





Executive Summary

The Vision
Planning Timeline

The Vision

This Vision Plan is a community-driven catalog of the efforts already underway. It is also a record of the pollution, access, and investment barriers facing the Waterways, and a plan for how to overcome those barriers to achieve a unified vision.

INTRODUCTION

Together, Riverkeeper and the Guardians of Flushing Bay launched this vision process in 2016 in order to help put to paper the energy and momentum building around the clean water future of northern Queens. With city plans for sewage and stormwater pollution investments taking shape, redevelopment of Flushing Bay piers starting, and redevelopment plans for Willets Point and downtown Flushing, the waters of Flushing Bay and Flushing Creek needed their own long-term plan. With all of the pollution presently discharging into these waterways each year, and all of the uncertainty around access and investments in the waterfront, there is, and always has been, a community of people fighting for this community resource and a place to play, learn, fish, and paddle.

We see Flushing Bay and Creek – together the Flushing Waterways – not as an unapproachable problem, or

as forgotten waterways; rather, we see waterways teeming with aquatic life, active recreational communities, clean water stewards, and committed educators. We see a waterway with great potential. This Vision Plan is a community-driven catalog of these efforts already underway. It is also a record of the pollution, access, and investment barriers facing the Waterways, and a plan for how to overcome those barriers.

THE FLUSHING WATERWAYS

Determining a path forward for the Waterways affects Queens as a borough. The Bay and Creek connect the communities of Downtown Flushing and College Point to East Elmhurst and Corona, home to hundreds of thousands of New Yorkers. Flushing Meadows-Corona Park and the World's Fair Marina promenade connect Citi Field to LaGuardia Airport, and welcome millions of visitors every year for tennis, baseball, festivals and tourism. College Point is nested on the western edge of the Bay and runs into the Upper East River while Flushing Creek separates downtown Flushing from Willets Point, and both banks will see planned redevelopment that brings thousands more to new homes and businesses along the Creek.

The Flushing Waterways play unique and crucial roles in the economy, society, and urban environment of these local communities, of greater Queens, and of New York City.

STATE OF THE SYSTEM

A complex social urban ecosystem like no other, the Flushing Waterways are polluted and degraded but are also regularly used for fishing and recreation. The ebbs and flows of use, attention, and investment, from the redevelopment of LaGuardia Airport to the crumbling bulkheads of Flushing Creek, have shaped the system we work and live with today, and will define the bounds of what is possible for the future.

Ecologically, the marshes, riprap, breakwalls, and piers of the Waterways are part of the larger New York-New Jersey Harbor and Estuary. Tidally driven and saturated every rainfall, these wetlands have the potential to be among the most productive ecosystems in the entire regional estuary. Today, much of the historic wetlands, marshes, seagrasses and soft edges have been transformed into riprap or hardened with bulkheads. Strong, healthy wetlands bring a number of co-benefits to the



Flushing Creek today

community, such as water filtration and storm surge protection. The Waterways are also home to water-dependent industries – barges carrying construction materials to the Creek, charter boats picking up customers at the Bay’s two marinas – that must also be considered in this Vision. Alongside these industries, the region is being reshaped by new developments, new infrastructure, and new zoning plans for Willets Point, Flushing, and parts of the park itself.

Layered over these ecological, social, and economic considerations is the state of stress caused by sewage and stormwater pollution. The vast majority of the land that drains to these waterways – the Flushing Bay and Creek watershed – is drained by a combined sewer system. In this system (where storm drains in the streets are connected underground with the sewer pipes leading from homes and businesses), rain events as small as a tenth of an inch can exceed the sewers’ capacity and cause overflows into the harbor. Up to three billion gallons of discharge (consisting of sewage, pharmaceuticals, oils, debris, litter, and many more pollutants) can enter Flushing Bay and Creek every year – enough to fill the Empire State Building ten times with pollution.

OUR APPROACH

At times (particularly when it hasn’t rained for a long while) these Waterways can, and do, flourish. Pollution, degraded wetlands, and crumbling concrete, though, limit the scope and extent of these good days. With climate threats, a growing local population, and hundreds of paddlers and boaters getting on the water every week, a better path





forward was needed, one that addressed and accounted for all of the system’s components – from industry to oysters.

Beginning with a community meeting in 2016, and continuing through most of 2017, Riverkeeper and the Guardians of Flushing Bay framed our approach to community visioning around what we called the “Four Rs” - remediation, restoration, recreation, and resilience. Remediating historical pollution and degradation. Restoring and revitalizing lost and damaged ecosystems. Providing for safe and accessible opportunities for recreation and education – on the

waterfront, between communities, and on the water. Ensuring climate and economic resilience, of the industries, businesses, communities and ecosystems.

COMMUNITY COLLABORATION

With this framework in mind, we sought to generate ideas and input for actual projects along the waterfront and in the waterways. Dividing the Bay and Creek into four different reaches allowed us to work with city agencies and the communities on specific, detailed proposals throughout the watershed. Community members proposed, contributed, and tested the ideas – at

 <p>Remediation</p> <p><i>After decades (and longer) of combined sewage discharges, illegal dumping, and pollution, many parts of these wetlands and waterfronts need to be remediated before they can be restored. In 2017, the New York City Department of Environmental Protection launched a multi-year initiative to dredge out large quantities of sewer solids that have built up below the World’s Fair promenade.</i></p>	 <p>Recreation</p> <p><i>As open waterways in New York City go, Flushing Bay and Creek are some of the best places for recreational boating; with relatively low vessel traffic, protection from the wind and waves, and access at the World’s Fair Marina, a large dragon boating community calls these waters home. A proposed boathouse and community center could provide free community boating and allow New York City to host international dragon boat competitions.</i></p>
 <p>Restoration</p> <p><i>As with most waterways around the City, the waterways need significant investments in wetland reconstruction to restore a functioning aquatic ecosystem. Maritime forests, marshes, seagrasses, and oyster reefs are all necessary ingredients for success. In its 2017 restoration plan, the Army Corps of Engineers is asking for Congressional funds for a large wetland project at the head of Flushing Creek.</i></p>	 <p>Resilience</p> <p><i>With lowland swamps and braided streams making up most of College Point, Corona, and Flushing Meadows before large-scale fill and development efforts kicked off in the mid-1900s, the watersheds here are very vulnerable to sea level rise, flooding, and storm surge. Investments in green infrastructure and soft shorelines can help mitigate some of these risks.</i></p>



Community Visioning Session at Queens Museum

our standing-room-only 2016 meeting aboard the Skyline Princess, at our 2017 Queens Museum visioning event, and at a number of smaller stakeholder sessions and meetings.

These meetings and workshops brought together community leaders, residents, and experts from organizations and agencies around the city. Queens College, the NYC Parks Department, Waterfront Alliance, SWIM Coalition, Billion Oyster Project, Transportation Alternatives, and Friends of Flushing Creek were on hand, as were members from a dozen different dragon boat teams, businesses, and the area’s community boards. By collaboratively working through the problems facing each reach, each parcel, and each new project idea, these sessions allowed us to work through issues of access and connectivity, pollution control, zoning, land use, culture and history. These workshops generated hundreds of ideas and focused our visioning efforts.

Through conversations with City agencies and elected officials we gathered more context for these plans and proposals. We worked through these proposals with the

Asian American Chinese Environmental Protection Agency and Make the Road, with business owners, with the LaGuardia Redevelopment community engagement team, and with the Mets’ outreach team at Citi Field. The team at Perkins + Will brought the ideas throughout this report to life, and also offered urban design and planning expertise. For each reach, and for the system as a whole, we tried to capture the present state and future potential of the waterways, as well as the hopes and concerns of the people and businesses that will need to achieve that vision.

While this document represents the outcome of these processes, the ideas are designed to be malleable – to be reshaped as needed, as time goes on, by even more public input. This Vision is intended to be a tool developed with the community, for the community, to be used by the community.

REACH ASSESSMENT

The Flushing Waterways are too complex to be analyzed as one waterfront. In order to more effectively develop actionable ideas from the community, and ensure we captured their specific concerns,

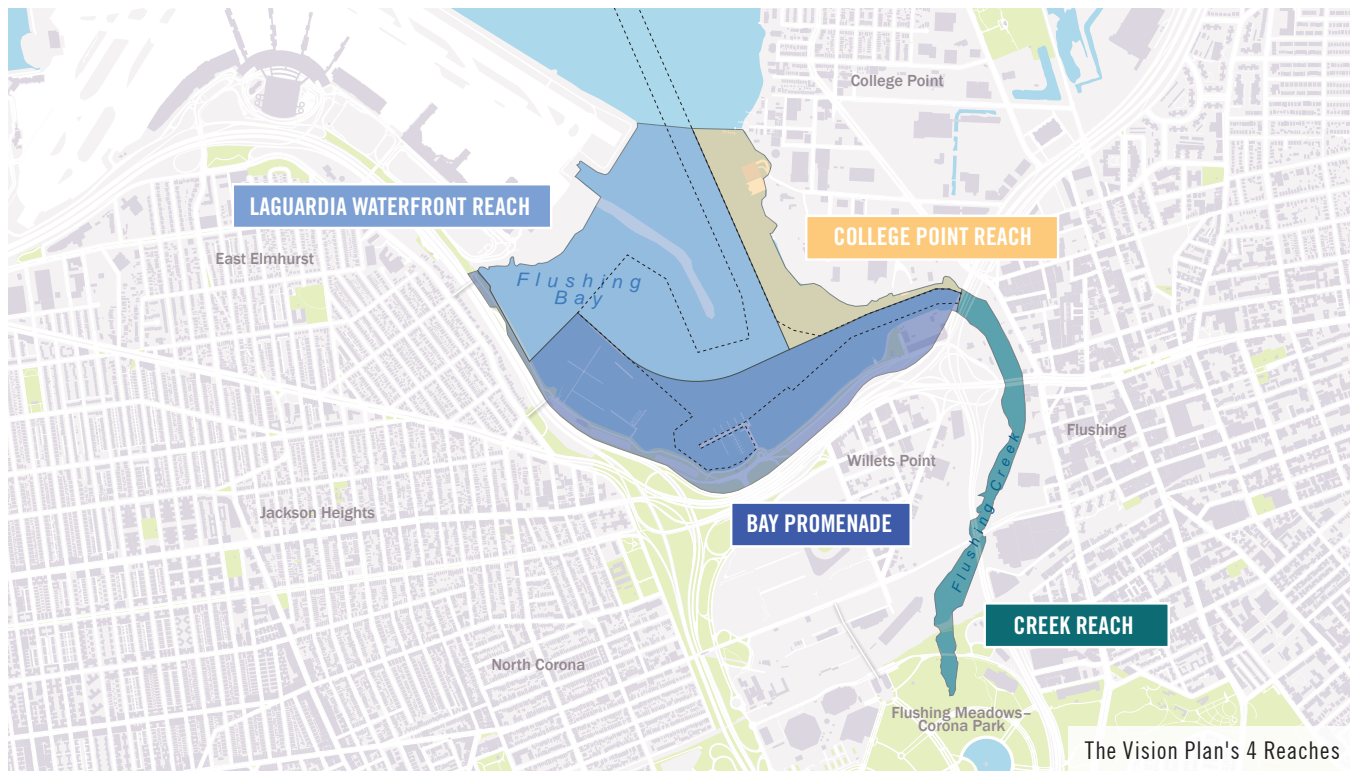
we divided Flushing Bay and Creek into four separate reaches, a nautical term for lengths of a waterway. Each reach has an individual story, and connects with a different part of the surrounding communities. Taken together, though, they’re all elements of the same comprehensive Vision.

Reach: LaGuardia Waterfront

Largely protected from heavy wind or waves, the northwestern corner of the inner Flushing Bay is an estuarine diamond-in-the-rough. Bounded by LaGuardia Airport, a rocky breakwall, and the westernmost end of the promenade, this reach consists mainly of tidal mudflats and marshes. Today, the mudflats have been subject to decades of sewage pollution accumulation, age has deteriorated pedestrian access across the Grand Central, and the breakwall – which bisects the Bay – limits tidal exchange and contributes to poor water quality.

Inaccessible by design (excluding the public from accessing the Airport), this reach is an ideal place to focus on ecological restoration. Expanded wetlands and oyster reefs can protect the coast from storm surges, while submerged aquatic vegetation and breakwall reconstruction will provide for enhanced ecosystem services. Of all the reaches in this vision report, focusing on airport-safe ecosystem restoration in these waters will return immeasurable benefits – in resilience and recreation – to the community.

Key projects proposed by the community include improvements to the Grand Central Parkway Pedestrian Overpasses (to enhance accessibility), oyster reef



creation, and a green-design overhaul of the floating wave attenuation devices at Pier 3 and the breakwall in the middle of the Bay.

Reach: College Point

With well-known business signs, large-scale concrete facilities, and a bright green wetland-covered waterfront, College Point – especially as viewed from the Flushing Bay promenade – was an iconic reminder of the need to balance economic and ecosystem interests in this visioning process. As compared to the industrial edge of Flushing Creek, much of the College Point businesses are not water-dependent; only a few sites make use of barges or boats. Much of inland College Point – where these businesses are located – is burdened by flooding, as well as sea level rise and storm surge

vulnerability. Determining how the waterfront’s soft shorelines and in-water habitat can be preserved – for adaptation and mitigation – without resulting in economic impacts to the industrial and commercial operations was a key question for the visioning process.

In considering this issue, the community regularly focused on one unfortunate reality: whether you work at a College Point waterfront business or are just visiting, you may be a few feet from Flushing Bay and not even know it. Thus, inlets and street ends (where city roads meet the water) were identified as perfect opportunities to provide open space amenities for anything from fishing to taking a break and having lunch.

Three sites were identified as particularly

promising. First, an inaccessible cove nestled between two open industrial use sites could be a vital hub for oyster restoration work and seagrasses. Second, remediation and accessibility enhancements to the waterfront behind the Home Depot would provide for a number of community benefits. Finally, converting a largely disused parcel at the mouth of Flushing Creek (under the Whitestone Expressway) into a public park and “green street” would give downtown Flushing a gateway facility to the Bay, and College Point’s first view of the Bay from a city street.

Reach: Bay Promenade

Originally built as a railroad causeway connecting the people of Flushing township to western Queens and Manhattan, the Flushing Bay waterfront

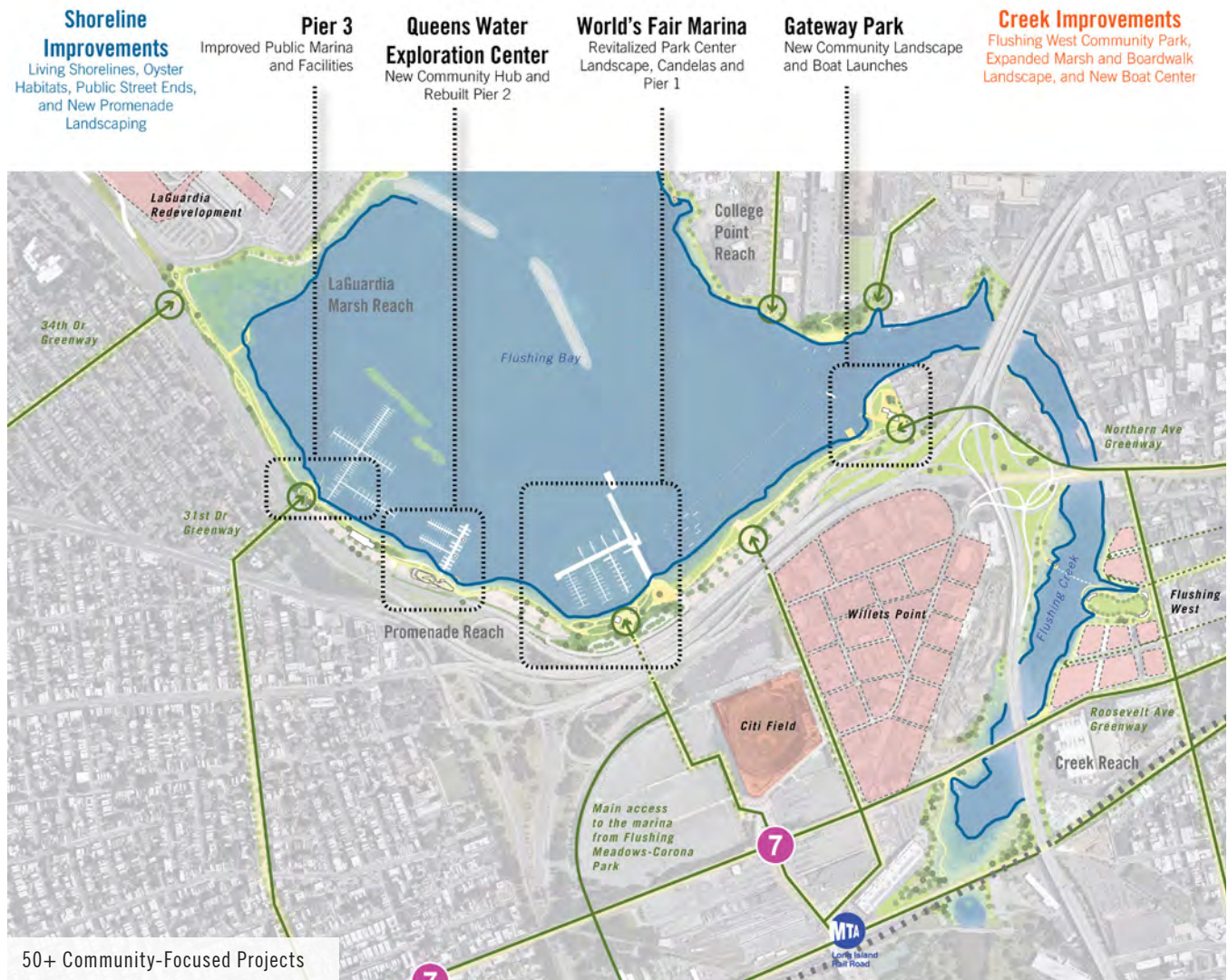
edge has always been a hub for water exploration, tourism, recreation, and transportation. With the World's Fairs of 1939 and 1964, and the industrial needs of a growing City, this causeway was gradually turned into today's Flushing Meadows-Corona Park Promenade.

Now, as it did during two World's Fairs, the City of New York has the opportunity to recommit to the Park's legacy of innovations and global exploration by

investing in a world-class waterfront once again. The promenade boasts two of the largest combined sewer pollution discharge points in the entire City, has no sound barrier to buffer the noise of the Grand Central Parkway, and is burdened by high levels of trash accumulation and street debris. With inaccessible overpasses and dark, featureless underpasses, even getting to the promenade can be difficult. Approaching from Flushing to the east is unsafe – by

bike or on foot – and the Marina Road operates more as an on ramp to local highways than a promenade avenue.

Between tennis events and Mets games, some weeks see hundreds of thousands of visitors to the MTA and LIRR stations just a few minutes' walk from the Flushing Bay promenade. As such, key projects identified by the community focused on how to bring more people to the waterfront and on what those new visitors



could do once they got to the promenade.

First and foremost, redevelopment of Pier 2 into a new community boathouse, canoe and kayak rental facilities, and an educational facility doubles down on the already robust recreational community of this reach. This proposal, the Queens Water Exploration Center, would bring research and water access to Flushing Bay year-round.

Other projects along the promenade include ideas for renovated cantilevered structures, green infrastructure overhauls of parking lots and sidewalks, development of official, world-class dragon boat racing and event facilities (including a race course), and aesthetic improvements to the underpass that connects the Bay with Citi Field. A final project proposal turns a parcel of the park at the eastern end of the promenade into a gateway park – providing the community with information, restrooms, water, and water access.

Reach Assessment: Flushing Creek

Running only a mile into Queens from its confluence with Flushing Bay, this small yet historic Creek is the heart of the region. Along its riverbanks sit railroads, redevelopment projects, brownfield sites, city-owned maintenance yards, and highways – but no waterfront parks, no water access points, and no public marinas. The lakes of Flushing Meadow-Corona Park and discharges of sewage and stormwater pollution during storms provide the only sources of freshwater into the Creek (the Creek is burdened by some of the highest combined-sewer loadings of any corner of the City). Crossed by two rail bridges, Roosevelt



Future Promenade Improvements, page 76

Avenue, Northern Boulevard, and two highways, the Creek is the closest – yet inaccessible – waterfront open space for thousands of New Yorkers.

Wetlands that run the length of the Van Wyck Waterfront, that have long been limited by pollution and neglect, have deteriorated – limiting their ability to clean the Creek and protect upland areas from flooding. Over the next few years, redevelopment along and around Flushing Creek will bring thousands of new residents to this waterfront, reinvestment that must progress in step with remediation. Capturing sewage, clearing out historic pollution, and preventing recontamination of this largely stagnant waterway is as vital for public health and safety as it is for the ecosystem.

To achieve this vision, a number of ideas were proposed by the community. First among them was a new premiere waterfront public park along the eastern bank of the Creek, anchoring downtown Flushing's connection to the water. Other proposals include making the existing Creek crossings safer and cleaner, abating pollution from highways and

streets with green infrastructure, stormwater “treatment” wetlands development, and even a new pedestrian-only overpass connecting Willets Point with downtown Flushing. The community – and elected officials representing the community – noted throughout the visioning process that these solutions would all be contingent upon capturing significant portions of the sewage and stormwater pollution discharged into the Creek during storms. With cleaner water and strategically located water access, Flushing Creek will be a staging area for citizen science, community boating, ferry service, and tourism.

SYSTEM-WIDE SOLUTIONS

Some solutions and ideas generated during the visioning process apply system-wide. Upland of the waterfront, public and private space improvement will be vital for water access and pollution abatement. Green infrastructure and green streets will help capture rain before it can get into the sewers, overflow, and pollute the Waterways. Enhanced community connections are also needed, such as informational kiosks, wayfinding aids (signs to draw people to the waterways), improved viewsheds,



Oyster projects provide major opportunities for habitat restoration

and safe bike and pedestrian pathways. For the waterfront, the community called for a balance between industry and ecology; by designing the edges of industrial and commercial parcels better, we can have both water-dependent business jobs and climate resilience. The Waterfront Alliance and the Department of City Planning’s Resilient Industry team provided examples of specific strategies and designs that can be implemented to achieve these outcomes. For the waterways themselves, in both the Bay and Creek, there were two resounding calls for system-wide action: prevent pollution and restore oysters. Pollution prevention is a precedent condition to safe swimming and safe boating – and is a large part of the solution for wetland restoration, climate resilience, and ecosystem function. Oyster restoration initiatives, led largely by the Billion Oyster Project and students from the NY Harbor School, contribute directly to clean water goals, as an adult oyster can filter up to 50 gallons of water every day.

THE ROAD AHEAD

We opened this report with a discussion of all of the limiting factors for these waterways – the pollution,

the inaccessibility, the deterioration. Whatever the problem, we hoped that by working toward community-driven solutions (through a lens of remediation, restoration, recreation, and resilience) we could develop a plan that met the present and future needs of the Flushing Waterways. After identifying over fifty projects, policy goals, and system-wide needs, this Vision Plan achieved that goal. The question we are most often asked now is where to begin.

As with the development of this document, for any and all next steps, the community is key. As clean water

advocates and local residents, each member of the Flushing Waterways community has a part to play in effectuating this community-built vision. We encourage everyone to reach out to community boards and elected officials with a copy of this report. We ask that people join us in our ongoing conversations (and the Guardians’ twice-a-year Bay clean-ups!) with city agencies and advocates. We’ll be trying to see that this document is implemented today, and that we stick to the plan in years to come, but we’ll need your help on both accounts. Together, and only together, we can take this Vision Plan and begin to move toward smarter projects, greener infrastructure, ecologically friendly construction, accessible waterfronts, and cleaner waters.

We look forward to working with the communities around these waterways to help connect the dots between these projects, public health and safety, and the environment, in the hopes that a clean water, healthy waterfront future is just around the corner for Flushing Bay and Flushing Creek.



Aerial view of a renewed and thriving Flushing Waterways, page 110



50+ Community-focused projects organized by Reach.

LAGUARDIA WATERFRONT REACH page 42

1. Habitat Restoration and Marsh Expansion
2. Waterway Education: Signs and Connections
3. Oyster Reef Creation throughout LaGuardia Waterfront
4. Wetland Nature Trail: Boardwalk through LaGuardia Marsh
5. Enhancing Tidal Exchange with a New Breakwall Inlet
6. Grand Central Pedestrian Bridge Improvements
7. Floating Wetlands: Wave Attenuation Redesign
8. Full-Ecosystem Redesign of LaGuardia Breakwall
9. Oyster Reef Reintroduction: Encircling LaGuardia Airport
10. LaGuardia Airport Improvements: Integrated Planning

COLLEGE POINT REACH page 50

1. Water Trail Waypoints
2. Community Environmental Art Installations
3. Salt Marsh Preservation & Public Boating Beach
4. College Point Gateway Inlet Reconstruction & Public Access
5. College Point Greenbelts
6. 31st Ave Street End: Redesign and Public Access Point
7. 123rd Street End: Redesign, Open Space, and Fishing Pier
8. Concrete Cove Renewal & Oyster Reef
9. Green Infrastructure and Open Industrial Use Improvements
10. Blue Infrastructure at the NYPD Police Academy Track

BAY PROMENADE REACH page 58

1. NYC Parks and Community Festival Facilities
2. Pier 1 Revitalization & Improved 126th St. Access
3. Family Fun: Playgrounds and Picnics
4. Candela Restoration & Repurposing
5. Reconfigured Parking Designs with Green Infrastructure
6. World-Class Dragon Boating Race Course
7. Peninsula Improvements: New Gateway Park Center
8. Restored NYC Ferry Stop at Pier 1
9. Grand Central Underpass Improvements
10. Reshaped Shoreline, Fishing Access, and Resilient Waterfront
11. Queens Water Exploration Center
12. Promenade Park Improvements & Sound Barrier
13. WEDG Site: Improved Park Boat Launch
14. Traffic Pattern Redesign & Parking Structures
15. Pier 3 Dock and Dine & Commercial Marine Businesses
16. Grand Central Parkway Green Infrastructure

FLUSHING CREEK REACH page 82

1. Education, History, and Environment: Community Information Hubs
2. Improve and Restore the Van Wyck Waterfront Wetlands
3. Highway and Street Runoff Pollution Abatement
4. Built Infrastructure Beautification
5. Connecting Downtown Flushing to the Creek
6. Living Docks and Soft Shorelines: Redesigned Waterfront Edge
7. Safe Crossings: Northern Boulevard & Roosevelt Avenue
8. Stormwater 'Treatment' Wetlands and Maritime Forest
9. Solar-Powered Floatables Capture Installation
10. Van Wyck Waterfront Nature Trail Boardwalk
11. New Downtown Flushing Community Park
12. WEDG Site: Redesigned U-Haul Shoreline
13. New Pedestrian & Bike Overpass
14. Willets Point Canoe and Kayak Docks & Boat Launch



Planning Timeline

This Vision Plan is
decades in the making

- 1920s** Present-day Flushing Meadows-Corona Park largely used as a coal ash dump
- 1939** Bowery Bay and Tallman Island Wastewater Treatment Plants open, treating sewage from Northern Queens
- 1939** LaGuardia Airport opens
- 1939/40** New York World's Fair
- 1964/65** Second New York World's Fair
- 1960s** Grand Central Parkway and Van Wyck Expressway expanded
- 1966** Riverkeeper formed at the Hudson River Fishermen's Association
- 1978** U.S. Open moves to present Park location
- 2001** Waterfront promenade reconstructed by NYC DEP
- 2007** Flushing Creek CSO Storage Tank comes online
- 2008** Willets Point rezoning initiated
- 2009** Shea Stadium closed, Citi Field opens
- 2010** Empire Dragon Boat Team holds first annual Flushing Bay Spring Shoreline Clean-Up
- 2012** Local citizen science water quality testing begins by Empire Dragon Boat's Green Team
- 2014** NYC DEP submits Flushing Creek CSO Sewage Long Term Control Plan to New York State DEC
- 2015** Guardians of Flushing Bay launched
- 2016** Inaugural community visioning meeting organized by Guardians of Flushing Bay
- 2016** NYC DEP submits Flushing Bay CSO Sewage Long Term Control Plan to New York State DEC
- 2017** First Annual 5k Fun Run fundraiser organized by Guardians of Flushing Bay
- 2017** NYC DEP starts and completes a dredging project in Flushing Bay to control odors from sewage solids exposed during low tide
- 2017** Annual Fall Shoreline Clean-Up launched by Guardians of Flushing Bay
- 2017** Final phase of Skyview mixed-use development at Flushing Creek initiated
- 2017** NYS DEC approves NYC DEP's Flushing Bay and Flushing Creek Long Term Control Plans





- 2017** Construction begins for LaGuardia Airport modernization
- Present** NYC DEP begins sewer restructuring project in College Point
- Present** Asian Americans for Equality Flushing 2050 planning underway
- Present** Flushing West rezoning underway
- Present** Razing and clearing of Willets Point underway
- Present** NYC DEP green infrastructure work in Flushing Bay & Creek watersheds underway
- 2019** Planned NYC DEP wetland restoration along Flushing Bay Promenade
- 2020** Planned Creek wetland restoration work by the U.S. Army Corps of Engineers
- 2023** Anticipated completion of NYC DEP's plan to disinfect raw sewage (part of the Flushing Creek Long Term Control Plan)
- 2030** Tentative (and State-mandated) target for completion of NYC DEP's green infrastructure plan
- 2035** Anticipated completion of NYC DEP's plan for a sewage and stormwater capture tunnel (part of the Flushing Bay Long Term Control Plan)