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16 December 2021
File No. 1789-01

VIA E-MAIL

Town of Monroe
Planning & Zoning Commission
7 Fan Hill Road
Monroe, CT 06468

Attention: Mr. Michael O'Reilly, Chairman

Subject: Application for Excavation and Filling Permit
EFP-2021-03 (the "Application").
64 Cambridge Drive & 4 Independence Drive, Monroe, Connecticut

Dear Chairman O'Reilly and Other Commissioners:

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For the record, my name is Evan Glass. I am a hydrogeologist and Licensed Environmental Professional (LEP) with ALTA Environmental Corporation in Colchester, CT. I am writing to the Commission on behalf of the Intervenor to the subject Application, Mr. Peter Metropoulos.

EXECUTIVE SUMMARY AND RECOMMENDATIONS

The site development Application before you is for a large project that includes filling the quarry properties at 64 Cambridge Drive and 4 Independence Drive consisting of approximately 72 acres of land. At present, the Application envisions the eventual construction of two commercial buildings after the filling project is completed, which is not expected until at least several years from the project start date. According to the Applicant, the long time frame for the project completion is required due to the anticipated sourcing schedule for an estimated near half million cubic yards (493,000 cubic yards) of the type of fill that the applicant wishes to use, namely "clean fill", as defined by the Connecticut Department of Energy & Environmental Protection ("DEEP").

After viewing the recorded video of the last meeting on this Application held by the Monroe Planning & Zoning (P&Z) Commission on 18 November 2021, I recommend that the Town obtain, as prudent and common sense measures, the following specific additional information and require the following actions, prior to making a decision on the Application:

1. Additional characterization of the Kimball-era fill. The existing characterization is not adequate in my opinion, and does not meet the applicant's own metric for the type and frequency of the testing it proposes for Karp-era fill. As recently as this week (12/15/21), DEEP has indicated that its review of the documentation provided to date for this site

does not include information pertinent to the Kimball-era fill, and raised some concerns relative to Karp-era fill;

2. Excavation and re-compaction of all of the existing fill, per the applicant's prior commitment made to this P&Z Commission on 17 December 2020 for the previous and similar application. This would allow for the nature and the quality of this already-placed fill to be determined through direct observation and any warranted testing, and for any unsuitable material to be segregated for off-site disposal. [At the 17 December 2020 P&Z Commission meeting Mr. Solli stated that all of the fill previously placed at the site (e.g., including "Stratford High School") had to be dug out, processed, and re-compacted];

3. Groundwater quality data beneath the major areas of prior filling, as existing data are only available for two groundwater monitoring wells, both located distant from (and possibly not representative of), the primary fill areas;

4. Removal from the site of any "polluted soil", and non-clean fill constituents, consistent with the applicant's proposed commitment to not accept polluted soil as part of to-be-accepted "clean fill", understanding that asphalt fragments less than 4 inches may be used as roadway subbase beneath pavement on the site (not just as roadway gravel that can easily erode into the surrounding environment);

5. Require that the Applicant request and engage in a pre-application meeting with DEEP to describe the past and planned site activities and determine the need for any DEEP permits and receive the benefit of any DEEP recommendations. Such meetings are often encouraged by DEEP, and has been recommended by DEEP staff for this site. For example, when I discussed this project with Mr. Frank Gagliardo of DEEP, he said that the Applicant *should* request a DEEP pre-application meeting to identify any and all required permits that may be needed and address any other DEEP concerns, due to the size of the project and planned filling of a quarry;

6. Test the material that the Applicant plans to use as fill below the water table for leachability and to make sure it does not contain non-native fill constituents (e.g., asphalt fragments). This material has variously been referred to as "native overburden soils", "screening and rock dust from the processing of the quarried stone" and "rock flour", and due to its fine-grained nature and high surface area has the potential to leach metals to groundwater at relatively high concentrations. If this material proves to be unsuitable for placement below the water table, it may be suitable as part of the cushion base layer below the proposed impermeable polyethylene liner;

7. Quantitatively determine the final (post-filling) elevation of the water table, first by calculation and then direct monitoring confirmation. Since the plan is to raise the ground surface elevation approximately fifty (50) feet above the current water table, the water table may rise in response to the filling. Since it is important to prudently select the type of material used to fill below the water table, direct and reliable knowledge of the

elevation of the final water table is obviously required. We recommend that the Commission require that the applicant post sufficient bond to complete any remedial work that may be needed to ensure that only the P&Z-approved materials end up below the final water table (e.g., remediation by excavation and replacement of materials);

8. Obtain reliable data for all the fill used at the Site (both Kimball and Karp eras), and to be brought to the Site (Karp era), including brief but focused LEP summaries of the following:

   - Environmental-related history of each source site (e.g., school, automobile garage, brownfields site, landfill);
   - Which materials were brought from which of the source sites (e.g., building materials such as brick and concrete, roadway asphalt, versus soil);
   - Abatement activities for building materials;
   - Type and frequency of testing completed for soil (and as needed, for building materials) brought to the site; with comparison of the data to natural background concentrations, consistent with the applicant's commitment to not receive "contaminated soil" at the site [Note: We assume that the Applicant equates the phrase "contaminated soil" with the "polluted soil", as defined by DEEP Remediation Standard Regulations.];
   - Where any materials of concern are located at the quarry site (to the extent knowable); and
   - Conclusions as to adequacy of the characterization, whether any polluted soil or non-clean fill items were placed, and recommendations for mitigation if needed.

   Some or much of this information has reportedly been provided to DEEP by the Applicant, but only for the Karp-era fill, and has not been provided to the P&Z Commission or the Intervenor. DEEP's recent review has indicated that at least some of the soils brought to the site during the Karp-era may not meet the DEEP definition of clean fill (i.e., due to elevated leachable lead concentrations), and are still under review by DEEP.

   It is very likely, if not certain, that the Kimball-era fill includes "polluted soil" that the applicant has committed to not receiving *going forward,* and material not meeting the DEEP definition of clean fill. So, will there a *double standard* for the new Karp-era fill (e.g., subject to the Materials Acceptance Procedure including the pre-testing materials at a rate of one sample/250 CY), and the Kimball-era fill (not subject to the same Materials Acceptance procedure and not otherwise adequately characterized)? Additionally, regarding the Kimball-era fill, the Applicant's team has told this P&Z Commission that the Applicant had completed "due-diligence" investigations prior to taking ownership of the site. Such investigations typically include environmental investigations, and we recommend that you request the Applicant to provide to you and the Intervenor any and all such environmental due diligence investigations.

> We also recommend that an LEP prepare and implement a groundwater monitoring plan to include wells within the fill areas, not just in areas that are distant from the primary fill areas.

A significant component of this Application is the construction of an impermeable liner over a portion of the northern area of the quarry for the purpose of directing groundwater water to the eastern wetlands. The liner would mimic the original bedrock surface that is inferred to have originally directed the water to those wetlands prior to removal of the bedrock by the quarrying operation. However, there is a question as to whether DEEP-defined clean fill should be placed below the liner. We recommend that the Applicant and DEEP consider expanding the purpose of the liner to also include isolating any non-native fill of concern both from direct human contact and infiltrating precipitation. This would be consistent with maintaining the fill and soil as DEEP-defined "inaccessible soil" and "environmentally-isolated soil", which DEEP agrees does not pose an unacceptable risk the human health or the environment, and is a routinely used remediation approach.

It is my opinion that in the absence of this specific and pertinent information outlined above, that your Commission will be at risk of making its decision based on significant data gaps, unresolved questions, and without valuable DEEP input. The aforementioned items, and some others, are discussed further below for your consideration.

SENSITIVITY OF THE PROJECT ENVIRONMENTAL SETTING

The quarry site is located in the Pequonnock River drainage basin, and the DEEP groundwater quality classification for most of the site is "GAA". The GAA classification is DEEP's most protective groundwater classification and is reserved for areas where the groundwater can or may contribute to public drinking water supplies. By contrast, GB classification areas are used for urban and contaminated areas where the groundwater is not used for drinking, and GC areas are used for landfills.

DEEP also classifies the quality of Connecticut's streams, and the West Branch of the Pequonnock River and its unnamed upstream tributary near the site are classified as "AA". The Class AA surface water classification is DEEP's most protective surface water classification and is reserved for streams that contribute to public drinking water supplies.

The Application includes a map showing the Site to be located within the Aquarion Water Company's West Pequonnock Public Drinking Water Supply Watershed, and the West Branch of the Pequannock River is diverted to the [Town of] Easton public drinking water supply reservoir. And, there may also be private drinking water supply wells in the project vicinity.

We also note that under section 6.6.3 (C) (4) of the Town of Monroe Zoning Regulations, regarding: Alteration of Watercourse, (a) Adjacent communities and DEEP must be notified prior to any alteration or relocation of a watercourse, and submit evidence of such notification to FEMA (Federal Emergency Management Agency). Since the primary goal of this project is to

add water to wetlands, in my opinion this is altering a watercourse and so DEEP notification is required.

QUALITY OF FILL PLACED PRIOR TO WSP 2020 ASSESSMENT (PRIMARILY KIMBALL-ERA)

The Applicant has maintained that the fill at the site has been extensively investigated and exhaustively tested. However, in ALTA's opinion the existing characterization in inadequate for the fill that was placed on the site prior to the 2020 WSP assessment. Specifically, we note that WSP's testing of the fill materials was at a frequency of one (1) sample per approximately 2,700 cubic yards (CY) to 3,700 CY (depending on the method of calculation), which is much less (more than ten times less) than the standard that the applicant and its consultant has recommended for testing of the fill to be imported to the site which is one (1) sample per 250 CY for fill planned to be imported to the site. Hence, it appears that additional characterization of the fill (and the groundwater beneath the fill), is warranted to adequately assess whether the existing fill is suitable and can remain or must be removed.

Regarding the pre-testing of the materials that have already been brought to the site, Mr. Mark Jepsen, an Environmental Analyst with DEEP, visited the Site in February 2020 with Mr. John Kimball (a former owner of the Site and current consultant to the Applicant). In a May 2020 DEEP memo, Mr. Jepson stated:

> "The contact said that *some* analytical testing of the inbound materials had been conducted and that a sampling protocol was in place. The sampling protocol and any test results were *requested at the time of my visit*. This information was requested *several times later* and as of the date of this report, *none of the requested information has been submitted*."

I contacted Mr. Jepson in July 2020, by which time Mr. Jepson had *still not received* any information regarding the analytical testing of inbound (or any other) materials associated with the Site. In his 15 December 2021, Mr. Jepson stated that the information reviewed for his recent letter pertains only to the soil and fill materials received during the Karp-era (by Rockhead, LLC), and not the previous owner (Kimball/New England Materials, LLC).

QUALITY OLF KARP-ERA FILL

The applicant did eventually submit information available for some of the fill that was brought to the quarry, seemingly in response to comments received during an Inland Wetlands Commission (IWC) hearing, and we offer the following comments and questions based on our review of these materials:

- Much or most of the information seems to be in the form of pre-demolition building surveys for lead and asbestos. It is not clear how these surveys relate to the materials that were brought to the quarry. For example, the lead surveys would pertain largely to painted wood in the buildings, but it seems that wood typically was not brought to the

quarry. Similarly, the asbestos surveys generally pertain to materials that were not brought to the quarry (e.g., duct insulation and floor tile);

It would be helpful if the Applicant's LEP could explain the *linkage* between the building surveys and the materials that were brought to the quarry;

- There seems to be very little testing data for samples of soil, and where there is testing data, it is not apparent what the sampling frequency was (i.e., how much soil was represented by a single sample);

  The Applicant has been asked to indicate the total amount of materials that have been brought to the site, which reports and data represent which materials, determine the sampling frequency, and draw conclusions regarding whether all the materials have been appropriately characterized (e.g., at one (1) sample per 250 CY, as prescribed in the most recent version of the proposed Materials Acceptance Procedure). But other than estimating the fill volume at 84,900 CY (rounded up to 100,000 by WSP), this request has gone unanswered.

Some specific comments include:

- The documentation for the 57 Gower Road property indicates that the materials include tar-coated cinderblock; cinderbock is not a clean fill component;

- The materials from a site in Monroe are described as "glazed CMU block", CMU stands for concrete masonry unit, which can include cinderblock;

- The soil from the Amazon site in Trumbull is represented by one sample, but it is not indicated how much soil is represented by this one sample. It is reported that over 1,000 truckloads of materials were brought to the quarry from the site of an Amazon warehouse located at 7120 Main Street in Trumbull (same site?), which apparently had been encroached upon by an adjacent landfill. Boring logs reportedly from this site show garbage, metals, shoes, gaskets, cans rags etc. at depths as shallow as 5 ft. below ground surface. It would be helpful to know which materials were transported from this site to the quarry site (e.g., asphalt versus any garbage). The information made available to ALTA for this Trumbull site is included in the Appendix;

- The Palmers Road soil indicates intake of "mixed loads", which may include soil, but there are no soil data;

- The Route 25 Monroe material is described as rock, with a minimum amount of *soil***,** but there is no testing data for the soil. An investigation report is referred to but not summarized or included;

- It is not clear what material came from Wade's Garage, but "auto facilities" are listed in the Applicant's Material Acceptance Procedure as a "high risk" usage on the "Automatically Rejected Materials" list at discretion of management.

OVERBURDEN SOILS AND SCREENINGS AND ROCK DUST FROM MINING

On 17 December 2020, Mr. Solli stated to this P&Z Commission that there was approximately 118,000 cubic yards of stockpiled native overburden soils (aka, "rock flour" or "rock dust") at the site that the Applicant wanted to use to fill the crater on the site. The December 2020 WSP report for the Applicant described this soil as "native overburden soils and screening and rock dust from the processing of the quarried stone.", and tested just one sample of it (that's a sampling frequency of 1 sample per 118,000 cubic yards). And, WSP completed no leachability testing at all for this soil that is proposed to be used as fill below the water table. Even though these materials may be of native origin, they are at least in part a residual (possible waste) byproduct of the rock mining operation and can be expected to be composed preferentially of the "fine fraction" (e.g.. "rock flour") that can be susceptible to elevated leaching of metals to groundwater due to relatively high surface area of the constituent particulates. WSP has asserted that "The regulatory criteria are not applicable to naturally occurring constituents such as metals." I disagree with WSP on this point, because the mining activities can change the characteristics and toxicity of the material, therefore the regulatory criteria do apply. An analogy to this is found in in groundwater where DEEP regulates mobilization of naturally-occurring arsenic in aquifer materials from the chemistry changes due to petroleum plumes, as I'm sure WSP is well aware.

Moreover, this mining-related material may turn out to be solid waste (e.g., if it can't be used or sold). If so, it certainly has been stored on the site for more than the 45-day State limit, and therefore may qualify the site as a solid waste disposal area requiring the need for a DEEP solid waste permit. Since this processed "excess" (possibly discarded waste) mining-related material was not sold and transported off the site, and because it could leach metals to groundwater, we recommend that it be tested for leachability with the results compared to the GA Pollutant Mobility Criteria (PMC). If this material is not suitable for placement below the water table, perhaps it may be suitable as part of the cushion layer below the impermeable polyethylene liner, where the plastic liner would render the material "environmentally isolated" such that precipitation would not infiltrate through the material, thereby adequately reducing the potential for leaching metals to groundwater.

We note that conventional construction practice is to fill below the water table using natural stone product composed of much coarser fragments than stone dust (e.g., 1.5 to 2 inch crushed stone), and that the Town's LEP, Mr. Russ Dirienzo shares that opinion. If fine-grained stone dust is to be considered for use as fill below the water table, it would seem prudent that the applicant provide an adequate assessment of its appropriateness, which the applicant has not done to date.

Another matter concerns the quality of the existing fill materials on the site relative to the water table and whether those materials are planned to or should remain in their current positions. For

example, the 2020 WSP report appears to document the occurrence of demolition and construction debris (asphalt and brick) below the water table at its B1 boring in the northwestern portion of the site. Per section 6.4.9.O. of the Town of Monroe Zoning Regulations regarding Conditions of Excavation and/or Filling or Grading Operation, "If, as part of an excavation operation, debris or trash or unsuitable material is encountered, the same shall be removed from the site and disposed of in accordance with applicable town regulations."

Whether the existing fill material already disposed of at the site is suitable or unsuitable to remain at the quarry depends in part on whether it is, in fact, below the water table (which it appears to be at least in part based on the B1 boring log which indicates these materials to be wet), and whether the groundwater has been impacted (and the groundwater quality in the area of B1 has not been investigated).

FINAL (POST-FILLING) ELEVATION OF WATER TABLE

To date, there has been no robust (quantitative) evaluation of the expected elevation of the water table post filling. If the Applicant is going to prescribe that only natural material be used as fill below the water table, the Applicant needs to know where the water table will be after all the earthworks have been completed. Since the plan is to raise the ground surface elevation approximately 50 ft. above the current water table, and to install an impermeable liner over much of (but not all of) the fill materials atop the "hole", we can expect somewhat offsetting effects of these actions. The Applicant's environmental consulting firm (WSP) is likely well qualified to predict the final elevation of the water table, quantitatively through calculation and/or modeling, and we recommend that you require that from the Applicant. We further recommend that you require the applicant to monitor the water table elevation as and after the filling takes place, and to post sufficient bond to effect a remedy should the water table rise above the materials prescribed to be used below the water table.

GROUNDWATER QUALITY

The Applicant's LEP consultant (WSP) has concluded that the fill is not impacting groundwater, but has only sampled two monitoring wells, each just once, with both wells located a very far distance from the primary filling areas at the site (approximately 1,000 ft.). WSP did not provide groundwater contour maps to show that either or both of the wells are actually downgradient of the area of fill that they primarily investigated. In its December 2020 report, WSP stated "Groundwater within the footprint of the quarry was inferred to flow toward the on-site point [exposed rock cuts in the "hole"] at northern portions of the site and toward the southwestern wetlands area at southern portions of the site". Notably, WSP stopped short of stating that the groundwater wells monitored are downgradient of the primary debris area investigated by WSP's borings and test pits (which appears more northerly than southerly in this context), and ALTA notes that the single surface water sample collected from the hole northerly of WSP's primary debris investigation area could be significantly diluted by surface water runoff and therefore not actually representative of groundwater quality. WSP observed apparent groundwater emerging from bedrock fractures in the exposed rock cuts in the northern portion of the site (presumably in the "hole"), and we suggest that the sampling and testing of this water, and the groundwater

directly beneath the WSP's primary debris investigation area, may be more representative of groundwater that could be impacted by the debris. ALTA also notes that WSP found leachable lead exceeding DEEP remediation standards in the fill sampled from test pit TP-7 (far from the monitoring wells). [Note: We acknowledge that WSP subsequently collected and tested additional *soil* samples to demonstrate compliance with a pertinent DEEP *soil* remediation standard using a statistical calculation, but that does not eliminate the need to test *groundwater* quality in areas that may be impacted by the fill. Under the DEEP Remediation Standard Regulations (RSRs), which do apply to this site, there are separate Soil Remediation Standards and Groundwater Remediation Standards, which each must separately be complied with.]

QA/QC FOR FILL AND GROUNDWATER QUALITY

Prior to considering granting an approval for this Application, it would seem to be just plain common sense to require the applicant to provide LEP summaries of the following for both the Kimball and Karp eras:

- Environmental-related history of each source site (e.g., school, automobile garage, brownfields site, landfill);
- Which materials were brought from which of the source sites (e.g., building materials such as brick and concrete, roadway asphalt, versus soil);
- Abatement activities for building materials;
- Type and frequency of testing completed for soil brought to the site; with comparison of the data to natural background concentrations, consistent with the applicant's commitment to not receive polluted soil at the site;.
- Where any materials of concern are located at the quarry site (to the extent knowable); and
- Conclusions as to adequacy of the characterization, whether any polluted soil or non-clean fill items were placed, and recommendations for mitigation if needed.

We recommend that the commission request that an LEP prepare and implement a groundwater monitoring plan to include wells within the fill areas, not just two locations distant from primary fill areas.

AUGUST 2020 MATERIAL ACCEPTANCE PROCEDURE

The August 2020 Material Acceptance Procedure appears to be the most recent version, although Mr. Solli stated at the 18 November 2021 meeting that it will be revised. The current iteration of the Material Acceptance Procedure:

- Lists rock, stone sand and gravel separately from "natural soil" as acceptable materials, without explanation as to why these are listed separately (e.g., because unimpacted sand, stone and gravel *is* "natural soil";
- Requires testing of soil, but does not seem to indicate any pass/fail criteria;
- Lists contaminated soil as an unacceptable material; and

- Indicates that stained or painted concrete are automatically rejected, but asphalt paving fragments are acceptable materials (apparently even if stained and/or painted).

Since any contamination in soil makes it contaminated soil, it seems that the Applicant is asserting that the only soil that will be accepted is completely uncontaminated soil (i.e., natural soil), and if so, then the pass/fail criteria for acceptance would be natural background concentrations. This matter should be cleared up; and, if natural background concentrations are to be the pass/fail criteria, the Applicant should indicate the background concentration ranges and/or a methodology for determining them.

The Applicant's Material Acceptance Procedure can play a key role in avoiding problems of the type described above. The initial procedure proposed by the Applicant was inadequate; so, the Applicant significantly revised it. For example, the initial testing frequency of one (1) sample/3000 CY has been changed to one (1) sample/250 CY.

However, the revised procedure still leaves some questions and could be further improved as follows:

- Consider checking asphalt as well as concrete for paint and staining;

- Request guidance from DEEP regarding the size of asphalt fragments that can be accepted;

- Consider retaining copper, nickel and zinc on the testing list – these were on the initial list and we did not encounter an explanation as to why they were removed from the current list;

- Specify whether/when the levels of the full list of semi-volatile organic compounds (VOCs), and/or a commonly-used PNA sub-set would be sought by testing;

- Specify whether the samples would be discrete samples, composite samples, or a combination;

- There do not appear to be any pass/fail criteria – the material gets tested, but the data don't seem to get compared to anything to determine acceptability versus non-acceptability;

- Consider checking the one (1) sampling/3000 CY Rockhead QA/QC testing data to criteria before the material is entombed and difficult to remove if needed;

- Consider recordkeeping and reporting requirements (e.g., transmitting the data to the Town for review and its files);

- Consider prescribing that LEPs are engaged to plan and oversee the sampling and testing to be done at the source sites for materials brought to the quarry and to sign the Soil Disposal Applications (the benefits of using LEPs is described further below);

- Consider prescribing that a Rockhead or Town LEP review and sign off on the acceptance documentation and implement the QA/QC sampling and testing program at the quarry.

"CLEAN FILL"

We do not dispute the DEEP definition of "clean fill", and never did. Rather, information on the DEEP website reveals that DEEP itself has long recognized problems with its definition, but has not yet changed it. Additional information on this matter is presented below for reference and the record. **Also, and importantly, the Applicant's own records, as well as ALTA's direct observations of the site indicate that materials that do not meet the DEEP definition of clean fill have been disposed of at the quarry (e.g., cinder block, metal, painted asphalt, asphalt less than 4 inches, coal clinkers).**

For example, the documentation for the material that came to the site from the 57 Gower Road property indicates that the materials include tar-coated cinderblock, and cinderblock is not a DEEP-listed clean fill component. Therefore in my opinion, whether any polluted soil and "materials not considered "clean fill" were brought to the site should be assessed in the context of gaining the appropriate approvals and permits from DEEP for this site.

The applicant has used the phrase: "*material which meets the DEEP definition of "clean fill"* seemingly to suggest that the quality of such material is without question appropriate for disposal at the quarry simply due to its clean sounding name, and that the quality of "clean fill" and the differences inherent in the various components of clean fill, should be of no concern to the Town commissions. However, in response to comments received by the Applicant at Town commission meetings, the site development plan has changed in the following significant ways concerning the proposed use of DEEP-defined clean fill:

- DEEP-defined clean fill will no longer be placed below the water table. We note in this regard that the December 2020 WSP report indicates that clean fill has already been placed below the water table, and the Applicant seems to have indicated during the December 17th 2020 P&Z hearing that all clean fill previously placed at the quarry site would be excavated, processed and re-deposited at the quarry. Hence, the management of the existing fill should be carefully considered and clearly prescribed by the Applicant. In this regard, we offer that sampling and testing of groundwater immediately beneath the already-placed fill *may* provide a basis for leaving such fill in place from a groundwater quality standpoint, although such sampling and testing has not yet been completed;

- The asphalt component of clean fill would not be used for general filling at the quarry, but instead use of the asphalt component will be limited to constructing roadways. This

is consistent with DEEP's stated objective/preference for the reuse of old asphalt, as discussed further below. [Note: The Applicant's documentation indicates that asphalt has already been disposed of below the water table, and we offer the same comment as above regarding the potential for this material to remain in place.];

- Clean fill would no longer be placed atop the impermeable liner within a vernal pool envelope, in a seeming acknowledgement that use of clean fill so close to a sensitive environmental resource is not appropriate; and

- Soil brought to the quarry would be tested at the source at a frequency of one (1) sample per 250 CY. [Note: We have not located in the Application materials any "pass/fail" criteria for comparison to these testing results, and the Applicant should prescribe such criteria.]

Clean fill is solid waste. Per the Connecticut General Statutes: "Solid Waste" is (among other things) "…any unwanted or discarded solid, including but not limited to, demolition debris, and material processed at a recycling facility." DEEP considers "discarded" to mean discarded from its *original* use, and has made it clear that clean fill is solid waste.

Hence, much or most of the materials already brought to the quarry, and proposed to be brought to the quarry are solid waste. "Clean fill" includes:

- Used brick and concrete from buildings;
- Used concrete and asphalt from roadways and parking lots;
- Used concrete block from buildings; and
- Used ceramics.

In the DEEP *Solid Waste* Management regulations, the *present day* definition of "clean fill" is:

> (1) natural soil (2) rock, brick, ceramics, concrete, and asphalt paving fragments *that are virtually inert and pose neither a pollution threat to ground or surface waters,* and certain types of polluted soil.

How to interpret the qualifying phrase "[materials] *that are virtually inert and pose neither a pollution threat to ground or surface waters",* has been and is still much debated, and I would assert that context matters. That is to say, that *where* the materials are placed can determine *whether* they pose a threat. For instance it just stands to reason that,

- Fill placed in or near a class GAA public drinking water supply watershed area is *more* likely to pose a threat;

- Fill placed near class AA streams wetlands is *more* likely to pose a threat; while

- Fill placed in a landfill in a class GC area is *less* likely to pose a threat; and

- If old asphalt is recycled into new asphalt and/or used for roadways (rather than placed as buried fill) it is *less* likely to pose a threat.

In my opinion, this Application is in the "more likely to pose a threat" category due to its location in a sensitive GAA/AA area.

Also, a DEEP solid waste management permit appears warranted for this project because of the material processing involved and because non-clean fill materials were accepted and are difficult to prevent from being accepted in the future, such as cinderblock. For example, the documentation for the material that came to the site from the 57 Gower Road property indicates that the materials include tar-coated cinderblock, which is not a clean fill component. Therefore in my opinion, whether any polluted soil and "materials not considered "clean fill" were brought to the site should be assessed in the context of gaining the appropriate approvals and permits from DEEP.

Although the site does not appear to be exempt from the DEEP Solid Waste Management Regulations including DEEP permitting requirements, DEEP does not proactively police sites like this to make sure that permitting requirements are identified and met, apparently even after making site visits as it did to this quarry.

So, it is up to *local governance* such as the P&Z Commission to require the Applicant to seek permits from DEEP. DEEP cannot and will not do it unless the Applicant seeks a pre-application meeting with DEEP, and if the Applicant does not voluntarily request that meeting, only an entity such as yours can require it, and I urge you to require it. Once again, I discussed this project with Mr. Frank Gagliardo at DEEP, he said that the Applicant *should* request a DEEP pre-Application meeting to identify any and all required permits that may be needed and address any other DEEP concerns, due to the size of the project and planned filling of a quarry. In my opinion, the Town of Monroe P&Z Commission should require the Applicant to request a pre-application meeting with DEEP, and if such meeting is granted, that the applicant present its plans to DEEP and get DEEP's feedback and report that feedback to you.

How DEEP Views Clean Fill

In approving a massive-scale project that relies so heavily on the use of DEEP-defined clean fill, it is worthwhile for the P&Z Commission to understand how DEEP views clean fill.

This information is presented on DEEP's website in documents prepared by DEEP circa 2008. According to Ms. Diane Duva, whom I spoke with recently regarding this project and who worked on the 2008 documents, the processing of solid waste is recycling, and DEEP *would like to be able to require a DEEP recycling permit,* or a DEEP beneficial use determination ("BUD") for these types of activities.

Either the permit, or the BUD would specify, among other things, the permissible uses of the processed end products. For example, it is likely that used concrete would be allowed to be used for aggregate and could be placed below the water table at sites, but used asphalt would only be

allowed to be recycled into asphalt-related products that are almost solely used above the water table.

As proposed by DEEP in 2008, asphalt, brick, concrete and ceramic would be classified as "regulated fill", not "clean fill".

> "Clean fill" would be only natural pristine soil – the type of material that the Applicant has said they would use below the water table; and
>
> "Regulated fill" would include used asphalt, brick, ceramic and concrete, and the "regulated fill" would be used or reused beneficially in compliance with a DEEP written authorization or permit, or recycled at a facility with a DEEP written authorization or permit.

DEEP would like to recycle old asphalt into new asphalt; and DEEP would like used brick, ceramic and concrete to be used as construction or grading material, but only if they are:

- Visibly free of oil, adhesives, stains, and paint; and
- Free of contaminants, including, but not limited to, oils, paint, lead, mercury and PCBs, based on knowledge of the source of the material *or on representative sampling and analyses of such material*.

So in summary, DEEP *would like* to define "clean fill" as natural soil, and more stringently regulate the waste materials such as used brick, asphalt, concrete and ceramic.

There Have Been Problems with Other Similar Sites

Even with the best of intentions, the control of the types and quality of materials transported to disposal areas such as quarries can prove to be problematic and DEEP requirements can be misunderstood.

Here are just a few examples:

1. Reportedly, in 2013, Julian Enterprises was awarded the bid to operate the processing facility in nearby Fairfield with the goal of reducing the volume of material at the site. According to the contract, Julian was prohibited from accepting hazardous or contaminated materials at the site.

   However, by 2016, the volume of material at the site had increased rather than decreased. And, there were numerous complaints of increased truck traffic. This prompted the town to hire a firm to investigate.

   In November 2016 that firm saw three Julian dump trucks unload piles of a gray-brown granular material at the back of the site. They took samples which were tested and found

to contain levels of PCBs at six times state standards, and lead at double the concentration considered hazardous.

As a result the Fairfield site was immediately shut down, and new arrests have just been made.

2. In 2009, a legal case was heard in Danbury Superior Court involving a claim by a company named Rock Acquisition LP seeking compensation for *future income* associated with the use of the quarry as a clean fill disposal area. In that case, the DEP testified that such activity could not occur without state and local permits and authorizations which may or may not be granted, depending on the quality of the soil, type of material, etc., and the judge rejected the property owner's valuation. In deciding the case, the Court ruled that the quarry owners did not properly consider DEP's permitting role in valuing the potential *future income*, and that it was the *quarry owner's burden* to demonstrate that the material being accepted on site was strictly limited to "clean fill" as opposed to solid waste materials which would require a solid waste management facility permit.

   In the Brookfield case, the court was *not* persuaded that the materials in question met the definition of "clean fill", citing that an essential element to the definition of "clean fill" is that the materials *must be inert and not pose a threat of contamination*.

   The court found that, absent such a showing, the backfilling operation would be a disposal activity requiring a DEEP permit to operate as a solid waste disposal area.

Notably, we understand that 338 loads of soil were transported from New York City to the Rockhead Quarry by Durante Brothers, who were involved and charged with illegal dumping on Long Island, New York in 2019.

SOLID WASTE AND NEED FOR SOLID WASTE PERMITS

Once again, DEEP itself considers the present day definition of "clean fill" to be problematic, and has sought to change it. This is a good time to mention that the reason why the proposed activities involving the use of clean fill *may* be able to avoid DEEP solid waste permitting requirements is because of one legal exemption that reads: "Areas which are solely for the *disposal* of "clean fill" are exempt from the DEEP Solid Waste Management Regulations" (emphasis added). Note that the phase "*disposal of clean fill"* is used, emphasizing that clean fill is solid waste that gets disposed of.

While this exemption might be used to avoid DEEP permitting requirements, *it is very important that the Commission clearly understand the strict limitations and very narrow scope of the exemption*, which include the following:

- If any materials that do not meet the definition of clean fill *were ever, or would ever be disposed of at the quarry*, the quarry would not be exempt from the DEEP Solid Waste

Management Regulations, and the quarry would not be exempt from DEEP permitting requirements.

In addition to the documented tar-coated cinderblock, during my site walk on Saturday August 29th 2020, I observed two other types of waste on the ground surface of the quarry site that are not included in the definition of clean fill; specifically coal and coal clinker. I have seen photographs of other materials at the site apparently not meeting the definition of clean fill, such as metal piping and re-bar, and painted asphalt, and adhesives. The paint for the yellow lines on asphalt pavement for example can have high concentrations of chromium.

- And DEEP considers that only *some used asphalt* meets the definition of "clean fill" and thereby is exempt solid waste management regulations.

  An October 2, 2006 memo from Mr. Robert C. Isner, director of the DEEP Waste Engineering and Enforcement Division ("WEED") to his DEEP staff has the Subject line: Regulatory Clarification: Asphalt Millings are **not** Clean Fill. The memo states:

  "To help evaluate how to manage asphalt fragments it is important to consider the size of the fragments. The general rule of thumb used by the DEP solid waste program and remediation program are "bigger fragments are better," that is, typically fist-size or greater than 4-inch chunks are fragments that may be exempt from regulation as a solid waste. Asphalt pieces that are smaller than 4 inches [millings, shavings, dust and the like], are typically not considered to meet the definition of clean fill. The reason for focusing on the size is that as the surface area of the asphalt increases (smaller pieces will have greater collective surface area), the likelihood for contaminated leachate and mobilization of pollutants also increases.").

  During my site visit, I saw piles of asphalt at the site containing countless thousands of fragments less than 4 inches in size, and DEEP does not consider these to be "clean fill", and therefore DEEP solid waste permitting appears required for this project.

Also, a DEEP solid waste management permit appears warranted for this project because of the material processing involved and because non-clean fill materials were accepted and are difficult to prevent from being accepted in the future, such as cinderblock.

ALTA has maintained that "clean fill is solid waste, but exempt from solid waste permitting. However, solid waste that is not clean fill is not exempt from solid waste permitting. As discussed above, the applicant's own records, as well as ALTA's direct observations of the site indicate that materials that do not meet the DEEP definition of clean fill have again been disposed of at the quarry (e.g., cinderblock, metal, painted asphalt, asphalt fragments less than 4 inches, coal clinkers). Per CGS Section 22a-207(6), "Solid waste disposal area" means any location, including a landfill or other land disposal site, used for the disposal of more than ten cubic yards of solid waste. For purposes of this subdivision, "disposal" means the placement of material at a location with the intent to leave it at such location indefinitely, or to fail to remove

material from a location within forty-five days…" This definition was included in a letter dated 10/21/20 prepared for a different site by Mr. George Dews, Supervising Sanitary Engineer with the Waste Engineering & Enforcement Division [WEED] of DEEP. This letter and associated documents indicate the following:

- The trigger for requiring the need for solid waste permitting [for materials that are not exempt by virtue of being "clean fill"] takes cognizance of whether they are unwanted and discarded, including whether they carry a "negative value" [tipping fee to dispose] and managed through waste, not commodity markets. [10/21/20 email form Robert Eisner, Director of DEEP WEED].

- The aforementioned letter by Mr. Dews states in the "Permitting" section that a permit from DEEP would be required to operate a solid waste operation on an ongoing basis or conduct short term processing, and that for this [wood-related matter] "DEEP strongly advises all potential applicants to request a pre-application meeting before submission of a permit application." *Again, to be clear, we are not talking about permitting disposal of clean fill; rather, we are talking about permitting the disposal of the materials that do not meet the DEEP definition of clean fill that are at the site (e.g., cinderblock, metal, painted asphalt, asphalt less than 4 inches, coal clinkers), and possibly permitting the processing of any or all of the materials on the site.*

The aforementioned letter and email are attached to the end of this letter for reference.

TRANSPORT OF POLLUTED SOIL AND THE NEED FOR PRIOR DEEP APPROVALS

"Polluted soil" can also meet the current DEEP definition of "clean fill"; although our understanding is the applicant is proposing to not accept polluted soil at the quarry site. Per DEEP RSRs, "Polluted soil" is soil affected by contaminants at *any* concentration. Slightly polluted soil that meets certain DEEP standards and requirements can be reused, while heavily contaminated polluted soil must be properly treated and/or disposed of. The December 2020 WSP report on the quality of the fill materials already brought to the site indicate that these materials are composed, at least in part, of polluted soil. For example, the typical natural background concentration for total lead in Connecticut soil is up to approximately 15 milligrams-per-kilogram (mg/kg), but:

- WSP's sample M2 composed of mixed debris, including soil, had a reported lead concentration of 65.6 mg/kg, which WSP represented as a background concentration without further explanation;

- Samples from WSP's test pits TP9 and TP2 contained polynuclear aromatic hydrocarbons (PAHs) in TP2 and elevated concentrations of lead (29.4 mg/kg in TP9). WSP attributed the PAHs to asphalt observed in the soil, and described the lead concentration as typical of naturally occurring concentrations;

- Samples from WSP's borings B4, B8 and B10 contained total lead concentrations ranging from 38.6 to 141 mg/kg, above typical naturally occurring concentrations, and one single-sample concentration of leachable lead exceeded the DEEP pollutant mobility criteria for GA areas, all indicating the presence of polluted soil already at the quarry; and

- Laboratory testing data for soil delivered to the site by Durante Brothers (reportedly in 2021 and from New York City) indicates the presence of PAHs, therefore indicating that the material is polluted soil.

It is very important to understand that if *any* "polluted soil" is or was brought to the Rockhead Quarry, even if it meets the most stringent DEEP soil remediation standards, that DEEP *prior approval* is or was required prior to its transport to the quarry, and failure to gain this prior approval could be a DEEP violation. It is not entirely clear, even now, whether polluted soil is proposed to be brought to the site (because it seems to be accepted even as the applicant claims it won't be), and if so whether DEEP prior approvals will be obtained or whether DEEP will be consulted regarding the need for such prior approvals.

HOW TO VIEW DEEP's LACK OF ACTION TO DATE

Rather than speculate on how to assess DEEP's inaction and lack of enforcement for the site to date, I recommend that the commission ask Mr. Robert Isner, WEED Director of DEEP what to make of it. It may very well be that DEEP's actions or lack thereof should NOT be taken as DEEP condoning the activities that have taken place on the site, and that DEEP is still in the process of assessing same. While it is true that DEEP may take enforcement action after a significant problem is identified, DEEP may not have had sufficient time and resources to assess this matter and to determine if enforcement actions are warranted in the absence of a demonstrated problem (e.g., possibly due to lack of adequate investigation). Of course, by the time DEEP may decide to take enforcement action, much damage may have been done which may prove impractical to remedy. In any case, requesting DEEP's position on the matter directly from the authoritative person at DEEP would seem a prudent action to take, given the reported ongoing "DEEP investigation" of the quarry site. We note that the recent (12/15/21) DEEP letter by Mr. Jepson should not be taken as DEEP's opinion regarding past and planned site activities; rather, it was simply a limited response to an individual compliant, and explicitly disavowed pertinence to past activities and indicated that certain soil at the site remains under review.

OVERALL LEVEL OF DEEP ENGAGEMENT

The applicant has tried to maintain that DEEP is actively and well engaged with this project. However, after the applicant failed to provide information requested by DEEP in a timely manner, and then just recently providing some information to DEEP, we have not been presented with any DEEP opinions or findings (the 12/15/21 Jepson letter notwithstanding).

ALTA recommends that the commission seek to have DEEP engaged to a sufficient degree to review and approve of the prior and proposed future activities. This can be done possibly

through the applicant's request for a DEEP pre-application meeting, political request on behalf of the Town, and/or by requesting the applicant enter the site into a voluntary remediation program.

NEW DEEP POSITION PAPER ON "AFFIRMATIVE RESPONSIBILITY TO CLEAN-UP POLLUTION IN CONNECTICUT"

Prior to a DEEP"s position paper on "Affirmative Responsibility to Clean-up Pollution in Connecticut" (posed on DEEP's website in September 2021), the Applicant's environmental attorney was able to maintain that the RSRs may not apply to this site because it was not in a formal DEEP remediation program. However, DEEP's position paper asserts that there is an affirmative obligation for Connecticut landowners to remediate pollution to the standards in the RSRs. The paper references, among other things, the Water Pollution Control Act that requires those who are aware of pollution to abate it, and notes that remediation of polluted soil (in addition to groundwater) is nearly always required because ownership of contaminated soils constitutes maintenance of a condition that is in fact a source of pollution to the waters of the state.

COMMENTS RE: THIS COMMISSION'S JURISDICTION ON ENVIRONMENTAL MATTERS

The applicant and its attorneys would like you to think that the Monroe P&Z Commission has no jurisdiction over environmental matters in your Town of Monroe. It may be that they are simply afraid of the decision you would make if you take up that matter. I recommend that you don't let this become a case where everyone says "it's not their job", and then the regrettable occurs.

But don't blame the attorney's – it's not their fault. Rather, it's their job. Attorneys have to be "zealous advocates" for their clients – they are not truth seekers – the "truth' is arrived at by you, after listening to them (and others) – that's a foundation of our legal system.

The Town's LEP, Mr. Russ Dirienzo, has said that the quality of the fill is a P&Z matter and also a DEEP matter; and in that regard, I would recommend that the P&Z Commission request the applicant to present the site environmental history and proposed project plan to DEEP in a pre-Application meeting (as DEEP has also indicated should be done), and get DEEP's opinion on the acceptability of the plan, for example with respect to the appropriateness of using the existing and proposed fill in this setting, the adequacy of the existing data on the quality of the soil/fill materials and groundwater, and plans for future monitoring and reporting, etc.

Attorney Finn has stated to you that the Monroe IWC has already thoroughly vetted this project and has rejected claims asserting the potential for environmental impact from the type of fill materials to be used. I believe that it would be more truthful to say that the IWC decided to leave the fill quality matter to the P&Z Commission and to DEEP (as noted above), and also elected to limit its rationale for rejection of the previous application to non-contaminant-related matters (possibly to stave off an appeal).

So, it's a bit of shell game: the IWC said it's this Commission's job (and DEEP's); the Applicant says it's not your job (says its IWC's and DEEP's job); DEEP won't take action unless it has enough information to enforce against a violation, and DEEP has not completed its assessment.

The buck has to stop somewhere; and it's your Town.

So, it is up to *local governance* such as this Commission to require that the Applicant seek any required permits from DEEP. DEEP cannot and will not do it unless the Applicant seeks a pre-Application meeting with DEEP, and if the Applicant does not voluntarily request that meeting, only an entity such as yours can require it, and I urge you to require it. Once again, I discussed this project with Mr. Frank Gagliardo at DEEP, he said that the Applicant *should* request a DEEP pre-Application meeting to identify any and all required permits that may be needed and address any other DEEP concerns, due to the size of the project and planned filling of a quarry. In my opinion, the Town of Monroe P&Z Commission should require the Applicant to request a pre-Application meeting with DEEP, and if such meeting is granted, that the applicant present its plans to DEEP and get DEEP's feedback and report that feedback to you.

WHAT ELSE CAN BE DONE?

While *DEEP* currently may not have proactive authorities or resources for cases such as this, *significant protections can be afforded to the Town by the DEEP "LEP program".* LEPs are licensed by the State of Connecticut DEEP to investigate and remediate sites, and LEPs are essentially as deputies of DEEP.

In order to maintain their licenses, LEPs must abide by rigorous Rules of Professional Conduct in order to safeguard the environment. These rules of professional conduct require that:

- An LEP must at all times*, hold paramount the health, safety and welfare of the public and the environment;*
- An LEP must make a good faith and reasonable effort to identify and obtain the *relevant data* and other information about a site; and
- If at any time *after* rendering a conclusion an LEP learns that a condition existed that leads to a contrary conclusion, then the LEP must promptly notify the client in writing, and in certain cases must notify DEEP.

Hence, the Town can arrange for a relatively high degree of quality control over Site activities by requiring LEP involvement to assess existing conditions, the proposed project and (if approved) to work throughout and following the filling portion of the project.

This is a complex Application involving a massive project. Accordingly, we would recommend that the P&Z Commission consider retaining an independent consultant to review the technical Application materials from an environmental perspective and provide guidance on behalf of the Town. The IWC did this*, but the IWC elected to not consider the pollution potential of the fill*,

believing that to be a Planning and Zoning Commission and DEEP issue. My opinion is that a consultant that you may hire should have on staff, or at least on call, the following professionals:

- An LEP;
- Connecticut Licensed Professional Engineer; and
- A hydrogeologist.

DEMONSTRATIONS REASONABLY EXPECTED TO BE MADE BY APPLICANT

In my professional opinion *it would be reasonable for the Applicant to demonstrate*:

- That the prior and proposed filling will not cause groundwater or surface water pollution that would adversely impact the wetlands or other sensitive receptors. Given the discussion of clean fill and solid waste, simply claiming that the future intake material will meet the present day (and problematic) DEEP definition of "clean fill" is not an acceptable demonstration in my opinion. Also, the existing data on groundwater quality are too sparse and are for wells too far from (and possibly not downgradient from) the primary fill areas to be deemed adequate in my opinion, and the single surface water sample may not be very representative of groundwater quality. Groundwater contour maps are the standard tool used to show whether wells (and other sampling locations) are downgradient from pollution sources, and these maps have not been prepared and provided to the Commission.

- That DEEP has been notified as required under section 6.6.3 (C) (4) of the Zoning Regulations;

- That DEEP has had an opportunity to review the project through its pre-application process, and if such review is conducted that DEEP is satisfied with any and all past and proposed filling of the quarry;

- That DEEP and/or your own consultant weigh in on whether existing fill is below the water table, and if so whether it should be removed and replaced with natural soil;

- That the Application materials show that only natural soil and rock materials will be placed below the water table, whether "rock flour" is appropriate for use as fill below the water table, and that the use of asphalt will be limited to roadway subbase beneath bituminous pavement or concrete;

- That the estimated post-filling elevation of the water table has been sufficiently determined, *and importantly that the water table elevation in the fill areas will be monitored post filling to verify that the estimate was correct.* This is critical to making sure that only natural rock and soil is used to fill below the water table. If the estimated elevation is too low, then it will be very difficult to remove the fill later; so, it is best to

err on the conservative side by providing a sufficient buffer distance above the predicted water table elevation;

- Whether any "polluted soil" or materials not considered "clean fill" were or will be brought to the site, and if so that the appropriate approvals and permits be obtained by DEEP;

- That LEPs will develop and sign off on the sampling and testing at the source locations that will assure that only conforming materials are disposed of at the quarry;

- That LEP's will review and sign off on the intake documentation, to oversee the quarry's own QA/QC soil testing;

- That LEPs will develop and implement the quarry's groundwater and surface water monitoring program and will administer appropriate record keeping and reporting (e.g., to the Town). This monitoring program should be detailed in the Application materials for your review;

- That the Applicant takes responsibility for any non-conforming materials that may ultimately be determined to have been transported to (and possibly from) the Site; and to the posting of sufficient bond to back up the Applicant's responsibility; and

- That the Applicant consider the use of only "natural soil" to accomplish the filling objective rather than solid waste, and/or consider expanding the purpose of the impermeable liner to include capping of the debris, clean fill, rock flour, and/or polluted soil etc.

SOME LINGERING DATA GAPS AND QUESTIONS

We recall that this Commission and/or the IWC have requested that the existing and planned final groundwater elevations be shown on cross sections that also show the pre-quarry grade, existing grade and proposed grade, and this information does not appear to have been presented.

We recall that one of both of these Commissions have asked for an accounting of all the fill that is presently on the site. While an estimate of 84,900 CY has been presented, a data-supported accounting has not been provided, to date.

Does the Applicant plan to impose a *double standard* with respect to Kimball-era fill (e.g., with asphalt and brick placed below the water table, and low frequency of testing and other quality control measures), versus Karp-era fill (with plans to place only natural soil below the water table, and have a greater frequency of testing and overall higher quality control measures)?

Why has the Applicant not produced the environmental due diligence reports prepared for the site for its purchasing decision? Such information would be expected to pertain to the quality of the fill that existed prior to the purchase. Will the Applicant produce these reports?

Will the existing fill below grade at the site be excavated and reprocessed and compacted as the applicant previously committed to doing? If so, will the nature and quality of this fill be assessed so that any unacceptable materials are segregated for off-site disposal?

Does the Applicant intend to import DEEP-defined polluted soil?

What will the Applicant do with existing polluted soil at the site?

How will the stockpiles of asphalt fragments at the site be managed (e.g., as subbase beneath competent pavement, or as "asphalt gravel roadways" subject to erosion)?

Will the Applicant test the native overburden materials for leachability and check for non-native constituents (e.g., asphalt)?

What are the numerical acceptance criteria (concentration limits) for soil planned to be brought to the quarry? If the goal is for only uncontaminated soil to be brought in (which appears to be what the Applicant is proposing), then the concentration limits should be representative of natural background conditions.

What will become of the soil that DEEP identified in its 15 December 2021 letter as remaining under review due to the reported leachable lead concentrations?

Is the Applicant willing to request a DEEP pre-application meeting to identify any and all required permits that may be needed and address any other DEEP concerns, due to the size of the project and planned filling of a quarry?

CONCLUSION

In conclusion, it seems that judicious Application of *Town governance* through agencies such as yours - the Town of Monroe Planning and Zoning Commission - is required to make sure that this property, in your town, is managed responsibly and does not become a problem for future generations

If all the information that you deem necessary to make a decision is not available to you, then we would recommend that that the Town reject the Application without prejudice, and the Applicant can obtain the additional information and re-submit a new Application for your consideration.

Thank you for your consideration of this letter.

Sincerely yours,
ALTA Environmental Corporation

Evan J. Glass LEP
President

Attachments:

Documents from Messrs. George Dews and Robert Isner of DEEP
DEEP Position Paper on Affirmative Responsibility to Clean-up Pollution in Connecticut
Available information for Trumbull Property

Cc: Attorney Joel Green, The Law Offices of Green and Gross, P.C.
Mr. Peter Metropoulos
Mr. David Bjorklund, Spath Bjorklund Associates Inc.

Daniel Kops

From: Isner, Robert <Robert.Isner@ct.gov>
Sent: Wednesday, October 21, 2020 12:04 PM
To: Dews, George; Daniel Kops; TLee@FILLaw.com; Holly Masi
Cc: Patel, Nisha
Subject: Re: Hamden Letter
Attachments: Hamden Letter 10 21 2020 2.pdf

Tim & Dan,

The last paragraph in George's letter reflects that some wood is wanted and has value in markets as a commodity. A viable commodity is not unwanted or discarded as is the trigger under the definition of solid waste, and is exempt from DEEP solid waste permitting.

Stumps, brush, rotted, and other wood that is not commodity grade typically has a negative value and is unwanted and is managed through waste not commodity markets.

For example if DEEP observes an 8 foot long, straight, large diameter oak logs organized and ready for milling, DEEP's conclusion would be different than that of a pile of short (less than 8 feet long), crooked pine, as the value and market for each pile is very different. The oak logs have positive value (wanted) and can be sold as is, where the pine wood will have a negative value (unwanted).

Let us know if you would prefer to have call to discuss.

Robert C. Isner
Director
Waste Engineering and Enforcement Division
Department of Energy and Environmental Protection
robert.isner@ct.gov

From: Dews, George <George.Dews@ct.gov>
Sent: Wednesday, October 21, 2020 11:04 AM
To: DKops@Hamden.com <DKops@Hamden.com>; TLee@FILLaw.com <TLee@FILLaw.com>
Cc: Isner, Robert <Robert.Isner@ct.gov>; Patel, Nisha <Nisha.Patel@ct.gov>
Subject: Hamden Letter

HI Dan, I hope you are safe and well. The letter we discussed at our recent meeting is attached. Please let me know if you have any questions.

Sincerely,
George Dews

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 portal.ct.gov/deep Affirmative Action/Equal Opportunity Employer

10/21/2020

Daniel Kops, Town Planner
Hamden Government Center
2750 Dixwell Ave
Hamden, CT 06518

Subject: DEEP Solid Waste Program Complaint No. 19-204
82 Crest Way and abutting properties at 785 and 925 Sherman Ave., Hamden

Dear Mr. Kops:

On October 16, 2020, a virtual meeting was held between Town of Hamden officials including you, Matthew Davis, Holly Masi and Tim Lee and DEEP/Waste Engineering & Enforcement Division ("WEED") staff Robert Isner, Nisha Patel, and George Dews to discuss violations at the above referenced site, among which include the unauthorized receipt and improper management of approximately 6,000 cubic yards of bulky waste [as defined by Section 22a-209-1 of the Regulations of Connecticut State Agencies ("RCSA")] including land clearing debris (as defined by Section 22a-208a-1 of the RCSA) collectively referred to hereafter as "wood waste". Town officials discussed that a Cease and Desist Order has been issued and resolution of the violations which would be on the agenda of the upcoming Planning & Zoning Commission meeting scheduled for October 27, 2020. WEED staff identified that if greater than ten (10) cubic yards of wood waste had been buried, violations of solid waste statutes and regulations had occurred, including operating solid waste facility without a permit from DEEP as required by Connecticut General Statutes Section ("CGS") 22a-208a. The severity of the violations and DEEP response would depend on the specific facts and upon consideration of the associated environmental risk, available staff resources, and enforcement priorities, WEED would provide support to the Town's enforcement efforts to resolve the subset of wood waste related violations. WEED therefore provides the following guidance and applicable solid waste statutory and regulatory references:

Applicable definitions:

CGS Section 22a-207(3): "Solid waste" means unwanted or discarded solid, liquid, semisolid or contained gaseous material, including, but not limited to, demolition debris, material burned or otherwise processed at a resources recovery facility or incinerator, material processed at a recycling facility and sludges or other residue from a water pollution abatement facility, water supply treatment plant or air pollution control facility.

CGS Section 22a-207(4) "Solid waste facility" means any solid waste disposal area, volume reduction plant, transfer station, wood-burning facility or biomedical waste treatment facility.

CGS Section 22a-207(6): "Solid waste disposal area" means any location, including a landfill or other land disposal site, used for the disposal of more than ten cubic yards of solid waste. For purposes of this

subdivision, "disposal" means the placement of material at a location with the intent to leave it at such location indefinitely, or to fail to remove material from a location within forty-five days, ..."

CGS Section 22a-208a.(b) and RCSA Section 22a-209-4.: No person or municipality shall establish, construct or operate a solid waste facility without a permit issued by the commissioner under this section.

Permitting:

WEED understands from dialog with the Town of Hamden that Paradise Landscaping has ceased the receipt of wood waste. Should Paradise wish to operate a wood waste management or other solid waste operation on an ongoing basis or conduct short term processing of wood waste to address the noted violations, in addition to applicable local approvals and/or permits, a permit from DEEP would be required prior to initiation of such activity. DEEP's solid waste permitting webpage provides information on permitting options. DEEP strongly advises all potential applicants to request a pre-application meeting before the submission of a permit application.

Corrective Actions:

In order to rectify the solid waste disposal area violation, the approx. 6000 cy of buried wood waste placed on abutting property (785 and 925 Sherman Ave, Hamden) must be removed and disposed of at a facility permitted by DEEP to receive such wood waste. Paradise Landscaping has identified Elite Construction (Windsor) as the disposal facility; however this is not a facility permitted by DEEP and therefore cannot legally be the recipient of the wood waste. The receiving facility must be a DEEP permitted facility.

The buried wood waste (along with any other solid waste that may exist) must be characterized (i.e. categorized by waste type) prior to removal. The characterization should be conducted and overseen by an environmental consultant (such as a CT Licensed Environmental Professional) with relevant expertise. Should other solid waste (such as tires, asbestos or PCB containing materials, chemical containers, etc.) be discovered during excavation or characterization, the environmental consultant should appropriately analyze such waste, identify appropriate removal and remedial action(s), and oversee the implementation of such action(s).

Insect infestation assessment:

The town should continue to engage with the CT Agriculture Experimental Station on how to best assess the wood waste for potential invasive pests. In addition, WEED offers the following, which is standard language in its solid waste permits, to mitigate the spread of potential pests:

General Permit to Construct and Operate a Commercial Facility for the Management of Recyclable Materials and Certain Solid Wastes:

> Part II.C.1.e: Management of Pest Infested Clean Wood. The Registrant shall ensure that any Clean wood received is visibly inspected immediately upon Receipt for signs of possible pest infestations including the presence of the Asian Longhorn Beetle and the Emerald Ash Borer. i. Signs indicating possible Asian Longhorn Beetle infestation can be found at the CT DEEP webpage: http://www.ct.gov/deep/alb; ii. Signs indicating possible Emerald Ash Borer infestation can be found at the CT DEEP webpage: http://www.ct.gov/deep/eab; iii. Any Clean wood suspected of being

Daniel Kops

From: Isner, Robert <Robert.Isner@ct.gov>
Sent: Wednesday, October 21, 2020 12:52 PM
To: Matthew J. Davis; Daniel Kops; Tim Lee; Dews, George
Cc: Patel, Nisha; Holly Masi
Subject: Re: Crestway Bulky Waste Facility

Regarding Attorney Lee's response - Unfortunately the question of "what is solid waste" can be a tricky question to answer. DEEP does in part assess the value of the material in question to make the determination and sometimes it comes down to if the material is wanted (can it be sold) or unwanted (must a fee be paid to someone to manage it) in the market place.

Managing (receiving, storing, or processing) solid waste from off-site requires a solid waste facility permit. If the material is not a solid waste, no solid waste facility permit is required.

Regarding Matt's email below, please forward whatever new documentation you have such as photo documentation (retain detail of who, when, where for the photos), field notes, reports, etc., and DEEP can review. Issuing an order is not feasible by October 27th.

If need be we can set up another call time as DEEP cannot continue replying to each email coming in leading to another series of emails.

Be well.

Robert C. Isner
Director
Waste Engineering and Enforcement Division
Department of Energy and Environmental Protection
robert.isner@ct.gov

From: Matthew J. Davis <mdavis@Hamden.com>
Sent: Wednesday, October 21, 2020 12:41 PM
To: Daniel Kops <DKops@Hamden.com>; Tim Lee <TLee@FILLaw.com>; Dews, George <George.Dews@ct.gov>
Cc: Isner, Robert <Robert.Isner@ct.gov>; Patel, Nisha <Nisha.Patel@ct.gov>; Holly Masi <HMasi@Hamden.com>
Subject: Crestway Bulky Waste Facility

Thank you Dan - Folks, the evidence Dan just discovered, is in my opinion, absolutely a change in material circumstances which justifies that DEEP assert its jurisdiction over the entire matter. Per our recent zoom

Thank you, George. I am referencing to the last paragraph of the letter. Based on our conference call, my understanding was that the applicant would also require a permit/license from DEEP in order to process lumber or firewood at the site in addition to any local zoning approval. Is that correct?

Timothy J. Lee, Esq.
Fasano, Ippolito, Lee & Florentine, LLC
388 Orange Street
New Haven, CT 06511
(203) 787-6555

261 East Main Street
Branford, CT 06405
(203) 483-9609
(203) 483-1342

From: Daniel Kops [mailto:DKops@Hamden.com]
Sent: Wednesday, October 21, 2020 11:17 AM
To: Dews, George <George.Dews@ct.gov>; Tim Lee <TLee@FILLaw.com>
Cc: Isner, Robert <Robert.Isner@ct.gov>; Patel, Nisha <Nisha.Patel@ct.gov>; Matthew J. Davis <mdavis@Hamden.com>; Holly Masi <HMasi@Hamden.com>
Subject: RE: Hamden Letter

Thanks George

We'll review your letter and get back to you if we have any questions or comments.

From: Dews, George [mailto:George.Dews@ct.gov]
Sent: Wednesday, October 21, 2020 11:05 AM
To: Daniel Kops <DKops@Hamden.com>; TLee@FILLaw.com
Cc: Isner, Robert <Robert.Isner@ct.gov>; Patel, Nisha <Nisha.Patel@ct.gov>
Subject: Hamden Letter

Hi Dan, I hope you are safe and well. The letter we discussed at our recent meeting is attached. Please let me know if you have any questions.

Sincerely,
George Dews
860-633-2543

Evan Glass

From: EPOC <epoc@epoc.org>
Sent: Wednesday, September 22, 2021 12:42 PM
To: Evan Glass
Subject: Affirmative Responsibility to Clean-up Pollution in CT

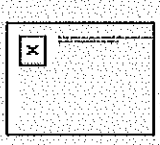
EPOC NEWS

Affirmative Responsibility to Clean-up Pollution in CT

As many of you are aware, questions were posed during the RSR Wave 2 amendment process about whether the Remediation Standard Regulations (RSRs) "are the required endpoints for all cleanups – as opposed to just those cleanups undertaken pursuant to a formal cleanup program (e.g., the Transfer Act and Voluntary Programs)." EPOC worked with CT DEEP on this topic over many months to obtain further explanation from the Department regarding their position on this issue. As a result, CT DEEP has recently posted a statement of clarification regarding the applicability of the RSRs on their RSRs webpage. The direct link to the document is: Affirmative Responsibility to Clean-up Pollution in Connecticut.

See the EPOC Job Center to view or post jobs and to sign up for Job Alerts.

Environmental Professionals Organization of Connecticut
PO Box 176, Amston, CT 06231-0176
Phone: (860) 537-0337 | Fax: (860) 603-2075
www.epoc.org



Evan J. Glass, LEP
ALTA Environmental Corporation
121 Broadway
Colchester, CT 06415
Phone: 860 537-2582
Cell 860 338-0967

During the process of adopting the most recent amendments to the Remediation Standards Regulations ("RSRs"), there were questions about whether those standards are the required endpoints for all cleanups – as opposed to just those cleanups undertaken pursuant to a formal cleanup program (e.g., the Transfer Act and Voluntary Programs). This question is often identified by using the shorthand phrase "applicability of the RSRs." Upon careful consideration, however, the question is not necessarily about applicability, but is instead about when one's liability to the state for pollution is fully discharged.

To be clear, it has never been the Department's practice or intent to provide tacit or express approval of a cleanup that does not achieve the standards specified in the RSRs.

Connecticut's courts have found an affirmative obligation to remediate pollution to the standards in the RSRs. The courts derived this obligation from the Water Pollution Control Act, found at chapter 446k of the General Statutes (the "Act"). The Act declares "that the pollution of the waters of the state is . . . a public nuisance . . ." (Conn. Gen. Stat. § 22a-422) and subjects "any person . . . maintaining any facility or condition which reasonably can be expected to create a source of pollution to the waters of the state . . ." to the Commissioner's enforcement authority[1] (General Statues §22a-432). The Connecticut Supreme Court has determined that

> [i]n light of the remedial purposes of the [water pollution control] act, we conclude that the legislature intended that the word 'maintaining' in § 22a–432, be interpreted liberally to include within its purview a landowner who has failed to abate pollution existing on his or her land that reasonably could be expected to create a source of pollution to the state's waters regardless of blame for the creation of the condition.

Starr v. Comm'r of Env't Prot., 226 Conn. 358, 382, (1993)(Owner liable for "a nuisance in the form of pollution" on her land "of which she has been made aware.")

In *Vorlon Holding, LLC v. Commissioner of Energy and Environmental Protection*, the Appellate Court affirmed and reiterated the Supreme Court's holding in *Starr*, stating "[s]ection 22a–432 is a strict liability statute . . . . Under the statute and the common law of nuisance, [there is] an affirmative duty to abate [polluted property]." *Vorlon Holding, LLC v. Comm'r of Energy & Env't Prot.*, 161 Conn. App. 837, 848 (2015). The Act, then, requires that pollution be abated.

The Connecticut Supreme Court has further determined that the affirmative obligation to abate pollution imposed by the Act is satisfied only when a cleanup has achieved compliance with the RSRs. Indeed, when considering the appropriate cleanup standard for an order issued pursuant to Chapter 446k, the Connecticut Supreme Court held that

> [i]f [the person who created or is maintaining pollution is] not required to remediate the effects of their discharges into the waters of the state as required by the applicable remediation standard regulations, the discharges will continue to pollute the waters of the state, thereby undermining not just the technical

[1] The term "waters of the state" includes groundwater. Remediation of polluted soil is also nearly always required.. See, e.g., *Holbrook v. Cadle Properties of Connecticut, Inc.*, No. CV970567429, 2000 WL 1872041, at *5 (Conn. Super. Ct. Dec. 4, 2000) ("[O]wnership of contaminated soils . . . constitutes maintenance of a condition that is in fact a source of pollution to the waters of the state.")

> formalities of the statutory permitting scheme, but also the fundamental and overriding purpose of the Water Pollution Control Act—to eliminate water pollution.

Comm'r of Env't Prot. v. Underpass Auto Parts Co., 319 Conn. 80, 98-99 (2015)(Citations omitted, internal quotation marks omitted).

By their own terms, both before and after the most recent amendments, the RSRs apply, "to any action taken to remediate [pollution] required pursuant to . . . Chapter 446k." Regs., Conn. State Agencies 22a-133k-1(b). Chapter 446k, the Water Pollution Control Act, requires those who are aware of pollution to abate it. Such pollution is considered abated -- and any obligation and potential liability to the state is completely discharged – only once the standards in the RSRs are satisfied.

Over time, and with an understanding of the holdings in the cases cited above, the Department has exercised its enforcement discretion to focus its limited resources on those sites that the Department has determined require prompt action to reduce risks to human health or the environment. While the Department retains the authority to issue an order regarding property where pollution is known and full compliance with the RSRs has not been achieved , a new approach to allocating enforcement resources or exercising enforcement discretion is not planned.

MAP REFERENCES

1. "MAP OF SURVEY OF PROPERTY IN TRUMBULL, CT. FOR ALLIED STORES INC. APRIL 27, 1965 SCALE 1" = 40' BY FULLER & CO., INC.

2. "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF TRUMBULL BRIDGEPORT-NEWTOWN ROAD FROM THE MONROE ROAD NORTHERLY TO THE MONROE TOWN LINE. SCALE 1"=40' NUMBER 144-13 SHEET 2 OF 2 SECTION NO 3 MARCH 31, 1939."

3. "RIGHT OF WAY AND TRACK MAP. THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. OPERATED BY THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. FROM BRIDGEPORT TO MITTSFIELD STATION 466+09.9E. TO STATION 518+86.2E TOWN OF TRUMBULL/MONROE STATE OF CONN SCALE 1" = 100 FT. DATE JUNE 30, 1913 V.3764/10" OFFICE OF VALUATION ENGINEER BOSTON, MASS

4. "BUILDING LOCATION MAP, ZONING 7100 MAIN STREET TRUMBULL, CONNECTICUT NOVEMBER 11, 1985 SCALE 1"=20" BY SMITH-DORFLAND ASSOCIATES, INC.

5. "EXISTING CONDITIONS BULKY WASTE DISPOSAL AREA SPRING HILL ROAD TRUMBULL, CONNECTICUT" PREPARED FOR TOWN OF TRUMBULL SCALE 1" = 40' MAR. REV. 9/1/88 SHEET 5 OF 6" BY FASHEK ASSOCIATES

NOTES

1. Underground utility locations depicted and noted hereon have been compiled, in part, from record mapping supplied by the respective utility companies or governmental agencies and from other sources. These locations must be considered as approximate in nature. Additionally, other such features may exist on the site, the existence of which are unknown to A-N Consulting Engineers, Inc. The size, location and existence of all such features must be field determined and verified by appropriate authorities prior to construction. Can before you dig 1-800-922-4455

2. Bearings hereon are based upon Town of Trumbull control monuments.

3. Elevations hereon are based upon NAVD 1988 datum. C.G.S. B.M. #34, elevation 335.915 was used.

4. Invert elevations in some cases are only approximate as traps over the pipe made it impossible to measure accurately

ABANDONED RAILROAD

N/F HOWARD S. ROWAN, JR. ET AL.

N/F HOWARD S. ROWAN, JR. ET AL

N/F TOWN OF TRUMBULL "Bulky Waste Disposal Area"

Bench Mark Nail in 24" 24" Poplar Elev. 329.02 Ft.

Bench Mark N.E. Corner Light Post Base Elev. 328.16 Ft.

Bench Mark S.W. Corner Light Post Base Elev. 326.37 Ft.

MAIN STREET

OLD TURNPIKE ROAD

CONN. ROUTE 25

SPRING HILL ROAD

N/F DAVID F. & CAROL W. PREUSSLER

N/F TOWN OF TRUMBULL "Cemetery"

"Apparent Street Line" From Mon. Int. 1

Stone Warehouse

Cemetery

Gravel Farm

Driveway

Bituminous Pavement

Wooden Fence

Chain Link Fence

Stone Wall

Overhead Wires

Utility Pole

Light Post

Catch Basin

Manhole

Gas Gate

Water Gate

Sign

Deciduous Trees

Evergreen Trees

Shrubs

Hedges

Lawn Area

Flower Beds

Rock Outcrop

Curb

Edge of Pavement

Top of Bank

Bottom of Bank

Edge of Water

Edge of Woods

Tree Line

Property Line

Right of Way Line

Center Line

Building Line

Setback Line

Existing Contours

Proposed Contours

Proposed Spot Elevations

Proposed Drainage Flow

Proposed Swale

Proposed Catch Basin

Proposed Manhole

Proposed Drainage Pipe

Proposed Underdrain

Proposed Water Line

Proposed Gas Line

Proposed Electric Line

Proposed Telephone Line

Proposed Fence

Proposed Retaining Wall

Proposed Limit of Work

Proposed Limit of Clearing

Proposed Limit of Grading

Proposed Limit of Disturbance

Proposed Limit of Excavation

Proposed Limit of Fill

Proposed Limit of Cut

Proposed Limit of Paving

Proposed Limit of Curbing

Proposed Limit of Sidewalk

Proposed Limit of Landscaping

Proposed Limit of Lighting

Proposed Limit of Signage

Proposed Limit of Striping

Proposed Limit of Pavement Markings

Proposed Limit of Guiderail

Proposed Limit of Fencing

Proposed Limit of Retaining Wall

Proposed Limit of Utilities

Proposed Limit of Drainage

Proposed Limit of Grading

Proposed Limit of Disturbance

Proposed Limit of Excavation

Proposed Limit of Fill

Proposed Limit of Cut

Proposed Limit of Paving

Proposed Limit of Curbing

Proposed Limit of Sidewalk

Proposed Limit of Landscaping

Proposed Limit of Lighting

Proposed Limit of Signage

Proposed Limit of Striping

Proposed Limit of Pavement Markings

Proposed Limit of Guiderail

Proposed Limit of Fencing

Proposed Limit of Retaining Wall

Proposed Limit of Utilities

Proposed Limit of Drainage

PRESENT OWNER: Joseph Pontiflero

AREA: 440,209 S.F. 10.10 Acres

SCALE IN FEET

1. This survey has been prepared in accordance with the "Recommended Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on September 24, 1992.

2. The type of survey performed is an improvement location survey and is intended to depict or note the position of particular improvements on the property with respect to municipal or statutory requirements to enable determination of compliance with same

3. Boundary determination/opinion is based upon an independent fieldwork

4. This survey conforms to an A-2 class of accuracy

5. Topographic features depicted hereon conform to a T-2 class of accuracy

NO CERTIFICATION IS EXPRESSED OR IMPLIED ON THE ORIGINAL OR ANY DUPLICATE OF THIS MAP, UNLESS IT BEARS THE LAND SURVEYOR INSPECTION TYPE SEAL OR ORIGINAL STAMP AND AN ORIGINAL SIGNATURE OF THE SURVEYOR WHOSE NAME AND LICENSE NUMBER APPEAR ON THIS MAP.

A-N Consulting Engineers, Inc.
505 Willard Avenue
Newington, Connecticut 06111
(860) 666-3368
FAX (860) 666-6163

CONSULTING ENGINEERS

SURVEY AND TOPOGRAPHIC MAP

7120 MAIN STREET
TRUMBULL, CONNECTICUT

PROJECT NO. 8888-87 | DATE JULY, 1996 | SCALE 1" = 40'

SHEET NO. 1

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Kasper Associates
Trumbull Landfill,
Connecticut

WELL NO. B-5A

DATE 08/09/85 PAGE 1 OF 1 PAGES

LOCATION: West of the Pequonnock River between the dirt road and river, east of Read's parking lot

DATE COMPLETED: August 9, 1985

DRILLING COMPANY: East Coast Drilling, Inc.

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: Kathleen Kavlunas

REFERENCE POINT: Grade

ELEVATION OF R.P.:

WELL CONSTRUCTION
SCREEN TYPE: Slotted PVC
DIAM. 2-inch SLOT NO. .010
SETTING: 5-20 feet bgl
GRAVEL PACK SIZE: Ottawa sand 3.7-20 feet bgl
CASING: 2 ft agl- 5 ft bgl
DEVELOPMENT: 8/15/85: 30 minutes

PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL:
PUMPING WATER LEVEL:
YIELD:

REMARKS:

DEPTH IN FEET FROM	TO	DESCRIPTION
0	5	SAND; fine to medium; little gravel; brown.
5	10	SAND; fine to medium and GARBAGE; metal; shoe; gaskets; gray-black.
10	15	GARBAGE; metal scraps; cans; rags and SAND; medium; gray-black. Saturated at 12 feet.
		Blow count: 6-8-5. Recovery 11 inches.
		Sample 15-16.5 feet. SAND; fine and SILT; little gravel; high biotite mica content; gray-black. OVA = 19 max.
15	20	SAND; fine and GARBAGE; metal; cans; rags; gray-black.
20	23½	SILT and SAND; very fine; trace of clay; gray-black.
		Blow count: 7-9-7. Recovery 19 inches.
		Sample 22-23.5 feet. SILT and SAND; very fine; trace of clay; gray-black.
		OVA = -- max.
		Note: Sample 22-23.5 feet-not very permeable to water.
	23½	End of boring #5A.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Kasper Associates
Trumbull Landfill,
Connecticut

WELL NO. B-5

DATE 08/09/85 PAGE 1 OF 1 PAGES

LOCATION: West of the Pequonnock River between the bulky waste site and the dirt road

DATE COMPLETED: August 9, 1985

DRILLING COMPANY: East Coast Drilling, Inc.

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: Kathleen Kavlunas

REFERENCE POINT: Grade

ELEVATION OF R.P.:

WELL CONSTRUCTION
SCREEN TYPE: Abandoned

DIAM.: -- SLOT NO.: --

SETTING: --

GRAVEL PACK SIZE: --

CASING: --

DEVELOPMENT:

PUMPING TEST
DATE:

DURATION:

STATIC WATER LEVEL:

PUMPING WATER LEVEL:

YIELD:

REMARKS:

DEPTH IN FEET FROM	TO	DESCRIPTION
0	½	TOPSOIL; sand; fine to medium; brown.
½	5	SAND; fine to medium; some garbage; metal; gray-brown.
		Blow count: 3-4-4. Recovery 0 inches.
		Sample 5-6.5 feet. Saturated at 5 feet.
		(Perched water). Note: Metal parts cut split-spoon basket.
5	10	SAND; medium and GARBAGE; metal; plastic; wood; cloth. At 9 feet: boulders and gravel; odor of methane gas.
		Blow count: 2-1-2. Recovery 6 inches.
		Sample 10-11.5 feet. SAND; fine to medium; some gravel; medium to fine; little metal; gray-brown. OVA = 17 max.
10	13	SAND; fine to medium and METAL; gray-brown.
	13	End of boring #5.
		Note: Large metal pieces prevented further drilling.

YORK LABORATORIES DIVISION

CERTIFIED REPORT TRANSMITTAL

REPORT NUMBER 30850-1490

DATE September 12, 1985

CLIENT Leggette, Brashears and Graham
72 Danbury Road
Wilton, CT 06897

ATTENTION Ms. K. Carlunas

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of sixty (60) days from receipt of this report, unless other arrangements are desired.

Naturally, as in the past, our staff will be pleased to quote on any future requirements you may have. In addition to the service provided, we also offer the following:

- Hazardous Waste Analyses
- Product Evaluation/R&D
- Water and Wastewater Analyses
- Air and Process Gas Analyses
- Industrial Hygiene Surveys
- Metallurgical Analyses
- Microbiological Analyses
- Mass Spectrometry Services

Very Truly Yours,

Robert Q. Bradley
Vice President

TABLE 1
30850-1490
LEGETTE, BRASHEARS AND GRAHAM

Parameter	Site A Surface Water	Site B Upgradient Stream	B-4B	B-5A
Dissolved Oxygen, mg/l	8.5 @ 26°C	8.1 @ 26°C	2.3 @ 25.5°C	1.0 @ 25.5°C
Conductivity, umhos/cm	170	180	750	2,000
Ammonia-Nitrogen, mg/l	0.20	0.31	17.0	217
Chemical Oxygen Demand, mgO_2/l	20.6	22.6	87.7	1,240
Nitrate-Nitrogen, mg/l	0.15	0.19	<0.10	<0.10
Chloride, mg/l	24.0	31.0	68.7	170
Total Suspended Solids, mg/l	31.0	13.7	2,030	12,900
Total Alkalinity, $mgCaCO_3/l$	33.5	39.7	307	938
Total Dissolved Solids, mg/l	130	150	405	1,000
Iron, mg/l	1.72	1.54	76.0	92.0
Manganese, mg/l	0.37	0.37	3.69	1.00

TABLE 1 (Continued)
30850-1490
LEGETTE, BRASHEARS AND GRAHAM

Parameter	B-6	B-7	Site C	Site D Below Bridge
Dissolved Oxygen, mg/l	2.6 @ 26°C	2.0 @ 26°C	8.6 @ 26°C	8.9 @ 26°C
Conductivity, umhos/cm	225	170	260	220
Ammonia-Nitrogen, mg/l	1.21	109	2.86	1.54
Chemical Oxygen Demand, mgO_2/l	263	2,070	9.52	12.7
Nitrate-Nitrogen, mg/l	<0.10	<0.10	0.87	0.35
Chloride, mg/l	24.7	61.6	24.0	31.3
Total Suspended Solids, mg/l	1,260	10,900	42.8	3.2
Total Alkalinity, mg/l $CaCO_3$	77.3	918	66	51.6
Total Dissolved Solids, mg/l	168	592	173	163
Iron, ug/l	322	555	4.44	1.22
Manganese, mg/l	13.8	11.0	0.51	0.41

TABLE 2
30850-1490
LEGETTE, BHASHEARS AND GRAHAM
VOLATILE PRIORITY POLLUTANTS

All results reported in ug/l.

Compound	Sample Identification B-4B	Site C	Site D Below Bridge
chloromethane	<10	<10	<10
bromomethane	<10	<10	<10
vinyl chloride	<10	<10	<10
chloroethane	<10	<10	<10
methylene chloride	<10	<10	<10
trichlorofluoromethane	<10	<10	<10
acrolein	<100	<100	<100
acrylonitrile	<100	<100	<100
1,1-dichloroethene	<10	<10	<10
1,1-dichloroethane	<10	<10	<10
trans-1,2-dichloroethene	<10	<10	<10
chloroform	<10	<10	<10
1,2-dichloroethane	<10	<10	<10
1,1,1-trichloroethane	<10	<10	<10
carbon tetrachloride	<10	<10	<10
bromodichloromethane	<10	<10	<10
2-chloroethylvinyl ether	<10	<10	<10
1,2-dichloropropane	<10	<10	<10
trans-1,3-dichloropropene	<10	<10	<10
trichloroethylene	<10	<10	<10
benzene	<10	<10	<10
cis-1,3-dichloropropene	<10	<10	<10
dibromochloromethane	<10	<10	<10
1,1,2-trichloroethane	<10	<10	<10
bromoform	<10	<10	<10
tetrachloroethylene	<10	<10	<10
1,1,2-2-tetrachloroethane	<10	<10	<10
toluene	<10	<10	<10
chlorobenzene	<10	<10	<10
ethyl benzene	<10	<10	<10

September 12, 1985

30850-1490
LEGETTE, BRASHEARS AND GRAHAM
72 Danbury Road
Wilton, Connecticut 06897

Attention: Ms. K. Carlunas

PURPOSE AND RESULTS

Eight (8) water samples were submitted to York Laboratories for chemical analysis. The samples were prepared and analyzed in accordance with Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985, for inorganic constituents and EPA Method 624 for volatile organic analysis utilizing a Hewlett-Packard Gas Chromatograph/Mass Spectrometer/Data System.

The results are listed in the following Tables[1].

Prepared by: Daniel F. Ott
Daniel F. Ott
Laboratory Manager

Approved by: John C. Curran
Jeffrey C. Curran
Chief Chemist

DFO/JCC/md

[1]The Biochemical Oxygen Demand (20 day) test, which was requested, will be completed by Monday, September 16, 1985 and therefore those results are not included with this report.