INTRODUCTION

The Connecticut Department of Environmental Protection (DEP) completed its review of the Draft Comprehensive Hydrogeologic Investigation Report and Remedial Action Plan for the UConn Landfill and issued an approval of the plan with conditions on June 5, 2003. The article on page 2 summarizes the approval letter. It also describes DEP’s responses to public comments on the plan. The letter is posted on the project web site, www.landfillproject.uconn.edu, and it is available in the Mansfield Public Library.

The next step in the project is to complete design and engineering for the elements of the remedial action plan. UConn’s consultants, Haley & Aldrich, are working on the design, permitting and engineering, which are summarized in a Closure Plan. See the article below outlining the key elements of the Closure Plan, which was submitted to the key parties on August 4, 2003. There will be an open house on Wednesday, September 3, 2003, for members of the public to learn about the design. See the notice in the right-hand column.

UConn Submits Landfill Closure Plan

On August 4, 2003, UConn submitted a Closure Plan for the UConn Landfill and Former Chemical Pits to the Connecticut Department of Environmental Protection (DEP), the Town of Mansfield, the Eastern Highlands Health District, and the U.S. Environmental Protection Agency (EPA). The plan describes how the Remedial Action Plan will be implemented to close the UConn landfill, former chemical pits and F Lot disposal site. The public is invited to review and discuss the Closure Plan at an Open House on Wednesday, September 3, from 3:30 to 8:00 PM in the Mansfield Town Council Chamber. A copy of the document and design drawings are in the Mansfield Town Manager’s Office and the Mansfield Public Library. The DEP will accept comments on the plan until September 10, 2003.

The Closure Plan describes how the remedies will be completed, including:

- Regrading and capping the former chemical pits area
- Building a parking lot and access road over the landfill
- Maintaining the caps
- Monitoring groundwater and surface water quality
- Proposing a schedule for implementing the work

The Closure Plan begins with a description of the physical condition of the area. The engineering plan takes into account the geology and surface water characteristics of the site. Section 1 describes the post-closure use of the landfill area, which will be developed as a parking lot. Section 2 lists the criteria that the closure design must meet. These include the conditions of the project’s Consent Order with DEP. Several state and federal permits have been submitted or will be submitted to allow removal of sediments, movement of wastes, dredging in wetlands, and other work tasks. Table I lists the permits and Section 7 has a description of the state and federal permits or certificates needed to begin construction.

WHAT IS THE UCONN LANDFILL PROJECT?

On June 26, 1998 the Department of Environmental Protection issued a Consent Order to the University of Connecticut. The order requires UConn to thoroughly evaluate the nature and extent of soil, surface water and groundwater pollution emanating from the University landfill, former chemical pits and an ash disposal site known as F Lot. The order also requires UConn to propose and implement remedial actions necessary to abate the pollution. The UConn Landfill Remediation Project is the process that UConn is undertaking to comply with the order.

Please visit the September 3, 2003 Open House on the UConn Landfill Closure Plan

3:30 – 8 PM
Town Council Chamber
Audrey P. Beck Building
4 South Eagleville Road
Mansfield, CT

Continued on page 4
DEP Approves Remedial Plan with Conditions

After a 60-day comment period, the Connecticut Department of Environmental Protection (DEP) approved the plan for remediation of the University of Connecticut’s (UConn’s) landfill, former chemical pits and ash disposal site (F Lot). The Remedial Action Plan was included in UConn’s Draft Final Comprehensive Hydrogeologic Investigation Report (Final Report).

In a letter to UConn, Elsie Patton, Acting Director of the Planning and Standards division, accepted the Final Report and described the conditions attached to the approval. The conditions cover three areas: (1) evaluating groundwater on the east side of the landfill; (2) connections of residences on Meadowood Road and North Eagleville Road to the University’s water supply; and (3) active residential wells to include in the long-term monitoring program.

The approval letter includes an eight-page Response to Comments that DEP received from the public as part of the review process for the Final Report and Remedial Action Plan. DEP responded to comments that were grouped by topic. Eight pages of responses are included with the letter, followed by information on data quality. The document also includes the results of a Residential Well Screening Program conducted by the Eastern Highlands Health District (June 2002).

The Approval Conditions
DEP’s first approval condition directed UConn to prepare a scope of work for further evaluation of groundwater from the east. Consultants for the Town of Mansfield and others who commented on the plan were concerned that water flowing from the hill east of the landfill might recharge or bring more water beneath the landfill. This is because groundwater beneath the landfill tends to flow upward, toward the surface. (This kind of flow is typical of wetlands, and the landfill was built in a former wetland.)

UConn’s technical team discussed this issue and options for addressing it with the members of the project’s Technical Review Committee (TRC) in June 2003. The Scope of Work was submitted on July 1, 2003 and on August 4, UConn submitted the Technical Memorandum described in the Scope of Work to the key parties. The article on page 5 summarizes the review. A copy of this report is in the Mansfield Public Library and in the Town Manager’s office.

The second condition set by DEP was for UConn to submit a schedule for connecting seven homes near the study area to its water supply. Five of the homes are west of the study area on Meadowood Road, and two are on North Eagleville Road, southwest of the study area. Seven homes on North Eagleville Road have already been connected to UConn water. DEP ordered the new connections to provide a wider zone of protection for the neighborhood from the groundwater contaminants found in the study area. There were no new detections of contaminants in these wells. UConn is arranging these connections with homeowners.

The third condition of the approval is for UConn to add private, active residential wells to the Long-Term Monitoring Program (LTMP) that was proposed in the Remedial Action Plan. The Long-Term Monitoring Program will replace the current Interim Monitoring Program when remediation construction is complete. DEP listed six wells to be included in the LTMP. These homes are on Meadowood Road and Separatist Road, to the west and southwest of the study area. The Final Report showed that this was an area of potential concern for contaminants in the bedrock. Long-term sampling in this area provides another layer of protection for property owners.

Response to Comments
During the public review of the Final Report, DEP said it would respond to the public’s comments in writing. The approval letter puts the comments into four groups. These include comments: (1) related to the investigation; (2) related to the proposed remedial actions; (3) on the proposed extension of UConn’s water supply to residential properties and long-term monitoring; and (4) on miscellaneous subjects.

One commenter asked, for example, if the recent drought was considered in the analysis. DEP said that the potential for seasonal variations of groundwater chemistry was addressed and will continue to be studied using the data from the Long-Term Monitoring Program.

Another commenter asked if the quality of Eagleville Brook will improve after the remedies are implemented. DEP said that leachate, which currently travels from the landfill to Cedar Swamp and tributaries of Eagleville Brook, will be captured and treated. By getting rid of this discharge, the quality of local surface waters will improve.

The document also describes how potential human health impacts were assessed as part of the project. The Final Report compared the data to state criteria that were set to protect human health, and the Connecticut Department of Public Health reviewed the data and provided a health consultation.

Readers are encouraged to visit the web site to read the comments and answers in full. People who made the comments received a copy of the approval letter. Extra copies of the letter will be available at the September 3, 2003, Open House as well.
Residents of Storrs and Mansfield participated in the final review of the Comprehensive Hydrogeologic Investigation Report and Remedial Action Plan (Comprehensive Report and RAP) for the UConn Landfill in January and February 2003. About 40 residents and property owners came to the January 25, 2003, Public Availability Session to gather information on the Comprehensive Report and RAP. More than 45 people attended a Public Meeting sponsored by the Connecticut Department of Environmental Protection (DEP) a month later in Mansfield’s City Council Chambers.

The Public Availability Session was held at UConn’s Bishop Center on a Saturday to give as many people as possible an opportunity to participate. Dubbed a “science fair for adults,” this event included exhibits, maps and posters. (See the photos at right.) Participants had the chance to talk with representatives of the Town of Mansfield and its consultants; Eastern Highlands Health District (EHHD); DEP; the U.S. Environmental Protection Agency (EPA); and UConn’s technical consultants. They could also submit written comments on the report and proposed remedies.

One month later, DEP sponsored a formal Public Meeting to gather input on the investigation and recommendations. The meeting began with a presentation by Rick Standish, Haley & Aldrich, summarizing the Comprehensive Report and proposed remedies. Several representatives of DEP were on hand to listen to comments and questions from the audience.

Some of the questions were answered at the meeting. Other questions were addressed by DEP in its decision on the Comprehensive Report and Remedial Action Plan. (See the article on page 2.) Speakers addressed the following issues or questions in the discussion:

• Is there a need for interceptor trenches on the east side of the landfill to collect groundwater from the hill?
• Could the landfill and its contents be removed rather than covered and monitored and, if so, what would the impacts of removal be?
• What are the impacts of consolidating waste that now lies outside the landfill perimeter?
• In a time of fiscal constraints, is it possible to be certain that long-term monitoring and maintenance programs will be funded, ensuring community protection?
• Will contaminated sediments be removed as part of the remediation?

Ms. Patton indicated that DEP would issue its decision by the end of March. She extended the comment period to allow regulators and the Town of Mansfield’s consultants to suggest conditions DEP should attach to its decision.

For more information . . .

A wide variety of web sites contain information on municipal solid waste disposal sites, or landfills, including regulations and fact sheets. The U.S. Environmental Protection Agency (EPA) and the U.S. Geological Survey offer informative and easy-to-understand fact sheets and web sites.

See http://www.epa.gov/epaoswer/non-hw/muncpl/disposal.htm for information on solid waste disposal and a link to regulations governing landfills of many types.

This EPA site – http://epa.gov/epaoswer/osw/infoserve.htm - includes links to environmental associations and trade groups on solid waste issues, and also offers information for communities and small businesses and the EnviroFacts Warehouse.

Landfill Closure Plan / cont.

Highlights of the Closure Plan

UConn will hire a contractor to manage construction, known as a Construction Manager (CM). The CM will set up a site office and manage subcontractors who will mobilize equipment, install stormwater and erosion controls, and perform other tasks associated with the closure. The work will take place in phases, with much of the site to be disturbed at various times. The closure plan sets aside areas for a number of activities to take place, including soil processing and stockpiling, room for storing materials and equipment, and soil and waste removal areas. The CM will have to comply with odor, noise, dust and other controls, including keeping any relocated waste covered. The contractor will also build a construction fence around the site for security.

The first steps in closing the landfill will focus on removing sediments and consolidating waste. The aerial photo (left) labels the sediment removal areas. To the north, the construction contractor will first clear the site and construct temporary roads or place mats for construction equipment. Trenches will be built to collect any runoff. The contractor will remove about two feet of sediments from wetlands in an area roughly 100 feet wide by 600 feet long. To the south, sediments will be removed from a smaller area. The sediments will be stockpiled in designated areas on top of the landfill for dewatering. Then they will be placed in fill areas beneath the cap. Restoration of the area will comply with the requirements of permits to be issued by the DEP. DEP’s Inland Water Resources Division.

Pollution Control Facility for treating the leachate, or contaminated groundwater to UConn’s Water Pollution Control Facility for treatment.

The Schedule

UConn hopes to begin work on the closure of the landfill and former chemical pits during the fall of 2003. The closure schedule depends on DEP’s acceptance of the closure plan, as well as approval from agencies that review permit applications and other landowners or entities with rights of way in the area. Once those approvals are in hand or are assured, UConn can hire a Construction Manager and award a contract for the work. Weather conditions and other state and local reviews could impact the schedule.

The table (left) lists the number of weeks each part of the closure plan is complete.
expected to take once all permits and approvals are secured. From preparation of the bidding documents to hiring a CM through preparation of a closure certification report will take slightly over a year, without delays due to weather or unexpected site conditions.

Once the closure has been certified, a thirty-year period of post-closure activities begins.

Post-Closure Monitoring and Maintenance
There will be several goals for operations, maintenance and monitoring (OM&M) after the closure. These include making sure that leachate generation is minimal and providing monitoring for a period of time that is adequate to protect the environment and human health. This period is likely to be no less than 30 years.

Section 9 of the Closure Plan proposes two kinds of monitoring:

- **Environmental monitoring** – to ensure the remedial measures are effectively mitigating pollution from the sites, to set up sampling points to monitor groundwater and surface water quality and trends, and to establish a network of monitoring wells and residential wells that will act as sentinel wells to protect human health and the environment.

- **Facility monitoring** – to inspect and make sure the cap, gas venting system and leachate collection system are operating as designed.

UConn proposes to conduct environmental monitoring four times a year for the first two years. Depending on these results, UConn may petition DEP to reduce the monitoring to twice a year.

Section 9 describes how the inspections and maintenance activities will take place for each element of the closure. The landfill cover, for example, will be inspected on a routine basis for erosion, settling, leachate seeps and overall condition. The leachate pumps will operate as long as groundwater enters the interceptor trenches. Records and reports will be kept on site and filed with DEP.

**UConn Submits Supplemental Tech Memo**

As a condition of its approval of the Remedial Action Plan for the UConn landfill, former chemical pits and F Lot, the Connecticut Department of Environmental Protection (DEP) asked UConn to evaluate ways to capture or divert groundwater flow from the eastern side of the study area. DEP and other commenters expressed concern that this flow will continue to saturate waste beneath the covered landfill, contributing to leachate production.

UConn’s consultants, Haley & Aldrich, outlined a scope of work for this review to DEP on July 1, 2003. The Technical Memorandum (TM) on the Supplemental Remedial Alternatives Analysis was submitted to DEP and the key parties on August 4, 2003.

The consultants used computer modeling and performed an engineering analysis to re-evaluate options for controlling groundwater and eliminating discharges of leachate to surface water and sediment in adjacent wetlands. Haley and Aldrich looked at three groups of options:

- Groundwater diversion: forcing groundwater to flow around rather than through the landfill.
UConn Announces Project Web Site

UConn announced in Spring 2003 that a new web site will provide up-to-date information on the UConn Landfill Remediation Project. The web site was created in response to comments made by the public during the public involvement review. The site’s internet address is: www.landfillproject.uconn.edu.

The web site includes a description of the project; timeline; project contacts and list of places to find documents; copies of recent notices, releases and publications that site visitors can download; a project map; and links to other sites, such as Connecticut’s Department of Environmental Protection (DEP), the U.S. Environmental Protection Agency Region I, and UConn’s Homepage. Meeting notices will also be posted on the site in the future. Results of quarterly domestic well sampling will be summarized for posting as well.

Readers who have comments or suggestions about the information on the web site can contact Nancy Farrell, project Public Involvement Manager (NFarrell@reginavilla.com).

Supplemental Tech Memo / cont.

- Groundwater interception: capturing groundwater with pumping wells before it flows through the landfill waste
- Leachate collection and treatment: allowing groundwater to flow through the landfill, then be collected and pumped to a treatment facility (leachate collection is already part of the Remedial Action Plan for the landfill)

The TM includes detailed information on the modeling work, including maps and flow modeling results.

After the re-evaluation, H&A concluded that the options under consideration would not eliminate saturated waste in the landfill. First, there is no current technology that can efficiently capture all the groundwater in fractured bedrock, so capture alternatives are not likely to be successful. Second, the wetland to the north of the landfill controls the level of groundwater below the landfill. This means that managing the flow from the bedrock to the east is likely to be ineffective. Even with controls in place, groundwater beneath the landfill will rise to the level of the wetlands to the north. Finally, the Consent Order already requires the use of leachate interceptor trenches, so they will be included to collect groundwater leaving the landfill.

A copy of the Technical Memorandum is available in the Mansfield Town Manager’s Office, the Mansfield Public Library and at UConn Communications. DEP and the other parties are reviewing the results of the re-evaluation and have not commented on its conclusion yet. Comments can be sent to Ray Frigon at DEP, 79 Elm St., Hartford, CT 06106-5127. Those who are interested in more information on the re-evaluation should attend the Open House on September 3, 2003. (See the announcement on page 1.)

U.S. Environmental Protection Agency
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(860) 659-4248

UConn Updates:
Ray Frigon, CT DEP;
Chuck Franks, US EPA;
Martin Berliner, Mansfield; Rob Miller, EHHD; and members of the UConn consultant team.

COMING NEXT TIME
- Report on Construction Progress
- Interim Monitoring Program Results
- Updated Schedule

WHERE WILL I FIND THE DOCUMENTS?
www.landfillproject.uconn.edu

Copies of all project documents are available at:

Town Manager’s Office
Audrey P. Beck Bldg.
4 South Eagleville Rd.
Mansfield, CT 06268
(860) 429-3336

Mansfield Public Library
54 Warrenville Rd.
Mansfield Center, CT 06250
(860) 423-2501

CT Dept. of Environmental Protection
Contact: Ray Frigon
79 Elm St.
Hartford, CT 06106-5127
(860) 424-3797

UConn at Storrs
Contact: Scott Brohinsky
University Communications
1266 Storrs Road, U-4144
Storrs, CT 06269-4144
(860) 486-3530

LIST OF PROJECT CONTACTS

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UPDATE REVIEWERS

The following parties reviewed the copy for this edition of the UConn Update: Ray Frigon, CT DEP; Chuck Franks, US EPA; Martin Berliner, Mansfield; Rob Miller, EHHD; and members of the UConn consultant team.