Brownfields

Credit: NYC Office of Environmental Remediation

Together we can

Develop programs to accelerate brownfield cleanup and redevelopment

Strengthen incentives for brownfield cleanup and redevelopment

Deepen our commitment to communities for community brownfield planning, education, and service

Expand the use of green remediation

My firm is transforming a vacant brownfield into a large development. The Brownfield Cleanup Program has helped us facilitate cleanup planning. The incentives, like liability protection and City certification of the property are important. I think these programs will make a big difference throughout the city.

Sin Senh // Queens

Brownfields hold an important opportunity to facilitate the "Green Economy" by simultaneously addressing social, environmental, and economic factors. This triple bottom line advances economic development and community goals. To bring a range of local constituents to the table within our Brownfield Opportunity Area, we hold public meetings and engage other local organizations in area-wide and site-specific planning initiatives.

Shira Gidding // Bronx

Brownfield cleanup helps residents become stakeholders in what's developed in their backyards. Many wonderful ideas come from our planning work—for small business development, job creation, and affordable housing. Brownfields were a significant challenge in creating the affordable senior housing we're opening this fall in Harlem.

Lucille McEwen // Manhattan

Looking for more opportunities, I took advantage of free training offered through a local training provider and got certifications in working with hazardous materials, asbestos and lead abatement, and air sampling. By December 2010, I got work as a temporary employee—when I reached my yearly review I was made permanent.

Ronell Marshall // Brooklyn

Brownfields

Clean up all contaminated land in New York City

New York City's need for space is growing. Of course, our supply of land remains fixed, so we must use our available space more effectively.

Brownfields—vacant or underutilized land often thought to be unusable due to environmental contamination—represent one of our greatest opportunities to secure new land for development. Brownfield cleanup and development will improve our economy and our environment, especially in poor and disadvantaged communities that suffer the greatest burden of brownfield sites.

The biggest obstacles to brownfield cleanup and redevelopment are the uncertainty of cleanup obligations, fear of pollution liability, and lack of financing. Property owners, developers, and community organizations that are in a position to redevelop brownfields are also encumbered by the often lengthy and uncertain cleanup process. These risks usually lead developers to pass over brownfield properties and choose clean properties, perpetuating a cycle of disinvestment, abandonment, and neglect.

New York City can break this cycle. We can provide communities, land owners, and developers with education, regulatory support, technical assistance, and financial incentives. Together, we can unlock the potential of vacant and contaminated properties, improve environmental quality, and provide land for new housing, commercial spaces, and parks.

Brownfield cleanup and redevelopment can help us revitalize neighborhoods and prevent exposure to contaminants. It can also create new jobs and stimulate our economy. Our efforts since 2007 have been successful and we are now cleaning up and redeveloping brownfields throughout the city.

In 2008, we created the City's new brownfields office, the Office of Environmental Remediation (OER). OER designed and operates a comprehensive series of brownfield programs. The New York City Brownfield Cleanup Program (NYC BCP)—the nation's first municipally-run cleanup program—addresses some of the greatest challenges in brownfield redevelopment. It reduces the uncertainty of investigation and cleanup requirements, streamlines the regulatory process, and provides liability protection from environmental enforcement under City and state laws. The New York City Brownfield Incentive Grant (BIG) Program funds investigation and cleanup to make brownfields more competitive with clean properties for new development.

In just the first few months of operation, NYC BIG grants have demonstrated a high return on cleanup investment to the City. The BIG Program has paid out or earmarked $800,000 to support cleanup on 16 brownfield tax lots. This investment is projected to leverage nearly $165 million in new development and 500 permanent new jobs in the city.

Brownfields are often concentrated in low-income neighborhoods, and there are few mechanisms available to ensure that development plans are coordinated with the community's vision for reuse of brownfield properties. To address these needs, we have assembled a landmark set of tools for community brownfield planning and participation, education, and networking. We also provide City grants to facilitate community brownfield redevelopment planning. The City founded the NYC Brownfield Partnership, an association of more than 50 community-based organizations (CBOs) and environmental businesses dedicated to providing grassroots community services and brownfield cleanup support. Finally, we have also extensively supported the New York State Department of State's (DOS) Brownfield Opportunity Area (BOA) Program, which provides grants to CBOs doing planning in areas burdened by clusters of brownfields.

In 2007, our set of tools to facilitate brownfield redevelopment planning was limited. Since then, we have established the Searchable Property Environmental Electronic Database (SPEED).

Credit: NYC Office of Environmental Remediation

Environmental professionals conducting a brownfield investigation on a Brooklyn property

SPEED is an online real estate search engine that contains environmental data on sites throughout the city and historic land use information on more than 3,150 vacant properties. SPEED has received over 500,000 visitors in its first five months of operation. As we continue to develop tools like SPEED, our ability to support brownfield planning will dramatically improve.

We will also expand green remediation efforts to advance PlaNYC goals. We will develop performance metrics to evaluate green remedial efforts and seek new ways to provide incentives for activities that increase the sustainability of cleanups in our city.

Our Plan

Since 2007, we have learned a great deal more about New York City brownfields, and we have begun to operate new programs to achieve our goal of cleaning up all of the city's contaminated land. We will expand this new brownfield infrastructure in several ways to make previously undesirable sites more competitive for new development.

We will leverage the City's regulatory and technical oversight, including the high-quality cleanups we render, to lower the risk to lending institutions and encourage more investment in brownfield properties. We will also establish preferred environmental insurance policies to improve coverage and lower costs for brownfield developers.

In partnership with the state and federal governments, we will work to improve liability protections for sites cleaned up through the City's Brownfield Cleanup Program. This will make brownfields more competitive with uncontaminated properties.

We will make existing incentive programs stronger and expand the suite of brownfield incentives that we provide. We will make it easier to use incentives offered by the state and federal governments for brownfields. We will work with the environmental industry to help small businesses and small- and mid-size developers find qualified experts to clean up properties by creating a *pro bono* environmental expert referral program to encourage new projects.

To expand our commitment to grassroots, community-led brownfield planning, we will create 25 new NYC Community Brownfield Planning Districts and facilitate linkage of these local brownfield planning efforts into larger networks. Collectively, we will use intergovernmental collaborations, public-private partnerships, and the track record of cooperation we have established with community organizations to achieve the next generation of advances. Ultimately, we will make New York City's brownfields competitive for redevelopment and revitalization.

Develop programs to accelerate brownfield cleanup and redevelopment

With limited resources, we must find creative new approaches to make brownfield properties more competitive for reuse. We will accomplish this by collaborating with all stakeholders, including the financial and real estate sectors, the environmental industry, state and federal governments, and citizens and community groups throughout New York City. Together, we will ensure that the cleanup and revitalization of brownfield properties is a driving force in the city's economic recovery.

Our plan for brownfields:

Develop programs to accelerate brownfield cleanup and redevelopment

1. Increase participation in the NYC Brownfield Cleanup Program by partnering with lenders and insurers
2. Increase the capacity of small businesses and small- and mid-size developers to conduct brownfield cleanup and redevelopment
3. Enable the identification, cleanup, and redevelopment of brownfields
4. Build upon existing state and federal collaborations to improve the City's brownfield programs

Strengthen incentives for brownfield cleanup and redevelopment

5. Study the economic value of brownfield redevelopment in New York City
6. Leverage the NYC Brownfield Cleanup Program to establish funding and other incentives for cleanup and redevelopment

Deepen our commitment to communities for community brownfield planning, education, and service

7. Support community-led planning efforts
8. Support local and area-wide community brownfield planning efforts
9. Increase the transparency and accessibility of brownfield cleanup plans

Expand the use of green remediation

10. Promote green remediation in the NYC Brownfield Cleanup Program
11. Promote green space on remediated brownfield properties

First Brownfield Cleanup Program Projects and Brownfield Opportunity Areas

BROWNFIELD CLEANUP PROGRAM PROJECTS:

1. CHURCH / REFURBISHED OFFICE BUILDING
2. HOTEL
3. AFFORDABLE HOUSING / MIXED USE DEVELOPMENT
4. MIXED COMMERCIAL / RESIDENTIAL DEVELOPMENT
5. HOTEL / OFFICE / RESIDENTIAL DEVELOPMENT
6. MIXED RETAIL / RESIDENTIAL DEVELOPMENT

BROWNFIELD OPPORTUNITY AREAS

EAST NEW YORK COMMUNITY BROWNFIELD PLANNING DISTRICT

Source: NYC Office of Environmental Remediation

INITIATIVE 1

Increase participation in the NYC Brownfield Cleanup Program by partnering with lenders and insurers

The NYC BCP oversees environmental cleanups on lightly and moderately contaminated properties. It uses a streamlined and predictable process and provides liability protection to land owners and developers who enroll their properties. To ensure the highest-quality cleanups, we adopted New York State's cleanup standards and oversee all projects with a team of City scientists and engineers. We will establish new ways to leverage the value of the high-quality cleanups we render in order to minimize the risk and uncertainty normally associated with brownfield redevelopment. This will encourage more transactions between landowners and developers, and more lending and financial investment in brownfield properties.

We will establish programs to encourage lending institutions to expand financing to parties seeking to redevelop contaminated land and assist community banks and other lenders that do not have in-house staff to evaluate environmental risk. We will enable these institutions to rely on the NYC BCP to lower their risk when financing mortgages or other property loans, such as those for small business expansion.

Environmental risk is substantially lower for cleanups under the NYC BCP, compared to developer-directed cleanups. We will work with insurance companies to deliver preferred environmental insurance policies that offer better coverage and lower premiums for sites enrolled in the NYC BCP. To support this effort and encourage land transactions on brownfields, the BIG Program will allow grants to be used for pollution legal liability insurance to protect developers and their financial institutions.

INITIATIVE 2

Increase the capacity of small businesses and small- and mid-size developers to conduct brownfield cleanup and redevelopment

Many small- and mid-sized developers, as well as non-profit community developers, lack the expertise needed to remediate brownfields. To address this issue, we will collaborate with the NYC Brownfield Partnership to establish a *pro bono* environmental expert referral program. This program will provide inexperienced developers with advice on managing properties that require investigation and cleanup. It will enable businesses and CBOs to access free consultations provided by environmental industry professionals.

INITIATIVE 3

Enable the identification, cleanup, and redevelopment of brownfields

We will establish flexible provisions within the NYC BCP that recognize that the timeline for brownfield cleanup and redevelopment can vary greatly from project to project. For example, to improve prospects for the sale of a property, owners can utilize the NYC BCP to clean up the property prior to putting it on the market for sale.

There are instances in which a property owner cannot afford to conduct a cleanup and potential buyers are discouraged by environmental issues that complicate redevelopment. To address this obstacle, we will allow a landowner to investigate a property, develop an approved cleanup plan, and then defer performance of the cleanup until after a purchaser has been identified. Establishment of this standstill provision in the NYC BCP, where the property is safe and no government environmental authority is violated, can enable properties to be marketed more effectively for sale and can provide comfort to potential purchasers and lenders regarding the environmental risks and costs associated with a project. Ultimately, we can achieve a cleanup sooner than would have occurred without such a program.

We will continue to assist developers in finding brownfields for new development through improvements to SPEED, our online real estate search engine. SPEED features government environmental database information, historical maps from the 19th and 20th centuries, and aerial photographs of the entire city. It provides the land use history of more than 3,150 vacant commercial and industrial properties throughout the city. SPEED also promotes transit-oriented development by allowing users to superimpose mass transit data layers over property searches. We will continue to consult with community leaders and development professionals to identify new information that can be added to SPEED to improve this resource.

We will make our brownfield programs more effective for community-guided development. We will seek development-oriented community partners in neighborhoods with brownfield properties. We will assist them in working with City agencies and provide advice on how to use City cleanup and grant programs. Partnerships with CBOs and community development financial institutions will help achieve local visions for brownfield revitalization.

CASE STUDY

First NYC BCP Projects

Several years ago, a developer identified a vacant lot that they believed had great potential to bring value and services to the newly rezoned Grand Concourse in the South Bronx, near Yankee Stadium. A former industrial center, the brownfield property was ideally located near a hub for transit lines and major highways. It was identified by Brownfield Opportunity Area (BOA) community planners as a strategic property for redevelopment—an anchor site capable of spurring further economic activity.

The developer planned to remediate the site and build a new hotel expected to generate 60 permanent jobs. However, a portion of the property was rejected for enrollment in the New York State Brownfield Cleanup Program in July 2009, and the developer was unable to acquire needed liability protection.

In March 2011, the property developer enrolled in the newly launched New York City Brownfield Cleanup Program (NYC BCP) as a means to get necessary liability protection. The cleanup proposed by the development team is expected to achieve a Track 1 cleanup, the highest standard available under the NYC BCP, allowing the site to be reused without restrictions. The City will also certify the property as a New York City Green Property, a tangible symbol of the City's confidence that the cleanup is protective of human health and the environment.

To help finance the cleanup the project has also been awarded $60,000 by the New York City Brownfield Incentive Grant (BIG) Program. Because the project will achieve a Track 1 cleanup and has received strong support from BOA community planners, it also qualifies for a $75,000 bonus cleanup grant. Finally, by enrolling in the NYC BCP, the project qualifies for a low-interest cleanup loan from the Bronx Overall Economic Development Corporation, providing additional funding for remediation.

Other projects enrolled in the NYC BCP include new affordable and market-rate housing, office and retail development, and a church. These projects are expected to bring 500 permanent new jobs to the city. The NYC BCP is unlocking land plagued for years by vacancy or underutilization. In addition to creating new jobs and serving the needs of the people who will live and work on these properties, these new projects will drive growth in surrounding neighborhoods and sustainable development throughout the city.

CASE STUDY

Community Outreach and Training Program

New York City is home to many people who are chronically unemployed, young adults at risk, on public assistance, or among the working poor. Meanwhile, our environmental industry has great potential to provide career opportunities for these New Yorkers. However, working in the brownfield sector requires specific skills, training, and certifications including 40-hour Hazardous Waste Operator, electrical/carpentry/plumbing, and lead and asbestos abatement certifications.

Two things are needed to match the needs of interested workers and employers who are hiring —job preparedness training and opportunities for employment. STRIVE, a non-profit organization located in East Harlem, is making a big difference in this area with its Green Jobs training program.

STRIVE prepares its trainees for work in a variety of emerging green technology fields. After three weeks of basic job readiness training to prepare its clients for entering the workforce, participants can get specialized training in areas with demonstrated demand among local employers.

But training alone does not guarantee a job. Once trained, participants need help connecting with employers. To expand placement possibilities, the City established the BrownfieldWORKS! wage subsidy program. By reimbursing up to six months of a worker's wages, BrownfieldWORKS! encourages employers to provide job opportunities to graduates of environmental training programs. STRIVE worked with fellow members of the NYC Brownfield Partnership and OER to help graduates obtain job training placements with the NYC Brownfield Partnership's environmental businesses. In 2010, 26 training program graduates found placements through BrownfieldWORKS!, and fifteen of them were hired permanently.

As our new brownfield programs make remediation easier and encourage more cleanups, there will be more opportunities for job growth in this field. Job creation, especially for our city's most vulnerable, is important to New Yorkers. By harnessing the potential of the environmental industry and partnering with organizations like STRIVE, we can increase opportunities for job growth and economic development.

The start of remediation at a brownfield site in Flushing, Queens

The steps in a brownfield cleanup program can be complex, especially for those unfamiliar with the process. To simplify this process and increase program predictability and speed, we will establish the Environmental Project Information Center (EPIC). This online tool for program participants will automate and streamline navigation of our programs by providing online applications, communication portals, step-by-step guidance for City brownfield programs, real-time project tracking, and access to project archives. This e-government initiative will accelerate cleanups and lower transaction costs for parties enrolled in the NYC BCP. In addition, EPIC will enable completely paperless program management.

We will partner with the U.S. Environmental Protection Agency (EPA) to improve the field technology available in the investigation and cleanup of brownfield properties. We participated in a pilot demonstration of alternative approaches to investigation, called Triad, at two New York City brownfield sites and with the EPA, published a joint report in 2010 on the Triad approach. We will continue to collaborate to customize Triad tools for the investigation of contamination common to city properties and train environmental professionals in the use of these methods.

Recognizing that many of the city's waterfronts were filled in and used for industrial purposes, we will work with BOA grant recipients and local communities in Significant Maritime Industrial Areas to examine existing conditions and strategies for remediation, reuse, and redevelopment. We will encourage cleanup and redevelopment of waterfront sites by proposing amendments to the Zoning Resolution that would allow greater flexibility for non-residential uses and floor area to achieve certain goals, such as brownfield cleanup, adaptive reuse of outmoded buildings, expansion of maritime uses, and provision of in-water infrastructure.

INITIATIVE 4

Build upon existing state and federal collaborations to improve the City's brownfield programs

Continued collaboration with state and federal governments will further improve incentives for cleaning up and redeveloping brownfields, making them more competitive with uncontaminated land. At the state level, we will advocate for a full liability release for parties who remediate sites under the NYC BCP.

We will work to reach an agreement with the EPA that provides federal liability protection for parties who remediate sites under the NYC BCP.

Finally, to accelerate cleanup at sites where past legal actions by the state government have left an environmental lien that discourages new development and cleanup, we will pursue a program for environmental lien forgiveness. We will work with government partners to establish a pilot program that waives part or all of an environmental lien on a property where the developer agrees to clean up the property in the NYC BCP and redevelop the property within a defined schedule.

Strengthen incentives for brownfield cleanup and redevelopment

Both financial and non-financial incentives can be powerful tools to promote brownfield investigation, cleanup, and redevelopment. The NYC BIG Program and the NYC Green Property Certification Program, a LEED-like certification for remediated land, have demonstrated just that. We will work with the state and federal governments to develop new brownfield financial incentives and establish other innovative programs that provide value to developers.

INITIATIVE 5

Study the economic value of brownfield redevelopment in New York City

Although brownfield cleanup is widely acknowledged to be essential to economic development in the city, few studies have been conducted to quantify the financial return of cleanup and redevelopment. We want to ensure that our existing incentives are designed properly and that new incentives encourage activity that is beneficial to the city.

To better understand the financial return of City cleanup investment, we will collect relevant data on these projects. We will develop an economic model that quantifies the monetary value of brownfield redevelopment. We will also evaluate economic indicators such as job creation and new revenue generation from income and sales taxes.

INITIATIVE 6

Leverage the NYC BCP to establish funding and other incentives for cleanup and redevelopment

Cleanups conducted under the NYC BCP and the redevelopment that follows revitalize neighborhoods. These projects achieve a broad range of goals. They create jobs. They build affordable housing and green buildings. They can also integrate green stormwater infrastructure, use renewable energy, and contribute to transit-oriented development.

Many financial incentive programs currently exist to promote these broader goals. As we clean up brownfields and make them available for redevelopment, there is potential to combine the City's brownfield incentives with other incentives.

For example, the City collaborated with the Bronx Overall Economic Development Corporation (BOEDC) to establish a low-interest loan program that funds Bronx brownfield cleanups in the NYC BCP with the broader goal of creating new jobs and revitalizing neighborhoods. The NYC BIG Program offers cleanup grants for the same projects. Through this partnership, we maximize financial incentives available to these projects and ensure that BOEDC's investment will result in high-quality cleanups, while the redevelopment provides new jobs in the community.

Numerous financial incentives are available for brownfield redevelopment projects in the city, but these sources can be difficult for landowners and developers to find. We will establish an informal financial counseling program to help parties seeking assistance. We will also build a web-based financial assistance search tool to make funding easier and more convenient to find.

Deepen our commitment to communities for community brownfield planning, education, and service

Our efforts can succeed only with the active participation and support of community partners. Through PlaNYC, we established several programs to join with communities in brownfield planning and development. We will build upon these programs and deepen our commitment to authentic community engagement and the highest level of community protection during and after cleanup.

INITIATIVE 7

Support community-led planning efforts

To promote community-initiated brownfield planning, we will establish the NYC Community Brownfield Planning District (CBPD) Program and designate 25 CBPDs. Putting contaminated land back into productive use has enormous benefits to communities such as protecting public health and the environment, creating jobs, spurring economic activity, and realizing community visions for better neighborhoods.

The CBPD Program, linked closely with the BOA Program, will designate geographic areas in communities that have clusters of brownfield properties and active CBOs interested in addressing them. The CBPD Program will incorporate the 17 current New York City BOA study areas.

Through CBPDs, the City will support development of a community vision for brownfield redevelopment linked to community revitalization. We will help realize that vision by providing focused City assistance and services for brownfields. We will also provide stronger incentives-such as higher grant award limits and special bonus grants for land owners and developers that clean up and redevelop brownfields consistent with community brownfield plans. We will pilot the coordination of these efforts in East New York, where the City is leading an integrated land use and sustainability planning study. We will also provide CBPDs with support from a variety of City programs and resources that promote community sustainability.

Finally, we will work to expand the State BOA Program in New York City. We will identify 8-12 potential BOA projects in the city and work closely with community stakeholders to support new BOA applications for these areas.

CASE STUDY

New York City Brownfield Partnership

For small businesses, small- and mid-size developers, and community developers in New York City, brownfield cleanup and redevelopment can be a difficult undertaking. Landowners and developers usually learn about potential contamination when trying to finance their projects and can quickly become entangled in environmental due diligence investigations and soil sampling obligations with no obvious place to turn for advice.

New York City's environmental consulting industry has many businesses that perform environmental studies and implement cleanups on contaminated properties. Together, these firms represent an enormous resource to New Yorkers, not just for the environmental protection they provide but for community service they can deliver. However, until recently there was no mechanism for these firms to work together to establish meaningful programs and provide vital services for residents of our city.

To take advantage of this untapped opportunity, in 2008 we worked with environmental businesses, developers, and community-based organizations to establish the New York City Brownfield Partnership, an association dedicated to community service in the environmental industry. The association is now a fully functioning, non-profit organization with an elected board of directors and 50 member organizations.

The NYC Brownfield Partnership offers a series of valuable programs including a pro bono community counseling program, to help residents interpret cleanup plans, and a scholarship and internship program to help cultivate future environmental leaders. The NYC Brownfield Partnership also provides experts for City-run brownfield education workshops and informs potential employers about BrownfieldWORKS!, the City's program that provides subsidized job training and employment opportunities in the environmental industry to New Yorkers facing employment challenges.

The resources mobilized by the NYC Brownfield Partnership are a great example of creative collaboration that provides valuable community services to New Yorkers, while making it easier to find quality environmental services and clean up brownfields.

An architectural rendering of a brownfield redeveloped with housing and retail in Williamsburg, Brooklyn

INITIATIVE 8

Support local and area-wide community brownfield planning efforts

To ensure that CBOs leading BOA planning projects can undertake complex brownfield planning efforts, we will establish programs to help them collaborate with City agencies. We will publish a report to identify best management practices for such planners. To support the implementation of their plans, we will provide technical assistance grants for consulting services associated with brownfield cleanup and redevelopment projects.

We will work closely with the NYC Brownfield Partnership to expand educational programs and provide more convenient ways to access brownfield redevelopment information. To distribute training materials and planning tools as widely as possible, we will work with the State DOS to develop an online community brownfield planning portal. This online tool will provide BOA grantees with specialized access to environmental and planning information and allow for direct communication with the City.

To support the goals of community-based brownfield planners, we will encourage establishment of larger geographic networks of proximate BOAs with common priorities and challenges. To start, we will support a pilot program established by State DOS for area-wide community brownfield planning and cross-government collaboration in Brooklyn and Queens that links multiple BOAs, anchored by the Sunset Park BOA and the Newtown Creek BOA.

INITIATIVE 9

Increase the transparency and accessibility of brownfield cleanup plans

New Yorkers should be informed of the scope of cleanup work performed in their neighborhoods. They should know that all work is done in a way that protects community members. They also have the right to contribute to the development of cleanup plans by expressing their concerns before any work is performed. Under the NYC BCP, we will establish advanced safeguards for community protection in our cleanup plans and encourage community engagement.

Under NYC BCP regulations, all cleanup plans are subject to a public comment period. To increase accessibility of NYC BCP cleanup plans and other project documents, we will establish an online document repository for the public. The repository will also be accessible on the websites of local library branches throughout the city.

Work plans for brownfield cleanups are usually highly technical documents that can be difficult to understand. While cleanup programs typically offer documents for public comment, meaningful public review can be an unrealistic expectation because most community members do not have the technical training to fully understand document contents. We will eliminate this frustrating barrier by more clearly communicating brownfield project information to residents. We will also work with the NYC Brownfield Partnership to establish a *pro bono* community counseling program, through which community members can receive feedback about a cleanup plan from independent third-party experts.

We will provide a Community Protection Statement (CPS) with each NYC BCP cleanup plan. The CPS will summarize activities that assure community protection in clear, plain language. The CPS will also provide residents with contact

Nearly completed construction on a former brownfield in the Morrisania neighborhood in the Bronx

information for key project personnel so they can obtain more information or register project-related complaints.

To provide training for the general public and students on environmental investigation and cleanup practices, we will produce a permanent online library of brownfield educational videos. These will include short documentaries that highlight Big Apple Brownfield Award-winning projects that demonstrate the best examples of brownfield transformation in the city.

We will continue to bring brownfield-related jobs to New York City through the promotion of the NYC BrownfieldWORKS! Program. Under this program, we will work with community-based job-training organizations, and the NYC Brownfield Partnership to utilize this job training and salary subsidy program. This will provide opportunities in the environmental industry for graduates of community-based environmental workforce training programs.

Expand the use of green remediation

Brownfield remediation and redevelopment in New York City is inherently sustainable. It reuses underutilized land resources, protects the environment and public health, and lowers carbon emissions by encouraging more efficient land usage. By incorporating green cleanup methods into brownfield redevelopment, we can increase the overall environmental benefit of our efforts.

INITIATIVE 10
Promote green remediation in the NYC Brownfield Cleanup Program

To promote green remediation practices, we will request that each cleanup plan under the NYC BCP include a Sustainability Statement. The Sustainability Statement will provide an opportunity to document green remedial measures that are incorporated into the cleanup process. It is also a tool to build awareness about green remediation practices that add to the sustainability of brownfield cleanups, encourage innovation in this emerging field, and provide a means to quantify green remediation activities. The Sustainability Statement will not mandate specific green remediation approaches, but will encourage their use on all projects.

We will establish grants to fund green remediation audits for cleanups planned under the NYC BCP. Green remediation grants will enable an independent expert to review cleanup plans and recommend additional actions that will make the cleanup and redevelopment more sustainable. Such reviews will accelerate the adoption of green remediation practices. We will also continue to familiarize the local brownfield industry with state-of-the-art practices in this emerging field.

We will establish a collaborative pilot program to integrate our brownfield programs with the City's sustainability goals and activities. We will promote the reuse of local, clean, recycled concrete aggregate as backfill at appropriate cleanups. This will eliminate the use of non-renewable resources that are routinely trucked long distances. We will explore the use of trees to implement *in situ* phytoremediation (an on-site, plant-based technology) for end-of-cleanup destruction of low-level pollutants in soil and groundwater. This will also advance the goals of MillionTreesNYC.

We will encourage stormwater retention practices on remedial sites. We will encourage green infrastructure implementation as part of redevelopment at appropriate brownfield sites. Finally, we will work to promote renewable energy projects on city brownfield sites.

These multidisciplinary sustainability efforts will improve our environment and conserve City resources. They will also help achieve the broader goals of PlaNYC and a greater level of sustainability on brownfield properties across the city.

INITIATIVE 11
Promote green space on remediated brownfield properties

In addition to "brick and mortar" development, brownfields present important opportunities to create valuable public green spaces. Our New York City Pocket Parks Program will convert small brownfields to community parkland. We will collaborate with community brownfield planning organizations, State DOS, and non-profit parks development organizations to identify prospective sites in neighborhoods that are underserved by open space. We will begin with a pilot program to create three pocket parks. Candidate sites will undergo environmental investigation and cleanup by leveraging BIG Program funding and other government grants.

We will design protective measures such as liners for state-of-the-art community gardens on remediated brownfield properties. We will work with GreenThumb and the New York Restoration Project to pilot a community garden on a remediated brownfield site.

Conclusion

To achieve sustainable land use and meet our city's infrastructure, housing, commercial, and energy needs, we must effectively identify, clean up, and reuse the thousands of brownfield properties in New York City.

Through the goals established in this plan, we will ensure that this work protects public health and the environment, and gives our residents a voice in this process. By forming partnerships across the private and government sectors, we will increase the overall success of our work. By taking this comprehensive and progressive approach, together, we can clean up all contaminated land in New York City.