

# Laboratory Foamed-Asphalt-Producing Plant



**COMPLETE!**

Recycled  
Materials  
Resource  
Center



University of New Hampshire



Federal Highway Administration

The final report for Project 16 is available on-line at:

<http://www.rmrc.unh.edu/Research/Rprojects/Project16/P16finalreport.asp>

## Project Objectives

This technical problem solving project with Maine Department of Transportation evaluated a laboratory

foamed asphalt plant at a facility at Worcester Polytechnic Institute (WPI).

## Project Progress

Maine DOT was actively pursuing full depth reclamation (FDR) with foamed asphalt and wanted to demonstrate the technology in a Highway Improvement project along part of Route 8 in Belgrade, Maine. However, they needed to design a foamed asphalt mixture that would meet their performance goals. So, Maine DOT partnered with Dr. Rajib Mallick at Worcester Polytechnic Institute (WPI) to develop specifications, methods and application guidelines for foamed asphalt. As part of this project, WPI and Maine DOT jointly purchased a Wirtgen WLB-10 Laboratory Scale Foamed Bitumen Plant with the RMRC providing funds to cover Maine DOT's share. The bitumen plant was used by Maine DOT to design different asphalt mixtures and evaluate their performance characteristics. An optimized mix was designed and eventually used in the demonstration project.

This project is complete and has resulted in several important end products. Maine DOT has gained practical experience working with foamed asphalt technology, experience that was described in an AASHTO Technology for Implementation document. Maine DOT will monitor the test sections for several years, providing data on how foamed asphalt properties change with time. Established mix designs mean that contractors will be more willing to adopt foamed asphalt technology because they don't have to design their own mixes and therefore assume less risk for a project. Results from this project are being combined with data from RMRC's Project 17 for a recommendation to AASHTO for a mix design specification.



Reclaimer pushing the asphalt tanker and introducing the foamed asphalt into the base. Water truck is towed by reclaimer. Water is introduced at foam spraybar, and aids compaction of the base.



Checking the consistency of the material.

## Project Partners

- Worcester Polytechnic Institute
- Wirtgen Group

## End Products

- Full depth reclamation (with foamed bitumen as stabilizer) mix design specification to AASHTO (via Maine DOT)
- Full depth reclamation (with foamed bitumen as stabilizer) "Technology for Implementation" to AASHTO (via Maine DOT)
- TRB "State of the Practice"

## Further Information

The Recycled Materials Resource Center (RMRC), a cooperative agreement between the University of New Hampshire and the Federal Highway Administration, is a national center that promotes the appropriate use of recycled materials in the highway environment. Its focus is on the long-term performance and environmental implications of using recycled materials. Please visit <http://www.rmrc.unh.edu>.

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