Green and Complete Streets

When the City of Boston Environment Department received grant funding for a Green Street Pilot Demonstration Project, they worked in partnership with the Charles River Watershed Association and the Boston Public Works and Transportation Departments to select an appropriate project. Dorchester's historic Peabody Square, a multi-legged, complex, high-accident-rate intersection that was under redesign by the Nitsch Team, was selected as the best fit for the grant funding.

"Peabody Square was an obvious choice for the Green Street project because we already had active community partners and a knowledgeable project team with a deep sustainability mindset," *said James Hunt, Chief of Environment and Energy, City of Boston.*

"Green" is showing its color in all facets of our lives – from reusable grocery store bags to sustainable buildings. At Nitsch Engineering, we have long embraced the engineering concepts and approaches that exemplify "green" and "complete" streets. Green and complete streets, by definition, address the needs of all users – vehicles, pedestrians, and cyclists – while using sustainable best practices during design and construction.

The philosophy of widening streets and roadways to address the problems of traffic flow, roadway capacity, and safety has proven detrimental to local neighborhoods, businesses, and the pedestrian friendliness of an area in general. With communities now working to win back the streets of their neighborhoods, traffic will have to adjust to the concept of sharing the roadway with pedestrians and bicycles. Sustainable transportation and traffic design is a concept that restores the feeling and sense of neighborhood cohesion through effective landscaping, roadway configuration, traffic controls, roadway lighting, and pedestrian amenities.

The Nitsch Team Approach

At Nitsch, we've been evaluating and implementing stormwater Best Management Practices (BMPs) and using Low Impact Development (LID) approaches to create sustainable site designs for years. From our site design experience with Yale University, the University of Virginia, and MIT – to name only a few – we're knowledgeable of the variety of methods to reduce, collect and treat stormwater runoff and mimic a site's predevelopment hydrology. From porous pavement to bioretention (rain gardens), Nitsch Engineering has been at the forefront of sustainable site design.

Nitsch Engineering advocates low-maintenance, sustainable environments, and endorses the use of visually pleasing, timeless, durable materials for paving and furnishing streets. We look for opportunities to pave less and recycle more. Where feasible, we explore reduced lane widths and the use of permeable pavement, which we have introduced successfully on a number of projects such as Peabody Square in Boston. We maximize opportunities to recycle hardscape materials, such as recycling pavement into subbase to repave existing bituminous roadways. In addition, we explore other "green" approaches to hardscape materials, with special emphasis on locally supplied materials. Our construction detailing for pavement materials of traveled way and crosswalks allows the contractor to understand our intent and is supplemented with special provisions to state and municipal standard specifications.

In addition to the aesthetic and shade benefits associated with planted streetscapes, Nitsch Engineering recognizes the important ecological benefit of a healthy, thriving tree canopy. As such, our designs leverage opportunities to address the over-compacted and inadequate soil volume associated with conventional tree pits by exploring options with structural soils that support walkway pavements while extending the root zone area.

The Nitsch Team understands the importance of sustainable roadway design to a modern community and collaborates with landscape architects to integrate green design features into a streetscape. We address the drainage, materials, and plantings for the street in order to create a "green street" that meets the needs of the area residents and the city or town.