Readers Guide To The Closure Plan, UConn Landfill And Former Chemical Pits

Executive Summary

This document describes the Remedial Action Plan Implementation, or RAP IMP, that the University of Connecticut (UConn) is submitting to the Connecticut Department of Environmental Protection (DEP) to meet the requirements of its Consent Order (CO) for the closure of the UConn landfill, former chemical pits and the F Lot disposal site on the campus.

DEP issued a letter of Conditional Approval of the Remedial Action Plan[1] (the RAP) on June 5, 2003. DEP approved the Plan, which includes the elements of this report:

1. landfill regrading;
2. installation of a final cover over the landfill and former chemical pits;
3. elimination of leachate seeps;
4. regrading and capping of the chemical pit area;
5. establishing a vegetative cover;
6. a plan for post-closure maintenance;
7. a long-term program for monitoring groundwater and surface water quality;
8. and a schedule for implementing the work.

The closure plan and post-closure recommendations for maintaining the landfill are detailed in this report. The plans are based on an assessment of the age and character of the landfill, the volume of waste present, the topographical configuration of the site, the need to manage landfill gas, the need to accommodate for settling after closure, and applicable state and federal permit requirements (which are discussed in Sections 2 and 7).

Because this is a design document, the engineering drawings present a great deal of the information about components of the Remedial Action Plan. The drawings show, for example, the locations and elements of the leachate interceptor trenches; where sediment removal will take place; how waste will be consolidated and regraded on the landfill; and the location of the access road for the proposed parking lot. Readers should take some time to look at the plans, which should help their understanding of the design.

Section 1 describes the location and physical condition of the landfill. The geology and surface water characteristics of the site were taken into account in the engineering design (see Section 1.2). Section 1.3 lists the remedial actions taken on the site beginning in the 1980s. The redevelopment of the site with parking is one of the objectives of the closure design.

Section 2 lists the requirements and conditions the RAP IMP has to meet under (1) the Consent Order with DEP; and (2) state regulations.

Section 3 summarizes the elements of the RAP IMP. It lists each project feature (waste consolidation, sediment remediation, leachate interception, landfill closure and the cap for the former chemical pits area) and gives an overview of the design and engineering approach.

Section 4 discusses more details of the design considerations for the components of the closure and redevelopment plan. This section lists the methods for handling contaminated sediments, consolidating waste and controlling dust and potential odor during the construction work. The area of waste excavation and fill will be covered at the end of each workday. Because the decaying waste in the landfill generates gas, the cover includes a passive venting system, which is described in Section 4.3.2. The side slopes of the landfill will consist of crushed stone, which resists erosion (there will be a set of steps for people walking to the west). The leachate interceptor trenches will

collect contaminated groundwater that currently flows out of the landfill to the north (into the wetlands) and the south, into groundwater and local rivers and streams. This leachate will be pumped from the interception trench collection wells and piped via gravity flow to the sewage treatment plant for handling and permitted disposal.

Section 5 addresses the final cover design in two technical areas: slope stability and stormwater management. Slope stability refers to measures taken to prevent soil from moving downhill under the force of gravity. A stable slope will not slump or slide under normally expected conditions. Stormwater must be managed during closure construction activities and over the long term. Section 5.4.2 details the flow patterns, parking lot grading, and stormwater ponds to manage runoff.

Section 6 describes the construction sequencing, stormwater and erosion control during construction, and quality assurance and quality control measures. A high degree of coordination and planning will be required to allow a number of activities to take place simultaneously in a small area. Section 6.1.2 details, for example, how the contaminated sediments will be removed, placed in a dewatering area and relocated. Confirmation samples will be taken from the limits of the sediment excavation area to assure that all of the contaminated soil has been removed. DEP will review the sampling data.

Section 7 discusses the applicable permits for the work.

Section 8 proposes a schedule for beginning the closure project in the fall of 2003. The schedule estimates the duration of elements of the work beginning from the time of DEP's approval of the closure plan.

Section 9 describes what will be done once the construction of the landfill cap and leachate collection system is complete. Under DEP regulations, UConn is required to care for and monitor the closed landfill and former chemical pits for at least 30 years. Section 9 includes a description of long-term monitoring that will be done to assess the effectiveness of the remedy and to ensure that the remedy remains protective of human health and the environment. It also discusses how the elements of the remedy will be maintained over time. For example, the facility will be inspected on a routine basis for erosion, settling, leachate seeps and overall condition. Repairs will be made as necessary. The leachate pumps will operate as long as groundwater enters the leachate interceptor trenches. Groundwater monitoring and reporting will continue throughout the post-closure period.

[1] The primary condition of the approval letter is an evaluation of options for controlling groundwater that migrates from the large hill, or drumlin, east of the landfill. The Technical Memorandum, Supplemental Remedial Alternatives Analysis, which addresses this condition, was transmitted to the DEP on 4 August 2003, concurrent with the submittal of the Closure Plan. A copy is in the Mansfield Public Library and the Mansfield Town Manager's office for review.