State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION, PUBLICLY FUNDED REMEDIATION ELEMENT
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Commissioner

November 17, 2010

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

RE: NJDEP Regulatory Requirements for Fort Monmouth Landfills

Dear Mr. Fallon:

At your request, the NJDEP Site Remediation Program (SRP) is providing Attachment 1, a document titled "NJDEP Regulatory Approach – Fort Monmouth Landfills," for your information and use.

The SRP and the NJDEP Solid and Hazardous Waste Program (SHWP) have determined that SRP will assume a lead regulatory role for NJDEP. Fort Monmouth's nine landfills will be investigated and remediated primarily as contaminated sites under SRP regulations. However, SRP will work with the Army to achieve substantial compliance with SHWP requirements as well.

Attachment 1 was written with that approach in mind. It is a summary, with some discussion, of all NJDEP regulatory requirements for the Fort Monmouth landfills. You or your staff may contact Larry Quinn, Site Manager, at 609-633-0766 with any questions or comments on Attachment 1.

Sincerely,

Edward Putnam, Assistant Director
Publicly Funded Remediation Element

Attachment

C:
Bruce Steadman, Executive Director, FMERA
James Allen, Community Co-Chair, Fort Monmouth RAB

November 2010

ATTACHMENT 1

NJDEP Regulatory Approach - Fort Monmouth Landfills

Background

Fort Monmouth contains 9 landfills, ranging in area from 1.4 to 7.2 acres. Six (6) of the landfills (M-2, M-3, M-5, M-8, M-12, and M-14) reportedly received a wide variety of wastes including demolition debris, scrap metal, asbestos, vegetative waste, unwashed hazardous materials containers, photographic chemicals, sewage sludge, incinerator ash, oil filters, batteries, fluorescent tubes, and electronic components. The other 3 landfills (M-4, M-18, and CW-3A) reportedly received only demolition debris. Eight (8) stopped operating between 1957 and 1969; the last (M-8) stopped operating in 1981.

Fort Monmouth is scheduled to be closed in 2011, with all Fort property eventually transferred to municipal or private ownership. Under the approved land use plan for the Fort Monmouth property, all 9 landfills would become passive-use open space.

Regulatory Requirements

General

The nine landfills are considered contaminated sites by the NJDEP Site Remediation Program (SRP). As such, the Army has conducted remedial investigations (RI) at all of the landfills. RI Reports have been submitted to NJDEP, and most of them have been reviewed and discussed with Fort Monmouth. Section 5, Remedial Action Selection, of the Technical Requirements for Site Remediation (N.J.A.C. 7:26E) requires (in summary) that responsible parties select remedial actions that are protective of human health and the environment, and are in compliance with all technical and regulatory standards and requirements. Generally, to be protective, a remedial action must either reduce the concentrations of environmental contaminants to levels below the applicable New Jersey standards, or prevent exposure to contaminants that exceed applicable standards. At some point, the Army will formally propose remedial actions for the landfills. NJDEP will evaluate any proposed remedial actions for protectiveness and acceptability.

Ground Water

Low-level ground water contamination exists at all of the landfills. Remedial action (injections) for ground water has been conducted at the M-2 and M-5 landfills. Natural ground water remediation in conjunction with a Classification Exception Area (CEA) has been proposed at 6 landfills (M-3, M-4, M-8, M-12, M-14, & M-18). No further action (NFA) was proposed for ground water at the CW-3A Landfill. Quarterly ground water sampling is ongoing at all landfills.

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The NJDEP will continue to evaluate proposed ground water remedial actions at the various landfills in accordance with the Technical Requirements. All the requirements of Sections 6.3(d) and (e) of the Technical Requirements must be followed for natural ground water remediation. The chief requirement for natural remediation is that the Army must demonstrate that ground water contaminant concentrations will degrade to the applicable Ground Water Quality Standard (GWQS). Classification Exception Areas (CEA) would need to be established as part of any ground water remedial action, until all contaminants are reduced to below the GWQS.

If waste deposits are to remain in place, source control measures may be needed at some of the landfills. Also, NJDEP believes that remedial injections of Oxygen-Reducing Compound (ORC) and other materials, which Fort Monmouth has used successfully at other areas of concern, will not be as effective at the landfills, because the source of contaminants (the waste deposits) hasn't been removed.

Surface Water and Sediment

All of the Fort Monmouth landfills are located adjacent to surface water bodies (streams). Therefore, the surface water and sediments near the landfills must be sampled and analyzed for all applicable parameters to determine if the landfills are impacting the environment. Such sampling was recently conducted as part of the Baseline Ecological Evaluation (BEE). The resulting data will be evaluated to determine if each landfill is impacting the adjacent stream. Additional sediment sampling and aquatic biota studies may be required to completely assess the landfills' impact on surface water bodies.

If sampling results indicate that a given landfill is adversely impacting an adjacent stream to a significant degree, remedial action for surface water and/or sediments (such as an impermeable cap, a subsurface cutoff wall, a leachate collection system, sediment stabilization, etc.) may be required for that landfill.

Landfill Cover / Surface Soils

Soil cover of at least one foot in thickness exists on top of waste deposits on the great majority of the surfaces of all the landfills (there are some areas of exposed waste deposits on some of the landfills, particularly the M-8 Landfill). However, the surface soil cover at all of the landfills contains contaminants in excess of the NJDEP Soil Remediation Standards (SRS). It appears that many of the low-level contaminants originated in the imported soil that was used as cover. In most instances, the concentrations of contaminants in soil are only slightly above the SRS.

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NJDEP will consider accepting one additional foot of clean soil cover (soil that meets the residential SRS) as a remedial action to address the contamination in surface soils. Generally, one additional foot of soil cover (a "soil cap") will be acceptable if at least one foot of existing soil cover is present and if surface contamination in the existing soil cover is not significantly above the non-residential SRS. That determination will be made by NJDEP on a contaminant-specific basis. "Hot spot" removals will be required prior to placement of soil cover when surface contamination is found to be significant.

A project to place additional soil cover on the landfills would need to be properly designed and constructed to allow proper drainage, to facilitate growth of vegetation, and to ensure that the soil cover is durable. Any exposed surface waste deposits would need to be removed, or relocated and covered with at least 2 feet of soil.

Methane Gas

A comprehensive methane gas survey must be conducted at each landfill to determine if methane gas is being generated, and corrective measures will be required if significant methane gas is encountered.

Deed Notices

Deed notices would be required for all of the landfills, due to the documented presence of the waste deposits and contaminated soil, even if No Further Action (NFA) status is achieved based upon the above requirements.

Operation and Maintenance

The Army must comply with the monitoring, maintenance, and biennial certification requirements of 7:26E-8.5.

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