

National Fish and Wildlife Foundation

NFWF/Legacy Grant Project ID: 1401.10.024257

LI Sound Futures Fund 2010 - Water Quality - Submit Final Programmatic Report (Activities)

Grantee Organization: The Point Community Development Corporation

Project Title: The Point's South Bronx Community Green Roof (NY)

**Project Period** 11/01/2010 - 11/15/2012  
**Award Amount** \$131,250.00  
**Matching Contributions** \$199,793.00  
**Project Location Description (from Proposal)** THE POINT's main facility at 940 Garrison Avenue, Bronx, Bronx County, NY 10474. Latitude: N 40° 49' 4.9134" Longitude: W 73° 53' 26.3496"

**Project Summary (from Proposal)** Convert the main roof of a community center to an extensive green roof and convert a smaller portion of its roof to an intensive green roof to reduce polluted stormwater and function as a demonstration area and outdoor classroom. The green roof will reduce stormwater runoff by 150,475 gallons annually.

**Summary of Accomplishments** THE POINT successfully installed the extensive and intensive green roofs by May 15, 2013 in accordance with the updated installation schedule approved by NFWF in December 2012. The organization is planning to host a ribbon-cutting event and to launch educational programming in conjunction with the new green roof by summer 2013. THE POINT is proud to report that the project employed seven total South Bronx community members: four employees from NY Greenroofs, LLC including the project foreman and three laborers who installed the green roof, the contractor who oversaw initial roof repairs and two workers hired for roof repair and preparation and loading and unloading of green roof materials. In addition, the project helped employ 20 stipend teen leader positions through THE POINT's teen community leadership program A.C.T.I.O.N. (Activists Coming to Inform Our Neighborhood) and the group's Stormwater Management Project. In addition to support from the Long Island Sound Futures Fund, THE POINT has been successful in raising support for its Green Roof Project including a 2008 Environmental Justice Community Impact grant in the amount of \$50,000, 2009 Bronx River Watershed Initiative grant in the amount of \$149,793.75, a 2011 NYS DEC Environmental Justice Community Impact Grant in the amount of \$50,000 and a 2011/12 Wildlife Conservation Society / National Oceanic and Atmospheric Association Regional Partnership Grant in the amount of \$23,500.

**Lessons Learned** Lessons learned primarily apply to those of converting an older rooftop to a green roof. Project costs were higher than estimated due to unanticipated factors such as the presence of asbestos and the need for extensive structural repairs. Higher costs presented the need to launch a targeted capital campaign and leverage funds to garner additional project support. Though challenging, the experience has been rewarding and educational for the organization's staff. THE POINT is incredibly proud to see the project come to fruition!

Conservation Activities	See Narrative - Not Required
Progress Measures	Other Activity Metric
Value at Grant Completion	Not Required



## Spreadsheet of typical green roof system componenets by weight

Height/Depth Weight lbs/sf

### Thinnest Extensive System

Root Barrier	20mm	0.1
Drainage Mat	3/8"	0.195
Capillary Fabric x 2 layers	3/8"	0.375
Prevegetated Mats with soil & plants	1 1/2"	13
<b>Total weight of system (saturated)</b>		<b>13.67</b>

\* Drip irrigation system recommended but not required

\* Root Barrier Optional, dependent on membrane type

Height/Depth Weight lbs/sf

### Typical Extensive System

Root Barrier	30mm	0.15
Drainage Mat with filter fabric	3/8"	0.195
Growing Media	4"	25
Succulent Plants		1
<b>Total weight of system (saturated)</b>		<b>26.345</b>

\*Drip irrigation optional

\* Root Barrier Optional, dependent on membrane type

Height/Depth Weight lbs/sf

### Typical Semi-Intensive System

Root Barrier	40mm	0.2
Capillary Fabric or Protection Layer	1/4"	0.5
Drainage Media	2"	12.5
Separation Fabric	10mm	0.09
Growth Media	6"	50
Succulent and Perennial Plants		2
<b>Total weight of system (saturated)</b>		<b>65.29</b>

\* Drip irrigation system recommended but not required

\* Root Barrier Optional, dependent on membrane type



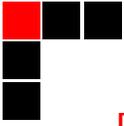
## NEW YORK GREEN ROOFS

72 Bedford Street, 6A

New York, NY 10014

917.710.2649

[amy@redefinetheskyline.com](mailto:amy@redefinetheskyline.com)



R A N D



January 7, 2010

The Point CDC  
930 Garrison Avenue  
Bronx, NY 10474  
Att: Maria Torres, President

Re: 930 Garrison Avenue, Bronx  
Limited Structural Evaluation,  
Green Roof Installation

Dear Maria:

As you requested, I visited 930 Garrison Avenue on Tuesday, December 29, 2009 to perform a limited structural evaluation of the main roof regarding a potential green roof installation. Pipe scaffolding installed inside the building enabled me to examine the roof structure, much of which is exposed underneath, more closely.

### **Roofing Overview**

The main building at 930 Garrison Avenue is approximately 80 feet wide by 150 feet long with a total roof area of approximately 12,000 square feet. A raised portion in the center of the roof, which I will refer to in this letter as the higher roof, is approximately 25 feet wide by 100 feet long with an area of 2,500 square feet. The area of the main roof, which I will call the lower roof, is 9,500 square feet. (See photo 1 in the attached photo supplement.)

Solar panels are installed on the higher roof. It is my understanding that the green roof is proposed for the lower roof. I was also told that because of leaks and the poor condition of the roofing membrane, both the higher and lower roof levels will be replaced.

### **Roofing Structural System**

The building's main structural system is composed of steel frames 20 feet apart from each other. Each frame has two steel columns approximately 23 feet high with a 15-inch-deep steel I-beam connecting them at the top. At about 14 feet high, steel I-beams 18 inches deep are attached to the columns and span toward the exterior masonry walls, which provide the end bearing for those beams (photo 2).

- 2 -

Steel C-channels 9 inches deep are installed perpendicularly over the steel I-beams with approximately 5 feet of spacing and a 20-foot span from one main frame to the other. Light-gauge steel roof panels are installed perpendicularly over the steel channels and serve as the decking material for the main roof (photo 3).

### **Green Roof Load**

Based on my analysis of these structural components and the calculations I performed, the additional load of a green roof is not likely to cause a structural failure. The load I used in my calculations for the proposed green roof is that of the LiveRoof Standard product found in the 2009 Live Roof catalog. This product is a pre-vegetated tray with an approximate 4¼"-inch-deep soil and an approximate weight of 27 to 29 psf saturated and vegetated. To perform a more conservative analysis, I included an additional 30 psf of load in the calculation. This analysis would apply to any green roof product less than this total load limit.

### **Roof Panels**

The roof panels are 24-inch-wide light-gauge (approximately 16-gauge) steel with 2-inch-deep by 1-inch-wide C-channels along the side of the panels. Sheet metal with stiffeners is installed over the channels. It appears that the panel components are welded to each other; I did not notice any bolts between the panels. The panels are connected to the 9-inch-deep steel channels with steel clips. My analysis showed that the panels could support the additional 30-psf load of a green roof.

Many of the panels, however, show significant signs of corrosion along their stiffeners and top sheet metal (photo 4). To maintain the structural integrity of the roof and water tightness of the building, the defective panels should be replaced regardless of whether a green roof is installed. When the roofing membrane is removed during the replacement project, the panels can be examined from the top to better determine how many need to be replaced and/or to evaluate repair options. Please note that these panels are not a commonly used product, and if they need to be replaced, a different type of roof panel would probably have to be retrofitted to the roofing system.

I also examined the steel framing members, including the 9-inch-deep steel channels, the 18-inch-deep steel I-beams, and the center steel columns and found them to be adequate for supporting the additional 30-psf load of a green roof installation.

Please note that the existing structural components of the roof are **not** adequate for supporting the additional load of a roof garden or an assembly space on the roof. For these uses, structural reinforcement to the framing would have to be designed and installed.

Rand would be pleased to provide you with a proposal for the construction phase of the roofing replacement project and further evaluate the roofing panels when they are exposed during this phase.

Please call me if you have questions about this Report or would like additional information.  
Thank you for the opportunity to be of service.

Sincerely,  
RAND Engineering & Architecture, PC



Liad Goldman  
Structural Engineer

LMG:mmi  
Encls.

cc: Amy Falder, plus encl., via e-mail

R091104.cor(1)

**930 GARRISON AVENUE  
LIMITED STRUCTURAL EVALUATION, GREEN ROOF INSTALLATION  
PHOTOGRAPHIC SUPPLEMENT TO RAND JANUARY 7, 2010 REPORT**



<p>Photo 1 Left arrow points to higher roof level with solar panels. Right arrow points to lower roof level, where a green roof installation is proposed.</p>	<p>Photo 2 Repetitive typical steel frame supporting the lower and upper roof levels.</p>
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<p>Photo 3 Light-gauge steel roof panels installed over steel channels that bear on steel I-beams.</p>	<p>Photo 4 Excessive corrosion and sagging along some of the light-gauge roof panels.</p>
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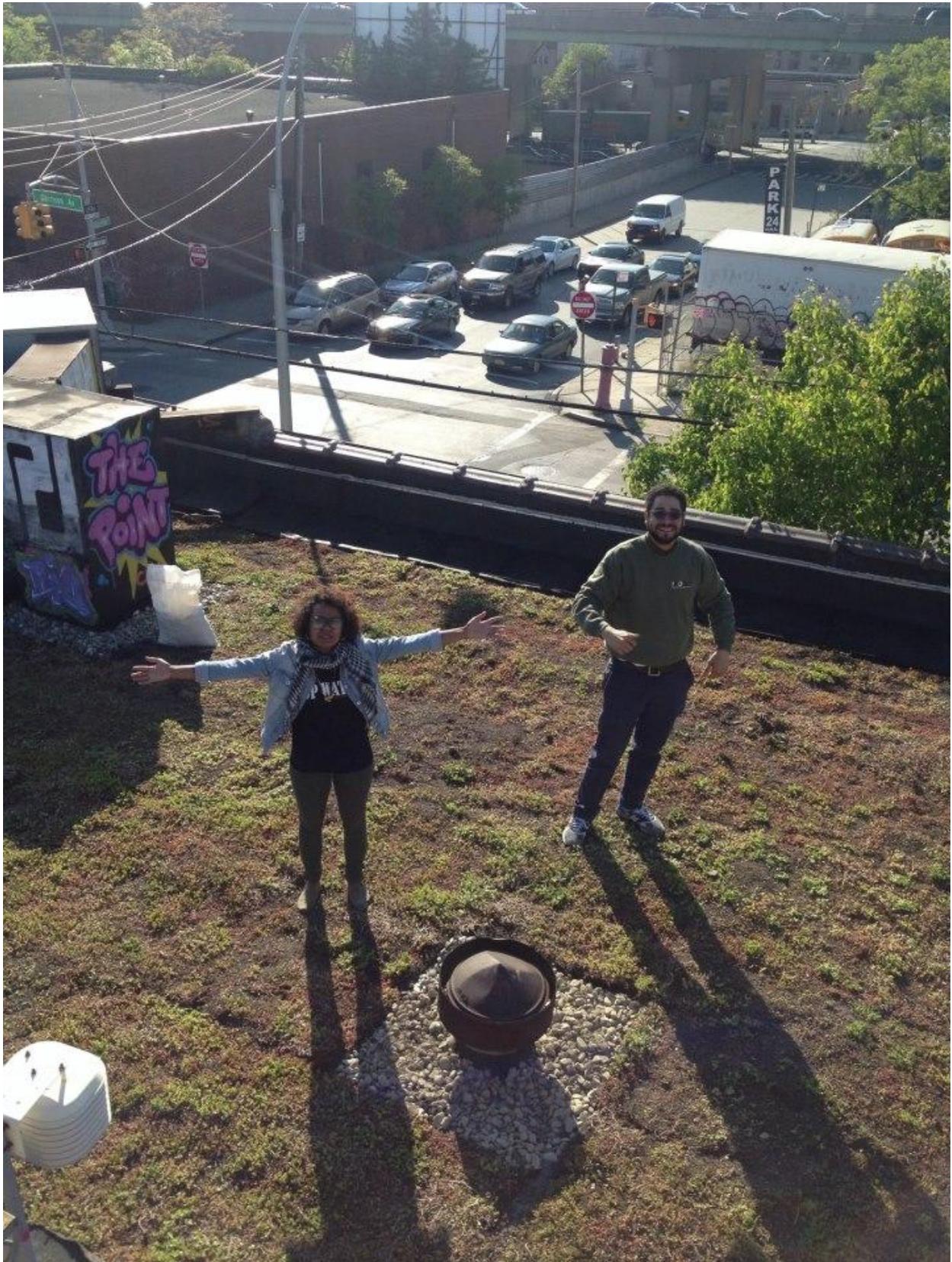














**The POINT Greenroof Installation Schedule for BRWI I 8012.08.003177 & LISFF 1401.10.024257**

Month	Activity	Status
Dec-12	Pre-order materials and green roof system components	Completed
	Below grade work	Completed
	Roof cured and waterproofing tested by weather	Completed
	Spend down/obligate all remaining funds including 10% BRWI 8012.08.003177 = \$14,979.75	
	Spend down/obligate all remaining funds including 10% LISFF 1401.10.024257= \$13,124.00	
January and February 2013	Finalize construction schedule w/ POINT activities schedule	Thursday?
	Finalize design to guide actual installation	Completed
	Finalize all permits	None Needed
	Interview and engage labor	Completed
March and April 2013	Receive all pre-ordered materials and green roof system components i.e., underlayment's, vegetated maps etc.	At time of installation
	Inspect roof to determine readiness for green roof installation	At time of installation
	Conduct any needed roof cleanup	At time of installation
	Install hoist and crane at site based on permits and required safety measures such as weight and other factors	At time of installation
	Layout, detail and install roof barrier, drainage materials, and water retention fleece - all underlayment's	At time of installation
	Cut and install rubber pavers to fit the roof	At time of installation
	Inspect to assure all underlayment's secure	At time of installation
	Install vegetative mats and ballast	At time of installation
	Install temporary sprinklers	At time of installation
	<b>Integrate</b> weather station and water catchment systems	<b>At time of installation</b>
	Install educational signs	
15-May-13	Complete installation of roof and all other deliverables associated with BRWI and LISFF grants. Final financil and program report due <b>June 1</b> for BRWI and LISFF.	
Spring and Summer 2013	Roof established	

	Begin integrating roof into education and outreach activities occurring at The POINT	
	Conduct event inaugurating the roof - Summer BBQ?	

## The POINT Green Roof Installation Construction Schedule

	April	April	April
Site visit to locate staging & prepare roof		x	
Receive pre-ordered underlayment green roof components, Hoist, & Layout			
Root barrier		x	x
Drainage Mat		x	x
Capillary Fabric		x	x
Edging			x
Insultion			x
Paver Ballast			x
Gravel Ballast			
Receive pre-ordered vegetated mats, Hoist, & Layout			
Growing Medium			
Plants			
Final Contract Tasks, Walk through with client, Prepare Report & Final Invoice			



## PHOTO LEGEND

**Images depicting the installation process of THE POINT's extensive green roof on its main rooftop:**

1. THEPOINT\_Green\_Roof\_2013\_1
2. THEPOINT\_Green\_Roof\_2013\_6
3. THEPOINT\_Green\_Roof\_2013\_7
4. THEPOINT\_Green\_Roof\_2013\_8
5. THEPOINT\_Green\_Roof\_2013\_9
6. THEPOINT\_Green\_Roof\_2013\_11
7. THEPOINT\_Green\_Roof\_2013\_12
8. THEPOINT\_Green\_Roof\_2013\_17

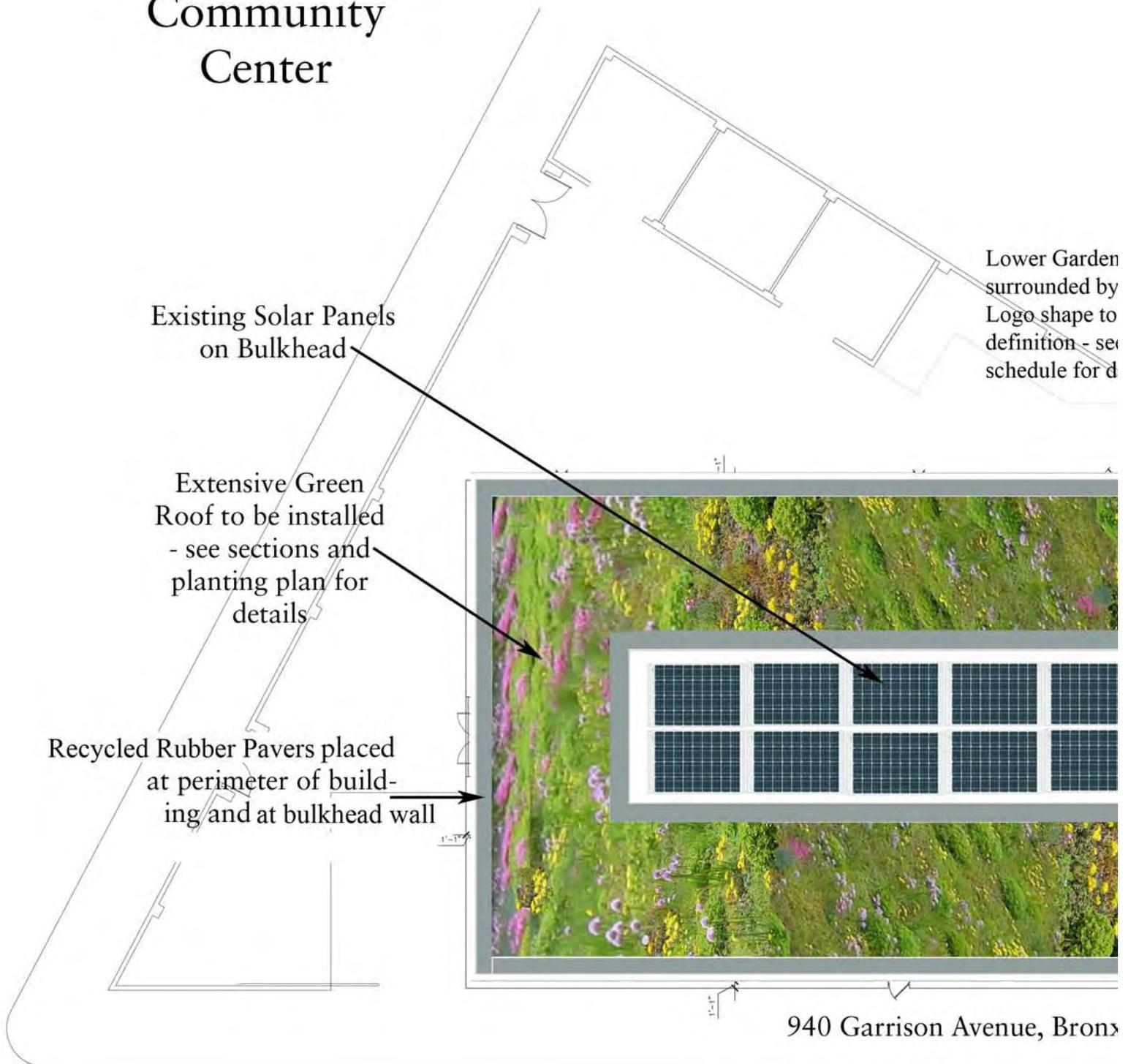
**Image depicting the completed intensive green roof on THE POINT's lower rooftop:**

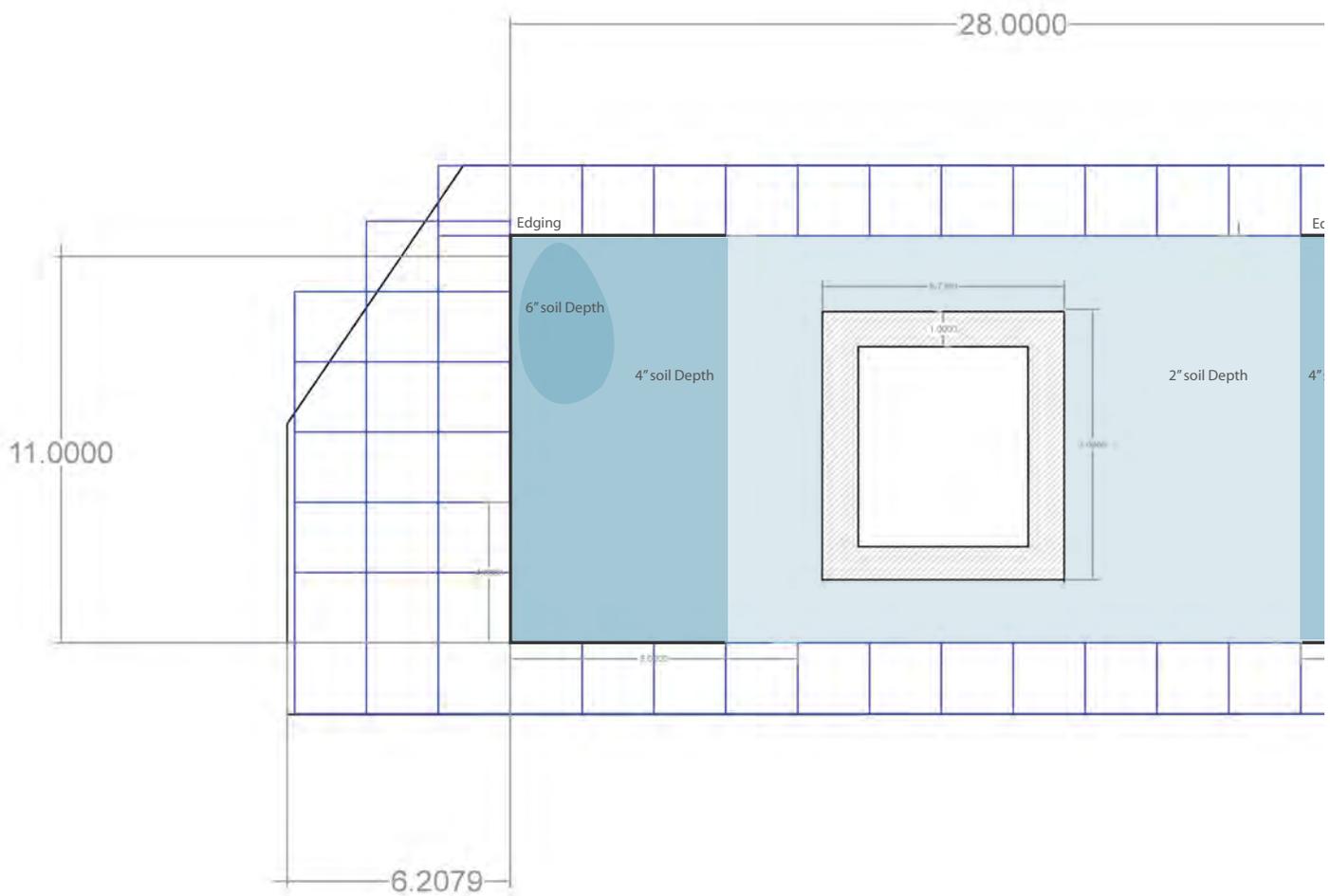
9. THEPOINT\_Intensive\_GR\_2013\_1

**Image depicting the rainwater harvesting system THE POINT's teen community leadership A.C.T.I.O.N. (*Activists Coming to Inform Our Neighborhood*) group installed in summer 2012:**

10. ACTION\_RWH\_2012\_1

# The Point Community Center





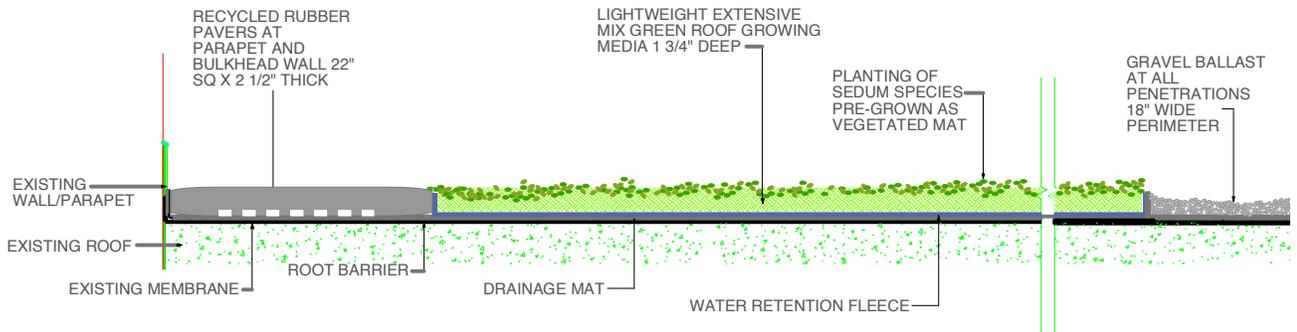
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 72 Bedford, Suite 614  
 New York, NY 10014  
 p. 917.681.6931 f. 917.210.2944  
 www.newyorkgreenroofs.com



**Small Roof Dimensions**

## THE POINT MAIN ROOF GREEN ROOF SECTION

PLANTING SCHEDULE:  
*Sedum acre*  
*Sedum aizoon*  
*Sedum album*  
*Sedum elacombianum*  
*Sedum hispanicum*  
*Sedum hybridum* Czars Gold  
*Sedum montanum*  
*Sedum pulchellum*  
*Sedum reflexum*  
*Sedum sexangulare*  
*Sedum spurium*  
*Sedum spurium* Summer Glory



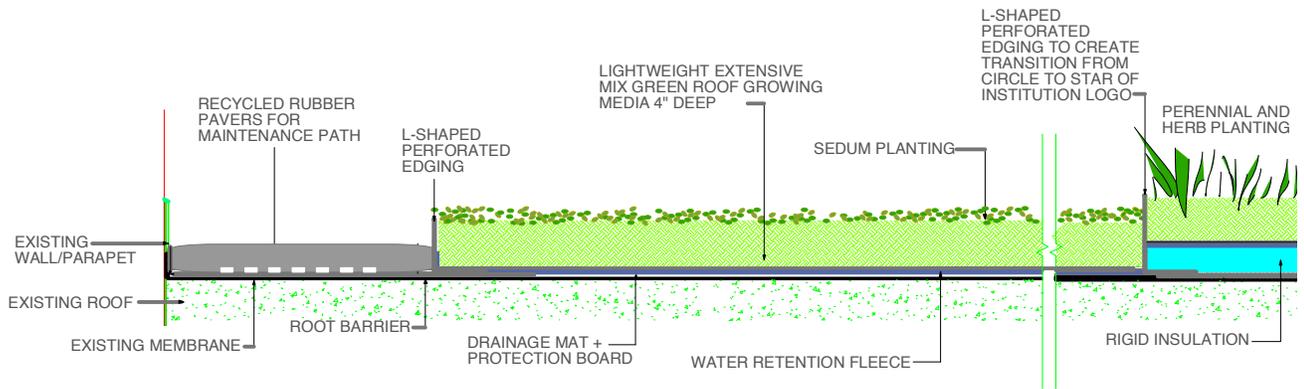
## THE POINT LOWER ROOF GREEN ROOF SECTION

### SEDUM PLANTING SCHEDULE:

*Sedum acre*  
*Sedum aizoon*  
*Sedum album*  
*Sedum elacombianum*  
*Sedum hispanicum*  
*Sedum hybridum* Czars Gold  
*Sedum montanum*  
*Sedum pulchellum*  
*Sedum reflexum*  
*Sedum sexangulare*  
*Sedum spurium*  
*Sedum spurium* Summer Glory

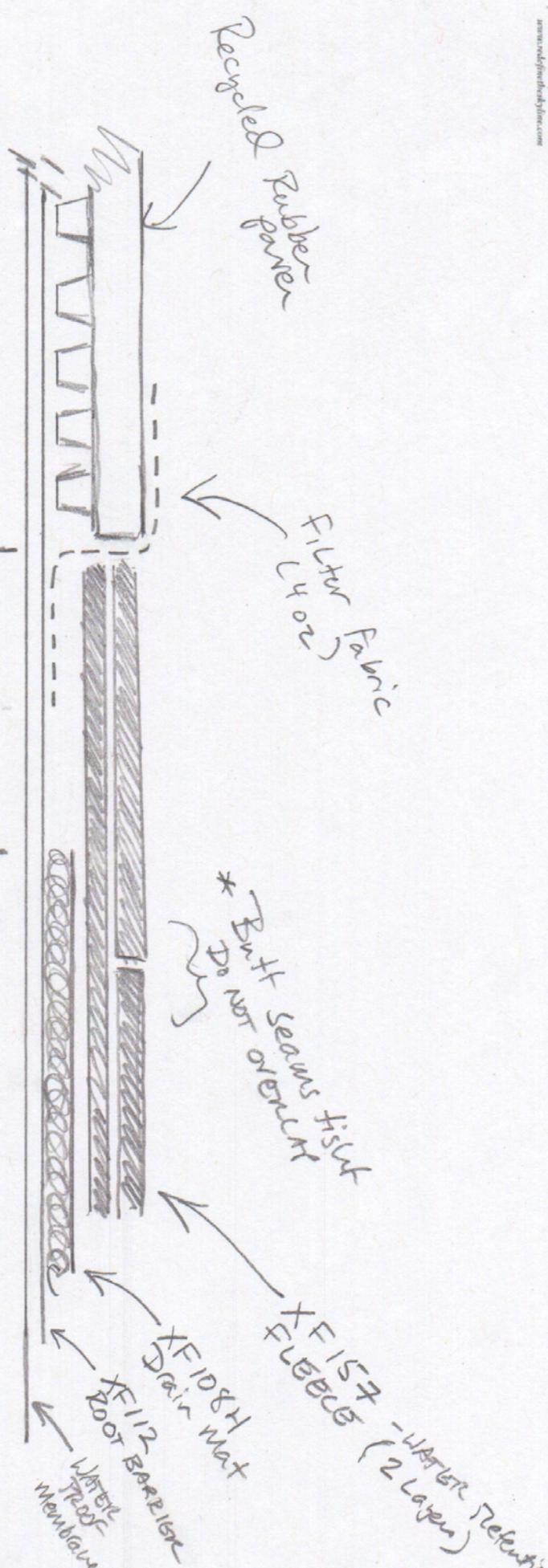
### PERENNIAL AND HERB PLANTING SCHEDULE:

Rosemary officinalis  
*Sempervivum 'Oddity'*  
*Sempervivum 'Georgette'*  
*Orostachys boeheimeri*  
*Allium schoenoprasum*





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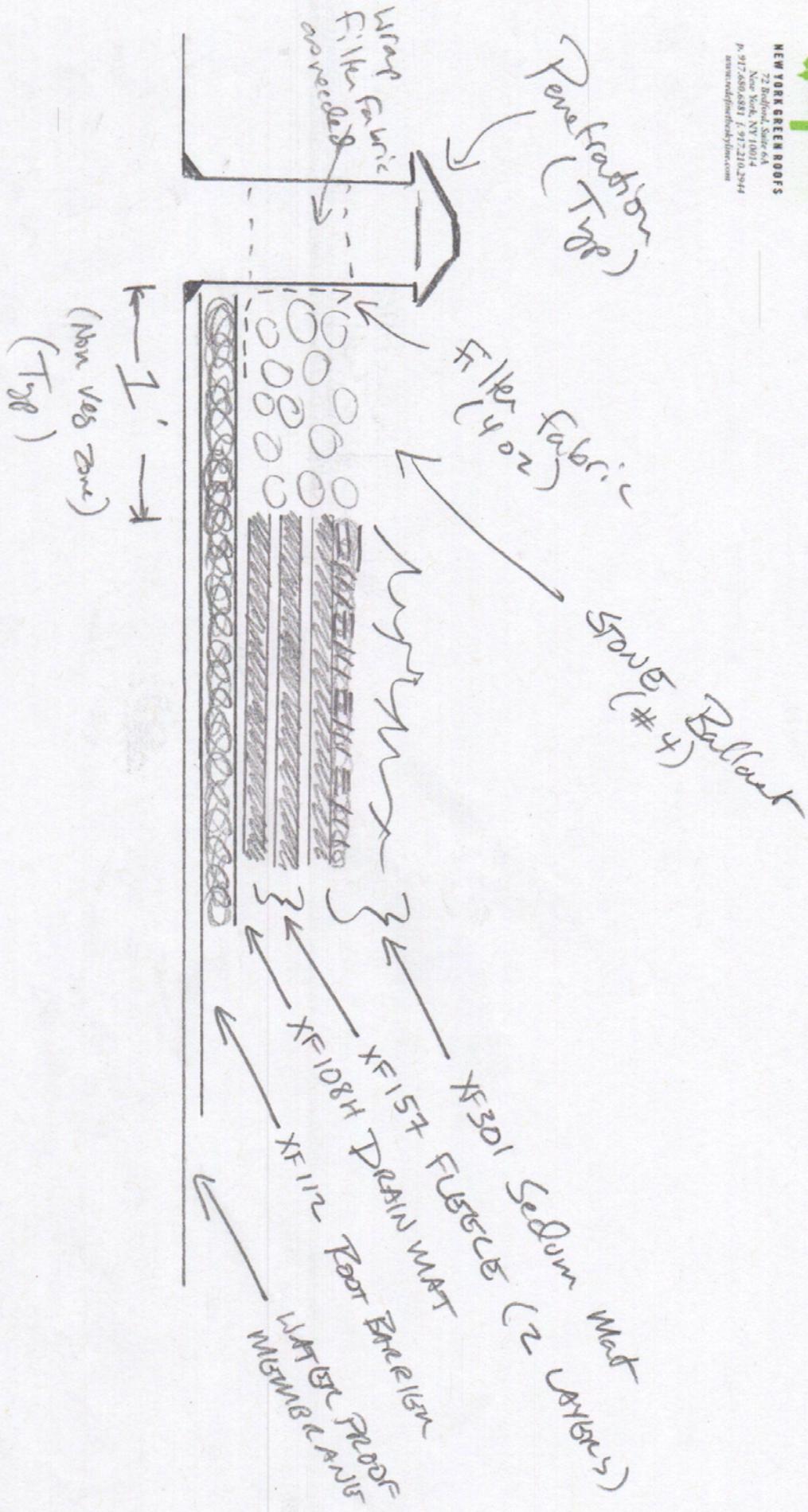
\* Drain Mat One foot from all edges (pavers, penetrations, etc.)

○ Undersystem Detail

Project: THE POINT  
Date: 4/16/2013  
Drawn by: CHS



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New York, NY 10014  
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○ UNDERLAYMENT DETAIL 2  
NTS  
@ penetration

Project: THE POINT  
Date: 4/16/2013  
Drawn by: CRB



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2 1/2"

### Xero Flor XF301+2F

- Pre-vegetated exten
- XF301 vegetated m
- Full system saturat
- Mats as 1m x 1m “f
- Regionally grown to
- Resistant to wind u

**XF301 pre-vegetated S**  
Integrated unit of plant mate  
and a natural fiber or geotex

**XF157 water retention**  
Blend of non-woven recycle  
(Two XF157 Fleece layers s

**XF108H drain mat: 3/4"**  
Flexible, non-woven, entang  
perforated geotextile filter f

**XF112 root barrier: 20**  
Flexible, lightweight, water-  
polyethylene (Alternative ro

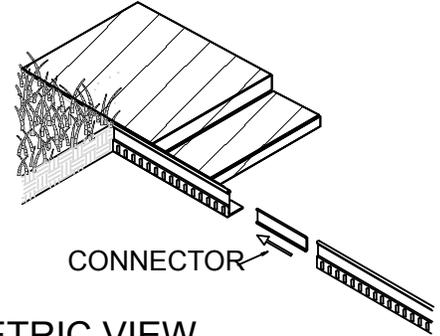
# geoeedge™

PERMALOC CORPORATION, 13505 BARRY STREET HOLLAND, MI 49424  
 (800) 356-9660 PHONE: (616) 399-9600 FAX: (616) 399-9770 WWW.PERMALOC.COM

ARCHITECT NOTE: CHECK OFF APPLICABLE SIZE & FINISH DESIRED

SIZE: ALL 8' (2.44M) LENGTHS w/ 0.250" (6.35MM)  
 THICK EXPOSED TOP LIP

- |   |                             |                             |
|---|-----------------------------|-----------------------------|
| <input type="checkbox"/> 3" x 3.25" (76MM x 83MM)     | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 3.5" x 4.5" (89MM x 114MM)   | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 4" x 3.25" (102MM x 83MM)    | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 4.25" x 3.25" (108MM x 83MM) | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 4.5" x 3.25" (114MM x 83MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 4.5" x 4.5" (114MM x 114MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 5.5" x 6.5" (140MM x 165MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 6.5" x 5.5" (165MM x 140MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 7.5" x 8.5" (191MM x 216MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |
| <input type="checkbox"/> 8.5" x 7.5" (216MM x 191MM)  | <input type="checkbox"/> MF | <input type="checkbox"/> BL |



ISOMETRIC VIEW  
 NTS

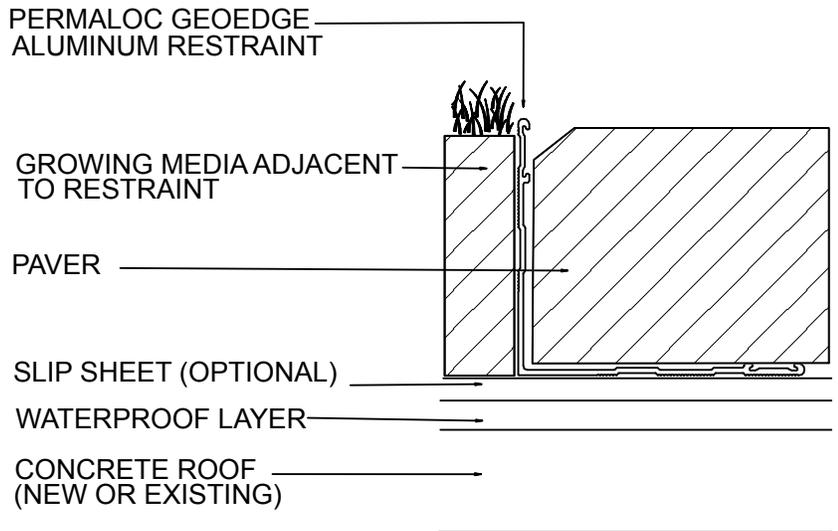
**FINISH LEGEND:**

(MF) MILL FINISH-NATURAL ALUMINUM  
 (BL) BLACK DURAFLEX-ELECTROSTATICALLY  
 APPLIED BAKED ON PAINT, MEETS AAMA 2603

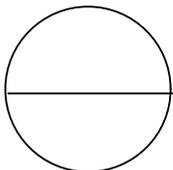
**NOTES:**

1. INSTALLATION PER MANUFACTURER'S RECOMMENDED "INSTALLATION GUIDELINES" IN ACCORDANCE WITH DESIGNER'S INSTRUCTIONS.\*
2. 8'-0" (2.44M) SECTIONS CONNECTED WITH 2 - 2.75" (70MM) SLIDING CONNECTORS.
3. CORNERS: REMOVE BASE TABS AND FORM A CONTINUOUS CORNER.
4. PERMALOC GEOEDGE AS MANUFACTURED BY PERMALOC CORPORATION, HOLLAND MI. (800) 356-9660 (616) 399-9600
5. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT: WWW.PERMALOC.COM

\*DESIGNER MAINTAINS ULTIMATE RESPONSIBILITY FOR VALIDITY AND SAFETY OF THE INSTALLATION.



**ALTERNATE INSTALLATION:** GEOEDGE BASE MAY BE INSTALLED UNDER THE GROWING MEDIA



## EDGING FOR GREENROOF WITH PAVERS

SCALE: 3"=1'-0"

Subject **Re: Estimate 642 from Close the Loop, LLC**  
From Close the Loop Company <info@closethe-loop.com>  
To Alexa Lehoczki <alexa@redefinetheskyline.com>  
Date 2013-02-14 10:35



The manufacturer's tile warranty is 15 years, see warranty information below...Mike from the plant has provided the following answers to your questions: Please contact me with any further questions/concerns ~ I'll send you over pricing for grey and for the Carnival 95% colors...Thanks, Rita, 570.629.8414

We use the 2-1/2" thick tile with quad blok connectors for rooftops.

Depending on the type of usage this is for I recommend different color lines. The pigmented tile can produce a certain amount of black and or pigment rub-off, we don't recommend the pigmented line for high end or residential customers. This is not a potential warranty issue. The grey pigmented has a greater shade variance between tiles and becomes dark grey after a short time in the outside UV.

For the high end or residential customers we recommend no less than the Carnival 95% color line.

Lead times depend on the color selected, quantity, and the time of ordering as they can change daily. Lead times currently range from 2-5 weeks depending on the color selected. Currently for pigmented colors we have black and green in stock.

## 15 Year Warranty



PlayGuard now offers the industry's first 15-year limited warranty! ECORE International (the "Seller") warrants that the PlayGuard surfacing system will be free from defects in materials and workmanship. The Seller further warrants that the PlayGuard safety surfacing system complies with the requirements of the ASTM F1292-04 standard specification for impact attenuation of surface systems under and around playground equipment.

### What does the warranty cover?

Surface wear due to ordinary abrasion from pedestrian traffic will not penetrate the wear course of the surface.

The tiles, when installed according to the manufacturers' specifications, will ensure the surface remains fixed and functional.

The product will comply with the requirements of ASTM F1292-04 at the height for which the PlayGuard system was rated by the manufacturer at the time of purchase.

### How long does the warranty coverage last?

This is a 15 year limited warranty, prorated as outlined in the warranty coverage schedule shown below. This warranty may be transferred with the property.

### What will we do?

Any segment of a PlayGuard surface that meets the warranty criteria will be repaired or replaced, at the Seller's option and in conjunction with the warranty coverage schedule below.

### How do you submit a warranty claim?

A warranty claim should be made directly to the Seller. Make claims via telephone by calling 800-322-1923. The following information must be provided: a description of the claimed defect and the date the defect was discovered, photographic images (if applicable) of the claimed defect, the date of the original installation, the project name and your name, address and phone number. The Seller will provide notification of any additional information and physical evidence that may be required to process your claim.

### Warranty Coverage Schedule:

The Seller shall be responsible for 100% of the cost of the repair or replacement of any product found to be defective or not in compliance with the warranty herein within the first six (6) years following the original shipment of the product. Where any product is found to be defective or not in compliance with the warranty herein more than six (6) years following the original shipment of the product, the Seller shall only be responsible for a portion of the cost of the repair or replacement of such products as follows (and the buyer shall bear and pay the remaining portion of such costs):

Number of years from date of original shipment to date of claim	Percentage of purchase price of product for which Seller is responsible
0-6	100%
More than 6, but less than 7	60%
More than 7, but less than 8	40%
More than 8, but less than 9	30%
More than 9, but less than 10	20%
More than 10, but less than 12	10%
More than 12, but less than 15	5%

## Warranty Exclusions

### This warranty does NOT cover:

Product failure caused by accidents, misuse, natural disaster, vandalism, improper installation or maintenance and the like (see installation, care and maintenance instructions).

Color change caused by exposure to UV and/or normal abrasion from pedestrian traffic.

Failure due to improper sub-surface preparation.

Resilient flooring may suffer visible damage as a result of extreme high forces (up to 2000 pounds per square inch). Common contributors of this type of force include but are not limited to stiletto or high heels, as well as narrow tipped chair supports. PlayGuard is not designed to perform under such concentrated high pressure. ECORE International will not accept claims for

damage caused by extreme high forces.

**Additional Considerations:**

The Seller's liability is limited to the material and transportation costs of repair or replacement of the product at the Seller's option. The Seller shall be responsible for installation costs and the costs of other work in connection with such repair and replacement only if such work was performed by Seller in the original installation. Where PlayGuard is installed only in high traffic areas or installed in combination with other surfacing products not sold by the Seller, such PlayGuard tiles are excluded from this warranty.

In the event of repair, replacement, or refinishing under this warranty, the warranty applicable to the replacement material or to the repaired or refinished products will extend only for the time remaining under the original warranty.

The Seller reserves the right to discontinue or change any design or color of any products at any time and without notice or liability. If, for any reason, products of the type originally purchased are no longer available at the time a warranty claim is made, Seller may substitute another product determined by Seller to be of comparable quality and price.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Your exclusive remedy for any breach of warranty is as set forth in this warranty. This warranty gives you specific legal rights. You may have other rights which vary from state to state and province to province.

On Feb 13, 2013, at 12:29 PM, Alexa Lehoczki wrote:

Hello Rita,

I hope you're well. We have a few remaining questions and requests:

Installation is slated for March/April – what kind of lead time do you require?

Also, we're interested to hear pricing for the grey tiles as we're concerned about the black tiles holding too much heat during hot summer months.

We would like to see samples of both the grey and black tiles, please send them to our design office at:

New York Green Roofs, LLC  
80 Maiden Lane, Suite 1901  
New York, NY 10038

Lastly, we're interested to know how long of a life we can expect from these tiles on a rooftop and whether you guarantee them for that period.

Thank you and I look forward to hearing from you.

Best Regards,

Alexa Lehoczki

--

NEW YORK GREEN ROOFS  
72 Bedford Street, Suite 6A  
New York, NY 10014  
c. 718.662.6657  
o. 917.680.6881  
f. 917.210.2944  
[www.newyorkgreenroofs.com](http://www.newyorkgreenroofs.com)



## Press Release **draft\_3**

### Media Contacts

#### Xero Flor America (XFA)

David Aquilina, 612-716-5628, [davida@strategicstoryteller.com](mailto:davida@strategicstoryteller.com)

#### The Point Community Development Corporation

Alejandra Delfin, 718-542-4139 x155, [adelfin@thepoint.org](mailto:adelfin@thepoint.org)

## **The Point Community Development Corporation Installs a Green Roof with the Xero Flor Green Roof System from Xero Flor America**

### ***New South Bronx Community Green Roof Can Prevent More than 150,000 Gallons of Stormwater Runoff Annually***

**NEW YORK and DURHAM, N.C. — June 20, 2013 —** Xero Flor America (XFA) announced the selection of the Xero Flor Green Roof System for a new 7,350-square-foot green roof installed atop the main facility of The Point Community Development Corporation. Xero Flor America (XFA), Durham, N.C., is the official and exclusive distributor in the U.S. of the [Xero Flor Green Roof System](#). The Point Community Development Corporation is a non-profit organization that promotes the cultural and economic revitalization of the Hunts Point section of the South Bronx in New York, N.Y.

The project, which included repair of the structural roof and a new waterproof roof membrane as well as the green roof, was supported with funding from the New York State Office of the Attorney General and the New York State Department of Environmental Conservation.

“The green roof symbolizes our commitment to sustainability and our dedication to improving the environment of the community,” said Maria Torres, president and chief executive officer, The Point Community Development Corporation. “Our green roof project includes a special section that serves as an outdoor classroom for environmental education.”

“The green roof will have important environmental benefits for the community,” said Clayton Rugh, Ph.D., general manager and technical director, Xero Flor America (XFA). “With the area’s average annual rainfall of about 45-50 inches, the Xero Flor option installed at The Point will reduce stormwater runoff by more than 150,000 gallons annually. That will help alleviate flooding in The Point’s courtyard and improve water quality in the Bronx River.”

“We recommended the Xero Flor Green Roof System because it is lightweight and easy to maintain. With Xero Flor, sections of the green roof can be rolled back, if necessary, to access the structural roof for inspection or repair,” said Amy Falder, partner, New York Green Roofs, LLC, the local green roof service firm that designed and installed the green roof at The Point. “We have used the system in previous projects and were confident in its performance.”

— more —

**The Point Green Roof with Xero Flor [draft\\_3](#)**  
**Thursday, June 20, 2013**  
**page two of three**

For the main 7,350-square-foot extensive green roof, New York Green Roofs recommended and installed the [Xero Flor XF301+2FL system option](#), which is 2.5 inches in depth and weighs only 10-11 pounds per square foot when fully saturated with rainwater. Minimizing the weight of the green roof was a key consideration in project planning. New York Green Roofs also designed and installed a 650-square-foot customized semi-intensive green roof (4-6 inches deep) on a separate roof section over a lower addition on the building. It will be used for The Point's outdoor environmental classroom.

The Point Community Development Corporation is planning to hold a community celebration to showcase the green roof. Details will be announced in July.

### **The Point Community Development Corporation**

The Point Community Development Corporation is a non-profit 501(c) (3) dedicated to youth development and the cultural and economic revitalization of the Hunts Point section of the South Bronx in New York, N.Y. Since its founding in 1994, The Point has worked with local residents to strengthen the local neighborhood and celebrate the life and art of the community. The organization offers a multi-faceted approach to asset-based community development. Programs in Youth Development, Arts and Culture, and Community Development all aim toward the comprehensive renewal of Hunts Point. For more information, [www.thepoint.org](http://www.thepoint.org).

### **New York Green Roofs, LLC**

As a full-service green roof firm, New York Green Roofs, LLC provides consultation, design assistance, project management, installation, and maintenance services. New York Green Roofs aspires to redefine the skyline into a more livable, efficient and sustainable part of the city. The company is dedicated to implementing green roofs as sustainable strategies for storm water BMPs, energy efficiency, and urban heat island mitigation. New York Green Roofs collaboratively designs, installs and maintains some of the city's most high-profile green roofs. For more information, [www.newyorkgreenroofs.com](http://www.newyorkgreenroofs.com).

### **Xero Flor America (XFA)**

Founded in 2002 and headquartered in Durham, N.C., Xero Flor America (XFA) stands at the forefront of the North American green roof industry. XFA is the official and exclusive distributor in the U.S. for the Xero Flor Green Roof System. Regionally grown on local, independent farms and 100 percent American made, the Xero Flor system utilizes advanced, lightweight, pre-vegetated mat technology. Engineered in Germany and refined over more than 40 years of ongoing R&D, Xero Flor has been proven successful and sustainable in tens of thousands of installations flourishing worldwide and covering hundreds of millions of square feet. No green roof system in the U.S. offers more validation based on independent scientific research than Xero Flor ([www.xeroflora.com](http://www.xeroflora.com)).

###

**Note to Editors:** Link to Photos [\[to be added\]](#)

[optional additional information for possible use with local media contacts.]

### Additional Information: Green Roof Benefits

- ▶ **Stormwater Management** — Green roofs function like a sponge that absorbs stormwater and curtails harmful runoff. Extensive green roofs can reduce the volume and velocity of runoff by 50-90 percent.
- ▶ **Improved Water Quality** — Green roofs filter pollutants out of rainwater. In urban areas, up to 30 percent of the nitrogen and phosphorus released into waterways and generating excessive algae growth is derived from dust that accumulates on rooftops. Every 1,000 square feet of an extensive green roof can filter about 400 pounds of dust annually. Green roofs can also absorb up to 95 percent of the cadmium, copper and lead present in rainwater.
- ▶ **Energy Conservation** — On a sunny 95°F day, roof surfaces can hit 175°F. Green roofs shade and insulate rooftops and maintain roof temperatures in line with air temperatures. Roof surfaces below a green roof can actually be cooler than the air above. By reducing the effects of the sun's energy on rooftops, green roofs reduce peak energy demand, above all for air conditioning. Conserving energy helps control facilities' utility costs and lessens their carbon footprints.
- ▶ **Energy Efficiency** — By moderating temperatures on the rooftop, green roofs boost the efficiency of rooftop HVAC units and solar panels. This also decreases building owners' operating costs.
- ▶ **Urban Heat Island Effect Mitigation** — Solar energy absorbed into buildings and paved surfaces radiates heat into urban areas. Plants release oxygen and evaporate water through the process of photosynthesis. That makes a green roof a natural evaporative cooling system that reduces temperatures not only up on the rooftop but down at street level as well. Reducing the urban heat island effect improves the urban environment.
- ▶ **Carbon Sequestration** — Green roofs play a direct role in reducing greenhouse gases in the atmosphere. During photosynthesis, green roof plants take in and store carbon dioxide and other forms of carbon from the air. Every 1,000 square feet of an extensive green roof can sequester about 250 total pounds of carbon dioxide. Green roofs also filter particulates and air pollutants and improve urban air quality.
- ▶ **Longer Roof Life** — Green roofs serve as a shield to prevent UV radiation and temperature extremes from degrading roof components. They protect roofs against damage from airborne debris. Waterproof roof membranes can therefore last 200-300 percent longer. That maximizes ROI in new roofs. An estimated 6-9 million tons of discarded roofing materials are dumped in landfills annually in the U.S. Thus, extending the service life of structural roof components not only reduces costs for building owners, it is good for the environment, too.
- ▶ **Enhanced Property Value** — Green space is appealing, inviting and inspiring. Green roofs transform barren rooftops, adding natural beauty, wildlife habitat and more useable space

(for example, incorporating rooftop walkways and patios into green roof designs). Green roofs can also lower indoor sound levels by as much as 40 decibels.

July 4, 2013

Lynn Dwyer  
National Fish and Wildlife Foundation  
1133 Fifteenth Street, NW  
Suite 1100  
Washington, DC 20005

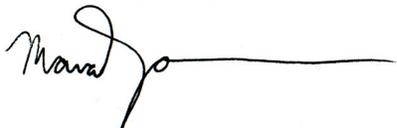
Dear Lynn:

Per your request, please find responses to the following questions regarding **THE POINT's South Bronx Community Green Roof**:

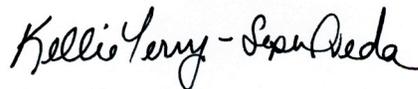
- a) **What concepts are to be presented in the signs?** Please see a first draft of the signs attached. While THE POINT is revising the funder credit info to include the NYS Department of Environmental Conservation, the content on the signs is not changing. The signs present information on the benefits of green roofs including the reduction of stormwater and urban pollution. The signs describe the particular sedum system and plants used in THE POINT's green roof. They also describe other green technology in place including THE POINT's rainwater harvesting system and weather station.
- b) **Number of signs?** THE POINT is planning to install two signs.
- c) **Where will signs be installed?** One sign will be located inside THE POINT, most likely on the brick wall inside its main atrium space. The second sign will be installed outside on the demonstration intensive green roof.
- d) **When will signs be installed?** THE POINT is planning to install the signs prior to the August 2013 kick-off event for the new green roof.
- e) **Signs should have logo of Long Island Sound Study and NYS OAG (let us know if you need these logos).** Please see drafts of the signs attached, for your review. Also, please visit: <http://www.thepoint.org/test.php> and <http://www.thepoint.org/facilities.php>. If you require any additional revisions, please do not hesitate to ask.
- f) **When will the final design and content be available for review and approval?** THE POINT is currently working with Project Manager Amy Falder from NY Greenroofs, LLC to revise the signs. We hope to submit final designs by July 12, 2013.

Thank you for supporting THE POINT's South Bronx Community Green Roof! If you have any additional questions, please feel free to contact us at (718) 542-4139.

Sincerely yours,



Maria Torres  
President & COO



Kellie Terry-Sepulveda  
Executive Director



## Final Programmatic Report Narrative

**Instructions:** Save this document on your computer and complete the narrative in the format provided. The final narrative should not exceed ten (10) pages; do not delete the text provided below. Once complete, upload this document into the on-line final programmatic report task as instructed.

### 1. Summary of Accomplishments

In four to five sentences, provide a brief summary of the project's key accomplishments and outcomes that have been observed or measured to date.

THE POINT successfully installed the extensive and intensive green roofs by May 15, 2013 in accordance with the updated installation schedule approved by NFWF in December 2012. The organization is planning to host a ribbon-cutting event and to launch educational programming in conjunction with the new green roof by summer 2013. THE POINT is proud to report that the project employed seven total South Bronx community members: four employees from **NY Greenroofs, LLC** including the project foreman and three laborers who installed the green roof, the contractor who oversaw initial roof repairs and two workers hired for roof repair and preparation and loading and unloading of green roof materials. In addition, the project helped employ 20 stipend teen leader positions through THE POINT's teen community leadership program **A.C.T.I.O.N. (Activists Coming to Inform Our Neighborhood)** and the group's **Stormwater Management Project**. In addition to support from the Long Island Sound Futures Fund, THE POINT has been successful in raising support for its Green Roof Project including a **2008 Environmental Justice Community Impact** grant in the amount of \$50,000, **2009 Bronx River Watershed Initiative** grant in the amount of \$149,793.75, a **2011 NYS DEC Environmental Justice Community Impact Grant** in the amount of \$50,000 and a **2011/12 Wildlife Conservation Society / National Oceanic and Atmospheric Association Regional Partnership Grant** in the amount of \$23,500.

#### Activities

- **Describe and quantify the primary activities conducted under this grant.**

THE POINT is a current recipient of NFWF Long Island Sound Futures Fund support for its **South Bronx Community Green Roof Project, Grant #2010-0071-024** in the amount of \$131,250. This support has helped to make possible the installation of a community green roof on THE POINT's facility in the South Bronx to help reduce stormwater outfalls and improve water quality and river ecology along the Bronx River. It will further help generate awareness of low-impact development strategies amongst residents and business owners. In particular, this assistance has helped THE POINT to complete Phase II of the project including installation of an extensive green roof. Project deliverables include:

Project Deliverables
Install extensive green roof
Document project in process through photographs and other support media

#### Outcomes

- **Describe and quantify progress towards achieving the project outcomes.**

THE POINT successfully completed the following deliverables by May 15, 2013 in accordance with the updated installation schedule approved by NFWF in December 2012: 1) convert the roof of its main facility

to an extensive green roof and 2) convert a smaller portion of its roof to an intensive green roof that will function as a demonstration area and outdoor classroom. The organization is planning to host a ribbon-cutting event and to launch educational programming in conjunction with the new green roof by summer 2013. *Please see attached an updated installation schedule approved by NFWF in December 2012.*

The original proposal from THE POINT to BRWI stated, “The portion of THE POINT’s roof that will be converted to an extensive green roof is approximately 11,520 square-feet. This estimate includes its lower and upper roof as pictured on the AFHNY design concepts. The smaller section of the roof that will be converted to a demonstration intensive green roof is approximately 500 square-feet. This area will be located on the side roof as pictured in the design concepts.”

THE POINT's initial proposal took square footages from **Rand Engineering's** calculations of potential green roofable area. The square footage number was determined as the total area of the rooftops and was presented prior to the deciding which waterproofing membrane would be used for the project. In practice, the green roof had to be designed to accommodate for the membrane system installed. The bulkhead has solar panels and was not touched. The large roof was installed with 7,588sf of vegetation and 336sf of maintenance pavers and protective gravel ballast. The small roof was installed with 415sf of vegetation and 220sf of pavers.

The plants chosen for the extensive roof are a mix of 11 different Sedum species. Sedum is a succulent plant that is typically found in alpine environments, growing in rocky soils. It is well suited for the highly specialized, granular green roof media. Sedum performs well in harsh environments as it holds reserves of water in its leaves to be utilized in times of drought and can withstand high temperatures and pollution. The plants chosen for the small setback include hardy Calamagrostis grasses and flowering perennials such as Heuchera and Rosemary that have color, texture, and fragrance, and can tolerate harsh, dry conditions. None of the plants selected require excessive use of potable water for irrigation.

The original proposal from THE POINT to BRWI also stated, “THE POINT will estimate the amount of storm water reduction utilizing an online calculator for roof runoff provided on D.C. Greenworks ([www.dcgreenworks.org](http://www.dcgreenworks.org)). Using this calculator, THE POINT has determined its rooftop produces approximately 300,951 gallons/year. According to D.C. Greenworks, green roofs can reduce roof runoff up to 100%. THE POINT’s extensive green roof will reduce runoff by a minimum of 50% (150,475.5 gallons/year) by the end of the grant term. THE POINT’s goal is for its green roof to reduce runoff 100% (300,951 gallons/year) over the long-term.”

THE POINT's green roof system was chosen based on the fact that it meets two key project criteria. The owners wanted to install the lightest system possible. With a root barrier, drainage mat, capillary fabric, and a thin layer of soil and vegetation, the extensive system is 2.5" thick and weighs only 10-11lbs psf. Additionally, the project funding was provided in hopes to reduce stormwater runoff that negatively affect waterways both locally and regionally. The green roof system chosen has proven performance in absorbing rain and theoretically will do so to effectively reduce stormwater runoff up to 50% of incident precipitation associated with minor rain events (1" or less) in spring and summer (less in fall and winter) and will attenuate and delay runoff for more intense events. The semi-intensive green roof on the small setback incorporates deeper media (berms of up to 4-6") and may reduce stormwater runoff up to 60% from the current values. Combined, these green roofs' capacity to retain stormwater could be helpful for reducing the occurrence of combined sewage overflow events.

In addition to these theoretical models, THE POINT plans to monitor stormwater runoff by collecting water from rain barrels attached to the roof. THE POINT's teen community leadership group A.C.T.I.O.N. (*Activists Coming to Inform Our Neighborhood*) installed the barrels in 2012 as a component of the group's Stormwater Management Project. Water harvested will be utilized for **A.C.T.I.O.N.'s South Bronx Food Justice & Urban Agriculture Project.**

THE POINT is proud to report that the project employed seven total South Bronx community members: four employees from NY Greenroofs, LLC including the project foreman and three laborers who installed the green roof, the contractor who oversaw initial roof repairs and two workers hired for roof repair and preparation and loading and unloading of green roof materials. In addition, the project helped employ 20 stipend teen leader positions through THE POINT's teen community leadership program A.C.T.I.O.N. and the group's Stormwater Management Project.

In addition to support from the Long Island Sound Futures Fund, THE POINT has been successful in raising support for its Green Roof Project including a **2008 Environmental Justice Community Impact** grant in the amount of \$50,000, **2009 Bronx River Watershed Initiative** grant in the amount of \$149,793.75, a **2011 NYS DEC Environmental Justice Community Impact Grant** in the amount of \$50,000 and a **2011/12 Wildlife Conservation Society / National Oceanic and Atmospheric Association Regional Partnership Grant** in the amount of \$23,500.

- **Provide any further information (such as unexpected outcomes) important for understanding project activities and outcome results.**

THE POINT has been working to integrate the green roof with its existing green technology at 940 Garrison Avenue including its rainwater harvesting (RWH) system installed in 2012, solar panels installed in 2006 and a weather station installed in 2004:

Support from the WCS/NOAA Regional Partnership Grant has assisted THE POINT's teen community leadership group A.C.T.I.O.N. (*Activists Coming to Inform Our Neighborhood*) and the group's Stormwater Management Project. In partnership with **GrowNYC**, A.C.T.I.O.N. helped install and implement a RWH system at THE POINT's community center at 940 Garrison Avenue including 90 feet of gutters, adapting 4 existing downspouts, installing eight 55-gallon drums or the equivalent and one 525-gallon tank. This system now collects and stores water from THE POINT's main roof, helping to improve the overall efficiency of the new green roof. Water harvested from A.C.T.I.O.N.'s Stormwater Management Projects is utilized for the group's *South Bronx Food Justice & Urban Agriculture Project*. With support from WCS/NOAA, A.C.T.I.O.N. teens have also explored the basic concepts of environmental education through weekly 3-hour workshops. THE POINT will continue to engage students in the A.C.T.I.O.N. environmental education curriculum to help prepare them for their ongoing role as maintenance interns for the new green roof.

In 2006, the **Bronx Overall Economic Development Corporation's Bronx Initiative for Energy and the Environment (BIEE)** awarded THE POINT a grant in the amount of \$83,000 for its **Solar and Wind Powered Signage & Lighting Project**. Specifically this assistance was intended to purchase and install on THE POINT's roof at 940 Garrison Avenue one wind turbine, photovoltaic panels and large battery banks to store generated power. THE POINT successfully installed solar panels with this support, however structural assessments indicated that THE POINT's existing roof would not withstand the weight of the sign and turbine.

THE POINT originally launched the **José E. Serrano Environmental Discovery Center** featuring a computer lab and weather station in 2004. THE POINT is currently meeting with representatives from the National Oceanic and Atmospheric Administration to repair the weather station and once again enable program participants to assess the outside environment through temperature and barometric readings and view the South Bronx through a weather camera.

Combined the green roof, rainwater harvesting (RWH) system, solar panels and weather station will compliment one another and improve the overall efficiency of THE POINT's main facility as well as help strengthen environmental education for young people in grades 1 - 12 enrolled in THE POINT's Youth

Development Program and sustainable development in the South Bronx community. In essence, the green roof completes a phased installation of green technology, which THE POINT has been committed to implementing for over a decade. Moving forward, THE POINT will continue to explore ways to link these technologies both programmatically and functionally.

### 3. Lessons Learned

Describe the key lessons learned from this project, such as the least and most effective conservation practices or notable aspects of the project's methods, monitoring, or results. How could other conservation organizations adapt their projects to build upon some of these key lessons about what worked best and what did not?

Lessons learned primarily apply to those of converting an older rooftop to a green roof. As previously reported, THE POINT contracted Rand Engineering to complete the structural assessment of its existing roof and make project specifications and a timeline for preliminary repairs. As of August 2012, Rand completed design site work including investigative probing, evaluation, quantification and asbestos sampling. Due to escalating project costs, THE POINT's Executive Management team and Board of Directors concluded it was not feasible to completely replace THE POINT's existing roof as recommended by Rand. Instead, THE POINT utilized existing project resources to make essential roof repairs including: preparation, resurfacing, flashing installation and miscellaneous repairs.

Please see attached *Spreadsheet of Typical Green Roof System Components by Weight* prepared by THE POINT's Project Manager Amy Falder of New York Greenroofs, LLC. THE POINT has installed the Thinnest Extensive System (first example). In addition, please see attached the *Limited Structural Evaluation* prepared by Rand Engineering in January 2010, which states in the Green Roof Load paragraph that loading green roof of 30lbs/sf or less will "not likely cause a structural failure." In the next section, titled Roof Panels, Rand again states that the analysis of the metal roof panels, although corroded along the stiffeners and top sheet metal and in need of replacement to uphold the building's structural integrity, "could support the additional 30lbs/sf load of a green roof."

Project costs were higher than estimated due to unanticipated factors such as the presence of asbestos and the need for extensive structural repairs. Higher costs presented the need to launch a targeted capital campaign and leverage funds to garner additional project support. Though challenging, the experience has been rewarding and educational for the organization's staff. THE POINT is incredibly proud to see the project come to fruition!

### 4. Dissemination

Briefly identify any dissemination of lessons learned or other project results to external audiences, such as the public or other conservation organizations.

With project partner Architecture for Humanity NY, THE POINT hosted a green roof charrette on April 26, 2010. Approximately 50 community members attended the event, providing the opportunity to introduce the South Bronx Community Green Roof to THE POINT's constituency of Hunts Point residents. The event also helped garner community input for project visioning through, for instance, participants' original concept drawings. Since then, THE POINT has included the South Bronx Community Green Roof Project in community outreach presentations including its annual **Town Hall Meeting** in March and **A.C.T.I.O.N. Alumni and Family Dinner** in December, which reach approximately 200 individuals annually. These events provided an opportunity for THE POINT to inform community members about the progress of the Green Roof Project and to solicit community feedback through question and answer sessions.

THE POINT features the South Bronx Community Green Roof Project on its website (<http://www.thepoint.org/test.php> and <http://www.thepoint.org/facilities.php>) and in social media including **Facebook**, **Tumblr** and **Constant Contact** eblasts as well as print media. THE POINT has thoroughly

documented the green roof installation process, which took place in spring 2013. The organization is planning to host a ribbon-cutting event and to launch educational programming in conjunction with the new green roof by summer 2013. THE POINT will continue to promote the Green Roof Project to Hunts Point community members and representatives through a minimum of three annual events such as THE POINT's Town Hall, Bronx Parks Speak Up and the Hunts Point Fish Parade and Summer Festival. In addition, THE POINT has submitted drafts for the green roof signage to the NFWF. Upon approval, THE POINT is planning to install a permanent placard that addresses the environmental benefits of green roofs and acknowledges supporters that have helped make possible THE POINT's South Bronx Community Green Roof.

Young people in **THE POINT's After-School and Summer Youth Programs** will also take part in ongoing environmental education, stewardship and youth-led advocacy campaigns related to the South Bronx Community Green Roof Project. Through justice-based arts and service learning activities, **THE POINT's Arts and Advocacy Youth Development Program** aims to support the academic, artistic and positive social development of young people and engage them as leaders in sustainable community development. In particular, through **A.C.T.I.O.N.'s Sustainable Development Projects**, students will take part in environmental education curricula and help and maintain the green roof. A.C.T.I.O.N. leaders will also organize a minimum of one annual event to outreach to community members and to educate and involve them in advocacy efforts for South Bronx sustainable development including the green roof. Increasingly, A.C.T.I.O.N. is utilizing digital media to share its message. For example, with support from the **Hive Learning Network NYC**, A.C.T.I.O.N. teens are developing a prototype, open-source multimedia *Community Organizing Toolkit for the 21st Century* (<http://actionthepoint.wix.com/action#!projects/c21kz>). The Toolkit will make it easier for youth from diverse communities to launch campaigns and benefit from a larger community of organizers. THE POINT will also engage Youth Development Program students in grades 1 - 12 in environmental education classes and arts workshops in the outdoor classroom located on the demonstration intensive green roof.

**Concepts are to be presented in the signs?** While THE POINT is revising the funder credit info to include the NYS Department of Environmental Conservation, the content on the signs is not changing. The signs present information on the benefits of green roofs including the reduction of stormwater and urban pollution. The signs describe the particular sedum system and plants used in THE POINT's green roof. They also describe other green technology in place including THE POINT's rainwater harvesting system and weather station. **Number of signs?** THE POINT is planning to install two signs. **Where will signs be installed?** One sign will be located inside THE POINT, most likely on the brick wall inside its main atrium space. The second sign will be installed outside on the demonstration intensive green roof. **When will signs be installed?** THE POINT is planning to install the signs prior to the August 2013 kick-off event for the new green roof. **Signs should have logo of Long Island Sound Study and NYS OAG.** Please see drafts of the signs attached, for your review. Also, please visit: <http://www.thepoint.org/test.php> and <http://www.thepoint.org/facilities.php>.

## 5. Project Documents

Include in your final programmatic report, via the Uploads section of this task, the following:

- 2-10 representative photos from the project. Photos need to have a minimum resolution of 300 dpi;
- report publications, GIS data, brochures, videos, outreach tools, press releases, media coverage;
- any project deliverables per the terms of your grant agreement.

Please see attached support documents including:

- 1) Nine photos depicting THE POINT's green roof installation process plus a photo of the rainwater harvesting system THE POINT's teen community leadership group installed in summer 2012
- 2) A legend of attached photos
- 3) Final Green Roof Plans

- 4) Updated Installation Schedule approved by NFWF in December 2012 in addition to an updated Construction Schedule provide by NY Greenroofs, LLC in March 2013
- 5) XFA Press Release
- 6) Draft of THE POINT's signage for the green roof
- 7) Update regarding THE POINT's signage for the green roof
- 8) *Limited Structural Evaluation* prepared by Rand Engineering
- 9) *Spreadsheet of Typical Green Roof System Components by Weight* prepared by THE POINT's Project Manager Amy Falder of New York Greenroofs, LLC.

THE POINT – SIGNS

THE POINT
Learn about our green roof, water tanks and weather station!

**Why build a green roof?**

- Reduce the "Urban Heat Island Effect" - Hot roofs continue to glow and re-radiate heat back into the air, and contribute to city heat islands. By covering the ground and reducing heat in cities, which absorb heat and heat green roofs, temperatures will be lower. This means that there will be less energy used for cooling buildings.
- Reduce urban pollution. Green roofs help reduce the amount of pollutants in the air and in the water. This is especially important since the green roof is in close to the building. The green roof can help reduce the amount of air pollution in the building's immediate vicinity.
- Increase aesthetics and property values. A green roof adds to the visual appeal of a building. It can also help increase the value of a building. A green roof can also help reduce the amount of air pollution in the building's immediate vicinity.
- Provide habitat for pollinators. Creating some habitat for bees and other pollinators is important for the health of the local ecosystem. A green roof can provide a habitat for these important insects.
- Increase the life of the roof. A green roof can help extend the life of a roof. This is because the green roof can help protect the roof from damage caused by UV rays and other environmental factors. A green roof can also help reduce the amount of air pollution in the building's immediate vicinity.
- Capture stormwater and reduce runoff. A green roof can help capture stormwater and reduce runoff. This is because the green roof can help absorb water and release it slowly back into the ground. A green roof can also help reduce the amount of air pollution in the building's immediate vicinity.

**Our Sedum System!**

*Plants in the "extensive area" (where soil media is 4" high)*

- XeroTurf Vegetation Mat
- XeroTurf Growing Medium
- XP157 Water Retention Fleece
- XP180 Drain Mat
- XP112 Root Barrier

**Weather Station**

**Rainwater Harvesting Tanks**

**The main benefit:**

The system will help to reduce the amount of air pollution in the building's immediate vicinity. This is because the green roof can help absorb water and release it slowly back into the ground. A green roof can also help reduce the amount of air pollution in the building's immediate vicinity.

Funding for the green roof was provided by the New York State Office of the Attorney General and the Long Island Sound Study.

THE POINT
Funding for the green roof was provided by the New York State Office of the Attorney General and the Long Island Sound Study.

**WE HAVE A NEW GREEN ROOF!**

**Why build a green roof?**

- Reduce the "Urban Heat Island Effect"
- Mitigate urban pollution
- Increase aesthetics and property values
- Create habitat for pollinators
- Increase the life of the roof
- Grow fruits and veggies
- Capture stormwater and reduce runoff

**What is it made of?**

**What is the main benefit of a green roof?**

Green roofs soak up stormwater. This is important because we live in a city with a combined sewer system. This means that both rainwater and sewage flow into the same pipes. And every time it rains, we face problems because the system can't handle the large amount of water and as a result, the mixture of polluted rainwater and sewage gets released into our natural water systems, like the Bronx River. Our green roof can reduce the amount of stormwater that overflows the system and help keep our natural waters clean.

**Now GO CHECK IT OUT!**

**Dry Weather**

**Wet Weather**

Funding for the green roof was provided by the New York State Office of the Attorney General and the Long Island Sound Study.

## **Conclusion**

THE POINT is committed to working with neighborhood young people and families to help build a greener, more livable South Bronx. THE POINT is immensely grateful to the National Fish and Wildlife Foundation for its patience and commitment to this project. It looks forward to inviting its supporters to the summer 2013 ribbon cutting for its new South Bronx Community Green Roof!

***POSTING OF FINAL REPORT:*** *This report and attached project documents may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its final report or project documents contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall clearly mark all such potentially protected materials as “PROTECTED” and provide an explanation and complete citation to the statutory or regulatory source for such protection.*