

Gowanus Green Fact Sheet

December 2021



Project Overview

Gowanus Green will be a sustainable mixed-use community along the Gowanus Canal in Brooklyn that will feature approximately 950 units of 100% affordable housing, 28,000 square feet of neighborhood serving retail and community space, a site for an 80,000 square foot public school, and a new 1.5-acre public park. Co-developed by The Bluestone Organization, Fifth Avenue Committee, The Hudson Companies, and Jonathan Rose Companies, Gowanus Green will clean up and transform the site of a former Manufactured Gas Plant into a resilient and environmentally healthy community that provides deeply affordable housing and reconnects the surrounding neighborhoods to each other and to the Gowanus Canal.

Affordable Housing

Gowanus Green will be comprised of six residential buildings with approximately 950 units of 100% affordable housing, serving a wide range of incomes and needs. Gowanus Green will also advance New York City's [Where We Live NYC](#) process to affirmatively further fair housing goals, including providing housing dedicated to formerly homeless households and extremely low-income New Yorkers. The project will include buildings dedicated for senior housing, supportive housing, and affordable homeownership. The 100% affordable residential program will provide:

- At least 50% of rental housing will be dedicated to extremely low/very low-income households with incomes averaging at or below 50% AMI (approx. \$51,200 for a family of 3), including at least 15% of rental units dedicated to formerly homeless households
- No more than 40% of rental housing will be dedicated to moderate income households with incomes averaging between 80% - 120% AMI (approx. \$81,920 - \$122,880 for a family of 3)
- Senior Housing will be provided for seniors 62+ years in age
- Supportive Housing will be provided for formerly homeless, disabled individuals or homeless families with a disabled head-of-household
- Affordable Homeownership will be provided for households with incomes averaging between 80% - 130% AMI (approx. \$81,920 - \$133,120 for a family of 3)

Retail and Community Facilities

Gowanus Green will feature a range of commercial and community facility spaces, including:

- 8,000 square feet of neighborhood serving retail along Smith Street
- 20,000 square feet of commercial and community facility space along a newly mapped Luquer Street, anticipated to provide community amenities such as early childcare, healthcare, senior programming, and space for artists and makers
- A site for a future 80,000 square foot public school with access to an at-grade playground

Open Space

The project will feature a network of unique open spaces that connect people to the proposed Public Park. Features include:

- A 1.5-acre mapped Public Park that will include a playground, passive and active areas, and a shore public walkway along Gowanus Canal
- Extending Luquer Street as an innovative Shared Street through the center of the site where pedestrians, cyclists, and motorists all cooperatively share the right of way
- Rain Gardens that will provide residents and the public with active and meditative open space
- A shaded Canal Plaza with public art and flexible seating that provides views of the Gowanus Canal

Sustainability and Resiliency

Gowanus Green will be a sustainable, resilient and environmentally healthy community that will implement innovative stormwater and wastewater management strategies that aim to achieve a Net Zero CSO development. Proposed approaches include:

- Private green infrastructure to divert 100% of on-site stormwater away from the combined sewer system.
- A series of bioswales surrounding the site to mitigate roadway runoff, improve water quality and further reduce stormwater flows into the combined sewer system
- Wastewater flows from the affordable housing will be reduced by using ultra-low flow fixtures and water-efficient appliances that achieve water savings of 30% over code-compliant low flow fixtures, helping to mitigate the flow of black and grey water into the combined sewer system
- Buildings will be elevated out of future flood zone 2100 at a target elevation of +17 feet, 6 feet higher than currently required by NYC Building Code
- Greenhouse gas mitigation strategies will include Passive House level energy efficiency, green roofs, and onsite renewable energy generation

Environmental Remediation

Gowanus Green and National Grid will complete all environmental remediation necessary to ensure the health and welfare of future occupants. As explained by Roux Environmental Engineering and Geology, Gowanus Green's environmental consultant, numerous former Manufacturing Gas Plant (MGP) sites around New York have been successfully remediated (see **Roux Memo** attached).

National Grid is currently conducting environmental remediation on the project site, which is also known as the [Former Citizens MGP Site](#). The remediation is being performed under the supervision of the NYS Department of Environmental Conservation (DEC) with guidance from the US Environmental Protection Agency (EPA) through New York State's Brownfield Cleanup Program and is expected to be completed in 2021.

In November 2020, DEC added Gowanus Green to the site's existing Brownfield Cleanup Agreement to participate in future remediation. The Pre-Design Investigation (PDI) Work Plan prepared by Gowanus Green which outlines additional investigations to be performed following the completion of National Grid's remediation has been approved by NYS DEC. The results of these investigations will be thoroughly reviewed by DEC, the City of New York, and the EPA to facilitate the safe redevelopment of the site for residential, open space, and educational uses.

Project Status

The Gowanus Green development team was awarded the project site in 2008 through a competitive RFP issued by the City of New York. The project site is part of the Gowanus Neighborhood Rezoning that was approved by the New York City Council in November of 2021 following the City's Land Use Review Procedure (ULURP).

Date: May 25, 2021

To: Gowanus Green Partners, LLC

From: Nathan Epler, Ph.D., Roux Environmental Engineering and Geology, D.P.C.

Subject: **Remediation of Manufactured Gas Plant Sites for Future Residential Use**

Roux Environmental Engineering and Geology, D.P.C. (Roux) has been asked to opine on the appropriateness of development of a former Manufactured Gas Plant (MGP) site for restricted residential, educational and park use. The Site is being remediated under the NYSDEC Brownfields Cleanup Program and will be re-developed by Gowanus Green Partners, LLC. The MGP site is the Former Citizens Gas Works Parcels I and II ("Citizens Gas"), located in the Carrol Gardens neighborhood, Brooklyn, New York.

Regulatory Supervision

New York State has one of the most comprehensive MGP site investigation and remediation initiatives in the country. Since problems associated with former MGP sites were identified, the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) has been working with utilities on a state-wide basis to identify and address MGP sites so the land they are on can be put back to productive uses.

The New York State MGP Program has the mission to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites.

According to the NYSDEC DER, their best estimate is that there were roughly 260 sites where manufactured gas was produced or stored, either for distribution to the public or other uses. Of these, remedial programs are either under way or scheduled to start at 240 of the sites. By remediating these sites, the land they are on can be put back to productive uses while protecting the health of the public and future residents of new buildings, open spaces, or other facilities on these properties.

Former MGP sites have found a variety of uses in the years since they ceased operations. Many are still owned by the utility companies and are used as electric substations, storage yards, truck garages, office buildings and generating stations. Due to their central locations on the gas pipeline networks, many also still contain gas-regulating facilities. Other uses range from commercial/retail properties, to schools and residences.

What Are MGP Sites?

According to the United States Environmental Protection Agency (USEPA), from the early 1800s through the mid-1900s, MGPs were operated nationwide to provide gas from coal or oil for lighting, heating, and cooking. The gas manufacturing and purification processes at these plants yielded by-products or gas plant residues that included tars, sludges, lampblack, light oils, spent oxide wastes, and other hydrocarbon products. Although many of these by-products were recycled, excess residues remained at MGP sites. These residues contain polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons, benzene, cyanide, metals, and phenols. These are the constituents that must be cleaned up or contained before a site can be redeveloped.

In response to outside economic influences and the need for additional urban lands for redevelopment (bringing the Brownfields-type initiative to the forefront), MGP sites are desirable for redevelopment because they often occupy prime locations. For these types of sites, environmental practitioners, like

Roux, and regulators now have enough experience that they can anticipate the nature of work to be accomplished, foresee the problems that may arise, and select an appropriate remedy from a known subset of treatment technologies, with the result being a site that is safe for future use, including residential housing.

How Are MGP Sites Cleaned Up and Made Safe?

First and foremost, as required by laws and regulations, the remedy for a MGP site must be protective of human health and the environment. Therefore, the first step is to investigate the complete nature and extent of contaminated soil and groundwater so the proper remedy can be selected. Any remedy must go through a regulatory approval process that includes the opportunity for public involvement and input through a Citizen Participation Plan. At Citizen's Gas this was completed and made public over the last decade. Currently a Pre-Design Investigation Work Plan is being prepared for Federal, State, and City review to assist in the final engineering design of any required vapor mitigation systems, the composite cover system, and to identify any additional remediation required within the proposed redevelopment areas.

Any structures that were associated with the MGP sites, the contents and heavily impacted soils beneath and adjacent to the structures are usually removed by excavation to the extent technically feasible. Contaminated groundwater associated with the MGP Site may be treated using several tried and true technologies like pumping of liquid from recovery wells, or injection of solutions that speed up the degradation of dissolved contaminants. Contaminated soil or groundwater that cannot be removed or treated completely is permanently contained and isolated beneath the Site using **engineering controls** like sub-surface containment walls and a permanent cap. These containment structures are often designed to be part of the new development (e.g., building foundations or caps underlying open spaces) on the Site. Additional engineering controls include vapor barriers and venting systems, which are incorporated into the building foundation during construction to prevent any vapors from soil and groundwater from infiltrating into the building.

An **engineering control** is any physical barrier or method employed to actively or passively contain, stabilize or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, clean soil covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies and installing filtration devices on private water supplies. Where engineering controls are part of the remedy, **institutional controls** (discussed below) are necessary to ensure the engineering controls remain effective.

All engineering controls must be inspected during construction by a remedial engineer to ensure the controls are installed properly. A Professional Engineer must sign and stamp a certification that the engineering controls are permanently effective at protecting future occupants of the Site. Thereafter, the engineering controls are inspected on a regular schedule established by the regulatory agency. The inspections are performed to insure that the protectiveness of the engineering controls remain effective.

All work to render the Site safe for residential occupancy is documented in a final report that is reviewed and approved by a regulatory agency; usually the NYSDEC or USEPA and certified by a Professional Engineer.

Institutional controls are any non-physical means of enforcing a restriction on the use of real property that limits human or environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance or monitoring activities at or pertaining to a remedial site. Institutional controls may include, without limitation, restrictions on the use of structures, land and groundwater at the Site.

The New York metropolitan area has thousands of residential buildings, community centers, schools, and public spaces that were constructed over formerly contaminated sites, and MGP sites are no exception. Former petroleum-contaminated Sites—like refineries and service stations—had similar contaminants as are found at MGP sites and are routinely remediated and redeveloped for residential occupancy with absolutely no possibility for the residents to be exposed to contamination in any way.

Just a few examples of such remediated sites or sites that are undergoing remediation for future residential occupancy or as open public spaces are listed below.

1. National Grid just finished a project in Williamsburg where a gas holder site was redeveloped into a NYC park - <http://williamsburgmgpsite.com/>
2. **100 Eleventh Avenue** in the West Chelsea Area (on part of a Site called the West 18th Street MGP Site), New York City is a high-rise residential building built over a former MGP gas holder.
3. The **IAC Building**, InterActiveCorp's headquarters located at 555 West 18th Street on the northeast corner of Eleventh Avenue in the Chelsea neighborhood is located directly across the street from 100 Eleventh Avenue and was also constructed over the West 18th Street MGP Site.
4. **The Dangman Park former MGP site** is located in Coney Island, Brooklyn. A site cover currently exists in areas not occupied by buildings and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for restricted residential use.
5. **Rockaway Park Former Manufactured Gas Plant (MGP) Site** for the Bulkhead Area phase of work. The Bulkhead Area is located immediately north of Beach Channel Drive between Beach 108th Street and the end of the Rockaway Freeway, north of the main site parcel. The bulkhead area is approximately 0.6 acres and is currently owned by the City of New York. Following the installation of subsurface wall to contain dense liquids (called DNAPL¹) associated with the former MGP site, the area will be backfilled with verified clean soil to restore the area to grade. National Grid will then install a pathway and benches along the bulkhead as well as trees, shrubs, and native grasses in order to provide an esplanade for the residents of Rockaway Park.
6. Consolidated Edison Company of New York, Inc. (Con Edison) and Levin Properties, LLC, together with the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), provided a notice that remediation at **the Pelham Site**, the location of a historical MGP, has been substantially completed. This site is developed with a shopping center located in the Village of Pelham Manor, NY.
7. Niagara Mohawk and NYSDEC entered into a multi-site Order on Consent to implement a full remedial program for several former MGP sites across New York State, including the **former MGP site in Ilion, New York**. National Grid assumed responsibility for the investigation and required cleanup of the former MGP site. "We are pleased to work with National Grid, the DEC, and DOH," said Mayor Terry Leonard, Village of Ilion. "The East Street project is a good example of how public-private partnership can improve our community. National Grid's cleanup will allow the site of a former manufactured gas plant to be redeveloped which is very important to the community and the Village of Ilion."
8. At the **Fulton MGP site**, the proposed cleanup plan would accommodate current site uses and future redevelopment, and also aligns with the USEPA's remediation efforts to prevent recontamination of Gowanus Canal. National Grid, which formerly owned the site, will implement and pay for the cleanup. The primary components of the remedy are the construction of a sealed wall along the western shoreline of the Gowanus Canal and the removal of any coal tar that accumulates behind it. Excavation activities would occur in phases as properties are redeveloped and will not require closures or relocation of occupants or current site uses. Contamination at Thomas Greene Park is well below ground and site structures, which prevents public exposure.

¹ DNAPL means "dense non-aqueous phase liquids". For example coal tar associated with the former MGP processes.

9. **Former East Coast Industrial Uniforms**, Brooklyn (39 Skillman Street LLC/Riverside Developers). Remediation of this former MGP site and dry cleaner was accomplished using innovative remedial techniques integrated with construction activities. In order to address chlorinated solvent and petroleum contamination concurrent with development and construction, a series of manifolded chemical oxidant injection galleries and well points were installed within the basement and living area of a residential building and routed into a parking garage area to allow remote access. The property now contains three new six-story apartment buildings, designed to address the needs of the local Orthodox community.

In summary, former MGP sites are like thousands of other sites in New York and across the country that are being remediated under strict regulatory guidance by environmental remediation firms so that these properties can be made safe and put back to productive uses. Some of the most common uses are the redevelopment of these sites for residential housing and public open spaces. These uses by the public can only be accomplished through cleanup and protective efforts that ensure the health and welfare of future occupants.