State of New Jersey

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BOB MARTIN
Commissioner

November 20, 2013

Wanda Green
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: Final Landfill Feasibility Study Work Plan – Remedial Investigation/Feasibility Study Work Plan
Main Post & Charles Wood Area
Fort Monmouth, New Jersey
PI G000000032

Dear Ms. Green:

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced report, dated July 2013, generated by Parsons Government Services Inc. (Parsons), on behalf of the U.S. Army Engineering and Support Center, Huntsville (USAESCH). As indicated in the report, activities are to be performed with the goal of Decision Document acceptance in compliance with the Comprehensive Environmental Response, Compensation, and Liability act (CERCLA), the National Contingency Plan (NCP), 40 CRF part 300 and "to the extent possible to meet the requirements of New Jersey Administrative Code (NJAC) 7:26E Technical Requirement for Site Remediation".

Although the workplan indicates it describes RI/FS activities to be performed at the nine landfills located on the Main Post and Charles Wood Areas of Fort Monmouth, it goes on to state "extensive RI characterization and RI documents have already been completed for the nine sites", and thus, supplemental RI activities will be limited to FTMM-02. This office is not, at this time, in agreement documentation confirming all RI activities have been completed at each of the remaining eight landfills has been documented. At a minimum, although the additional trenching, approved several years ago to assist in determining the horizontal extent of each landfill, was apparently performed, there appears to be no record of its submittal to this office; therefore, the horizontal extent of each landfill is considered unconfirmed at this time.

FTMM-02/M-2 Landfill

Section 1.8.1.8 states no further action is warranted for the near surface soils due to compliance averaging results below RDCSCC, "marginal" exceedences, or the exceedence being of an isolated nature and a de minimis quantity. The Department does not agree, as indicated in the Department's June 26, 2009 response letter regarding near surface soils which stated the averaging policy was incorrectly applied in several instances. Nor is it agreed the contamination is either marginal or de minimis. The letter further states the Army and NJDEP have agreed that a remedial action or engineering control is needed to address the direct contact threat from surface soils at each of the Fort's landfills; this was further reiterated in the Department's letter of November 17, 2010, which indicated landfills containing 12" of cover material with relatively minor contaminant levels may be remediated via capping with an additional 12" of clean soil. Performance of a methane survey was indicated as required, and "hot spot" levels of contamination would require removal. The determination of as to what constituted "hot spots" in need of removal were to be made on a site specific basis.

Section 3.1.3
PAHs are referenced as present in the near surface soils "at a few locations toward the center and eastern portion". Although criteria are exceeded by an order of magnitude at what appear to be the referenced locations, the data (see Figure 5, found on the Master Disk of the March '12 M-2 RAPR, under Appendices/Appendix B/Landfill Cover Report/Figures) do not appear to confirm the statement; analytical results of several dozen locations throughout the surface of the landfill exceed Non-Residential Direct Contact Soil Remediation Standards (indicated as the appropriate criteria in the Department's response letter of June 26, 2009 responding to various M-2 report submittals).

The Department agrees the metals found in ground water are reflective of natural background conditions (see NJDEP letter dated April 19, 2013) rather than constituents of concern associated with the landfill.

Section 3.1.3, 3.2.1.1& Table 3.2
As regarding delineation efforts along the railroad bed, it is agreed additional information is appropriate. A brief review of historic aerial photographs of the area performed by this office noted the railroad present as early as 1931, continuing beyond the endpoint indicated on Figure 5 (referenced above), and extending along Echo Avenue as indicated on Figure 3.2 of this submittal. Debris was noted as found in many borings and/or trenches performed along the current and former footprint of the track, as portrayed in Figure 6 (as above, Master Disk of the March '12 M-2 RAPR). Boring/trench log information indicated coal and ash were commonly encountered in the historic vicinity of the track. As indicated, research is to be conducted to determine railroad construction date. Information should be submitted further documenting the historic presence of the railroad tracks (and perhaps construction of the residential properties south of the tracks), the possibility (if any) material found in borings/trenches along the tracks is associated with the tracks rather than the landfill, and any need to extend the investigation beyond the tracks. Further sampling is acceptable, and particularly appropriate in areas where horizontal delineation of contamination is incomplete (e.g. B-82, where PAHs exceed standards by an order of magnitude at 6-12"). Proposed analytical parameters for the collection of

samples approximately 15' bgs (equivalent to 5' into the landfill) include PCBs, VOCs and metals. Although previous reports (Versar 2001) narratively indicate no semi-volatile exceedences were noted, please specify where these results may be found? Please contact this office if you wish to discuss further.

Table 3.1
The second column indicates the landfill size as 6.5 acres, while elsewhere it is reported as 8.1 acres.

The third column requires revision to include the PAH exceedences. Additionally, the Department agreed via correspondence dated April 19, 2013 levels of metals found in the ground water in this area were reflective of naturally occurring conditions.

Figure 3.1- The conceptual site model indicates no pathway to surface water exists as no surface water is present on site. As surface water is immediately adjacent to the landfill, however, and is the recipient of both erosion/runoff and ground water migration, this phrasing appears misleading.

FTMM-04/M-4 Landfill– Section 1.5.4.3 of the report references the landfill as located within the Navesink-Hornerstown confining unit aquitard, rendering the ground water a Class III-A aquifer. Although it is acknowledged ground water within the Hornerstown Formation is classified as a III-A, in accordance with N.J.A.C. 7:9C-1.7(e), the ground water quality criteria for Class III-A areas shall be the criteria of the most stringent classification for vertically or horizontally adjacent ground waters that are not Class III-A. At this site, the criteria for ground water occurring in the Tinton Formation, which is vertically adjacent to the Hornerstown Formation, is Class II-A. If, however, the Army can demonstrate that ground water contamination has not and most likely will not migrate from the Hornerstown Formation to the underlying Tinton Formation, adherence to the Class II-A Ground Water Quality Standards is not required. Demonstration of same would include the installation of wells in the Tinton Formation, the conductance of slug tests to verify hydraulic conductivity values in the Hornerstown and provide stratigraphic information of the subsurface that demonstrates migration of ground water to the underlying Tinton Formation is unlikely. If information of this type can be demonstrated to the satisfaction of the Department, ground water standards may be based on the Class III-A narrative standards.

Please confirm whether a radiation survey been conducted at all landfills located at Fort Monmouth.

Appendix A
The appendix, a Performance Work Statement, includes many parcels unrelated to the landfills; comments and questions regarding same include the following:

Task 5.4.4 – *Parcel 49* – In addition to the referenced delineation of PAHs, as per the Department's July 10, 2012 correspondence, PCBs exceed the RDCSRS at three locations (P49-SB3-A, P49-SS7-A and P49-SS8-A) and require delineation.

Task 5.4.6 – *Parcel 61* (also referenced on page A-8) – Additional investigation is proposed for delineation of the PAHs found near the door at the southeast corner of the building. The Department previously agreed the PAHs were associated with asphalt paving, rather than contaminants of concern.

Task 5.4.7 – *Parcel 69* – Soils analyses for PCBs, as indicated in the Department's July 10, 2012 correspondence, is appropriate. Sediment analyses, however, is not required unless the soil sampling indicates a source and pathway trigger same.

Not discussed are several parcels, many of which were discussed in the Department's August 20, 2012 letter. These include *Parcel 70*, at which it was noted a review of the analytical data associated with the parcel noted exceedences of both PCBs and arsenic, and *Parcel 83*, at which it appears delineation of TCE and PAH constituents is incomplete. Delineation is necessary.

If you wish to discuss the status of each ECP parcel or FTMM area to ensure no inconsistencies exist between the Army's and Department's parcel status tracking, please contact this office.

Section 3.7, Task 6.1 – Please refer to the Department's July 27, 2013 comments regarding low flow sampling,

M-2 Landfill Mar '12 Remedial Action Progress Rpt/1st Qtr '09 - 3rd Qtr '10

Comments as relating to ground water aspects of the referenced RAPR were provided in conjunction with the M-2 CEA Biennial Certification Report comments, on April 19, 2013. Notes as regarding other media are as follows:

Surface water was sampled throughout the Main Post. According to the progress report, two locations along Mill Creek were targeted to the M-2 Landfill, as shallow ground water underlying the site flows northwest toward Mill Creek. Sampling point SS-15 was identified as the nearest upstream sampling point from M-2, while SS-24 was identified as the nearest downstream sampling point.

Chlorinated compounds and certain metals exceeded the NJDEP Surface Water Quality Standards. The Department agrees the metals are of natural background origin. The Army states the PCE is from an upstream, offsite source. Although it is agreed the chlorinated compounds are not contaminants of concerns emanating from M-2, it is noted there are other sites on the Main Post where chlorinated compounds are ground water contaminants of concern (e.g. M-5).

As indicated above, the Department has not at this time received sufficient information to confirm delineation has been adequately completed at each of the landfills. It is agreed, as indicated in *Section 2.2*, an RI/FS report submittal for each, including compilation of data from all previous investigations and reports, and characterization of the nature and extent of contaminants at each site, is appropriate.

If you have any questions regarding this matter, please contact this office at (609) 984-6606.

Sincerely,

Linda S. Range

Linda S. Range
Bureau of Case Management

C: Joe Pearson, Calibre Systems
Rich Harrison, FMERA
Julie Carver, Matrix