



Climate Smart Communities – Capital District Quail Street Complete Streets Project – Albany, NY June 2013

Introduction

In 2012, the City of Albany, NY submitted a proposal for grant funding under the Clean Water State Revolving Fund (CWSRF) to construct portions of a Complete Street that includes green infrastructure design improvements along Quail Street in the city. The concept for this project is to develop a Complete Street which promotes safe modes of transportation for pedestrians, bicyclists and vehicles as a way to achieve the specific vision for the Albany Education District:

“Create a safe, welcoming and vibrant activity center” that capitalizes “on the opportunities provided by the District’s unique character”.

The green infrastructure practices incorporated into the project will support this vision by promoting a healthy and livable community. This document outlines the project objectives, describes the methods for integrating green infrastructure practices and includes an estimated project cost for completion.

Project Objectives

The objectives for the Quail Street Complete Streets Project include:

- Demonstrate the design and functionality of green infrastructure in the urban landscape by implementing the new green infrastructure design requirement/practices found in the *New York State Stormwater Management Design Manual* (August 2010).
- Reduce the carbon footprint of this urban corridor by increasing tree canopy cover, reducing impervious cover and incorporating vegetated “green infrastructure” stormwater management components into the street drainage system.
- Design the “green street” project improvements to reduce stormwater runoff and maximize water quality treatment. This would be accomplished using small scale stormwater practices integral to an overall planned and designed streetscape, that works in harmony with the other uses of the roadway/sidewalk (streetscape) in the urban environment including: utilities, traffic circulation, maintenance and aesthetics.

Project Description

The Quail Street Complete Streets Project is located in the Albany Education District between Madison and Central Avenue, and supports the proposals in the [Albany Education District Enhancement Study](#) dated February 2012 which supplements the latest [Albany 2030 Comprehensive Plan](#). The City of Albany is collaborating with the College of Saint Rose and the University at Albany’s Downtown Campus on this project.

This project will incorporate green infrastructure improvements into a streetscape upgrade to the maximum extent practical as described below. The design includes the reduction of impervious surface and the increase in tree canopy with water quality treatment via green stormwater features including street trees in tree box filters, vegetated depressed bioretention areas, at-grade vegetated planted areas, and permeable pavements/pavers.



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The proposed design includes the following elements (as shown in Figure 1):

- Pervious pavers on select sidewalk areas to collect and infiltrate runoff
- Large trees providing shade and impervious cover reduction
- At-grade plant beds to reduce impervious cover and collect sidewalk runoff
- Depressed bioretention areas to store and treat runoff from sidewalk and roadway
- Sidewalk bump outs to provide additional area for bioretention areas as compatible with the overall design and existing road grading
- Curb-inlets to collect water from Quail Street to direct runoff to proposed bioretention areas
- Shallow sediment collection areas in the bioretention areas for pretreatment of roadway runoff and energy dissipation prior to entering bioretention areas
- Proposed bioretention areas are planned to consist of the following:
 - Native planting appropriate for bioretention in urban, northeast conditions areas
 - 9-inch surface ponding depth
 - 30 inches of bioretention soil media
 - A perforated underdrain with clean outs connected to the existing City storm drain system depending on soil and water table data
 - An overflow drain to provide controlled overflow of surface water from the bioretention areas to the existing storm drain system

These design elements maximize water quality treatment and adhere to the New York State Stormwater Design Manual.

Runoff from the sidewalk and portions of Quail Street will be directed to bioretention areas wherever feasible and permeable pavements will be used in as many areas. This Quail Street design includes elements similar to that proposed for the State Street Project in Albany.

The proposed stormwater improvements will reduce the 186,700 square-foot impervious project area to approximately 169,200 square feet, or a 9.4% reduction in impervious area. The best management practices (BMPs) will be designed to function for maximum water quality treatment and proper drainage with consideration for the groundwater table.

Project Cost Estimate

The estimated probable construction costs for the full build out of the Complete Street design along Quail Street (not including roadway work, paving or traffic signal improvements) is approximately \$4,500,000. Of that, the estimated probable construction of the green infrastructure improvements as described above is approximately \$1,800,000.

Project Progress

As of June 2013, the Quail Street Complete Streets Project funding is in the initial stages of being awarded. More information can be obtained by calling the City's Engineering Department at 518-434-5104.

Figure 1: Quail Street Green Infrastructure Conceptual Layout Plan

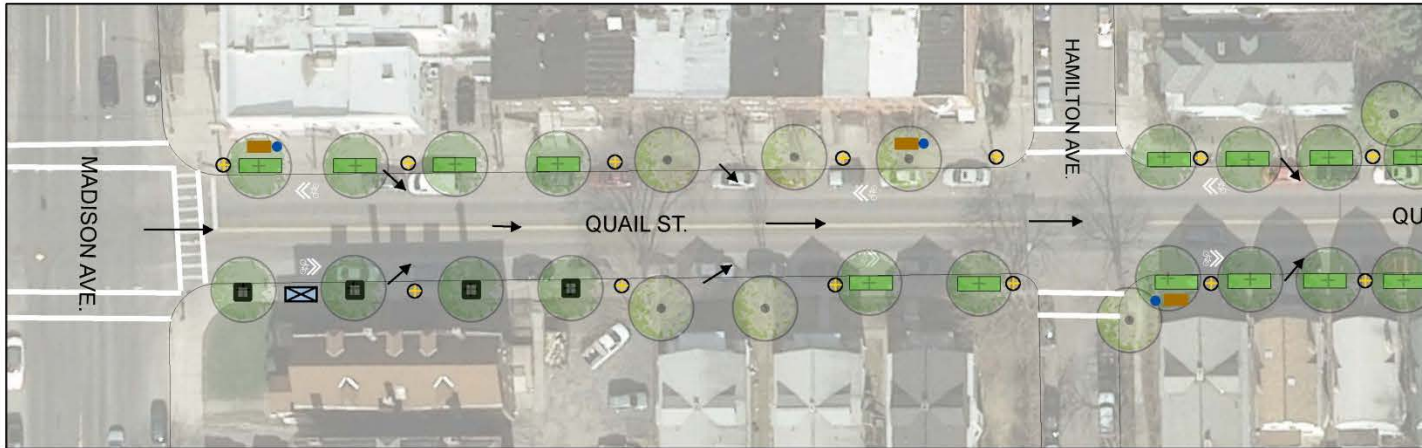


Figure A

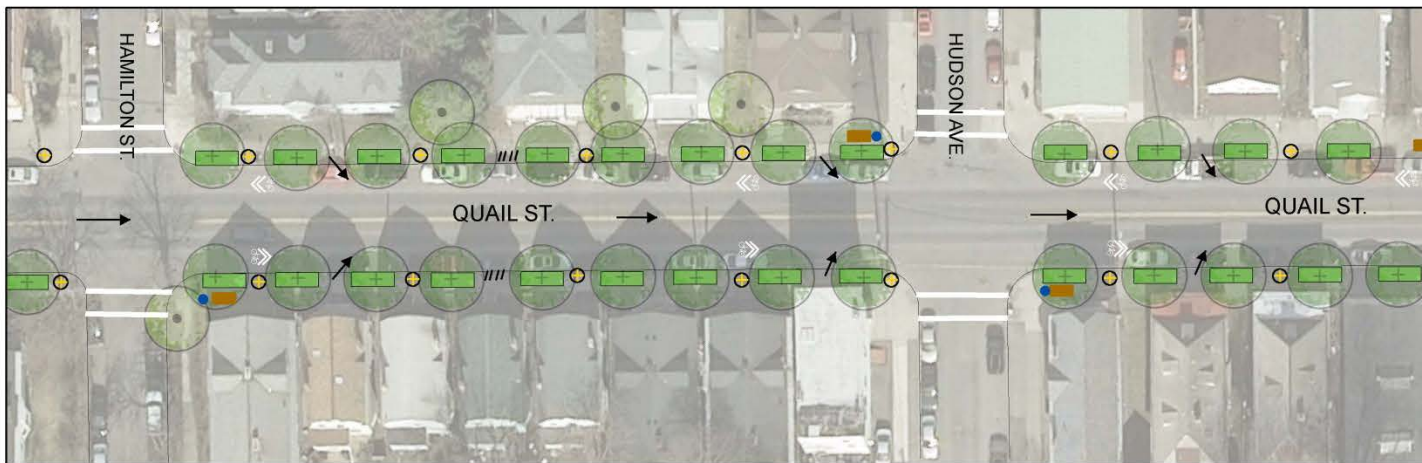
















Figure B



Green Infrastructure Conceptual Layout Plan

-  **Trash**
 -  **Street Light**
 -  **Bike Racks**
 -  **Bus Stop**
 -  **Bench**
 -  **Proposed Trees**
 -  **Existing Trees**
 -  **Grates**
 -  **Plant Bed**
 -  **Bioretention Area**
 -  **Flow Path**
 -  **Existing Curb**
 -  **Sidewalk Bumpout**
 -  **Pervious Paver**
- 0 20 40 60 80 Feet

Green Infrastructure Project
Feasibility Study
Quail Street
Albany, NY