

"Greening The Bronx" Grants Program Announces First Award Recipients

Winners Focused on Green Roofs, Tree Planting and Tree Stewardship

The Bronx Initiative for Energy and the Environment, a project of the Bronx Overall Economic Development Corporation, has announced the first recipients of its new Greening the Bronx grants program, designed to encourage non-profit organizations and small businesses to utilize greening strategies to mitigate pollution problems in The Bronx. The first two rounds of funding resulted in grant commitments totaling \$572,208.

Priority was given to projects that:

- Result in the greatest pollution reduction per program dollar
- Leverage private and public cost sharing for project development
- Represent a planned approach to greening strategies
- Offer unique and innovative partnerships and approaches to meeting critical needs and priorities.
- Represent long-term sustainability
- Represent community vision of greening strategies
- Have community involvement and support
- Provide greening strategy implementation, not solely a study

GREEN ROOF PROJECTS:

- St. Simon Stock School will develop a 3,500 sq. ft. green roof which will be incorporated into the school's curriculum, with part of the roof providing garden space. The temperature of the roof, storm water retention rates, and energy savings will be monitored. (read their story in this issue).
- Abraham House is installing a 2,0000 sq. ft. extensive green

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Photo above and bottom left: The Greening For Breathing team works on tree planting projects.

New Fulton Fish Market Makes Environmental Commitment To Borough Electric Forklifts To Reduce Air Pollution

The Fulton Fish Market, scheduled to open this spring at its new location in the Hunts Point Food Distribution Center, will offer fish merchants a larger, strategically located, state-of-the-art facility that's guaranteed to be good for business. They, in turn, will lead the way in an innovative project that will showcase the compatibility of business and environmental responsibility.

The new market, the second largest of its kind in the world, is expected to increase the average daily number of trucks coming into Hunts Point by 1,100, prompting The Bronx Overall Economic Development Corporation (BOEDC) to work with Fish Market executives to encourage merchants to use electric forklifts in place of the current fleet of approximately 125 gasoline-powered forklifts. The emission savings from electric forklifts are significant, providing

meaningful environmental benefits to an area plagued by air quality issues.

In order to offer an incentive sufficient to ensure the use of electric forklifts, BOEDC established the \$500,000 Electric Forklift Rebate Program for vendors of the new Market. Under this program, a vendor will receive a \$4,000 rebate for every electric forklift purchased or leased for use in the fish market—up to a total of 125 electric forklifts.

As a result of this initiative, the Board of Directors of the New Fulton Fish Cooperative voted unanimously to allow only battery-operated forklifts inside the market building. Tenants of the market will be allowed to use propane or gasoline-powered equipment outside, but after three years, all forklifts must be electric.

The use of electric forklifts at the Fish Market provides im-

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Brownfield Makovers To Be Part Of Bronx Revitalization

Imagine an abandoned gas station transformed into a mixed-use development, containing both housing and commercial space. Imagine a contaminated industrial site along the riverfront transformed into parkland and a community center. Or an entire neighborhood revitalized through brownfield redevelopment. You can stop imagining. These projects are happening throughout the country, and they are beginning to happen in the Bronx.

A brownfield is an industrial or commercial property that lies fallow because of the presence or potential presence of contamination. Because of the uncertainty of what lies in the soil, the potential costs for cleanup, and risks in liability, brownfield sites have remained largely undeveloped. Until recently there had been little incentive for developers to risk the staggering costs and liabilities of brownfield cleanup. That changed with the 2003 Brownfield Cleanup Program (BCP), which was modeled after the Department of Environmental Conservation's (DEC) administrative Voluntary Cleanup Program.

Two main aspects of the BCP process make brownfield redevelopment possible – owner protection and tax credits. The owner is protected through liability limitation that is offered once the site investigation and remediation is completed and meets the DEC's guidelines. Three potential New York State tax credits are available to taxpayers who remediate a site under the BCP process: the brownfield redevelopment credit, remediated brownfield credit for real property taxes, and environmental remediation insurance credit, all of which help offset the cleanup costs.

A person requesting participation in the BCP is considered an

applicant; they can enter as either a volunteer or participant. A volunteer is an applicant who is not liable for disposal of contaminants; essentially their liability arose solely from site ownership after the disposal/discharge of contaminants. A participant is an applicant who was the owner or operator of the site at the time of the disposal of contaminants or is responsible for the contamination.

The BCP has six main stages: Application, Investigation Work Plan, Investigation, Remedy Selection, Construction and Release, and Operation Maintenance and Monitoring. Within each of these steps are several tasks that the applicant must undertake. It is important for the applicant to schedule a pre-application meeting with DEC staff to review the benefits, requirements and procedures for completing a project in the BCP. Pre-application meetings help the project progress more quickly and efficiently; they are scheduled with the DEC's Brownfields Coordination Section.

After the application is completed, a 30-day comment period commences, after which the request for participation in the BCP is either accepted or rejected by the DEC. If the application is accepted, the applicant signs a Brownfield Cleanup Agreement (BCA). The BCA is required for all parties that wish to participate in the BCP. By signing the agreement, an applicant is making the commitment to undertake remedial activities with the DEC's oversight.

One key aspect of the BCP process is the involvement of the community. The remedial investigation work plan includes a community participation plan (CPP). The CPP is a vehicle by which the community's role is determined prior to any invest-

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Greening The Bronx: A Grant Recipient's Story

Farband Housing Corporation Continues a Progressive Legacy through Environmental Policy

The Farband Housing Corporation (FHC), established in 1928 by the Jewish National Workers Alliance of America, was organized as a limited equity cooperative residence, one of the first three founded in New York State. Its mission has always been to provide quality and affordable housing for the wage earner.

FHC's two buildings are located at 2925 Matthews Avenue and 2922 Barnes Avenue in the South Bronx. Starting in 1999, Farband Housing Corporation completed several major capital projects in the buildings, including measures to save costs and improve energy savings. Some of these projects consisted of installing low flow toilets and water restricted faucets.

With the staggering increases in energy costs faced by all housing developments, FHC began to research alternative energy technologies. Excited by the Environmental Grants Program and the Greening the Bronx Grants Program offered by The Bronx Initiative for Energy and the Environment, a division of BOEDC, FHC submitted a proposal for the installation of 15 kW photovoltaic (PV) systems on each of the buildings. Leveraging grant money from the New York State Energy Research Development Authority (NYSERDA), FHC approached BOEDC to fund the remaining \$97,500 needed to cover the two systems as well as an additional \$2,500 toward a sub metering feasibility study.

BOEDC has committed \$100,000 to this project, which will provide peak electricity shaving throughout the year, especially at times when the demand is highest. In addition, the photovoltaic will eliminate over 2,500 tons of CO₂ from the atmosphere over a twenty-year period, the equivalent of not driving over one million miles.

The Farband Housing Board of Directors had read that photovoltaics are made more efficient by green roofs, that the resulting cooler roof temperature actually increases the PVs efficiency. They applied to the Greening the Bronx Grants Program for two green roofs in order to build an integrated energy system on both rooftops. BOEDC has granted \$70,000 for the design and installation of one 5,000 sq. ft. extensive green roof on one building.

Farband will monitor both roofs, measuring the efficiency of the PV system on each. In addition, Farband will monitor the stormwater retention of the green roof, the roof temperature of each building, and any resulting difference in the energy needs of each building. Green roofs not only reduce energy costs in buildings, but they also filter the ambient air, reduce the urban heat island effect by keeping the roof cool, and keep stormwater from rushing into the sewage system and forcing raw sewage into our waterways.

With the anticipated energy savings from the PV systems and the green roof, Farband Housing can further its ongoing goal of providing affordable housing for working people. At the same time, they are improving the environment of the surrounding community.

Installation of the integrated system is to be completed in Spring 2005. For more information on viewing this project, call Farband Housing Corporation at (718) 655-3376 or farbandhousing@hotmail.com.

Electric Forklifts To Reduce Air Pollution



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Emissions of greenhouse gases:

Pollutant	Annual Fleet Emissions (tons)
HC	58
CO	1890
Nox	66
PM	1
SO ₂	2
CO ₂	7850

portant environmental benefits. A fleet of 125 gasoline-powered forklifts consumes approximately 1.3 million gallons of fuel and emits approximately 2,017 tons of airborne pollutants each year.

In addition to the environmental benefits, electric forklifts have a longer life than propane or gasoline-powered forklifts, and they are less expensive to maintain.

The Electric Forklift Rebate Program will provide a payback period of nine months for the electric equipment. In addition to the \$4,000 rebate, the market vendors can apply for a zero percent loan through BOEDC's Environmental Revolving Loan Fund to cover the balance of the cost of purchasing the electric forklifts.

"We welcome the New Fulton Fish Cooperative to our borough and applaud their commitment to helping our environment," stated Rafael Salaberrios, President of BOEDC. "This is a powerful partnership and a potential case study in our ability to help business grow while we remain good stewards of our environment."

Green Roofs & Lightweight Soil in the Bronx

The Next Urban Ecology Revolution

By Paul Mankiewicz,
Gaia Institute on City Island

Ten years from today, every urban rooftop constructed around the country may be an ecological haven; cooling cities, catching storm water, creating habitat and providing feeding grounds for migrating birds and butterflies. These roofs may last fifty years, a century or even more.

The price may be a few to several dollars a square foot. This revolution in roofing may be slowly underway around the country, with several projects already constructed, in construction, or on their way to being built.

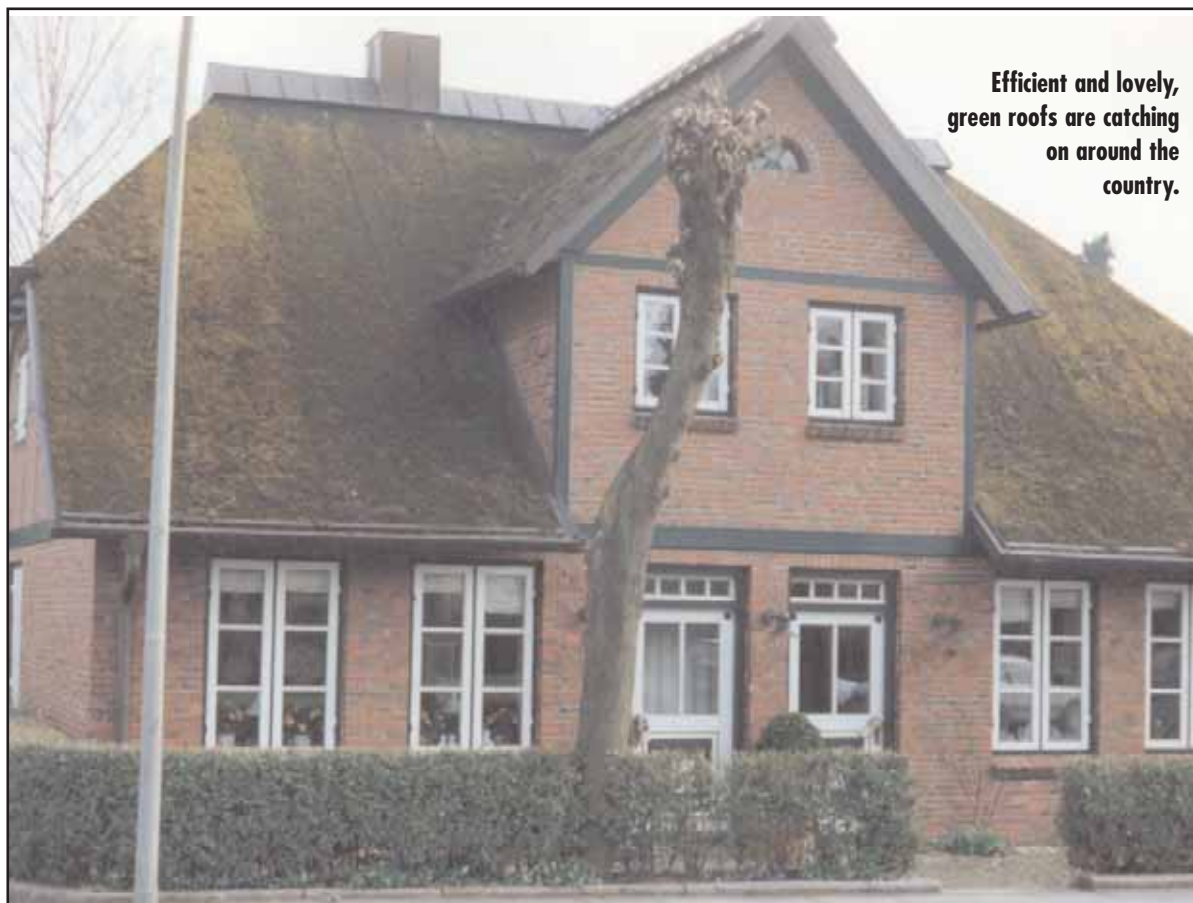
On the fast track is the major epicenter of this innovation; a place few would have predicted a decade or two ago would be part of this revolution. The epicenter is called The Bronx.

Why has it taken so long to turn roofs into gardens? It's a one-word answer: weight. Soil is about 100 pounds per cubic foot, sometimes more. Rooftops are built to hold about 30 to 40 pounds per square foot, so most roofs can only hold an inch or so of soil, which only leaves enough capacity for snow. An inch or two of soil could support some plant life, but would dry out quickly.

Is there a way to hold more soil and water on a green roof?

Many recent rooftop growth media from Germany and Japan use expanded shales and ceramics, at 40 to 60 pounds per cubic foot, which allow up to about 3 inches of coverage on a roof; still thin, but far better than no soil at all.

About 25 years ago, I began a search for an alternative, ecological solution to the problem of greening urban rooftops. I was invited to join a number of "green" designers centered at the Cathedral of St. John the Divine around 1980. Using the concept of wastes into resources, I looked at the components of soils, and the means by which these supported plant growth. Imitating the way that nature recycles most everything, I sifted through the waste stream to



Efficient and lovely, green roofs are catching on around the country.

try to find a substitute for sand, which could hold both plants and films of water, but did not weigh a hundred pounds a cubic foot.

The solution was literally right at hand. Disposable styrofoam coffee cups weighed in at a few pounds per cubic foot, and a near endless supply seemed to pour out of every deli and coffee shop and in the packaging for all kinds of furnishing. But while I had found a good substitute for soil's inert ingredients, we still needed a source of plant

nutrients.

Producing, as we do in the City of New York, 2,500 tons of organic waste each day, the process of composting could provide more than enough organic matter to cover a thousand acres of rooftop each year. Coming right out of the waste stream, this would be a preferred source of minerals and nutrients. Combined with a few other proprietary ingredients for which a patent is forthcoming, this "soil"

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roof as part of the expansion of its facility at 344-348 Willis Avenue.

- Farband Housing Corporation, which is installing solar panels on its two buildings, will create a 5,000 sq. ft. extensive green roof around the solar panels on one building. The two buildings will be monitored for roof temperature, energy costs, and efficiency of the solar panels. The green roof is expected to increase the efficiency of the solar panels, providing a valuable case study of an integrated energy system. (read their story in this issue).

- Youth Ministries for Peace and Justice will develop a 700 sq. ft. Rooftop Wellness Garden to augment their Youth Wellness Program. Medicinal herbs which alleviate respiratory problems will be planted. The garden has been designed and will be maintained by youth in the program.

PLANTING PROJECTS

Trees provide important environmental benefits, helping to clean the air by catching particulate matter in their leaves, slowing wind velocity and releasing oxygen, as well as cooling buildings and sidewalks in the summer. Planting grants focused on both open spaces and street tree planting, with six projects totaling \$206,070.

- Friends of Brook Park will receive \$15,000 to create Harmony Grove Park from buckled asphalt in an adjoining lot.
- The Community Rock Garden's \$2,710 grant will be applied towards replanting and maintenance of this community garden
- Friends of Van Cortlandt Park will utilize a \$5,000 grant to replant the John Muir Trail.
- The Bronx River Alliance is receiving a \$110,000 grant to rejuvenate one acre in each of four sites: Concrete Park, Soundview Park, Bronx Park and Shoelace Park. Working with 12-15 school groups, the Alliance will plant 12,000 trees, plants and shrubs in these four parks.
- Neighborhood Initiatives Development Corporation will plant 2,500 trees along the Bronx River between Gun Hill and Allerton Avenues, utilizing a \$15,000 grant.
- Greening for Breathing (GFB) will receive \$58,360 for tree planting, tree guard purchase and installation, and supplemental educational activities.

THE GREEN BUFFER PROJECT

This project will further the implementation of the Hunts Point tree study, which determined where trees should be planted in Hunts Point.

- Trees cannot thrive in our borough without tree stewards to monitor their health and maintenance. Therefore, BOEDC has

funded two tree stewardship initiatives, totaling \$73,000. Through a grant of \$56,000, Trees New York will bring its tree stewardship training to six Bronx communities, developing community tree pruners who will maintain the borough's fledgling trees. BOEDC will link Trees New York with grantees involved in tree planting, so that the investment in new trees is successful.

GREEN THUMB PROJECT

- A \$17,000 grant will support the Southeast Bronx Neighborhood Centers, Inc. in their Green Thumb Project; a youth tree stewardship training and planting program in the Morrisania section of the borough. The project will plant 30 container trees, which are appropriate for open spaces and not as street trees. The youth participants also will survey the open spaces in Morrisania, identifying sites for future tree planting.

Community organizations wishing to apply for greening grants can download the Request for Proposals for Greening The Bronx grants program from BOEDC's website: www.boedc.com

Program questions can be directed to Kate Shackford, Director for Energy & The Environment, at (718) 590-3498 or via email: kate@boedc.org.

Make The Bronx Cleaner!

Bronx Environmental Revolving Loan Fund

The Bronx Environmental Revolving Loan Fund is designed to provide no interest loans to Bronx businesses and building owners that implement energy efficient measures and/or new technology that improve the air quality of the borough.

Eligible Companies:

- Bronx for-profit companies
- Bronx non-profit organizations
- Bronx housing corporations

Eligible Uses:

Implementation of energy-efficient measures, including:

- Electric/alternative fuel machinery and equipment
- Boiler retrofits
- New technology to reduce air pollution and/or cause energy savings such as:
 - Green roofs and other greening measures
 - Solar technology
 - Wind technology
 - Customized energy survey

Size of Loan: Minimum: \$10,000; Maximum: \$500,000

Term of Loan: Up to 10 years, contingent upon amount of loan.

Origination Fee: 2% of loan amount

Business Owner's Equity Participation:

10% for existing businesses; 25% for start-ups.

Underlying Criteria: Clean credit history.

Collateral: Will vary depending upon project.

Guarantees: Principals, Corporations, etc.

Fees: Application Fee: \$250 (non-refundable).

How can Environmental Revolving Loan Funds be used?

Company A is purchasing electric forklifts. Propane forklifts cost approximately \$18,000, while electric forklifts cost \$26,000. The Environmental Revolving Loan Fund would cover the \$8,000 cost difference. The Bronx Overall Economic Development Corporation will assist Company A in securing a financial package for the balance of equipment costs.

Company B needs to replace their roof. A green roof (a roof planted with specific vegetation) lasts twice as long as a conventional roof, reduces the cost of cooling the floor underneath it by 40%, and reduces noise and air pollution. A conventional roof costs \$8-\$10/sq. ft.; a green roof costs \$12-\$20/sq. ft. The difference of \$4-\$10/sq. ft. will be covered by the Environmental Revolving Loan Fund.

Company C wants to install solar panels on their roof, as they will reduce their energy costs by 30%. The total cost of the installation is \$268,758. The New York State Energy Research & Development Authority (NYSERDA) will cover \$143,060 of that cost. The Environmental Revolving Loan Fund will cover the balance of \$125,698.

Environmental Revolving Loan Funds can help YOU!

FOR FURTHER INFORMATION CONTACT:

Kate Shackford 718-590-7159
Miquela Craytor 718-537-6537



Borough President Adolfo Carrion presents a Greening The Bronx grant check to the Bronx River Alliance, one of several community groups embarking on environmental projects. The grants are an initiative of the Bronx Initiative for Energy and the Environment, a project of BOEDC which is the economic development consultant for the Office of the Borough President.

Green Roofs & Lightweight Soil

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weighs, fully saturated, 30 pounds per cubic foot, allowing three to six inches of coverage on a green roof.

So what's been happening since the 1980s? We tested the soil in containers on rooftops, in greenhouses, and in apartments, demonstrating that this growth medium could support plants across the spectrum, from asparagus, basil and broccoli through cucumbers, ferns, grape vines, lettuces, morning glories, nasturtiums, oregano, pine trees, silver lace, tomatoes, zucchini, and many others. What we demonstrated is that a soil largely manufactured from the waste stream could support all these plants and more.

Twenty years ago, there was not enough interest in this project to fund any large-scale demonstration.

Today, the Borough of the Bronx has made this a centerpiece of its energy and environmental planning goals. With a grant from Bronx Initiative for Energy and the Environment, we have constructed a 300 sq. ft. green roof as part of repair work on the convent building at St. Simon Stock School in the South Bronx. In the spring of 2005, we will be constructing a 3,500 sq. ft. green roof and learning center on St. Simon Stock Elementary School.

A facility for mass-producing this lightweight soil is presently under design, and a Bronx-based green roof company is under development. Once the two are finalized, The Bronx will be well on its way to being a model for the rest of the world. We look forward to beginning the ecological evolution we have dreamed of for decades.

Brownfield Makovers To Be Part Of Bronx Revitalization

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tigative work and allows the public to participate in BCP stages. The CPP requirement is based on an effort to create an open and responsive process. The CPP allows communities the opportunity to become stakeholders, whereby their comments and input become integrated into the BCP process.

One Bronx project recently submitted to the BCP proposes a mixed-use development of affordable housing and retail. One brownfield project completed along the waterfront in Irvington, New York has created a public park and community center. Despite the stigma of contamination associated with brownfield

sites, both these projects are poised to have positive economic and environmental impacts on their surrounding communities.

The BCP offers real opportunity for community change and redevelopment. Through liability protection and financial incentives, private applicants have much to gain. However, the benefits for these redevelopment projects go well beyond the applicant, impacting on the health, economy and quality of life for residents of communities that have been environmentally distressed.

For more information, contact Miquela Craytor, Environmental Planner at BOEDC, (718)537-6537, craytorm@boedc.org.