



On the Penobscot

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Orrington Turns a Corner and the Future Comes Into View

It has been a long road for the Town of Orrington since the former HoltraChem manufacturing plant closed suddenly in 2000, leaving the town as owners of a sprawling site after its owner failed to pay unpaid taxes and filed for bankruptcy protection.

With an agreement now in place between Mallinckrodt US LLC and the Maine Department of Environmental Protection (DEP) on the final environmental remediation of the former manufacturing site, Orrington can now see a light at the end of a long tunnel. The process of remediating the site was recently outlined to attendees at the June 1 Orrington Town Meeting with presentations by the Maine DEP and a representative from Mallinckrodt US LLC.

Those familiar with the plant during its peak manufacturing days would hardly recognize the site today. Mallinckrodt US LLC, a successor to one of the former owners, has completed the lengthy task of dismantling all of the plant's structures; constructed a new groundwater treatment system and plant; and developed a comprehensive remediation plan in concert with the Maine DEP to complete the environmental remediation by 2019.

"We are starting the remediation process and developing an overall timeline to finish promptly," says Mallinckrodt's Director of Environmental Remediation Kathryn Zeigler. "What we are going to leave behind is an environmentally secure site that the town can reuse as it sees fit."

In 2010, when Mallinckrodt US LLC first proposed a final remediation plan for the former HoltraChem site, a Maine-based architect and developer made a presentation to the town Board of Selectmen and residents on a variety of redevelopment scenarios post remediation, including light manufacturing and a business park, public walkways, public access to the river and other recreational uses.

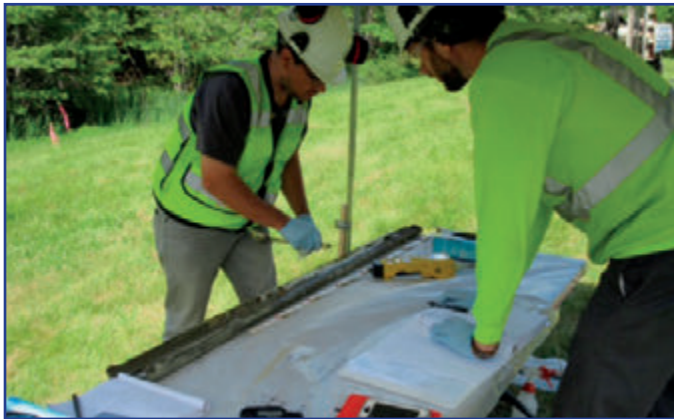
Many communities could only dream of owning a site of nearly 180 undeveloped acres of land along the Penobscot River, but with final remediation underway, Orrington's future reuse of the site is now coming into view.



Before the Work Begins, Health and Safety Plan is the Priority

It's possible that the environmental engineering collaborative managing the HoltraChem environmental remediation in Orrington overlooked a detail when they developed a Health and Safety Plan (HASP) for the project.

But you wouldn't think so if you saw the "bible" that guides their work. Led by CDM Smith, the engineering collaborative includes Geosyntec Consultants and Anchor QEA and each firm has brought its particular specialty to the task of securing the 65-acre work area where a chemical manufacturing plant operated for 33 years until it was closed in 2000.



Geosyntec field geologists Greg Barr and Jim Kocis, wearing standard issue safety gear, record the types of soil found in each layer of the core sample they have collected from a test boring.

While all environmental remediation projects require a healthy and safety plan before proceeding, each site has its own unique challenges and that plan needs to be designed for that particular site. The HoltraChem remediation will involve the excavation and removal of two site landfills and removal of contaminated site soils where the plant once operated. It will also include the recapping of the three remaining landfills to permanently encase them, long after the remediation is completed and the engineers have left the site.

Designed to protect the health and safety of site workers and the community around them, the HASP is an exhaustive compendium of site health and safety con-

cerns based on a clearly articulated set of goals: No one is to be injured while on the job or exposed to unacceptable health risk; Protect the air, soil, water and nearby sediment from any increase in contamination; No violations of state or federal environmental or worker safety laws or regulations.

The HASP for the Orrington site includes a four-page Table of Contents, including a listing of figures, tables and attachments. The topics range from the specific responsibilities of the project manager and the Safety and Health Officer to preventing contamination and steps for decontaminating equipment – large and small – that will be used to excavate site soils for transportation.

“The objective in building out a health and safety plan is to anticipate anything that could possibly go wrong and then build protocols and procedures to make sure that nothing goes wrong,” says Mallinckrodt’s Director for Environmental Remediation Kathryn Zeigler. “They are highly trained professionals when they arrive on site, but they continue to train their employees and managers to adapt to the specific conditions of the project. We have a great deal of confidence in our team and in the plan that they have developed.”

Site engineers will have the benefit of constant air and groundwater monitoring that will detect any increase in mercury contamination while the excavation and removal process is ongoing. And they also have the advantage of CDM Smith’s 15-year track record working at the Orrington site where they have acquired detailed knowledge of the site’s hydrogeology, terrain and soil from their work preparing the site for its final remediation and restoration. Experience is an advantage, but experience at the very site where the work will take place is a great advantage.

Global Environmental Engineering Firm CDM Smith Takes the Lead in Orrington

When Mallinckrodt US LLC last year sought bids for a world-class firm to manage the environmental remediation of the former HoltraChem site in Orrington, it received numerous proposals from highly qualified environmental engineering firms. After extensive interviews, follow-up questions and internal discussions, Mallinckrodt selected a team comprised of three firms under the leadership of CDM Smith.



John Weston of CDM Smith, now overseeing the remediation team, is no stranger at the Orrington site, where he has worked over the past 15 years.

“Having to choose among such highly qualified and experienced firms was actually a good problem to have, and a team approach was an excellent solution,” recalled Kathryn Zeigler, Mallinckrodt’s Environmental Remediation Director. “We now have an integrated team of remediation experts with extensive experience in remediation, and each firm has a particular specialty that they bring to that team.”

The lead contractor among the three firms selected is CDM Smith, a Cambridge, MA. based international engineering firm that is responsible for project management and coordinating the work of the two other firms, Geosyntec and Anchor QEA. Geosyntec has extensive experience in removal of mercury contaminated soils, and Anchor QEA is internationally recognized as an expert on sediment remediation such as that required in the Southern Cove.

In addition to its substantial remediation experience around the world, CDM Smith and John Weston, the Remediation Project Manager, have direct experience at the Orrington site. Under Weston’s direction, CDM Smith managed the dismantling of the former cell building during the phased demolition work at the site, a complex task that required the building and equipment to first be thoroughly cleaned without any mercury becoming airborne or leaching into the groundwater. CDM Smith also worked on other site projects since HoltraChem ceased operations in 2000.

CDM Smith’s Dean Carter (see related profile) will serve as the Site Construction Manager for the removal and reconstruction of two landfills, the capping of three landfills and the removal of impacted soils throughout the former manufacturing area. Mr. Carter will also oversee the transportation and off-site disposal of the excavated soils.

“I don’t know if I have ever worked with such an experienced and collaborative group of professionals,” said Mr. Weston, whose 35 years of experience in the design and construction of remediation projects made him the obvious choice to serve as Remediation Project Manager. “The challenge for Mallinckrodt was finding a

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Geosyntec Laboratory Director Rhiannon Ervin prepares a soil sample from the site to be tested in the certified analytical laboratory on site.



Dean Carter comes home to Maine to lead Orrington Remediation Project



After spending the majority of his career away, Dean Carter has come home to Maine where the 56-year-old engineer was born and raised and graduated from the University of Maine with his degree in civil engineering. The Bar Harbor native even had the good sense to marry a woman from Maine.

Mr. Carter returned earlier this year to assume the role of Construction Manager for the final environmental remediation of the former HoltraChem Mfg. site in Orrington.

“I’m here because I have had 25 years of experience working on environmental remediation projects all over the country. That experience is very useful at this site because we use the same construction techniques, the same health and safety measures and air monitoring that we have developed over many years. We know how to do this.” said Mr. Carter.

CDM Smith’s Dean Carter returned to Maine with his family to assume the role of Construction Manager for the final remediation of the HoltraChem plant.

Mr. Carter and his colleagues in Orrington bring a wealth of experience and more sophisticated techniques to the task of excavating thousands of tons of soil from sites without exposing the air or water to contamination. One of the other engineers working on the Orrington site recently completed work on a site in New Jersey that had very similar characteristics as the former HoltraChem site, including mercury contamination.

“Our methods for characterizing the soil conditions are very thorough and over the course of the work this summer we will develop a very good map of the manufacturing site and the landfill areas so that we can remediate those areas appropriately,” said Mr. Carter.

Mr. Carter’s work for CDM Smith, a global engineering and construction company based in Cambridge, MA (see related story), began in 2001 when he worked on a landfill reclamation project alongside CDM Smith engineers and ended up joining the company. He eventually resettled in Orlando, FL, where he and his wife raised their three children. Over the course of his career, Mr. Carter worked in Southern Maine in construction before moving to Georgia where he focused his engineering work on environmental remediation, and finally moved to Florida.

He and his wife have resettled in a home they just purchased in Bucksport while his parents continue to live in Hermon, just 15 minutes from the Orrington site.

“It’s good to be home,” says Mr. Carter.



A gleaming new rail spur into the HoltraChem site will make soil removal more efficient and will significantly reduce the number of trucks on local roads.

A local engineer returns home to Orrington

Jessica Munson doesn't recall much about the sudden closing of the HoltraChem Manufacturing Co. in 2000. Of course, you really can't blame her for not being aware of it.

"I was 10 years old at the time," she says drily.

Fast forward 15 years later and Ms. Munson is not only back at her family home, but she is now working at the site as a Construction Specialist with CDM Smith, the environmental engineering firm that is heading up the final environmental remediation of the former HoltraChem site. "It's great," says the Orrington native. "It couldn't be more convenient. I'm about two miles from the site and I feel like I am doing something important here helping out the town."

After graduating from high school, Ms. Munson left for Norwich University in Vermont, graduating in 2013 with a Bachelor of Science degree in construction engineering management. Her talent for administration and organization were already evident before she arrived at Norwich. She had worked locally at W.S. Emerson Co. in Brewer tracking over 1,000 customer accounts and performing billing and accounting services. Following her graduation from Norwich, she remained at the campus working for the university construction services as an administrator on four multi-million dollar construction projects.

Her eye for detail and her organization skills were not lost on Dean Carter, the Construction Manager at the site for CDM Smith.

"Accurate documentation of everything that happens on this site is critical to our success here, and she has that ability to not only track what is going on here on a daily basis but also to analyze it from a quality control perspective," Mr. Carter says. "Jessica will be monitoring our compliance and making sure that we have all our permits in place so we can keep this project moving on schedule."



When Jessica Munson began her duties at the HoltraChem site this past spring, she was greeted by the remnants of winter and Dean Carter of CDM Smith who gave her a visual tour of the site.

And for Ms. Munson it is a chance to not only return to her roots, but to build her knowledge base on a project that will remediate a site in her hometown.

Before this opportunity called, Ms. Munson was living and working 700 miles from home in Washington, D.C. as an office engineer for a construction company, doing what she does best: organizing bid documents, managing and developing customer relationships, and preparing subcontracts and other critical documents. Her return home, she says, has been easy and welcome. "Most of my family is still here and a lot of my friends are here as well."

Global Environment Engineering, continued from front page

team that had experience in remediating a chlor-alkali manufacturing site, working with mercury contaminated soils and sediments, designing the remedial plans and specifications and managing the associated logistics while doing it all in a manner that protects human health and the environment. I think they obtained all of that experience by assembling the critical parts of three firms.”

Ms. Zeigler said that it is no coincidence the key leadership for the environmental engineering firms has extensive experience working in Maine and even have their roots in the state. “We obviously emphasized professional competency and health and safety first,” said Ms. Zeigler, “but it was an added bonus that so many members of this team were either born or raised in Maine or have spent significant parts of their career here. That familiarity is extremely important.”



Rail lines into the site are being upgraded for the transport of site and landfill soils from the former plant which will be loaded into secured rail cars for disposal at licensed disposal facilities off site

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