State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Remediation Management & Response
P.O. Box 413
Trenton, New Jersey 08625-0413

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

July 25, 2007

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703-5101

RE: M-12 and M-14 Landfills, Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Division of Remediation Management & Response (DRMR) has completed its review of the following reports on the M-12 and M-14 Landfills at Fort Monmouth:

- Remedial Investigation Report, M-12 Landfill Site, dated September 2003
- Remedial Investigation Report for Near Surface Soils, M-12 Landfill Site, dated October 15, 2003
- Remedial Investigation Report, M-14 Landfill Site, dated August 12, 2005
- Remedial Investigation Report for Near Surface Soils, M-14 Landfill Site, dated March 17, 2004
- Remedial Investigation Report and Sediment Quality Evaluation, M-12 / M-14 Landfill Site, dated October 15, 2003

NJDEP's comments are attached. NJDEP cannot make any No Further Action (NFA) determinations for soil, ground water, or sediments at the M-12 and M-14 Landfills at this time, based upon the reports. Our comments describe the additional investigations or actions that would be needed before NFAs could be considered.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

Larry Quinn, P.E., CHMM, Case Manager
Bureau of Design & Construction

Attachment

NJDEP COMMENTS ON M-12 & M-14 LANDFILL SITES REPORTS FORT MONMOUTH SITE

The comments below address the following reports on the M-12 and M-14 Landfill Sites:

- **Remedial Investigation Report, M-12 Landfill Site, dated September 2003**
- **Remedial Investigation Report for Near Surface Soils, M-12 Landfill Site, dated October 15, 2003**
- **Remedial Investigation Report, M-14 Landfill Site, dated August 12, 2005**
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General

1. NJDEP is providing comments on the M-12 and M-14 Landfills together, as they could be considered as essentially one site. Husky Brook separates the 2 landfills. The Army has recognized this regarding the sediment quality evaluation (SQE), and to a lesser extent regarding the surface water evaluation. But additionally, the soil sampling and ground water sampling results from both landfills are similar, and the respective RIRs have concluded that shallow ground water beneath both landfills flows toward Husky Brook.

2. The Army should submit a comprehensive investigation workplan for NJDEP review and approval, prior to initiating any of the additional sampling requested below, to ensure complete agreement on all details prior to sampling.

3. A review of aerial photographs by NJDEP identified potential disposal areas outside the boundaries of both sections of the M-12 Landfill. NJDEP requests that the Army review, and re-visit if appropriate, the delineation of all landfill areas at Fort Monmouth, including M-12 and M-14. The RI Reports state that Roy F. Weston, Inc. delineated the fill areas based upon geophysical surveys (both magnetometer and ground-penetrating radar). However, there is no mention of test pitting to verify the geophysical results, which is generally good practice. With Fort Monmouth slated for closing and transfer, verification of landfill boundaries becomes even more important, and would be in the Army's best interests.

Surface Soils

1. Surface soil sampling results indicate that semi-volatile organic compounds (SVOCs) and metals exceed the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) in the 0-12 inch surface soil interval throughout the M-12 Landfill and in

two distinct areas of the M-14 Landfill. Therefore, these surface soils pose a potential direct contact threat, and remedial action is required to minimize or eliminate the direct contact threat. Depending upon the location and extent of the soils that exceed the RDCSCC, targeted soil excavations may be feasible. At a minimum, engineering controls such as additional soil cover, fencing, and warning signs may be required, in conjunction with a deed notice.

2. In the M-14 RIR for Near-Surface Soils, compliance averaging of soil sample results was done incorrectly in several cases. Also, averaging was applied to Arsenic and several polyaromatic hydrocarbons (PAH), which is not allowed because the health-based SCC is below the RDCSCC.

Surface Water and Sediments

1. A Baseline Ecological Evaluation (BEE) must be performed to determine whether receptors, especially within the Husky Brook, have been impacted by contaminants from the M-12 and M-14 Landfills.

2. Sediment samples were analyzed for PCBs only. Based upon a review of all sampling data associated with the M-12 and M-14 Landfills, additional sediment samples should be collected and analyzed for full Target Compound List +30 (TCL+30) and Target Analyte List (TAL) metals. At a minimum, sampling locations should be as follows: one upgradient, one downgradient, two along the landfills (at least one on each side of the tributary that splits the M-12 Landfill), and one from the tributary that splits the M-12 Landfill.

3. Surface water sample (SWS) location #11, as depicted on Figure 3-2 of the M-12 RIR, is not on Husky Brook and therefore doesn't appear to be upgradient of the M-12 Landfill. The M-12 RIR doesn't describe or explain SWS location #11. SWS location #12, which is in Husky Brook Lake and was used as an upgradient sample location in the M-14 RIR, should be used in the future as a point upgradient of both landfills.

4. Due to the presence of measurable VOCs in surface water samples, additional surface water samples should be collected along Husky Brook in conjunction with the aforementioned sediment sampling. Analytes should be TCL+30 and TAL metals. It is recommended that passive diffusion bags (PDB) be used to collect the samples for VOC analysis. The PDBs can be deployed in the sediments, to monitor shallow ground water discharging to Husky Brook.

5. In addition, the Army must evaluate/investigate any Army property upgradient of the M-12 and M-14 Landfills that could be sources of the VOCs in Husky Brook.

NJDEP COMMENTS ON M-12 & M-14 LANDFILL SITES REPORTS
FORT MONMOUTH SITE

Ground Water

1. NJDEP agrees that the ground water classification at the M-12 and M-14 Landfills is Class III-A, which necessitates that Class II-A ground water quality standards be utilized. The ground water model created for the M-12 Landfill and all model inputs are acceptable. However, NFA for ground water cannot be issued at this time, due to the concerns and deficiencies discussed below.

2. One upgradient background well must be installed and sampled for each landfill, to provide data for remedial decision-making. The background wells should be near the landfills, but in areas that are clearly not impacted by the landfills. Samples from the background wells can be analyzed for TAL Metals only.

3. Since the existing wells at both landfills may not have been sampled since 2001, an additional round of samples from all wells is required for remedial decision-making. Analyses should be for TCL volatiles and semi-volatiles and TAL metals.

4. A review of aerial photographs indicates that landfilling may have occurred in the area east of the tributary that splits the M-12 Landfill and west of Building 909. Direct-push ground water samples must be collected in this area, in conjunction with the well sampling requested above, and analyzed for TCL+30 and TAL metals.

5. For reasons unknown to NJDEP, no monitoring wells were installed in the western portion of the M-14 Landfill. Approximately 4 wells, including an upgradient well, should be installed and analyzed for TCL+30 and TAL metals.

6. Paper copies of all sampling documentation (such as ground water field parameters and low-flow sampling sheets) must be submitted in summary tables in reports.