, groundwater and surface water. It was commonly used prior to 1980 as a popular rodenticide and is now used widely as chromated copper arsenate (CCA) an effective wood preservative common in pressure treated wood. In response to a number of residents reporting high arsenic concentrations, the Westport/Weston Health District in April 2013 released the findings of a study they had conducted on 195 wells in Weston that indicated that a significant number of the wells contained arsenic levels above the drinking water standard.

PCB's. No PCB's were present in any of the samples.

Asbestos. No Asbestos was present in any of the samples.

Volatile Organic Compounds (VOC's). Toluene was the only VOC that was detected in the four samples but the concentrations were well below their respective CT RSR's.

ETPH. ETPH was not detected above the laboratory threshold in any of the four samples. ETPH is an indicator of petroleum hydrocarbons.

Semi-volatile Organic Compounds (SVOC's). No SVOC was present above the laboratory threshold in TP-1. Fluoranthene and Pyrene were detected in samples from TP-2, TP-3 and TP-4. TP-4 also had detections of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene. None of these compounds, however, were detected at concentrations above their respective RSR's.

Pesticides. All four samples had detections of 4,4-DDE and 4,4-DDT. Samples from TP-3 and TP-4 also had detections of 4,4-DDD. There are no published RSR criteria for DDT so the concentrations of 4,4-DDT were compared to the 2017 CT DEEP Technical Support Document "Recommended Criteria for Common Additional Polluting Substances". The reported concentrations of 4,4-DDT are well below the recommended Residential DEC and I/C DEC. DDE and DDD are not pesticides but a breakdown product of DDT. As such, there are no RSR's for DDE or DDD.

The chemical analyses performed on the stockpiled material highly suggests that the soils have historically been impacted by landscaping and agricultural activities. This is not surprising in light of the extensive gardens and gardening activities that occurred on the property during the Baron's tenure from mid-1940 till his death in 1983. The storage shed that was removed to make way for the new parking area was used by the Baron for storage of his gardening supplies and was still full of old gardening equipment and supplies when the town took possession of the property in 1999.

The results of the chemical sampling will dictate the eventual disposition of the stockpiled fill material. Similar precautions were required when stockpiled material was moved at the Jaeger Property during the expansion of the Long Lots School parking lot and at the former Nike site during the construction of the Bedford Middle School.

In both cases, chemical testing on stockpiled material identified low levels of contamination that required special handling of the stockpiled material. In each case, the material was handled in accordance with CT DEEP guidelines. It is important to note that the subject material contains only one chemical constituent at a concentration at or above a RSR standard; that being arsenic. There are several ways to address the single sample containing an elevated concentration of arsenic but the recommended course of action is consistent with the original proposed use of the material as subbase for one of the upcoming parking lot projects. The two projects presently under consideration are either the reconstruction of the Baldwin Parking lot or the expansion of the railroad parking lot at Greens Farms Station. Use of the material as subbase for either of these two sites would be consistent with CT DEEP guidelines.

Stockpiling of surplus materials during construction is a common practice. Often times the topsoil is stripped from the site and stockpiled for application upon completion of the project. Excavation of a foundation typically generates surplus fill that is subsequently used to grade around the foundation. Hauling material offsite is generally a costly proposition and will contribute significantly to existing local traffic concerns. Restoration of the site upon removal of the temporary stockpile is an important facet of the overall project and should be completed as soon as the material is removed.