

CEI's Stormwater Engineering Design Receives Statewide Recognition

The American Council of Engineering Companies of New Hampshire recently recognized CEI for its stormwater engineering treatment and spill control project located in Nashua, NH. Judged on its innovation; value to the engineering community; complexity; social, economic and sustainable design considerations; and client satisfaction, CEI's nomination received Honorable Mention in a wide field of engineering projects.

The project includes the retrofit of Tinker Pond, a large and ineffective detention area adjacent to the Everett Turnpike in southern NH. Tinker Pond is the first and only line of defense from roadway spills and stormwater to the connecting drinking water supply, Harris Pond. Major project components included the conversion and expansion of Tinker Pond to an extended detention basin with pretreatment; design of maintenance roadways and immediate access to emergency spill control equipment; bioretention treatment; and the construction of forebays sized to handle a tanker truck size spill with containment features.

The Turnpike Water Treatment & Spill Control Project showcases how multiple water quality issues can be addressed in a restrictive area while maintaining the integrity of the transportation corridor and surrounding natural resources. The designs employ a balance of cost-effective space saving techniques, simple maintenance methods and innovative stormwater treatment concepts to retrofit existing large closed conduit systems. These techniques can be used in the future to retrofit large drainage systems that have little space for conventional forebays, large detention ponds and proprietary sediment removal units. Most importantly, the public value of this project is priceless in that the spill control features become essential to the integrity of this public water supply source.

There are countless detention basins like Tinker Pond throughout the developed portions of New Hampshire. Many were built years ago and have no pretreatment forebays or extended detention components. Some even lack access for maintenance and few are cleaned out on a regular basis. The result is one of the biggest threats to water quality in the state – overflowing, overgrown sediment filled basins that no longer protect water quality.

The construction of these state-of-the-art transit-oriented stormwater controls in this situation provides a great example of how old basins can be renovated to provide significant water quality benefits. The fact that this basin is in a tight spot bordering the Turnpike made the project a good example of how huge improvements can be made even where there are many obstacles. Further, the value of keeping surface water supplies safe and sustainable remains an economic priority for the region.