

GREENSTREETS

Stormwater Management Portfolio

Church Avenue, 14th Avenue, & 35th Street
Colfax Street & Murdock Avenue
Furmanville Avenue, 80th Street, & Dry Harbor Road
Pelham Parkway & Stillwell Avenue
Sagamore Street & Cruger Avenue
Seagirt Blvd. between Beach 19th St. & Beach 20th St.



Church Ave., 14th Ave. & 35th St. Brooklyn, NY

Construction | Spring 2009
Site Area | 2,775 sf
Drainage Area | 6,825 sf

This active stormwater capture Greenstreet was converted from a vast asphalt triangle of unused roadbed. A sidewalk bisects the site into an ornamental planting bed and a bioretention planting bed. The Greenstreet is celebrated by the community and disconnects 6,825 square feet of impervious area from the combined sewer system.



Colfax St. & Murdock Ave.

Queens, NY

Construction | Spring 2010

Site Area | 1,214 sf

Drainage Area | 1,995 sf

This site disconnects a total of 1,995 square feet of impervious area from the sewer system. It is among the first of a series of stormwater capture Greenstreets funded through the American Recovery and Reinvestment Act, to be equipped with an intensive monitoring setup supported by the National Science Foundation. The performance of the bioretention area is being monitored through collaboration between Drexel University, New York City Department of Parks & Recreation, New York City Soil & Water Conservation District, and Brooklyn College, with regards to the hydrology, water quality and soil chemistry of the site.



Furmanville Ave., 80th St., & Dry Harbor Rd.

Queens, NY

Construction | Spring 2010

Site Area | 750 sf

Drainage Area | 7,480 sf

One of NYC's oldest stormwater Greenstreets was constructed as a bumpout replacing unused asphalt roadbed. The Greenstreet intercepts stormwater runoff before it can enter a catch basin on 80th St. Water enters the planting bed via a curb cut inlet, and is slowed as it travels through a gravel forebay. The water then infiltrates into the soil and is absorbed by hardy vegetation in the bioswale planting. Using New York State Department of Environmental Conservation and New York State Department of State grant funding, Drexel University and our other research partners are monitoring hydrological processes. Monitoring includes the collection of time series data for precipitation, street runoff, and soil moisture content within the bioretention area.



Pelham Parkway & Stillwell Avenue

Bronx, NY

Construction | Spring 2008

Site Area | 3,180 sf

Drainage Area | 12,320 sf

Designed to alleviate existing drainage problems, this stormwater Greenstreet actively captures and manages runoff from 12,320 square feet of catchment area. Streetside runoff sheets over a gravel diaphragm shoulder at the curb line and is released into a vegetated bioswale. The site is planted with stormwater tolerant species including *Taxodium nutans*, *Quercus rubra*, *Prunus x cistena*, *Echinacea purpurea* 'White Swan', *Liatris spicata* 'Kobold', *Iris versicolor*, *Hemerocallis* 'Stella D'oro', *Rudbeckia hirta* 'Goldstrum', *Panicum virgatum* 'Heavy Metal', and *Schizachyrium scoparium*.



Sagamore St. & Cruger Ave.

Bronx, NY

Construction | Spring 2009

Site Area | 2,038 sf

Drainage Area | 4,204 sf

This Greenstreet actively directs stormwater runoff from the street into the planting beds through a covered trench inlet. The profile of the bioretention area consists of three inches of mulch, two feet of topsoil, and one foot of $\frac{3}{4}$ inch crushed bluestone situated on top of shallow, fractured bedrock. The site disconnects 4,204 square feet of previously impervious area from the combined sewer system. Intensive monitoring of the hydrologic performance of the bioretention area is being conducted through collaboration between Drexel University and New York City Department of Parks & Recreation, including the collection of time series data of precipitation, street runoff, and soil moisture content within the bioretention area.



Seagirt Blvd. between Beach 19th St. & Beach 20th St.

Queens, NY

Construction | Spring 2010

Site Area | 4,225 sf

Drainage Area | 25,355 sf

Funded through the American Recovery and Reinvestment Act, this Greenstreet was constructed over existing striped asphalt roadbed and consists of a series of planting beds with curb cuts and trench inlets. Due to its proximity to the ocean, this site is planted with vegetation especially tolerant of salt spray, in addition to drought and inundation. The site captures stormwater from 25,355 square feet of catchment area, which previously drained directly into the harbor.

