



WE BUILD THE CITY

**NEW YORK CITY
DEPARTMENT OF
DESIGN +
CONSTRUCTION**

Dear Friends,

It takes a lot of work to build the greatest city on earth and, in ever-changing New York City, it takes a lot of creativity, too. In the following pages, you will see how DDC is improving the look and feel of our city through fresh thinking and the firm belief that great design makes a difference in people’s lives.

From the Queens Botanical Garden, where we put our sustainable design principles into action and created the first LEED Platinum public building in New York City; to Madison Avenue, where we averted major traffic and construction issues by pioneering a technique to repair miles of failing water mains without tearing up the street – DDC is building the New York City of the 21st century.

For those who are learning about DDC for the first time, this book provides a great introduction to our innovative projects that affect the lives of millions of New Yorkers every day. For those who are more familiar with our work, I hope you will take a moment to see what we have been up to lately. With more than 700 active construction projects and a portfolio worth upwards of \$8 billion, we are hard at work giving New Yorkers the infrastructure and public buildings they deserve.

Sincerely,



DAVID J. BURNEY, FAIA
COMMISSIONER
DEPARTMENT OF DESIGN + CONSTRUCTION

8	INTRODUCTION
13	CLIENT AGENCIES

14	INFRASTRUCTURE
16	MAP OF DDC INFRASTRUCTURE PROJECTS
22	STREET RECONSTRUCTION
24	CITY WATER TUNNEL NO. 3 SHAFT CONNECTION
26	BEST MANAGEMENT PRACTICES
28	CIRCLES
30	STEP STREETS
32	PLAZAS
34	PEDESTRIAN BRIDGES

36	PUBLIC BUILDINGS
38	MAP OF DDC PUBLIC BUILDINGS PROJECTS
46	LIBRARIES
54	NEW YORK CITY POLICE DEPARTMENT
62	FIRE DEPARTMENT OF NEW YORK
68	DEPARTMENT OF CULTURAL AFFAIRS
74	DEPARTMENT OF HEALTH AND MENTAL HYGIENE
76	DEPARTMENT OF HOMELESS SERVICES
78	DEPARTMENT OF ENVIRONMENTAL PROTECTION
80	OFFICE OF THE MAYOR
82	DEPARTMENT OF SANITATION

84	INNOVATION & COLLABORATION
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An aerial, black and white photograph of Columbus Circle in Manhattan. The image shows the circular traffic interchange with multiple lanes of traffic, marked with white arrows. In the center is the Columbus Monument, a tall column topped with a statue of Christopher Columbus. Surrounding the monument is the Circle Fountain, which has several tiers of water jets. The surrounding area includes sidewalks, crosswalks, and some commercial buildings in the background. The text "WE BUILD THE CITY" is overlaid in large, white, sans-serif capital letters on the right side of the image.

WE
BUILD
THE
CITY

COLUMBUS CIRCLE, MANHATTAN

**IN NEW YORK CITY,
DDC HAS BEEN
RESPONSIBLE FOR
UPGRADING AND
BUILDING THE COMPLEX
UNDERGROUND
INFRASTRUCTURE AND
MANAGING THE DESIGN
AND CONSTRUCTION
OF PUBLIC BUILDINGS
IN ALL 5 BOROUGHES.**

**WE HAVE SET A STANDARD THAT BRINGS
EFFICIENT, LONG-TERM, AND CONTEMPORARY
SOLUTIONS TO ALL OF OUR PROJECTS.**

OVER THE LAST 16 YEARS WE HAVE COMPLETED:

190 PUBLIC SAFETY FACILITIES

192 LIBRARIES

206 CULTURAL INSTITUTIONS

255 BUILDINGS FOR HEALTH AND HUMAN SERVICES

615 ROADWAY, SEWER AND WATER MAIN PROJECTS.

**OUR 1170 EMPLOYEES HAVE COMPLETED
MORE THAN 3500 PROJECTS FOR
NEW YORK CITY'S BUILT ENVIRONMENT.**

**FROM AN ORIGINAL PORTFOLIO OF \$700 MILLION,
WE EXPANDED TO MORE THAN \$8 BILLION.**

WE BUILD THE CITY.

Before the Department of Design and Construction was created, the departments of Transportation (DOT) and Environmental Protection (DEP), as well as many other City agencies, initiated and executed their own construction projects. In 1996, Mayor Rudolph Giuliani established DDC in order to consolidate these efforts and improve the coordination and delivery of New York City's capital construction projects. The Office of Management and Budget provides funding for projects specific to each City agency, and we manage their design and construction.

4336

TOTAL NUMBER OF DDC PROJECTS
FROM 1996 TO PRESENT

\$20.2
BILLION

VALUE OF WORK DDC HAS
COMPLETED FROM 1996 TO PRESENT

The work of creating this new agency fell to the first DDC Commissioner, Luis Tormenta. He combined the design and construction divisions of DEP and DOT into a single Infrastructure Division at DDC.

With the exception of schools and housing, we also took over the design and construction of public buildings throughout all five boroughs. Today, this group is known as the Public Buildings Division and manages significant architectural projects from beginning to end for more than 20 client agencies.

Following Tormenta, Kenneth Holden was appointed Commissioner in 1999. Among the most important accomplishments of his four-year term was the management of the monumental cleanup of the World Trade Center site. We began our early adoption of the principles of sustainable design during this time and published several high-performance building guides that were among the first of their kind. Our Office of Sustainable Design is now highly regarded worldwide for its research and publications, and often works in close partnership with the Mayor's Office of Long-Term Planning and Sustainability.

In January of 2004, Mayor Bloomberg appointed David Burney, FAIA, as the new commissioner. Commissioner Burney is the first architect to lead DDC and earned an international reputation for innovation when he was in charge of architecture at the New York City Housing Authority. Commissioner Burney stated, "What Mayor Bloomberg and First Deputy Mayor Patti Harris brought to the table was the consciousness that DDC could raise the bar in delivering high-quality urban design and architecture. Public buildings were something we could really improve upon."


One improvement that was made, in conjunction with the Office of the Mayor, was the creation of the innovative Design + Construction Excellence program, based on the U.S. General Services Administration's Design Excellence program. Design + Construction Excellence enables us to hire the best architects in the world and gives the City's small, but exceedingly talented, firms the opportunity to work on our Public Buildings projects.

During Commissioner Burney's tenure, our Infrastructure Division also has consistently adopted innovative strategies, such as trenchless technologies and sustainable stormwater management practices. This has made us one of the most environmentally responsible construction agencies in the world.

The Department of Design and Construction has been unwavering in its commitment to the idea that great design has a positive impact on the people who live in New York City. We believe in a positive, direct correlation between excellent civic design and quality of life. From the newly constructed Kingsbridge Library in the Bronx to the new 121st Police Precinct in Staten Island, we have put our beliefs into action.

OUR NEW YORK CITY CLIENT AGENCIES UNDERSTAND THAT GREAT DESIGN MAKES A DIFFERENCE.

ADMINISTRATION FOR CHILDREN'S SERVICES
BROOKLYN PUBLIC LIBRARY
DEPARTMENT FOR THE AGING
DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES
DEPARTMENT OF CORRECTION
DEPARTMENT OF CULTURAL AFFAIRS
DEPARTMENT OF EDUCATION
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
DEPARTMENT OF HOMELESS SERVICES
DEPARTMENT OF HOUSING PRESERVATION AND DEVELOPMENT
DEPARTMENT OF INVESTIGATION
DEPARTMENT OF PARKS AND RECREATION
DEPARTMENT OF PROBATION
DEPARTMENT OF SANITATION
DEPARTMENT OF TRANSPORTATION
FIRE DEPARTMENT OF NEW YORK
HUMAN RESOURCES ADMINISTRATION
NEW YORK POLICE DEPARTMENT
NEW YORK PUBLIC LIBRARY
OFFICE OF CRIMINAL JUSTICE COORDINATOR
OFFICE OF THE CHIEF MEDICAL EXAMINER
OFFICE OF THE MAYOR
QUEENS PUBLIC LIBRARY
TAXI AND LIMOUSINE COMMISSION



WE BUILD
THE CITY'S

INFRA- STRUC- TURE

CITY WATER TUNNEL NO. 3
SHAFT CONNECTIONS, MANHATTAN

INFRASTRUCTURE PROJECTS IN THE 5 BOROUGHES



DDC's Infrastructure Division builds and upgrades the nation's most extensive network of streets, water mains and storm and sanitary sewers. In addition, the division also builds and rehabilitates step streets, retaining walls, community plazas and pedestrian bridges. Our client agencies, the departments of Transportation (DOT) and Environmental Protection (DEP), provide the planning and funding for these projects, and we provide the highest standard of engineering design and construction management required for successful delivery. We have also performed infrastructure work for the departments of Parks and Recreation and Housing Preservation and Development. In 2011, the City's five-year infrastructure plan was worth \$3.7 billion. This plan is in various phases of development, from pre-design through construction.

Our technical staff, which numbers about 500, is organized into three main groups: Program Administration, Design, and Construction Management. The Program Administration group is responsible for all pre-design activities, such as budgeting, ordering topographical surveys, geotechnical and environmental investigations, permit applications, and intergovernmental coordination. The Design group prepares the engineering plans and specifications that are required for bidding and contracting these infrastructure projects. When necessary, we supplement our internal engineering resources with outside consultants. The Design group also coordinates our projects with those planned by other public and private entities, particularly the private utility companies which must work alongside the City whenever construction is

performed. The Construction Management group is responsible for overseeing construction of projects and ensuring the application of the highest standards of performance and quality.

WE REACH OUT TO NEW YORKERS

Renewal of our City's basic infrastructure can sometimes be disruptive to the daily activities of residents and businesses. Therefore, DDC has made public outreach a key component of our projects. This is where the Office of Community Outreach and Notification (OCON) makes a difference. At the beginning of a project, OCON identifies and maintains contact with all stakeholders and community boards in areas affected by our upcoming projects. During construction, we assign full-time Community Construction Liaisons, many of whom already have ties to the neighborhoods where the work is being performed. They meet with elected officials, residents, business owners, schools, fire and police stations, and medical facilities that might be affected by construction activities.

745

MILES

SIDEWALKS AND STREETS PAVED

13,970

HYDRANTS REPLACED

735

MILES

NEW WATER MAINS INSTALLED

36,500

PEDESTRIAN RAMPS INSTALLED

554

MILES

STORM AND SANITARY
SEWERS INSTALLED

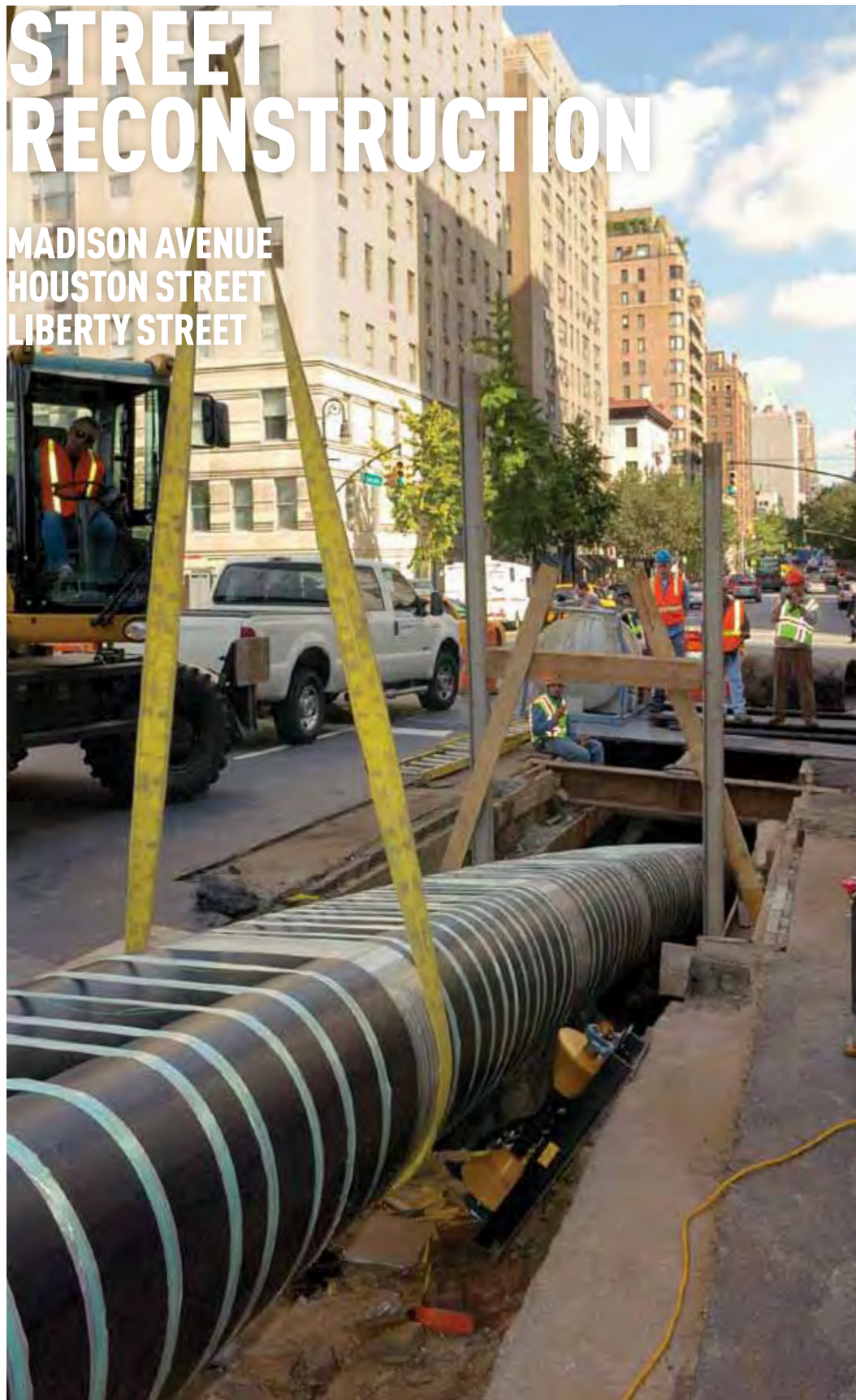
10,100

HOMES CONNECTED TO THE MUNICIPAL
SYSTEM FOR THE FIRST TIME

INFRASTRUCTURE

STREET RECONSTRUCTION

MADISON AVENUE
HOUSTON STREET
LIBERTY STREET



TRENCHLESS WATER MAIN RELINING

MADISON AVENUE, MANHATTAN

At the end of the Civil War, as New York City continued to expand, there was a need to increase the water supply for lower Manhattan. At that time, a cast iron water main was constructed under Madison Avenue from the Central Park reservoir to downtown. Throughout subsequent decades, this cast iron main provided much-needed safe, clean water for New Yorkers.

But in more recent years, this water main began to age, resulting in the need to lower the operating pressure of the main to ensure its safe use. To rehabilitate the aged pipes, we worked with the Department of Environmental Protection (DEP) to reline 37 blocks, or about two miles, of the water main. Recognizing the enormous disruption that an open trench excavation method would cause, our Infrastructure Division selected a pipe relining trenchless technology method. Using this method, a polyethylene liner was folded into and pulled through the main from one small pit to another located further down the main. This method eliminated the need for extensive trenching and avoided significant impact on local businesses and residents.

“Ordinarily you open up a trench,” says Deputy Commissioner Macfarlane, “rip out the old water main, and put in a new one. Can you imagine doing this along a two-mile stretch of Madison Avenue?” The pipe relining method also resulted in reduced utility interferences, traffic congestion, pollution from trucking, and disposal of excess waste material.

Once completed, the project earned the world’s record for the longest relining of a large diameter water main. Our Infrastructure Division, in coordination with DEP, is now looking to implement this method to upgrade several other large diameter water mains within the City.

STREET RECONSTRUCTION

HOUSTON STREET, MANHATTAN

The reconstruction of Houston Street from Bowery to West streets has modernized a major east-west corridor through the borough of Manhattan. By re-aligning the curb lines, widening sidewalks along the route, and implementing various traffic control elements, including raised medians and updated pedestrian ramps, the roadway is better prepared to safely handle increases in vehicular and pedestrian traffic.

At the same time, the water supply system underneath Houston Street has received a major upgrade, providing the necessary link between the City Water Tunnel No. 3 shaft on the west side of the island and consumers on the east. This will ensure adequate supply for any future development in the area. In addition, the drainage system was overhauled with catch basins in many locations to prevent issues with stormwater runoff. Various amenities were also included to enhance the aesthetics and functionality of the area for the public. These include the creation of a park at Bedford Triangle, installation of benches on the medians, extensive tree planting and landscaping throughout the project area, distinctive light poles, pigmented sidewalks and granite curbs.

STREET AND PLAZA RECONSTRUCTION

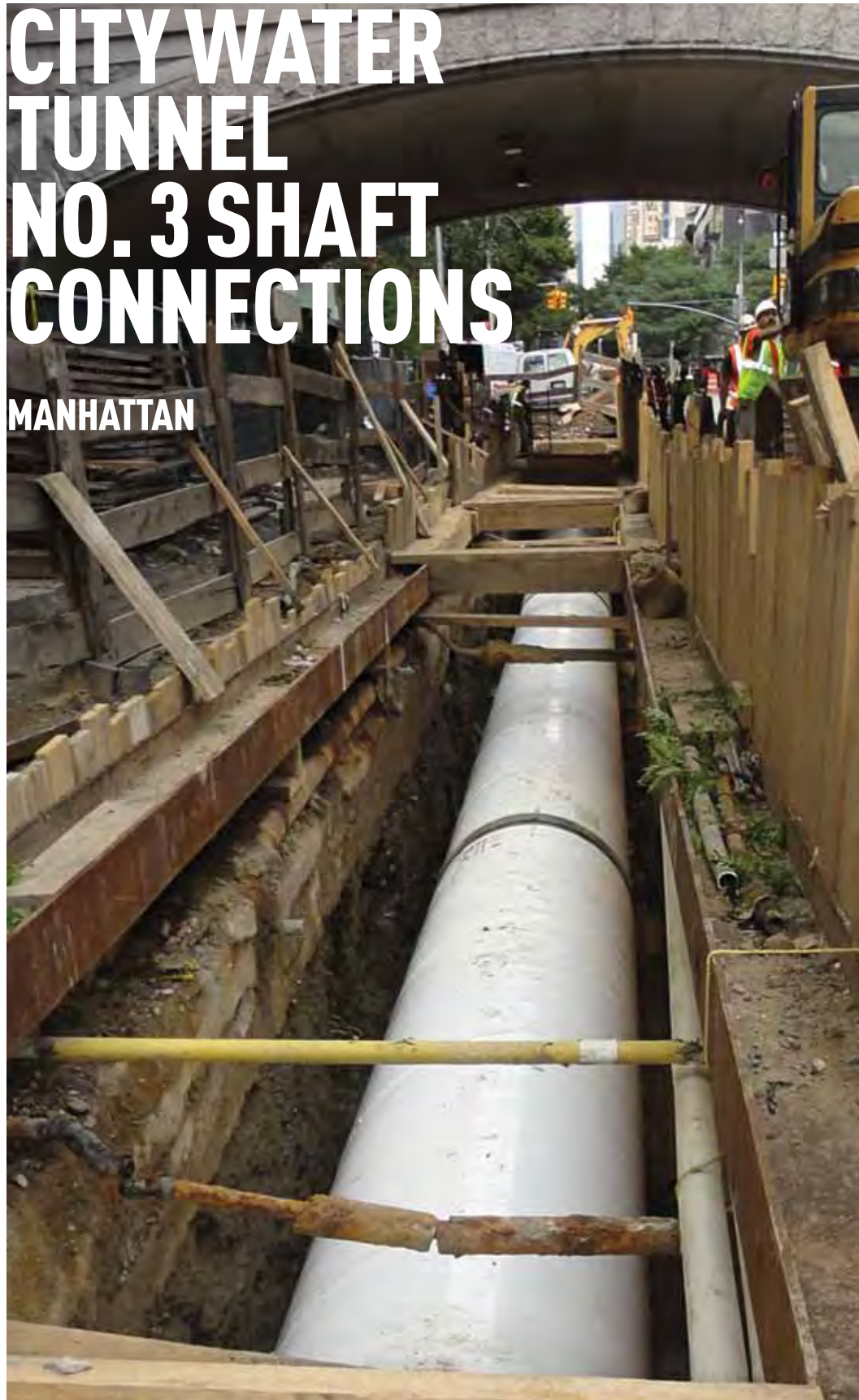
LIBERTY STREET, LOUISE NEVELSON PLAZA, MANHATTAN

The reconstruction of Liberty Street, between Nassau and Gold streets, rehabilitated the major infrastructure components both above and below ground. These improvements included new water and sewer mains, curbs, sidewalks, and roadway. Also, a large portion of the project involved the overhaul of Louise Nevelson Plaza. In addition to managing the restoration of Nevelson’s large-scale artwork, the plaza now features illuminated glass and stainless steel benches, new trees and planting beds.

AT LEFT: MADISON AVENUE PIPE RELINING PROJECT, MANHATTAN

CITY WATER TUNNEL NO. 3 SHAFT CONNECTIONS

MANHATTAN



The New York City water supply system provides approximately 1.2 billion gallons of drinking water daily to more than eight million residents. This water originates from as far away as 125 miles north and west of the City in three watersheds, comprised of 19 reservoirs and three controlled lakes, and covers a total area of almost 2,000 square miles.

The water flows through aqueducts to balancing reservoirs; to the City's main water tunnels; then into the City's approximately 7,000 miles of water mains, which deliver water to the service lines.

Until now, this water has been conveyed by two tunnels, No. 1 and No. 2. Both tunnels are

constructed deep within the bedrock of the City and are in need of rehabilitation. To facilitate the rehabilitation of these tunnels, the City is constructing City Water Tunnel No. 3. Currently, the City's Department of Environment Protection is digging shafts to connect the deep-set Tunnel No. 3 to the system of new water mains DDC is now installing to actually distribute the water from Tunnel No. 3 to the City's residents. The new water main installation work will include butterfly valves, chambers, flow meters, regulator valves, and distribution mains. In addition, new sewers, drainage facilities, sidewalks and roadways are also part of the project's scope of work.



AT LEFT AND ABOVE: 59TH STREET SHAFT
CONNECTION WATER MAIN WORK, MANHATTAN

BEST MANAGEMENT PRACTICES

STATEN ISLAND BLUEBELT



One of the most important sustainable strategies implemented for the Department of Environmental Protection by our Infrastructure Division is the management of stormwater runoff using natural landscapes. This concept, and the strategies required for implementation, are collectively called Best Management Practices (BMPs).

In much of New York City, stormwater runoff is eventually combined with the sanitary sewer system. When storms occur, this outflow can easily overwhelm the City's sewage systems causing erosion, pollution, and dangerous flooding. BMPs mitigate these extreme runoff conditions before they enter the sewer system, thereby protecting the rivers and oceans around New York from the negative influences of stormwater runoff.

One of the largest and finest examples of the use of BMPs is on the southern end of Staten Island, where drainage corridors that include streams, ponds, and marshes already exist. Here, DDC uses natural enhancements such as stilling basins, plantings, and swales to slow down and retain

stormwater. Instead of being sent into the already overworked stormwater runoff system, the runoff is held, filtered, and slowly released by rocks, sand, plants, and other natural devices.

The BMP mini-retention basins collect the water flow after a storm. Some water sinks into the earth, and some is held and naturally cleansed to be released after the storm flow passes. DEP, the City agency that initiated the BMP program, intends to reduce the storm flow by 10% in those areas where there is chronic overflow.

Staten Island's Bluebelt is a large scale system of BMPs. It has become a great example of a cost-effective stormwater management system for approximately one-third of the borough's land area. It avoids the construction of massive drainage culverts, which was standard practice in the past. It has the additional benefit of providing vast tracts of open space, as well as diverse habitats for native plants, aquatic animals, and migratory birds.



AT LEFT AND ABOVE: STATEN ISLAND BLUEBELT



CIRCLES

FREDERICK DOUGLASS CIRCLE DUKE ELLINGTON CIRCLE COLUMBUS CIRCLE

In recent years, DDC’s Infrastructure Division has been responsible for the construction of a number of public plazas, including those on traffic circles at three of the four corners of New York City’s Central Park.

FREDERICK DOUGLASS CIRCLE EIGHTH AVENUE AT 110TH STREET, MANHATTAN

Frederick Douglass Circle is dedicated to the great American orator and abolitionist. The circle is not only an aesthetically appealing monument, but is also a functional element of the landscape for the community. To this end, it was designed as a modified traffic circle with park-like features, providing a safe crossing and refuge area for pedestrians, with trees for shade and easily accessible seating areas.

The centerpiece of the project are two monuments: a 63-foot long “Constellation Wall,” a fountain in which LED’s glow in the pattern of the stars that guided escaping slaves, and a bronze statue of Frederick Douglass gazing north towards Harlem. The circle itself is clad almost entirely in granite, with raised elements for seating, decorative bollards, and paving stones laid out in quilt-like patterns. Each granite piece was custom made to fit and chosen to reflect the vision of the artists, Gabriel Koren (sculpture artist) and Algernon Miller (plaza and fountain wall artist).

Constructing a large and complex traffic circle in an already congested area carried some inherent challenges. Aboveground traffic flow, as well as pedestrian mobility and safety, had to be maintained throughout the project. Belowground, a dedicated mechanical room was built to accommodate the pumps and electrical components required for operation of the fountain wall. An additional challenge was the location of the project above a subway line, thereby limiting the available space below and requiring additional structural engineering considerations.

The City’s underground infrastructure was also upgraded, including new sewer and water mains. The project also included the addition of traffic

signals and street lighting elements, granite curbs, sidewalks, and trees. The entrance to Central Park on the southeast corner of the intersection was also reconstructed using similar granite components and was improved to allow safer pedestrian access by restricting vehicle travel.

DUKE ELLINGTON CIRCLE FIFTH AVENUE AT 110TH STREET, MANHATTAN

Duke Ellington Circle, formerly Frawley Circle, is named for the legendary jazz musician. The circle’s most prominent feature is a 25-foot statue of Duke Ellington and a grand piano supported by the Muses, designed by Robert Graham. In addition to the new plaza and sculpture, the project reconstructed a stretch of Fifth Avenue from 109th to 111th streets, including new water mains, roadway surfaces, curbs, and sidewalks.

COLUMBUS CIRCLE EIGHTH AVENUE AT CENTRAL PARK SOUTH, MANHATTAN

One of our most complex and remarkable public plazas is Columbus Circle. Located at the southwestern corner of Central Park, it is the point from which all official distances to and from New York City are measured.

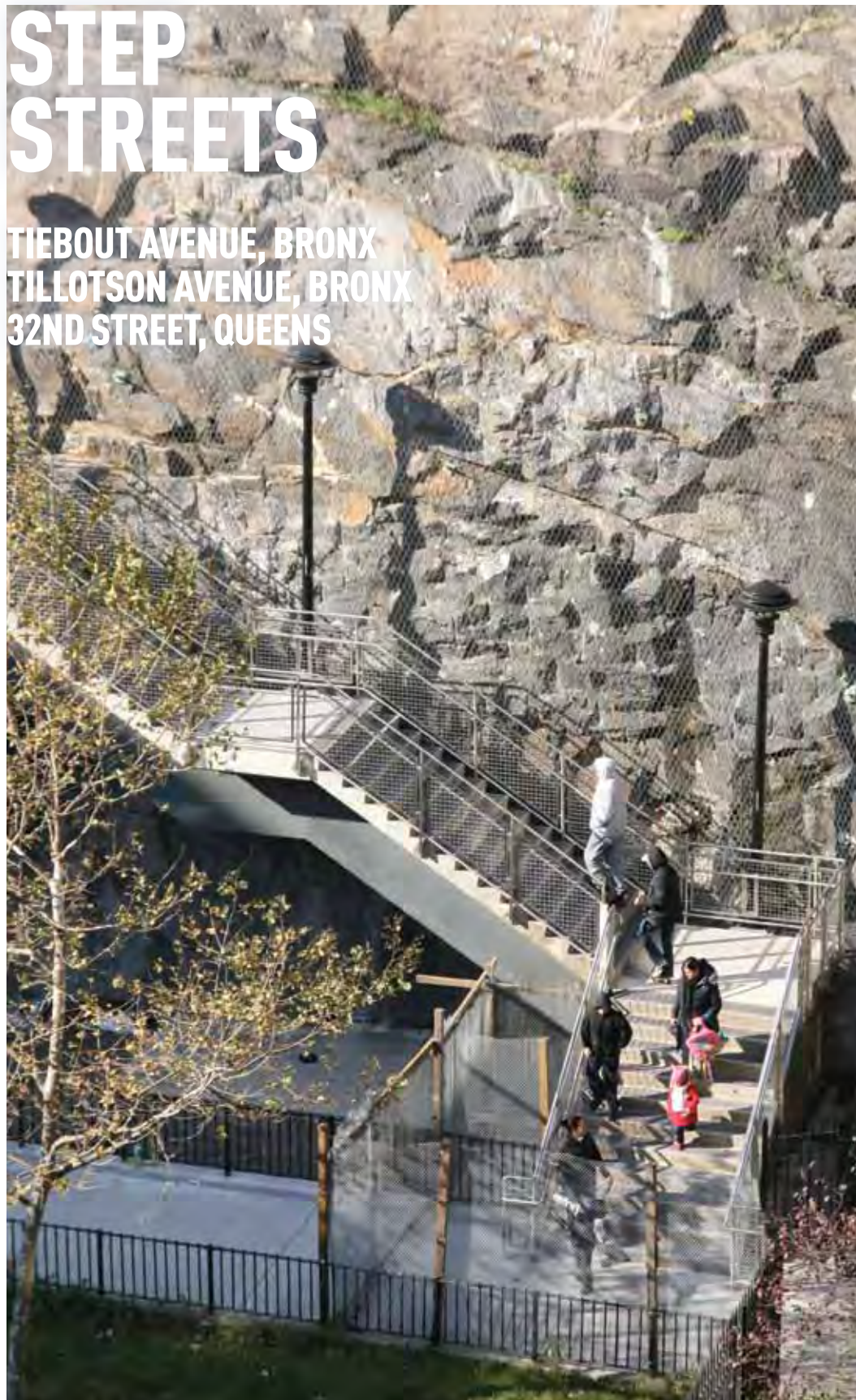
The stately marble statue of Christopher Columbus mounted atop a 70-foot high granite column overlooks the 36,000-square-foot plaza, which features granite pavers, three arc-shaped programmable fountains, integrated lighting, yellow buckeye and honey locust trees, flower beds, and new seating areas.

DDC not only managed the reconstruction of the plaza itself, according to the design of the Olin Partnership, but also substantially widened the plaza and adjacent sidewalks, improving traffic flow around the Circle. We also dealt with an immense network of sewer and water mains, two subway lines crossing each other beneath the site, and a complicated utility infrastructure. In completing the project, our project management staff coordinated the efforts of six other City agencies, the New York City Transit Authority, and several private companies as well.

AT LEFT: FREDERICK DOUGLASS CIRCLE, MANHATTAN

STEP STREETS

TIEBOUT AVENUE, BRONX
TILLOTSON AVENUE, BRONX
32ND STREET, QUEENS



The topography of New York City is unique in its diversity, range, and scale. From sea level to large rock formations, transporting people and vehicles presents many engineering challenges. There are more than 70 areas in the City in which steep grade changes require an unusual roadway type – a step street. Although step streets are exclusively for pedestrians, they are still mapped streets. The City’s Department of Transportation, working closely with DDC, is engaged in a program of assessing and upgrading these distinct passageways, the majority of which are in the Bronx. Step streets must be practical, safe, and well-designed. In addition, some step streets create an intimate, friendly setting.

TIEBOUT AVENUE STEP STREET AT 183RD STREET, BRONX

One of the most dramatic step streets is located at 183rd Street and Tiebout Avenue in the Bronx. Extremely tall concrete columns supported the original concrete steps and landings. The retaining walls and connecting sidewalks had deteriorated significantly and needed to be replaced.

But the topography here – a cliff with an extremely sharp incline – offered a significant challenge. An exploration of different alternatives showed that an unusual design would be the most cost effective. The contractors anchored a massive concrete abutment, which cantilevered into the air, into the facing of the cliff.

New lighting and stainless steel tube and mesh handrails make the step street safer and more attractive. In addition, the area at the bottom of the stair was extensively landscaped.

TILLOTSON AVENUE STEP STREET AT EAST 222ND STREET, BRONX

The incline and width of the site presented an opportunity to build a step street and ramp complex that, when viewed from above, is a pair of concrete walkways that intertwine like a double helix. One of the two walkways has steps; the other is an ADA-compliant ramp. These walkways are enhanced with railings and lighting.

The areas enclosed by the walkways have been built around boulders that were already on the site. These are set at the appropriate seating height to facilitate rest or conversation. Additionally, retaining walls on the outside of the walkways form terraces that have been planted with flowers, shrubs, and trees.

32ND STREET STEP STREET NEAR ASTORIA BOULEVARD, QUEENS

Another step street joins two dead end sections of 32nd Street near Astoria Boulevard North in Queens. This step street replaces a rock-strewn dirt path and outdated retaining wall.

For this project, the 10-foot grade difference and ample distance between the dead ends allowed the installation of a curved, ADA-compliant ramp along with the stairs. The ramp and landings were paved with hexagon-shaped granite pavers. A custom-designed steel handrail follows the stairs and curving ramp. The project included extensive plantings and special lighting. DDC also rebuilt the sewers underneath this step street as part of the construction process.



AT LEFT: TIEBOUT AVENUE STEP STREET, BRONX, ABOVE: TILLOTSON AVENUE STEP STREET, BRONX

PLAZAS

ASTOR PLACE PLAZA, MANHATTAN



ASTOR PLACE PLAZA ASTOR PLACE, MANHATTAN

In conjunction with the departments of Transportation and Environmental Protection, DDC is currently implementing a pedestrian improvement and water main replacement plan for the Astor Place area. The plan focuses on newly configured streets and plaza areas. With better sidewalks, curbs, and sustainable public space, the project will provide a true pedestrian environment and a coherent set of civic spaces in an area whose population and popularity has grown tremendously over the past decade.

The paving strategy will use tinted concrete with a staggered scoring pattern. This sidewalk plan, inspired by the materials of the historic Cooper Union Foundation building, provides a large space for pedestrians.

In addition to the creation of improved public spaces, the plan proposes a new design for Cooper Triangle Park. The design for the park expands the planting areas, improves pedestrian circulation, adds several entry points, and creates more walkable space by taking advantage of the narrowing of Cooper Square Street. The project area stretches southward to East 5th Street, northward to East 9th Street and is concentrated along the axis of Cooper

Square and Fourth Avenue. The neighborhood has recently experienced a construction boom that includes a new hotel and a new university building for Cooper Union.

Finally, the project will realize both the goals of PlaNYC 2030 and DDC's Sustainable Urban Site Design guidelines. The sustainable design approach centers on increasing the number and types of trees and the amount of plantings. Wherever possible, tree pits are used for biofiltration and street and sidewalk water runoff will be cleaned and allowed to percolate into the water table instead of flowing directly into the combined sewer system. All plaza and swale areas will have backup systems to prevent overflow and standing water. In addition, space will be provided for more than 100 new bike racks.

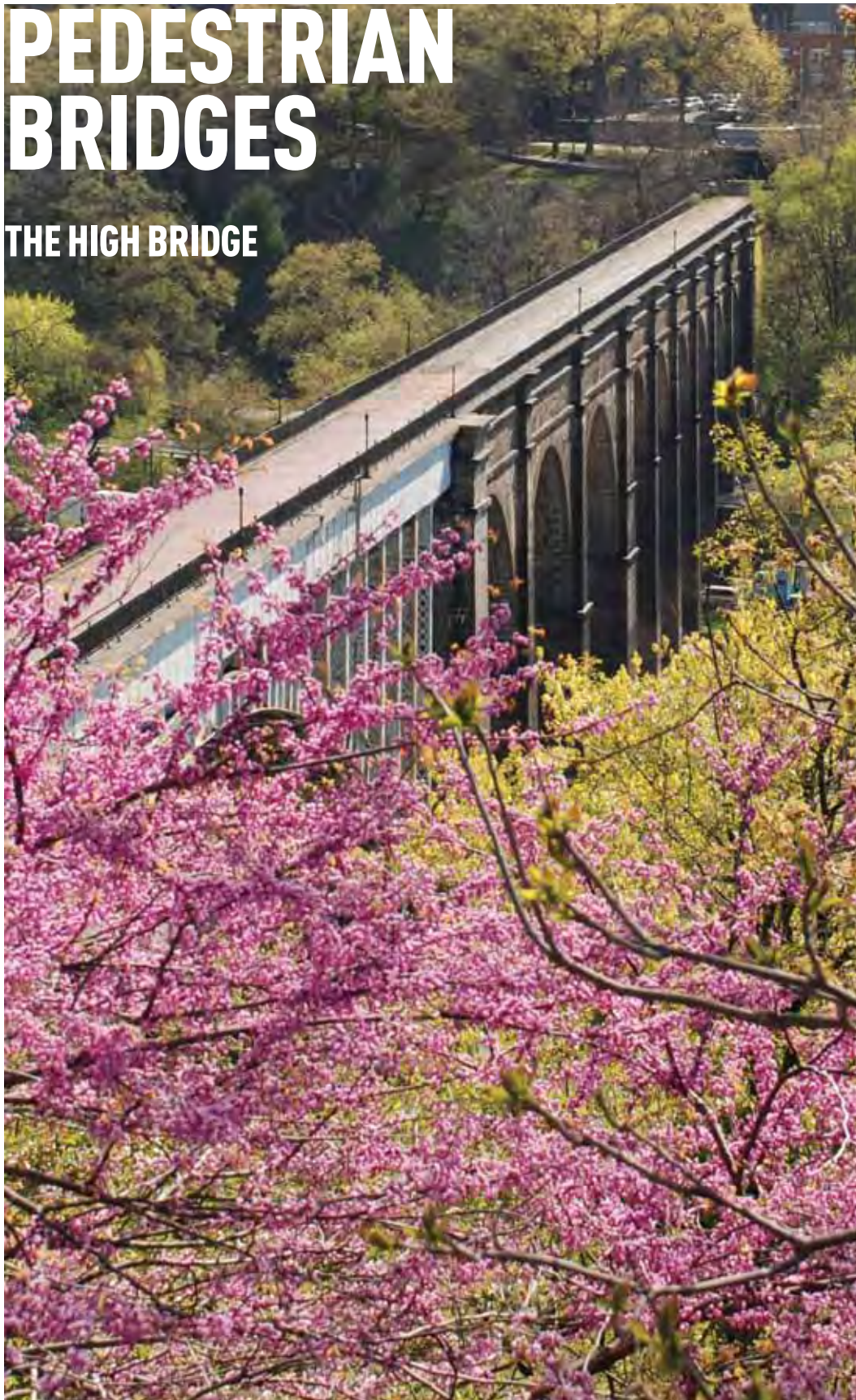
With DOT, we are working on other plazas throughout the City, including Roberto Clemente Plaza in the Bronx, Pershing Plaza in midtown Manhattan, and Times Square.



AT LEFT: ASTOR PLACE PLAZA, MANHATTAN
ABOVE RIGHT: TIMES SQUARE, MANHATTAN

PEDESTRIAN BRIDGES

THE HIGH BRIDGE



The High Bridge is a multiple-span arch bridge built in the late 19th century in the style of the Roman aqueducts. It is the oldest surviving bridge in New York City, and was built as part of the Croton Aqueduct that originally supplied the City with water.

This historic restoration project focuses on two important elements: safely opening the bridge once again to pedestrian and bicycle traffic between Manhattan and the Bronx, and informing visitors about the history of the bridge and the Croton Aqueduct. Since the bridge provides a connection between Highbridge Park, in Manhattan, and the Bronx, it has long been an unofficial passageway for Bronx children seeking shelter from the summer heat in the pool at the park. This rehabilitation will provide them, along with the thousands of other visitors to the bridge once it opens, with a beautiful, open space to traverse the two boroughs. Rehabilitating the bridge will encompass improvements for both safety and aesthetics. Safety improvements will include the installation of new structural support beams, replacing worn rivets and bearings, and the repair of masonry which still exists on parts of the bridge. Aesthetic improvements will include new architectural

and navigational lighting, the rehabilitation of the herringbone-patterned historic brick pavers, and new paint.

One of the most interesting elements of the project will be rehabilitating the “attic” space of the aqueduct. This space – enclosed directly beneath the walkway – provides a home for the now unused system of pipes that once brought water into the City. Although the pipes will remain out of service, they will be cleaned and painted so that visitors can explore the attic space and understand the original intent and importance of the bridge. DDC’s Office of Creative Services is designing bronze medallions and panels to be placed at intervals along the span of the bridge. These elements will illustrate the history of the High Bridge and the aqueduct.

The High Bridge rehabilitation will create a destination that is sensitive to the unique history, architecture and engineering of the High Bridge. Flanked on two both sides by greenways, it is part of Mayor Bloomberg’s PlaNYC initiative seeking to insure all residents have a park within 10 minutes of their home.

AT LEFT: THE HIGH BRIDGE

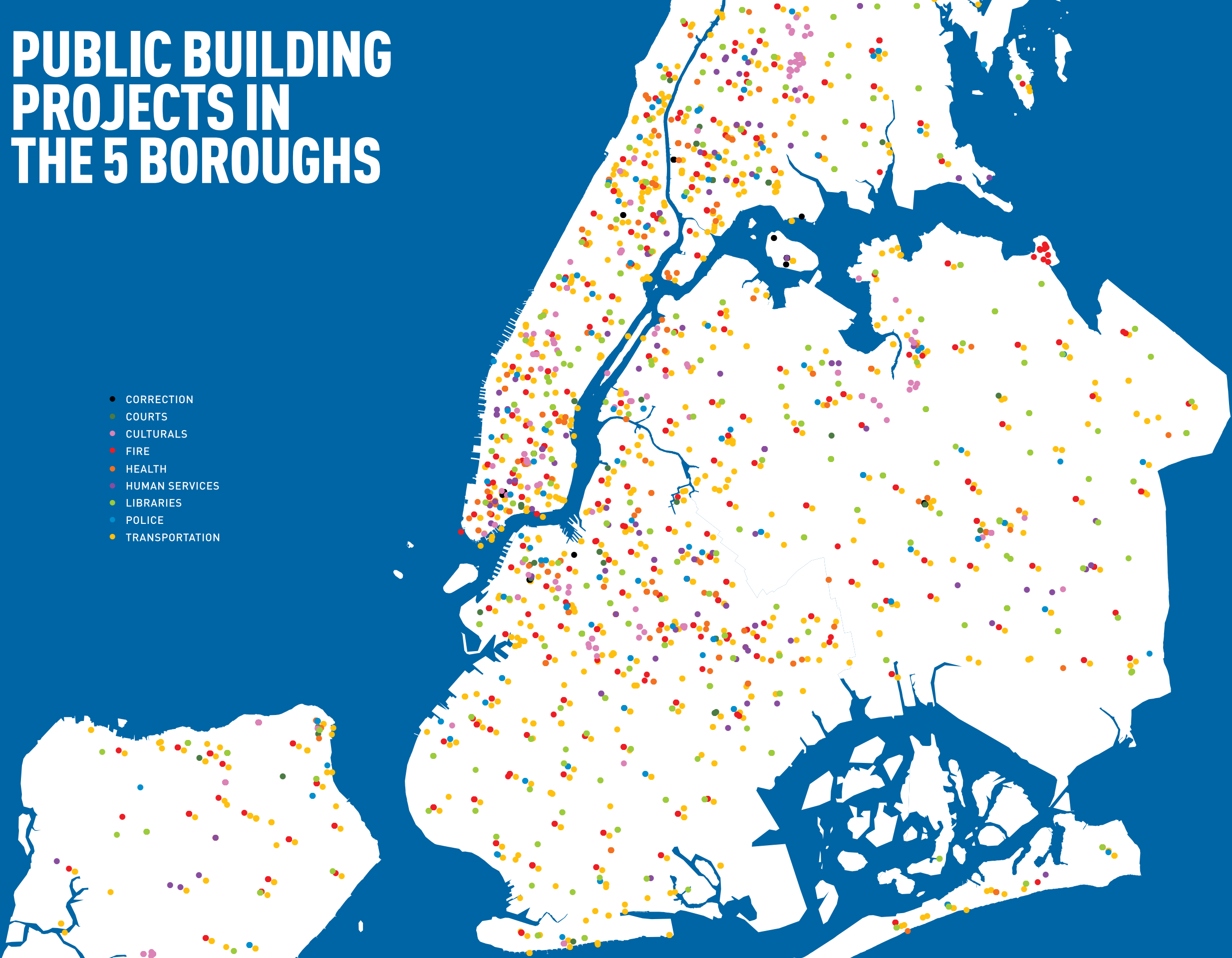
WE BUILD
THE CITY'S

PUBLIC BUILD- INGS

VISITOR AND ADMINISTRATION CENTER
QUEENS BOTANICAL GARDEN

PUBLIC BUILDING PROJECTS IN THE 5 BOROUGHES

- CORRECTION
- COURTS
- CULTURALS
- FIRE
- HEALTH
- HUMAN SERVICES
- LIBRARIES
- POLICE
- TRANSPORTATION



The 350 people of DDC's Public Buildings Division manage the design and construction for many of the City's civic projects. Some of these projects include facilities for public safety, libraries, cultural institutions, and health and human services.

In 2004, to improve the design of public buildings, we began implementing the Design + Construction Excellence program (D+CE), which is similar to the one used by the U.S. General Services Administration. D+CE uses Quality-Based Selection to pre-qualify architecture and engineering firms for City work based on design ability, experience, and staff. This allows us to select the most appropriate firm for each public building project. For small projects—less than \$15 million—firms with 10 or fewer employees

are considered. Firms with more than 10 employees are eligible for work between \$15-25 million. Separate RFP's are issued for larger projects over \$25 million. After firms are selected for a project, we appoint a Design Liaison, who will shepherd the project through the entire design and construction process.

The process for hiring construction contractors is not yet as flexible as that for hiring architects. But new tools, such as Building Information Modeling,

are beginning to change the way construction services are provided. In the future, contractors may be hired through the Quality-Based Selection processes.

Since DDC has a vast base of knowledge in designing many building types, our staff has the expertise to assist design firms who may

not have worked on a particular building type. Our experience is also helpful in technical areas—such as working with new materials, implementing energy saving technologies, or referencing construction methods. As new technologies develop, such as active phytoremediation, which uses plants to clean and condition the air, the number and complexity of our projects allow us to implement these technologies into the most appropriate projects.

**THE
BLOOMBERG
ADMINISTRATION
GAVE DDC
A MANDATE:
CREATE THE
HIGH QUALITY
BUILDINGS THAT
NEW YORK CITY
DESERVES.**

The depth of experience that our staff architects and engineers have accumulated is also crucial for inspecting materials and building sites before construction begins and for assessing progress. The staff of the Site Safety and Support Division calls these safety and quality assurance procedures 'Audits' to distinguish them from the routine inspections that are carried out by the City's Department of Buildings. We do a variety of types of testing at every stage.

**\$1.4
BILLION**

WORK COMPLETED FOR
CULTURAL ORGANIZATIONS

**\$511
MILLION**

WORK COMPLETED FOR NEW YORK
CITY'S THREE LIBRARY SYSTEMS

The work of our Public Buildings Division directly affects New York City citizens every day. Much of the work is neighborhood-based—small branch libraries, police precincts, and service centers that people rarely expect to be beautiful. Almost every neighborhood in the City has been enhanced by a DDC Public Buildings project.

303

PROJECTS COMPLETED
FOR THE FDNY

105

RENOVATIONS AND
UPGRADES FOR THE NYPD

For example, the grounds of the New York 1939 and 1964 world's fairs in Flushing Meadows-Corona Park are now home to three cultural institutions that are housed in buildings dramatically upgraded by DDC.

The stunning New York Hall of Science, which originally opened in the curvaceous blue glass

Science Pavilion designed by Wallace K. Harrison, was renovated and expanded with a handsome 55,000-square-foot addition by Ennead Architects. It is currently undergoing further renovation.

In addition, the Queens Theatre in the Park took over the open-air Theaterama and DDC hired Caples Jefferson Architects to create an enclosed addition, entrance, reception space and viewing platform in the complex of buildings and observatory towers that Philip Johnson built for the 1964 World's Fair. Their restrained but colorful design, completed in 2010, has won numerous awards and international acclaim.

Currently, Grimshaw Architects with Ammann & Whitney is working with DDC to expand the Queens Museum of Art, which was built within a building designed by Aymar Embury II for the 1939 World's Fair and used for the General Assembly of the United Nations in the 1940s. It was expanded by Robert Moses to house a 9,335-square-foot panorama at the 1964 World's Fair, and turned into an art museum in 1972. Grimshaw is renovating and enlarging a 1994 design by Rafael Viñoly, adding a skylit interior courtyard and new façade.

And just across the Van Wyck Expressway on a former World's Fair parkland reaching into dense, lively Flushing, there is a new Visitor and Administration Center for the Queens Botanical Garden designed by BSK Architects. This inviting building, with a large sheltering canopy perched on sloping columns, was named one of the American Institute of Architects' Top Ten Green Projects in 2008.

PUBLIC BUILDINGS

CHILDREN'S LIBRARY DISCOVERY CENTER



Bright red letters over the doorway invite kids to “Discover!” the collection of educational toys and books inside the light-filled Children’s Library Discovery Center, a new addition to the Queens Central Library. The outside walls of the addition are made of white glass, arranged in a lively irregular pattern so that the rooms inside glow and entice like shop windows.

The New York Times wrote, “Immaculate and all white, the place gave off the cheery, vaguely techno vibe of a Swatch shop on the Ginza.” Children can curl up on upholstered chairs, kneel on colorful pillows, sprawl on benches,

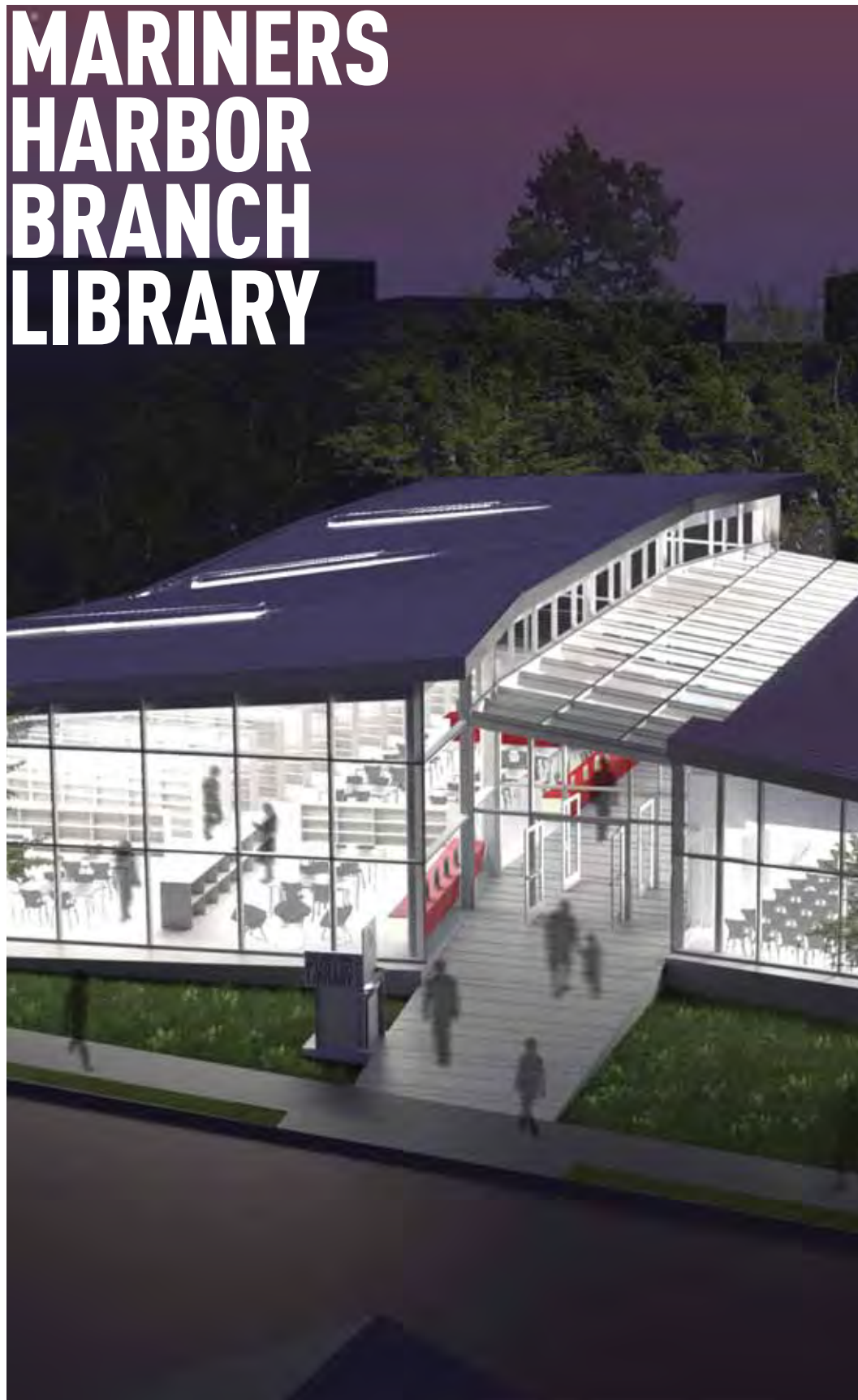
or settle into computer desks beside other children. Murals and mobiles engage the children, and brightly colored patterns on the floors entertain while providing a simple wayfinding system.

The library space is located two blocks from a subway stop near downtown Jamaica, making it accessible to many families and school groups. From a distance, its glass walls glow, suggesting something special happening is inside. Up close, the windows offer a glimpse of the variety of activities happening within.



89-11 MERRICK BOULEVARD, QUEENS
1100 ARCHITECT
LEE H. SKOLNICK ARCHITECTURE + DESIGN PARTNERSHIP
QUEENS LIBRARY

MARINERS HARBOR BRANCH LIBRARY



To design a library based upon the cultural and economic history of a particular neighborhood might seem like a simple way to integrate a new facility into its surroundings. But the trick to successful integration lies in the design: does it simultaneously hint at the past while presenting a productive design for the building's future? In the case of the Mariners Harbor Branch Library, the answer is yes.

The 10,000-square-foot facility, "reflects a fundamental shift in the architecture of libraries, which were foreboding and austere, to the more transparent, community-based architecture of today," says Commissioner Burney.

The inviting design for the new library focuses on two straightforward design elements. The first is the facility's central glass-enclosed entry corridor, which elegantly extends through the entire space, providing a practical way to separate the space: glass-enclosed community areas and offices are located on one side of the corridor, and stacks and reading spaces are located on the other.

Once known as a thriving oystering community, the neighborhood's history was the inspiration for the second design element. A shell-shaped grey metal envelope wraps around the central glass corridor. When viewed from the outside, the design takes on a cracked-open, shell-like appearance that respectfully nods to the neighborhood's past.

In addition to its striking design elements, the library will feature state-of-the-art resources and will provide the community with access to collections and programs for adults, young adults, and children.

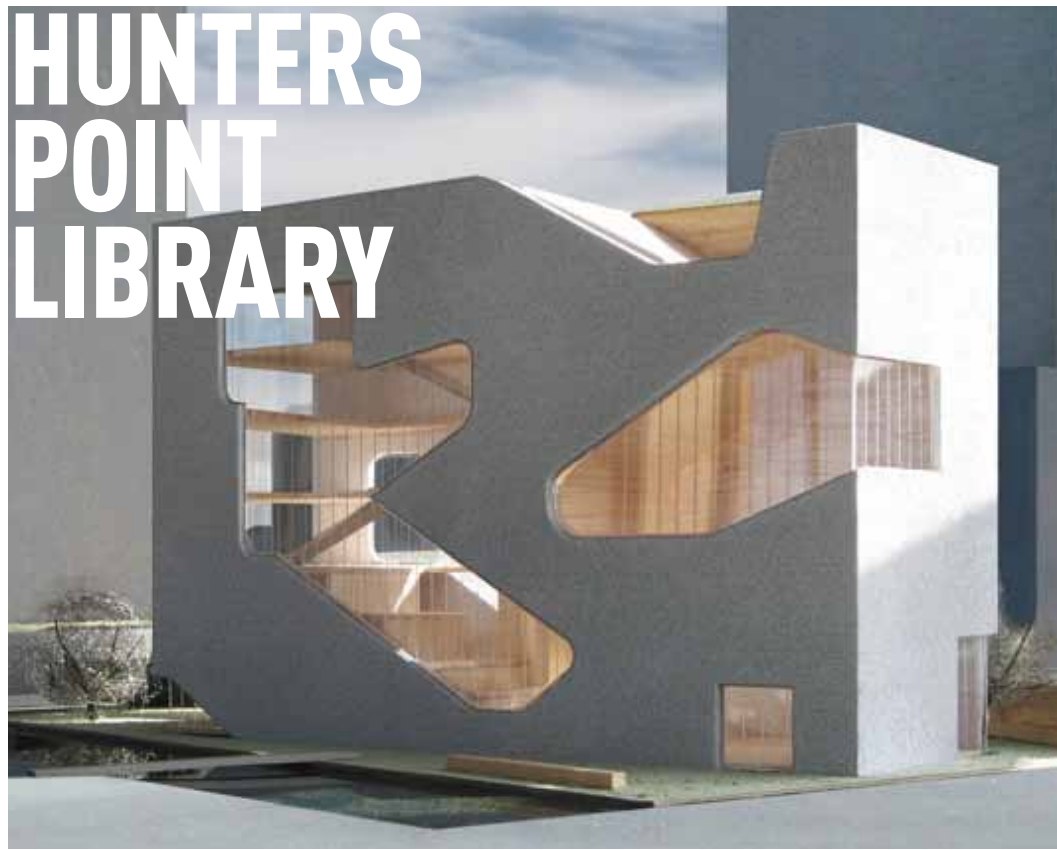
The branch, an Excellence in Design award winner from the Public Design Commission of the City of New York, will seek LEED certification.



206 SOUTH AVENUE, STATEN ISLAND
ATELIER PAGNAMENTA TORRIANI ARCHITECTS
PLANNERS, LLP
NEW YORK PUBLIC LIBRARY
ESTIMATED COMPLETION: 2012



HUNTERS POINT LIBRARY



The new library at Hunters Point, Queens, located on the banks of the East River, will be a welcome addition to the community. This branch will be the 63rd in the Queens Library System, the busiest library system in the United States.

“This library will be a beacon for the Queens Library system and a cultural center for this growing and dynamic neighborhood,” Commissioner Burney, told *ArchDaily*. The design firm, Steven Holl Architects, “delivers dramatic architecture and innovative responses to complex client needs, and has proven to be adept at creating iconic buildings that befit their site, culture, and history. This will be Steven Holl Architects’ first public New York City commission.”

“The building’s beguiling appearance — with giant free-form windows carved out of an 80-foot-tall rectangular façade of rough aluminum — should make it an instantly recognizable landmark,” wrote Nicolai Ouroussoff in *The New York Times*. “Seen from Manhattan, it will have a haunting presence on the waterfront. At dusk the library’s odd-shaped windows will emit an eerie glow, looking a bit like ghosts trapped inside a machine. And late at night, when the building is dark, spotlights will illuminate its pockmarked façade and the windows will resemble caves dug into the wall of a cliff.”



4-56 47TH ROAD, QUEENS
STEVEN HOLL ARCHITECTS
QUEENS LIBRARY
ESTIMATED COMPLETION: 2015

GLEN OAKS LIBRARY



Located between residential and commercial communities in Queens, this new, light-filled 18,000-square-foot library blends in while providing a transparent and welcoming presence. The public areas of the library include: circulation and information service; adult and young adult collections and seating; a children's area; and meeting rooms. The project also includes Janet Zweig's artwork titled *North of the North Pole 2011* which was commissioned through the City's Percent for Art program. This work is a moving light sculpture that poses unanswerable questions.

To meet the local zoning code, much of the building will be located below ground. Confronted with this challenge, the design firm prioritized the use of natural light in two ways: skylights from the plaza above and a two-story opening in the western

portion of the ground floor. The north face of the building will have clear glazing because of the softness and evenness of north light, while the western glazing will be translucent and insulated to protect against the heat and harshness of light from the west. Channel glass with embedded fiberglass insulation will form the upper west wall, and the lower glass wall will be screened by a graphic film with narrative text. Sunlight will project the word "SEARCH" in relief onto the north curtain wall, varying in scale and legibility depending on the time of day, weather and season. The abundance of natural light in the library's design will increase the building's energy efficiency and the well-being of the library's visitors.



256-04 UNION TURNPIKE, QUEENS
MARBLE FAIRBANKS ARCHITECTS
QUEENS LIBRARY
ESTIMATED COMPLETION: 2012

NEW YORK CITY POLICE ACADEMY



The biggest public building project in New York City — and the biggest DDC has ever undertaken — is a new Police Academy in eastern Queens, just north of Flushing and across the bay from LaGuardia Airport.

The 720,000-square-foot first phase of the Academy is the initial step in creating a 2,440,000-square-foot complex on a 35-acre site that formerly housed a police automobile pound. The intention is to provide the best police training facilities in the world for the country's largest police force.

The new complex is designed to serve 1,980 recruits, as well as civilians, active duty officers, and visiting police officers. It consists of a 370,000-square-foot main instructional building with classrooms, offices, locker rooms, auditoriums, and training environments designed to simulate the kinds of conditions officers face on the beat. There will also be a 210,000-square-foot physical training building with gymnasias, tactical training classrooms, and a training pool. Included in the project is an outdoor muster deck to hold an entire class of recruits, as well as a running track, parking lot, and utility plant with chillers and boilers. The project also features Erwin Redel's artwork *Diamond Matrix*, 2012,

commissioned through the City's Percent for Art program. The basic element of the installation are hundreds of translucent light pixels that form a three-dimensional diamond grid.

Subsequent phases will include an indoor firing range, and a 450,000-square-foot tactical village. The campus' sustainable features include rainwater harvesting and on-site reuse, biofiltration of stormwater runoff; energy efficient lighting, green and cool roofs, and a high-performance building envelope. The project is seeking a LEED Silver rating. The design team is also using Building Information Modeling technology on the project. More information on BIM can be found on page 91.

The architect, Perkins + Will, says that the project will "serve as a model for law enforcement agencies around the world, in a built-to-suit academy that appropriately reflects the strength and dignity of the NYPD."



COLLEGE POINT, QUEENS
PERKINS + WILL WITH MICHAEL FIELDMAN
ARCHITECTS
NEW YORK CITY POLICE DEPARTMENT
ESTIMATED COMPLETION: 2013

PUBLIC SAFETY ANSWERING CENTER II



The 550,000-square-foot Public Safety Answering Center II (PSAC II) will be a second emergency communications 911 call intake and dispatch center for the City's first responders, including the NYPD, FDNY and the Emergency Medical Services. The new building will act as a parallel operation to the existing PSAC I in downtown Brooklyn and will augment and provide redundancy to the current emergency 911 response service. It will also house centralized command control centers for the FDNY and NYPD to coordinate citywide emergency responses.

Major program components of the new facility will include accommodation for more than 300 call-takers and dispatchers, as well as additional training and administration areas. Sustainable features will include drought-resistant landscaping, which leads to a reduction in potable water use for site irrigation, low-flow fixtures and stormwater collection, which will conserve potable water use throughout the entire building. In addition, the building will utilize the Center for Architecture Science and Ecology's Active Phytoremediation Wall System (shown below left) to cleanse and condition the air.



350 MARCONI STREET, BRONX
SKIDMORE, OWINGS & MERRILL, LLP
NEW YORK CITY POLICE DEPARTMENT
FIRE DEPARTMENT OF NEW YORK
DEPARTMENT OF INFORMATION TECHNOLOGY
AND TELECOMMUNICATIONS
ESTIMATED COMPLETION: 2015

CENTRAL PARK POLICE PRECINCT



The renovated Central Park Police Precinct, sensitively integrated with a former Victorian-era stable, has become an elegant, functional precinct housing 120 personnel. It is accessible to visitors by a stairway near the northwestern edge of the Metropolitan Museum of Art.

The original building was built in 1871 and used as a horse stable. It was converted into a police precinct in 1936. In the intervening years, however, the precinct began to deteriorate. Once DDC's current renovation began, the NYPD relocated to a temporary precinct and DDC began saving these distinctive buildings and adapting them to the needs of a modern police force.

The Wall Street Journal commented on the station's delightful Victorian "Gothic cottage details — sand-stone walls, slate covered and copper-clad roof, arches, and dormer windows," explaining that DDC and "the Landmarks Preservation Commission did extensive studies to make absolutely certain that the roof of the one-and-a-half-story structure did not intrude on the sight lines of the park. Perhaps

the most remarkable aspect of the design is that its south flank, including the Captain's office and the muster room where the officers assemble each morning and afternoon for their marching orders, incorporates the monumental walls of dark Manhattan schist that line the rest of the Park's 86th Street transverse. They were also the original walls of a rectangular park reservoir that was removed in the early 20th century to make way for what is now the Great Lawn."

The building is both a national and New York City landmark. The original building was designed by Jacob Wrey Mould, an architect who assisted the designers of Central Park, Frederick Law Olmsted and Calvert Vaux. The project was the recipient of the Lucy G. Moses Preservation Award in 2012.

Karlsberger, the design firm, created an interior courtyard by erecting a gently curving metal canopy over the two former horse stables. This newly formed courtyard serves as a new lobby enclosed by a bullet-resistant glass façade.



86TH STREET AND TRANSVERSE ROAD, MANHATTAN
KARLSBERGER ARCHITECTURE
NEW YORK CITY POLICE DEPARTMENT

121ST POLICE PRECINCT



Staten Island's newest police precinct will serve the borough's rapidly growing population, cut response times, and relieve the workloads on two nearby precinct stations.

The dramatic 49,000-square-foot facility consists of two distinct building shapes. A curved two-story linear bar with horizontally striped stainless steel cladding gently bends as it approaches Richmond Avenue. A small separate building, parallel to the street and sheathed in gray brick, shields the residential neighborhood to the north from the police parking lot to the south. The 90-foot cantilevered second floor of the curved, rising

building creates a canopy over the entrance's wide concrete steps. Outdoor mechanical services are concealed within the form, hidden by an enclosure clad in the same stainless steel. The precinct has substantial work areas, holding cells, on-site outdoor parking, and its own vehicle fueling station. Site-related energy conservation elements include stormwater management, bio-retention areas and drought-resistant landscaping.

It is the first police precinct in the City to seek a LEED Silver rating.



970 RICHMOND AVENUE, STATEN ISLAND
RAFAEL VIÑOLY ARCHITECTS
NEW YORK CITY POLICE DEPARTMENT
ESTIMATED COMPLETION: 2012

RESCUE COMPANY 3



For more than a decade, DDC's Public Buildings Division has been instrumental in creating designs for a number of new and updated firehouses and emergency response stations throughout the City.

Rescue Company 3, in the Bathgate section of the Bronx, was designed to accommodate one of the most highly specialized FDNY units in the City. Its teams deal with extraordinary emergencies—a helicopter landing in the Hudson, a building collapse, citizens trapped on a ledge or pinned under a car. Their new 20,000-square-foot station house is a colorful addition to an area where residential and industrial buildings coincide. A gray masonry base anchors a taller, lighter steel structure with a folded zinc roof

and bright red doors. These doors open into the two-story bay that houses three vehicles: the Rescue Rig, Structural Collapse Utility Truck, and the Recuperation and Care Unit. DDC and the design firm conceived the building as a giant toolbox, since a rescue team's apparatus (i.e. a fire truck) is a toolbox on wheels complete with diamond-bladed saws, pneumatic jacks, climbing rigs, shoring implements, and scuba gear. Work and material storage areas are on the ground and basement levels. Offices, study and dining areas, and dormitories are on the second floor. Training and fitness take place on the mezzanine, and a training tower runs through the three levels and the roof, connecting them physically and visually.



1655 WASHINGTON AVENUE, BRONX
ENNEAD ARCHITECTS
FIRE DEPARTMENT OF NEW YORK

EMS 27



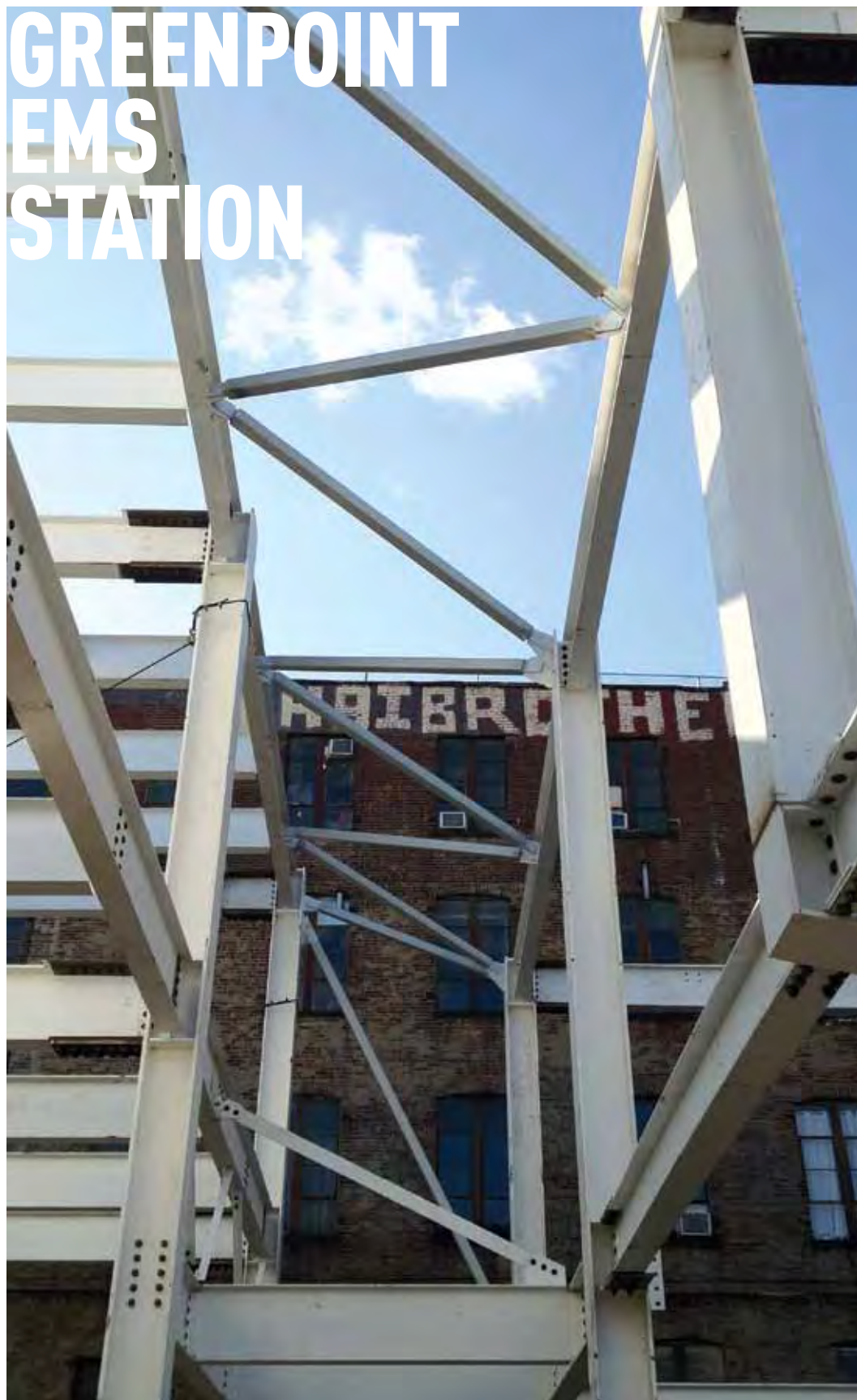
EMS 27 is a state-of-the-art facility for six ambulance crews serving the Woodlawn, Riverdale and Kingsbridge sections of the Bronx. The new building, perched at the summit of East 233rd Street, sits between an industrial corridor, Woodlawn Cemetery, and a residential neighborhood. The exterior of the building features zinc cladding opening with vertical louvers to admit light and views. The interior features a mezzanine with offices and personnel areas overlooking the double-height apparatus floor for three ambulances and storage. Carving through and connecting the interior spaces is an intertwining color-coded staircase. The 11,200-square-foot

station also has two new high-tech devices — an automatic fire door that closes off the living space and limits smoke infiltration if it is detected on the apparatus floor, and a security system with hand recognition. The building will allow for increased training and quicker decontamination of EMS members, as well as faster response times to the North Bronx.



243 EAST 233RD STREET, BRONX
WXY ARCHITECTURE + URBAN DESIGN
FIRE DEPARTMENT OF NEW YORK

GREENPOINT EMS STATION



The Greenpoint EMS station will be a contemporary two-story, 12,400-square-foot building, designed to accommodate four ambulances. The new station will have a vehicle support zone, personal protective equipment storage area, and administrative areas. The facility also will contain lockers and restrooms for the women and men who will work there. There will be a training room, a kitchen, and a lounge area featuring a 90-foot long translucent glass wall that appears to float above the ground floor. The building will be brightly lit at night, creating a strong street presence.



332 METROPOLITAN AVENUE, BROOKLYN
MICHIELLI + WYETZNER ARCHITECTS
FIRE DEPARTMENT OF NEW YORK
ESTIMATED COMPLETION: 2013

WEEKSVILLE HERITAGE CENTER



The new Heritage Center will provide a contemporary framework and educational facility for one of the first free African American communities in the United States.

In 1838, James Weeks, a former slave, bought land on the eastern edge of the settled areas of Brooklyn and established the village of Weeksville. Here, free African Americans lived and worked throughout the 19th and early 20th centuries. The new L-shaped structure, at the corner of St. Marks and Buffalo avenues, opens with a 50-foot-wide portal leading to an old Indian trail that preceded the village. African patterns weave throughout the project, appearing in the fence posts and the braiding patterns in the stone and paving joints.

The project also features Chakaia Booker's *Sugar in My Bowl II*, commissioned through the City's Percent for Art program. It consists of cut and assembled non-biased rubber tires applied over a stainless steel frame. Booker is known for her dynamic, whimsical sculptures that fuse ecological concerns with questions about racial and economic differences.

The project received an Excellence in Design Award from the Public Design Commission of the City of New York.



1698 BERGEN STREET, BROOKLYN
CAPLES JEFFERSON ARCHITECTS PC
DEPARTMENT OF CULTURAL AFFAIRS
ESTIMATED COMPLETION: 2012

THE BRONX ZOO LION HOUSE

MADAGASCAR! EXHIBIT



DDC transformed the 20,000-square-foot Beaux Arts Lion House into a sustainable 43,000-square-foot showcase for wildlife and native plants from Madagascar. The main exhibition hall is now a multi-purpose space opening into a landscaped exterior garden and terrace. The Lion House is situated in Astor Court, a group of six classical, orange brick and stone buildings, trimmed with terra-cotta animal reliefs, designed by Heins & LaFarge in 1900. When the Lion House first opened — with its skylights, barless mesh cages, pneumatic pumps, elevator, pulleys, and underground floor-mounted tracks for transporting cages — *The New York Times* called it “the finest building in the world to be erected for such a purpose.” Now — with its adjustable skylights, greywater recycling system, low-flow fixtures, and geothermal wells — it is a model of environmental sustainability. The architects added 4,800 square feet of new exhibit space, 6,700 square feet of plant and animal

support space, 3,500 square feet of event space, and 6,700 square feet of mechanical space — all within the existing footprint. They excavated four feet beneath the cellar, expanded space under the terrace, stabilized the foundation, and added steel beams to shore up the structure. The mechanical systems and supports were designed to disappear. Structural columns and duct work are disguised as trees. Sprinklers are integrated into acoustic panels. The geothermal system eliminates the need for an obtrusive cooling tower. The Lion House received a LEED Gold rating. It also received an American Institute of Architects’ New York State Award of Merit for Adaptive Reuse, the Municipal Art Society of New York’s MASTerwork Award for Best Restoration, and a City of New York/US EPA Green Building Design Award.



BRONX ZOO
FXFOWLE
DEPARTMENT OF CULTURAL AFFAIRS

QUEENS BOTANICAL GARDEN

VISITOR AND ADMINISTRATION CENTER



The new Visitor and Administration Center of the Queens Botanical Garden was named one of the American Institute of Architects' Top Ten Green Projects in 2008. This handsome facility features a large sheltering canopy perched on sloping columns. The 15,800-square-foot building includes gallery space, meeting rooms, public restrooms, offices, and an auditorium with a planted green roof. The outside of this steel and concrete structure is covered with horizontal cedar slats. During summer, these slats shade the interior; during winter, light passes through to warm the rooms inside. The building also has solar panels that generate approximately 17% of its electricity and

a geothermal heating and cooling system. One of its two water recycling systems uses rainwater to fill a stream and fountain; the other cleans greywater from the facility's sinks and dishwashers.

The project achieved LEED Platinum certification, the highest possible rating, from the U.S. Green Building Council. It also received the Green Building Design Competition Award from the NYC Department of Environmental Protection and the U.S. Environmental Protection Agency.



43-50 MAIN STREET, QUEENS
BKSJ ARCHITECTS LLP
DEPARTMENT OF CULTURAL AFFAIRS

STATEN ISLAND ANIMAL CARE CENTER



DDC has designed an attractive, light-filled animal shelter for the Staten Island Animal Care Center. The 5,500-square-foot building's gold anodized aluminum frame is sheathed in insulating, translucent polycarbonate paneling. This paneling allows light to permeate the space during the day and produces a soft glow at night. Under a gold entrance canopy, kittens can be seen at play while additional holding areas line the back of the room.

Animals are housed around the building's interior perimeter, while the administrative functions of the building are located more centrally. The building's exterior materials allow sunlight into the building from all directions

throughout the day. The modern building, surrounded by lawns filled with wildflowers that do not need to be watered, is situated to capture natural breezes and maximize light. Dog runs surround the exterior of the building, which is shaded from strong winds by trees.

The building is designed as a low-budget, sustainable space, for which DDC is seeking a LEED Silver rating. Its translucent tongue-and-groove polycarbonate skin insulates better than glass, and its durable, locally produced materials should minimize long-term maintenance costs.



3139 VETERANS ROAD WEST, STATEN ISLAND
GARRISON ARCHITECTS
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
ANIMAL CARE & CONTROL OF NEW YORK CITY
ESTIMATED COMPLETION: 2013

DHS PATH FAMILY CENTER



This sleek, striped, homeless services center rises from its angular site, its terra cotta paneling relating to nearby apartment buildings on the Grand Concourse and its zinc and metal trim echoing the industrial aesthetic of an adjacent manufacturing area. An entry ramp, sheltered by a canopy, welcomes homeless families arriving for assistance. The families enter bright spaces with views all around.

When *Bloomberg News* Architecture Critic James Russell first saw it, he wrote, “Walking down a quiet, leafy street in the Bronx, I come upon a wedge-shaped, seven-story building patterned in a vibrant mix of oranges, reds and grays. I tried to imagine the scene only a few years earlier: Unable to fit into the dilapidated facility, a crowd of homeless mothers and children milled in the street.” Now there was a beacon of hope. The architects had “designed a simple box, but window dividers bump up and down and terra-cotta strips

shade some of the glass. This richly textured surface invigorates a building that could so easily have been a bureaucratic fortress.”

In the new facility, windows provide abundant natural light in client waiting areas and interview rooms, as well as in staff work areas. There is even art: *City Windows*, a series of fifteen works of enamel on cut film and rice paper laminated in glass (pictured below left) by Brooklyn-based artist Lane Twitchell. The art was commissioned as part of the City’s Percent for Art program.

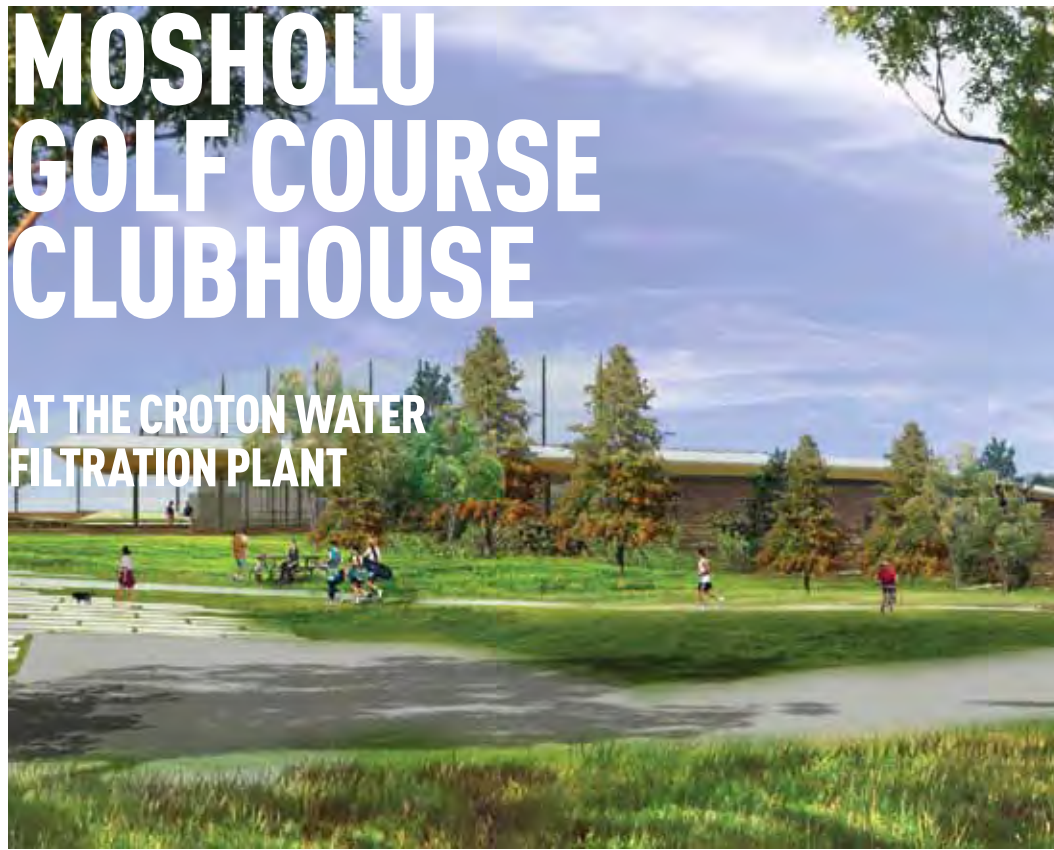
As in other DDC projects, sustainable features are state of the art: a green roof, rainwater collection, a rainscreen façade system, and materials with recycled content are just a few of the project’s sustainable elements.



151 EAST 151ST STREET, BRONX
ENNEAD ARCHITECTS
DEPARTMENT OF HOMELESS SERVICES

MOSHOLU GOLF COURSE CLUBHOUSE

AT THE CROTON WATER
FILTRATION PLANT



The new 16,000-square-foot Mosholu Golf Course Clubhouse, together with a new driving range and new landscaping, comprise the final component of the Department of Environmental Protection's Croton Water Treatment Plant project. DDC is responsible for the landscaping and the aboveground buildings of the project. The underground filtration plant, built by the Department of Environmental Protection, will be the first of its kind in New York City, and one of the largest in the nation. The filtration plant, extending six stories underground, will be topped by the country's largest green roof, which also serves as the new driving range for the golf course.

DDC's work consists of a new state-of-the-art clubhouse with a pro shop, tee boxes, learning center and space for community use, and the design of the surrounding landscaping. The Clubhouse and landscape will include a large amount of regionally quarried stone that evokes the dams, aqueducts, and reservoirs of the Croton Watershed area

of New York. The Clubhouse's green roof, aided by the natural, curved profile of the building, will blend together landscape and structure.

Since the belowground function of this site is focused entirely on water cleansing, the design and site planning of the Clubhouse and driving range also take into consideration the movement, cleansing, and reuse of stormwater runoff. From the high-point of the driving range, runoff will be collected and cleansed, cascading down through a series of planted pools that ring the buried filtration facility. The cleansed water will be stored and used to irrigate the range and for Clubhouse maintenance. This runoff flows naturally, led by gravity, without the use of pumps, pipes or valves, into moats. It is a multifunctional design strategy that provides habitat, park restoration, visual enhancement and security.



VAN CORTLANDT PARK, BRONX
GRIMSHAW ARCHITECTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ESTIMATED COMPLETION: 2014

CITY HALL



City Hall, completed in 1812, is one of our nation's oldest city halls and houses the offices of the Mayor and City Council. It was designed by architects John McComb, Jr., and Joseph Francois Mangin.

The building and its surroundings are historically significant. The landmark federal-style building houses an important collection of American portraits of U.S. Presidents, military heroes, New York State governors and New York City mayors. In addition, City Hall and City Hall Park are significant archaeological sites in Lower Manhattan, with recently found artifacts (pictured below right) documenting centuries of New York City's growth and development.

The current project is the first to rehabilitate the infrastructure of City Hall in a cohesive

manner. It will upgrade fire and safety systems, improve accessibility to persons with disabilities, and has already repaired the deteriorated condition of the City Council Chamber (opposite). The renovation also will upgrade electrical service and replace outdated mechanical equipment with new, energy efficient systems.

Work will also include the addition of a cellar underneath the existing basement and a new electrical vault. The current project has enabled City Hall to comply with the latest New York City Electrical Code and has also added sustainable features, such as photovoltaic cells, for energy use.



CITY HALL PARK, MANHATTAN
BEYER BLINDER BELLE ARCHITECTS AND
PLANNERS LLP
OFFICE OF THE MAYOR

1/2/5 GARAGE AND SALT SHED



Storage facilities are usually considered an unsightly necessity in urban environments. Their practical uses often result in mundane design ideas with a focus on function over form.

The design for the new 1/2/5 Garage (opposite), however, stays mindful of the more traditional, box-like shapes of vehicular storage spaces while providing a contemporary exterior composed of vertical metal fins. These fins visually lighten the building's shape and provide a semi-transparency that eases the building into the neighborhood. The vertical metal fins will also mitigate sunlight, potentially reducing energy costs.

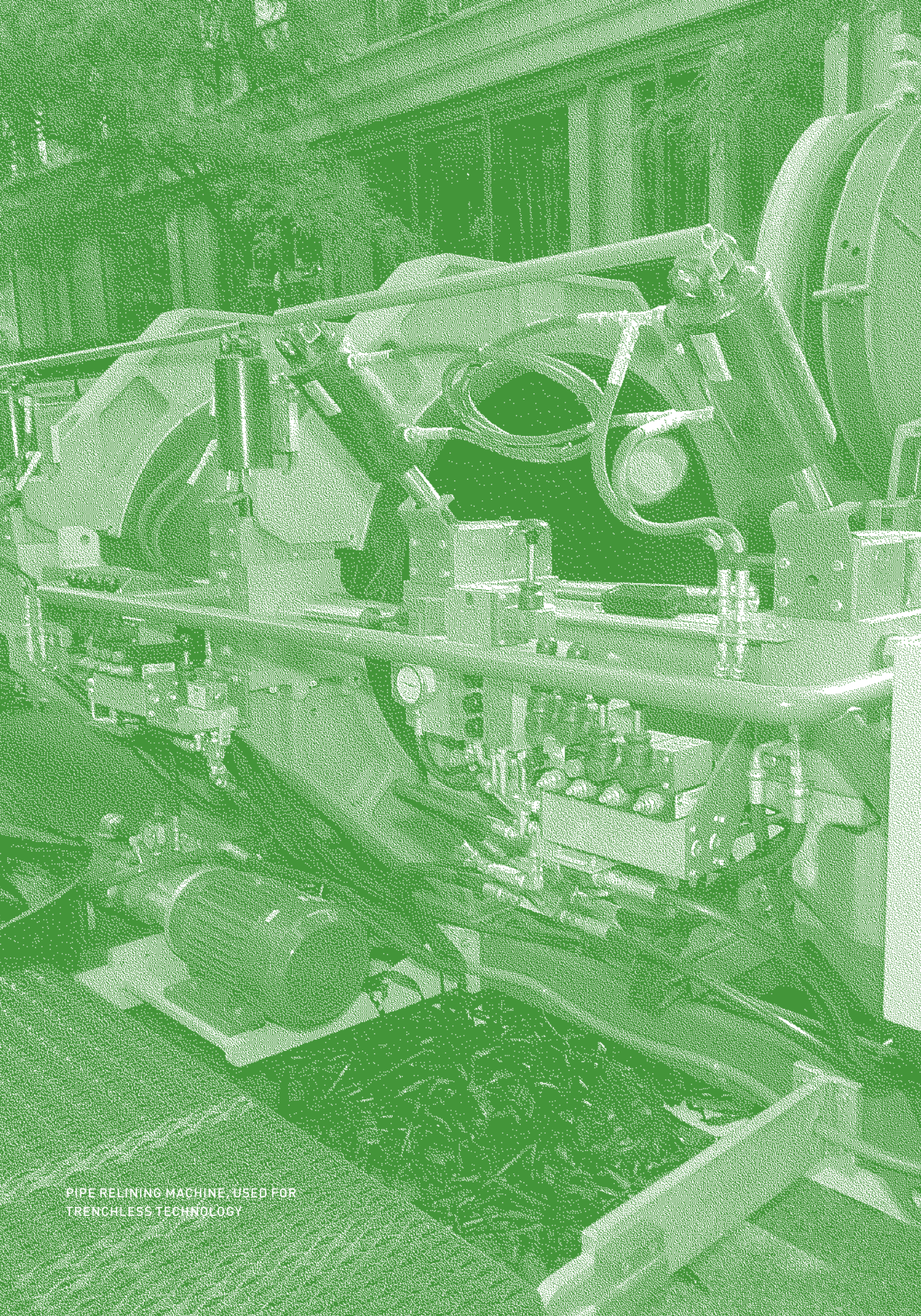
Another sustainable design element, the creation of a green roof, helps to improve views from neighboring buildings and will harvest rainwater, which will be held in a cistern and used to wash vehicles. The project is designed to achieve a LEED Silver rating.

An additional storage facility, the Spring Street Salt Shed (below), sits adjacent to the 1/2/5 Garage and is designed with the same uncomplicated ease. The shed, which unfolds in crisp, angular planes, resembles an unstructured, origami-like form. It is designed to house more than 4,000 tons of salt.



INTERSECTION OF SPRING AND WEST STREETS,
MANHATTAN
DATTNER ARCHITECTS
DEPARTMENT OF SANITATION

INNOVATION & COLLABORATION



PIPE RELINING MACHINE, USED FOR
TRENCHLESS TECHNOLOGY

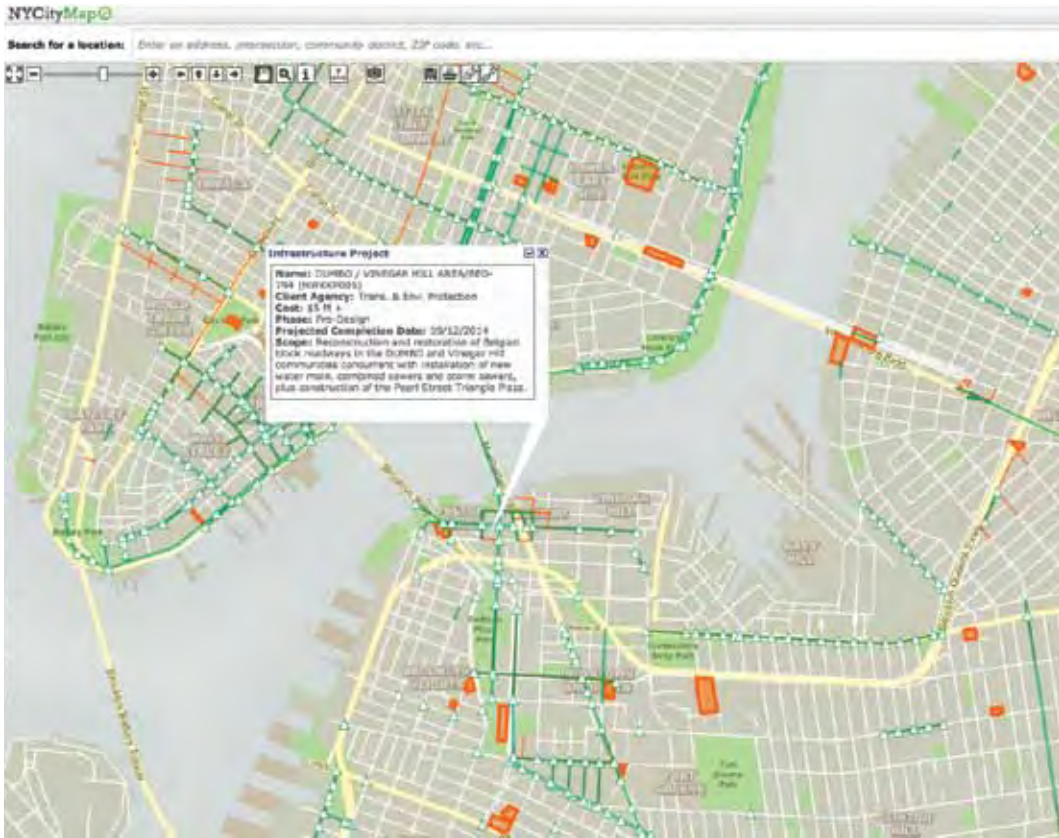


SAFETY AND SITE SUPPORT

DDC’s Safety and Site Support Division does everything from on-site safety and quality-assurance inspections to rapidly responding to emergency hazardous materials cleanups. This team also maintains and updates the City’s extensive archive of maps and surveys. They also create much of the data that is used for the NYCMap.

Safety and Site Support often takes on special assignments. For example, surveyors use the Continuous Operating Reference System (CORS) to locate the position of their surveying instruments. The nearest CORS station was too far away from New York City for DDC to be

satisfied with its accuracy. Through a research and development initiative, Safety and Site Support installed a ring of five fixed-base CORS stations at five Department of Environmental Protection water treatment plants around the perimeter of the City. These five stations allow DDC to have at least three GPS reference points for any measurement taken in the five boroughs. Accuracy is now down to one-eighth of an inch.



INFORMATION TECHNOLOGY SERVICES

DDC’s Information Technology Services (ITS) division has implemented innovations in the fields of integrated workflow management, geographic information systems, computer-aided design and Internet collaborative platforms. For example, ITS was heavily involved in the multi-agency release of NYCMap (pictured above), which is linked through the DDC website. NYCMap provides a visual foundation for plotting and analyzing data pertaining to New York City. Users of the map can turn layers of information on or off as needed when searching for DDC projects in their area – both street construction and public building projects are plotted and updated regularly. Users

of NYCMap also can filter data to find a wealth of information on City programs and services, public safety facilities, cultural institutions, and “City Life,” which includes locations of public pools, recreation centers and Internet wireless hotspots. ITS also establishes technology standards for the electronic exchange of data, provides web-based collaborative environments that can be leveraged by consultants, and partners with information technology leaders from other City agencies and the private sector.



SUSTAINABLE DESIGN

Through its Office of Sustainable Design, established in 1997, DDC has become a leader in implementing sustainable design practices for the urban public sector. By developing the *Guidelines for Sustainability* in 1999 and applying them to a number of capital projects, the office has been instrumental in the design of many projects that meet the standards of the LEED rating code, including the Queens Botanical Garden (above), which received the highest rating possible: LEED Platinum. The Queens Botanical Garden is the first municipal structure in New York City to do so.

This office identifies and implements cost-effective ways to promote greater environmental responsibility in building design. It has contributed to a number of New York City projects by researching and recommending energy saving design

strategies such as the use of low-toxicity and renewable materials, as well as more innovative design strategies such as geothermal heating and cooling, photovoltaic panels, planted roofs, porous paving, and greywater recycling systems.

Research-based design initiatives through the Office of Sustainable Design include an extensive sustainable design publishing program. The most recent sustainable design publication, *Water Matters*, a *Design Manual for Water Conservation in Buildings*, was published in 2011. Other publications include guidelines on green roofs, geothermal wells, and the *High Performance Building Guidelines*, which, upon publication, became the cornerstone for New York City's sustainable programs.



CREATIVE SERVICES

Over the past eight years, DDC's Office of Creative Services has grown to become an innovative graphic design resource for clients throughout New York City government. The group, which began as an in-house graphics team dedicated to delivering fresh and responsible graphic design solutions within DDC, now regularly does so for a variety of projects throughout all five boroughs. An ongoing client is the Mayor's Office of Special Projects and Community Events, for whom the group develops invitations for events hosted by City Hall. Projects range through all media and all boroughs, from exterior signage in Manhattan to murals in Brooklyn, and from plaza memorials in Staten Island to tennis court wraps in the Bronx.

Creative Services is currently designing a set of custom bronze medallions for the High Bridge historic restoration project (see page 34). The medallions will feature a custom type face inspired by the look and tone of the original High Bridge. They will provide information to educate visitors about the history of the bridge and the Croton Aqueduct.

Other recent projects include the exterior graphics program for Commodore Barry Park, an identity system for the Flatbush Caton Market (above), a comprehensive rebranding program for the School Food Division of the Department of Education and a newly designed website for the Department of Investigation.



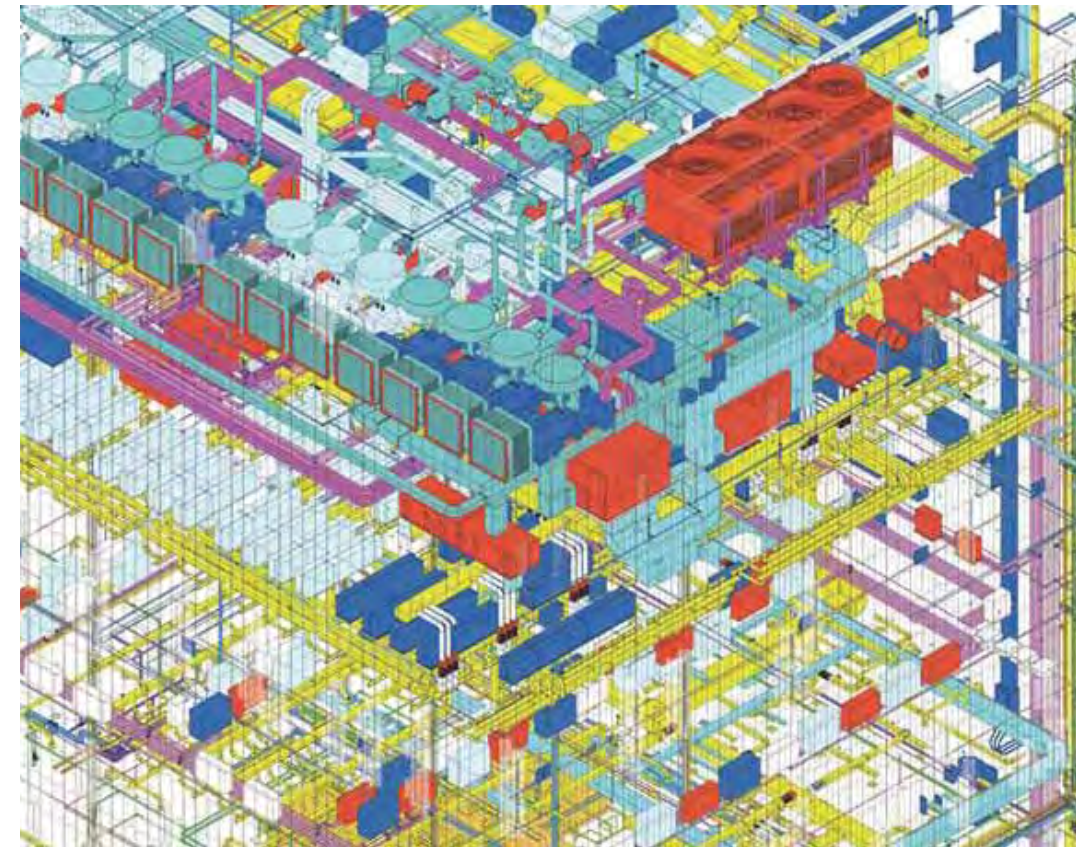
HIGH-PERFORMANCE INFRASTRUCTURE TECHNOLOGIES

DDC's research and development of infrastructure technologies support the environment while providing efficient solutions to some of the City's most demanding infrastructure needs. Enhancing streetscapes, maximizing pavement lifecycles, and developing and enforcing actionable plans to keep construction sites safe and clean are all priorities for DDC.

In particular, there are two best practice programs that have been highly successful for DDC: the use of trenchless technologies to minimize construction inconveniences and waste at complicated, high-traffic locations; and the Best Management Practices (BMPs) program, which focuses on reducing the negative impact of stormwater runoff on the City's storm sewer system. Trenchless technology focuses on avoiding large-scale, open-trench infrastructure practices

and instead uses a variety of techniques that focus on relining, replacing, or repairing sewer and water main pipes without digging up the entire length of pipe involved. Instead, this technology uses much smaller, open pits at tactical points along the workway in order to drill, push, and pull new pipe or liner into place underground.

Best Management Practices are widely used throughout the Bluebelt section of Staten Island. They manage stormwater runoff using natural watercourses, wetlands, and topographical features, thus reducing the need or length of storm sewers and preserving and supporting natural resources. BMPs can greatly enhance and preserve local wildlife habitats, protect the natural environment, and reduce negative stormwater impacts on traffic and pedestrians.



INTEGRATION AND COLLABORATION TOOLS

One way DDC continues to improve its project management process is by integrating Building Information Modeling (BIM) on appropriate Public Building projects. BIM is a process involving the creation and coordination of a digital representation of the physical and functional elements of a building. The resulting building information model becomes a shared resource to support decision-making about a facility from the earliest stages, through design and construction, and throughout its operational life (a BIM diagram is pictured above). BIM benefits include: immediate 3D design visualization; enhanced coordination which will minimize change orders; the ability to model schedule scenarios and site logistics; and the ability to link the model elements to current cost data.



ACTIVE DESIGN GUIDELINES

Active design transforms the built environment to encourage people to be more active. It involves making changes in buildings, streets, and neighborhoods to provide more opportunities for everyone to get the daily physical activity they need to stay healthy. It also enhances access to healthy foods and beverages. By doing these things, it helps to address one of the greatest health epidemics of our time – obesity and its related chronic diseases. It also supports other community benefits, including enhanced environmental sustainability, universal accessibility, and greater economic resiliency.

As part of Mayor Bloomberg’s effort to combat obesity, DDC projects employ the *Active Design Guidelines* (shown above) to promote physical activity. These guidelines are a collection of evidence-based strategies that promote and support active design. Recognizing the relationship between the built environment and health, a multi-agency and interdisciplinary team worked together to develop these guidelines for creating more opportunities for daily physical activity.



See ChangeNYC

See ChangeNYC finds smart design solutions to improve the lives and experiences of customers visiting the City’s various service centers. The program enhances the physical environment, from renovating waiting rooms for the Department of Probation, to providing elements that encourage exercise at the City’s senior centers.

Architects, as well as landscape, graphic, and industrial designers, are called upon to lend their talents. The most recent project overhauled 25 benches, chairs and tables from the juvenile Department of Probation Center, in the Bronx. Volunteers included graphic and interior designers, as well as job trainees from the Non-Traditional Employment for Women program and students from the School of Visual Arts. See ChangeNYC is a Mayoral and DDC initiative.



DDC TALKS

In addition to the continuing education classes provided through DDC's citywide cross-agency program, DDC offers DDC Talks—a monthly professional lecture series to further advance contemporary thoughts and methods of design, engineering, and construction excellence. Scheduling and registration information for the monthly lectures is listed on DDC's website.

Lecture classes have included: urban and suburban design and ecology; preventing progressive collapse of infrastructure; new ways of using old buildings; security as architectural aesthetic; public buildings and public art; materials and performance in buildings; connections in cultural design; transformability in architecture; and design of radiant heating and cooling systems.



TOWN + GOWN

The Town+Gown program coordinates research between built environment practitioners and academic institutions with courses of study pertaining to the built environment. At the end of the program's third year, there are more than 40 completed projects. The results of these research projects are published in *Building Ideas 1* and *Building Ideas 2*, the program's annual review publications. Research questions for potential projects in academic year 2012-13 are listed in the Town+Gown Research Agenda, available on DDC's website.



CONTINUING EDUCATION

DDC places a high priority on its continuing education programs. These programs not only serve as a conduit for new knowledge, but also as a feedback loop of best practices and lessons learned. Continuing education provides an important step in the advancement of DDC employees, as well as those of other City agencies, by providing classes and site tours. More than 1000 employees from various City agencies have taken advantage of the lectures and tours provided through this program.



PUBLICATIONS

We believe the hallmarks of a successful public works program are education and evaluation. As such, we regularly issue books, guidelines, and brochures that detail the extensive research, development, and implementation of our programs and initiatives. Our publications guide our consultants to successfully navigate the City's design and construction requirements; detail important sustainable strategies; showcase our Design and Construction Excellence policies; and review valued information essential to the design of public facilities.

Sustainable New York: Implementing Sustainable Design in the City's Public Works

Design + Construction Excellence: How the City is Improving its Capital Program

Active Design Guidelines: Promoting Physical Activity and Health in Design

Water Matters: A Design Manual for Water Conservation in Buildings

10th Anniversary Supplement for New York Construction Magazine

Design Consultant Guide

Universal Design New York 2

High Performance Infrastructure Guidelines

High Performance Building Guidelines

Manual for Quality, Energy Efficient Lighting

Construction & Demolition Waste Manual

Geothermal Heat Pump Manual

Cool & Green Roofing Manual

Sustainable Urban Site Design Manual



PERFORMANCE METRICS

The Performance Metrics and Analysis Division provides business analysis, quality assurance and management reporting services. The staff prepares requirements and specifications for new automated systems and modifications to existing ones. Data is extracted from the automated systems for numerous internal or external management reports. An important internal reporting service is the Key Performance Indicator (KPI) program. KPI reports are designed to consolidate quantifiable indicators measuring actual performance against predefined standards. The reports are used to determine how well DDC divisions are performing and are the focus of a formal periodic review process identifying specific issues and problem areas. The group also

maintains DDC indicators included in the Citywide Performance Reporting (CPR) system. The CPR, a resource accessed via the City's website, measures performance on key indicators against past performance, as well as those included in the Mayor's Management Report. This data helps us keep projects, such as the Brooklyn Children's Museum (above), on schedule and within budget.



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Michael R. Bloomberg, Mayor

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