

Greenpoint Industrial Environmental Improvement Program (NY) Feasibility Site Visits

Barry X Ball

Barry X Ball is a sculpture artist whose medium includes a variety of materials. His current construction project at 193 Banker St will serve as a fabrication facility, studio/workshop and gallery space. Under construction are 20,000 square feet with an expected January 2017 date of completion. The blueprints include a large outdoor courtyard made for housing large pieces of stone. Inside, a water filtration and reuse system will be installed for removal of stone dust and improvement of process water utilized for a stone cutting machine. This recycling process will reduce water usage.

Mr. Ball is installing an expansive green roof on the warehouse as part of the original construction plans but during the site visit, Mr. Ball informed the team that construction is too far along to add any additional basic infrastructure features. The limited water demand makes stormwater reuse undesirable. The courtyard for housing stone needs to support 20 tons of weight, making the use of permeable pavement unsuitable. There was mention of developing the lot next door and incorporating some form of GI however, the timeframe would be beyond that of the project scope.

Gotham Greens

Gotham Greens is an urban agriculture business founded in Brooklyn in 2009 that uses rooftop greenhouses to grow pesticide free vegetables and herbs. Gotham Greens supplies its produce to retail, restaurants and institutional customers. Their flagship farm in Greenpoint is located at 810 Humboldt St and measures over 15,000 square feet. Built with sustainability at the forefront, the facilities' electrical demands are offset by solar panels and high efficiency design features including LED lighting, advanced glazing, passive ventilation, and thermal curtains. All produce is grown using recirculating irrigation systems that capture all water for re-use and are free of any harmful chemical pesticides.

Environmental stewardship is part of Gotham Greens' mission but since they only tenant the rooftop, our primary focus was looking at the potential for rainwater harvesting. The company had looked into rainwater harvesting for their Humboldt St. greenhouse some years back and the feasibility study determined that it was not cost effective due to water storage and plumbing considerations. They would have to store the water either on the roof (too heavy) or on the ground floor and then pump it back up (too costly). No other GI implementations are currently appropriate for the Gotham Greens facility.

Greenpoint Manufacturing and Design Center

The GMDC is a nonprofit industrial developer. GMDC was established in 1992 and has since rehabilitated seven manufacturing buildings in Brooklyn for occupancy by small manufacturing enterprises and artists. The Manhattan Ave site at 1155-1205 Manhattan Avenue is a 366,000 square foot building located along Newtown Creek.

Currently, GMDC has no existing plans to implement GI. In the past, GMDC has been approached to take advantage of New York City Department of Environmental Protection (DEP)

funds for green roofs but because they are in a separate system area, they were deemed ineligible. GMDC has previously attempted to donate their bulkhead space along Newtown Creek, their only outdoor space, to be rehabilitated and converted into a water edge park utilizing funding from New York State. The bulkhead is currently in a dilapidated condition. Using grant funds, the plan was to extend the existing park behind their building and refurbish the bulkhead resulting in 374 LF of waterfront public space. GMDC would be bequeathing the property to the city. This project would have relieved GMDC of any potential bulkhead liability while donating waterfront space to the community. This property will be the missing segment over an extended stretch of waterfront park along Newtown Creek. At the time, the prospect did not progress but the GMDC would still be interested in reviving the project, though no existing efforts to secure funding are underway.

The GMDC property lacks external space that can be converted to GI and no internal space is suitable for GI conversion. Utilizing the surrounding sidewalk is not feasible with the existing budget and schedule due to the necessary coordination that such a project would require with the city. Additionally, some areas of sidewalk were filled with light weight concrete in a former. This fill makes sidewalk-based GI undesirable. GMDC has considered a green roof however, the funding offer would require the roof to become a public space. GMDC did not want to go down the path of turning the roof into a public area and providing the necessary egress. The bulkhead along Newton Creek could potentially be a site for above ground planters. Planters would provide habitat value, i.e. bird foraging habitat, with some coastal scrub shrub plantings. However, because the bulkhead is in disrepair this would not be a long term solution. GMDC's insurance company will not offer coverage for having the public on the bulkhead. An opportunity may exist to reopen the bulkhead rehabilitation project and follow through with the plan to convert the bulkhead into a waterfront park. This, however, would require a change in scope to include facilitation of the project and investigation into funding alternatives.

Lucky's Real Tomatoes

Lucky's Real Tomatoes specializes in growing and transporting tomatoes from a network of farmers in Florida and on the east coast. At the Greenpoint warehouse, the tomatoes are sanitized using ozone and transported to local restaurants and retail stores. The building is a 17,000 square foot warehouse and distribution center located at 29 Meserole Avenue. The building footprint of the warehouse encompasses the entire lot.

The company has discussed construction of a greenhouse or green roof however, it was determined that while the building is structurally conducive, rooftop construction would necessitate numerous repairs and the cost was determined to be prohibitive. The primary limiting factor for GI at the site is the lack of non-building area within the lot. Any GI placement on the roof is limited by structural constraints. Additionally, stormwater reuse was not considered due to the facility's very low water demand. There are no GI opportunities at the location at this time. Green infrastructure on this property could be reassessed if roof repairs or replacement takes place but that is likely to occur outside of the timeframe of this project.

Modesti Brothers

Modesti is a family owned trucking and freight hauling business that has been in business for 80 years and has been based in Greenpoint at 273 Meserole Ave for over a decade. They own their

premises. Modesti transports product on a contract basis and runs its own fleet of trucks. Their business employs 19 people, many of which are neighborhood residents. They operate the facility which boasts nearly 20 loading bays.

The building on the Modesti site is surrounded by pavement, most of which gives the trucks access to the loading bays. While there are spots of pooling on the site and some drainage issues in the adjacent street, the weight-load required to accommodate the trucks makes permeable pavement unsuitable. While there could be space to add rain gardens or above-ground planters, Modesti feels it necessary to preserve all available parking spaces. In so far, there are no GI opportunities at the location at this time.

Jos Lowenstein & Sons Inc.

Jos Lowenstein, a dyestuff manufacturer, is a legacy business that has been operating in Brooklyn since 1897 and in its current location, 420 Morgan Ave since 1937. This large family business has over 90 employees roughly 70% of which are local hires, some of which live in Cooper Houses, the NYCHA community across the street from Lowenstein's facility. Having a long history in the area and an executive on the Board of Evergreen, Lowenstein has a track record of being an active member of the North Brooklyn Industrial sector as well as the broader local community. Lowenstein has an employee parking lot that we reviewed for a potential permeable pavement implementation and/or treatment wetlands. Lowenstein was interested in participating because their parking lot needed to be redone and they were curious about alternatives to traditional paving that could be beneficial to the environment and could have a positive effect on the community.

Our full-team feasibility site visit noted that there were two possibilities for GI intervention: porous pavement or modifying and expanding an existing green-strip lining the parking lot into a treatment wetland. After discussing the options with Lowenstein, the porous pavement option was taken off the table. Although, as an employee parking lot, it would have been a rare opportunity to use porous pavement in the industrial area- the majority of parking lots within the 11222 industrial boundary must be able to support heavy truck traffic which most permeable paving/paver options do not- the maintenance requirements proved onerous. The property owner would need to buy a machine to perform maintenance or outsource maintenance- the cleaning of the pavement to maintain its permeability. Due to the amount of particulate matter common to industrial areas, the maintenance schedule was predicted to be too intensive to warrant the implementation.

The green-strip treatment wetland possibility was explored in two veins – internal to the parking lot as well as the adjacent existing green-strip which extended outside of the lot onto Department of Transportation (DOT) property. General issues that arose were: that the City often gathers snow piles adjacent to the property during winter snow events which could compromise a wetland idea; and, if using the right-of-way we would need to comply with DOT regulations which would raise costs and complicate timeframes. The team decided that lowering the green-strip and using it as an infiltration zone inside of the fence and property line would be a better option. In addition, property

owners mentioned that there was an existing storage tank in the adjacent building that could potentially be used to handle overflow but they were not sure if it was connected to the sewer- it was later confirmed no to be.

In following up on this prospect we determined that the project was not feasible. Ponding in the adjacent road upstream and above the catch basin indicated that there was surface overflow to the combined sewer. Regrading and planting a green strip, like a wetland, to act as a bioswale would be a change in stormwater management and any change in stormwater management on site would need to satisfy City regulations. Since the property currently discharges runoff into storm drains on the street it is out of compliance and therefore, we were unable to use grant funds as they would be in effect serve to bring the business into compliance.

Broadway Stages / 520 Kingsland

We have been in continuous conversations with Tony Argento from Brooklyn Stages whose sister and co-owner Gina Argento sits on our board. Since Broadway Stages owns many properties within the grant boundaries and is already supporting the GCEF funded Kingsland Wildflowers roof project they have come across our radar multiple times during our site search. In addition, we have partnered with other GCEF grantees such as Alive Structures and the New York City Soil and Water Conservation District where Broadway Stages properties are concerned. In so far, while explaining the difficulties of siting street level GI in industrial areas, the idea of adding to the green roof surface area on 520 Kingsland was suggested. Evergreen is already collaborating with Alive Structures in holding events for, and making introductions to, industrial business property owner/operators that may be interested in putting a green roof on their facility. In thinking of how to make this prospect as appealing as possible to property owners we have been discussing various ways of minimizing costs including the value of using seeds versus plugs when installing. We have also been talking about the increased co-benefits of creating larger contiguous patches of green roofs.

This line of thinking led us to the idea of using our grant money towards creating a green roof on a yet unfunded section of the 520 Kingsland roof to use a sort of ‘test roof’ to concept test the seeding method. Adjacent to the existing and expanding ‘Kingsland Wildflowers’ roof of over 20,000 square feet, planted with plugs and mats, the approximately 1,800 square foot lower roof would be planted with seeds to test the cost savings and viability/survival of a seeded roof. The full team feasibility visit noted the value of such testing as well as the enthusiastic partnership of Alive Structures and Broadway Stages. The ‘seed option’ was quoted at \$53,000 in installation by Alive Structures and included a roll-in of maintenance costs since there was already a commitment to retain the rest of the roof.

Since green roofs were not on the team’s original ‘menu’ of potential GI implementations (due to their higher costs) this choice would require an amendment. While Evergreen continues to still work closely with Alive Structures on educating the industrial community about the benefits and funding mechanisms that exist to facilitate green roofs, ultimately we decided against this prospect.

A/D/O

The A/D/O site is a creative space housed in a converted production bakery at 29 Norman Avenue in Greenpoint. At the cusp of Williamsburg and Greenpoint, A/D/O is on a very visible corner of Banker St, a true entry point into the Greenpoint-Williamsburg Industrial Business Zone (IBZ). A/D/O is a design hub dedicated to expanding the boundaries and the reach of design. At its heart is the Design Academy, which offers a range of programming to professional designers, intended to provoke and invigorate their creative practice and collaborate with their neighboring industrial businesses. Part of A/D/O's mission is to act as a community space, bringing together designers and makers, residential neighbors and businesses. A/D/O has both indoor and outdoor public spaces; co-working space for designers and fabricators as well as an associated retail store and restaurant / café. The A/D/O property contains a 1,375 square foot paved courtyard where rainfall drains to two storm drains. The outdoor courtyard is currently used by A/D/O visitors as a public meeting space and is intermittently used for events and gatherings. The green infrastructure project we proposed at this site, aimed to enhance the courtyard as a useable public space for meetings and other events while educating the community on stormwater issues.

During the feasibility visit, the team assessed the site conditions and determined the most suitable green infrastructure installation would be a rain garden to manage the stormwater runoff within the courtyard. Evergreen and EDD proposed a planted rain garden to collect rainfall runoff from the courtyard area. The rain garden would store the water collected and slowly release it back into the sewer system after the threat of combined sewer overflow has passed. The standard for green infrastructure in New York City is to design to capture the 1" rainfall event. To capture the 1" event, the rain garden would have a footprint of approximately 125 square feet (ft²). Numerous different layouts can be used to reach the target rain garden size. One 125 ft² area rain garden, or a system of connected smaller rain gardens totaling 125ft² in area could capture the needed rainfall volume while enhancing the functionality and aesthetics of the space.