Corrective Action Alternatives Analysis for the Small Landfill

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Previous Investigations

- Conducted under CERCLA
- Phase I Remedial Investigation - 1998
- Phase II Remedial Investigation – 2000
- Ground Water Study – Sept. 2001 to July 2002
- No Action ROD under CERCLA – January 2002
- Massachusetts Solid Waste Regulations 310 CMR 19.000.

Solid Waste Requirements

- Previous work completed at Small Landfill is considered to have fulfilled the landfill closure requirements for the Initial Site Assessment (ISA) and Comprehensive Site Assessment (CSA) with a few exceptions.
- Exceptions include landfill gases and risk to physical hazards like projecting rebar. Needed to conduct additional field work which included landfill gas sampling (22) and test pitting (25) to better define the landfill boundaries.
- Corrective Action Alternatives Analysis (CAAA) – Analysis of applicable technologies for closure to determine the most appropriate options that are protective of human health and the environment. Similar to Feasibility Study under CERCLA.

Documentation

- Letter from MADEP to Navy - March 21, 2005 – Notification to Navy to start expeditious closure of the Small Landfill under Solid Waste Regulations. This is a shift in priorities since work was originally intended to start in FY-06.
- Letter from Navy to MADEP – April 7, 2005 Acknowledgement that Navy will evaluate existing information and set up meeting.
- Evaluate CERCLA data to fulfill Massachusetts Solid Waste requirements (ISA & CSA) – April 22, 2005
- Meeting (Navy, MADEP, HRP) – June 29, 2005
- Fieldwork (Test pits and Soil gas sampling) – July 11 & 12, 2005
- Submittal of CAAA and Report on Installation of Test Pits and Vapor Survey to MADEP – September 8, 2005
- Administrative approval of ISA – September 26, 2005
- Comments on CAAA by MADEP – October 5, 2005

Developing the Corrective Action Alternative Analysis (CAAA)

- **Review of Applicable Technologies**
  - **Discuss applicable technologies for each media**
    - Groundwater/Leachate
    - Air/Landfill Gas
    - Surface Water
    - Wetlands
    - Soils
- **Screening of Applicable technologies**
    - Process description
    - Advantages
    - Disadvantages
    - Effectiveness
    - Implementability

Developing CAAA (Cont'd)

- Alternatives Analysis
  - No Action Alternative
  - Standard Closure with Clay Cap or Flexible Membrane Liner (FML)
  - Consolidation/Reduced Footprint with Capping
  - Modified Cap Design
  - Complete Removal/Off-Site Disposal
  - Consolidation and Modified Cap Design
- MADEP's Solid Waste Regulations (310 CMR 19.000) and the Landfill Technical Guidance Manual (September 1993)
  - Utilized in developing the evaluation criteria for each technology

Developing CAAA (Cont'd)

- **Alternatives Analysis (cont'd)**
  - **Selection criteria analyzed for each alternative to determine the best possible alternative for conditions at the Small Landfill.**

Criteria	Synopsis
Protectiveness	An evaluation of the ability of an alternative to provide protection of human health and the environment.
Compliance	The ability of an alternative to comply with 310 CMR 19.00 and other applicable laws.
Effectiveness	The capacity of an alternative to be reliable, permanent, and have a prolonged useful life.
Reduction of Toxicity and Volume	This evaluation is the ability of an alternative to effectively treat waste streams such as groundwater treatment and other in-situ treatment.
Implementability	This evaluation determines the feasibility of selected alternative technologies to be implemented as well as their associated timelines to implement.
Cost	The ability of an alternative to be cost effective in both construction and post-construction implementation.

Recommended Alternative

- **Consolidation/Reduced Footprint with Standard Cap with Long Term Monitoring.**
  - **Remedy is protective of human health and the environment.**
  - **Solid Waste – Contain, control, manage in place.**
  - **Mitigate safety issues such as slips, trips and falls.**
  - **Monitoring to ensure containment and that site conditions are not changing.**
  - **No known risk under CERCLA**

What's Next?

- **Gave SSTTDC CAAA and Test Pit & Vapor Survey report last week.**
- **Copies of the reports will be in the repositories, the designated member from each town on the RAB will get copies, and the CAAA is also available at:**
  - http://nas-southweymouth.navy-env.com
- **30 day public review period (ending around November 13th)**
- **Awaiting review and receipt of comments on the CAAA by the public, SSTTDC, and LNR (master developer).**
- **Anticipating further discussion with SSTTDC and LNR to coordinate the remedy with the redevelopment plan.**

What's Next?

- Navy needs to move forward and fulfill obligations under Massachusetts Solid Waste Regulations as dictated by the March 21, 2005 letter from MADEP.
  - Award Corrective Action Design (CAD)
  - Review, comment on, and respond to comments on CAD.
  - Award and implement design contract.