

**Testimony of Michael Marrella,
Director of Waterfront and Open Space Planning,
before the Waterfront and Resiliency Committee,
NYC City Council
11/13/2019**

Chairman Brannan and members of the Waterfront Committee, thank you for the opportunity to speak with you this afternoon about the City's efforts to update the Comprehensive Waterfront Plan.

I am Michael Marrella, the Director of the Waterfront and Open Space Division at the Department of City Planning. In this role, my responsibilities include preparing the city's Comprehensive Waterfront Plan, pursuant to City Council legislation passed in 2008, which required that the plan be updated by December 31st, 2010 and every 10 years thereafter. We are now underway in our planning and public outreach for the next Comprehensive Waterfront Plan due by the end of 2020, roughly 13 months from now. Today, I'll share with you our initial thinking about the major themes of the next Comprehensive Waterfront Plan, the extensive public outreach we've done so far, and our plans for additional public outreach in the next few months.

Before I talk about the next Comprehensive Waterfront Plan, it's necessary to discuss the evolution of the plans, as this will be the third Plan that the City issues.

The first plan, written in 1992, was the first time the City studied and planned cohesively for all the city's waterfront. One of the major recommendations to come out of the plan was the establishment of Waterfront Zoning, which was adopted in 1993 and required waterfront public access as sites were redeveloped to mid-to-high density residential and commercial uses. This important zoning tool has opened miles of shoreline to the public that had been inaccessible for decades and led to the creation of over two dozen waterfront public spaces, paid for by the developers of the adjoining building.

In 2008, the City Council passed legislation for the Department of City Planning to update the Comprehensive Waterfront Plan by the end of 2010, recognizing the transformation along the waterfront in the roughly decade and a half since the first plan. The second plan recognized the diversity of uses along the waterfront and, just as importantly, the importance of waterways themselves. As such, this second plan highlighted what we referred to as the Blue Network, or using our waterways for transportation, recreation, education, and cultural celebration. And, importantly, the plan also recognized the coastal climate risks we faced as a waterfront city. The second plan helped to advance the establishment of the ferry system, first starting as a pilot project on the East River and now blossoming to a ferry system that will service all five boroughs, and started much of our coastal resiliency planning, in advance of Hurricane Sandy in 2012.

Since the last plan, we have made terrific strides along our waterfront—we've invested billions of dollars in improving our water quality, we've built new waterfront parks, advanced our coastal resiliency, built new, resilient housing in waterfront neighborhoods, and launched a ferry service that takes advantage of the waterways that surround our boroughs. But clearly there is much to do going forward. As we start our planning for the next Comprehensive Waterfront Plan, we are guided by three overarching lenses: Resiliency, Equity, and Health. As we navigate our planning process, these three issues are our Polaris. Let me take a moment to describe our intent for each:

Resiliency: As a coastal city, we face climate risks, as we were painfully reminded of seven years ago when Sandy hit. But as we move forward, we must discuss resiliency in concert with all other aspects of the city's waterfront.

Equity: While we have made great strides in providing new parks, housing and jobs along the waterfront, access to those parks, homes and jobs has not been shared by all. In this next plan, we will be looking closely at the distribution of these resources along the waterfront and will reexamine how they can be more equitably distributed across the waterfront.

Health: the health of our waterways should rightly be recognized as the cornerstone for the development of our waterfront. But health should also capture the public health aspects of the waterfront, including the benefits of active recreation along the waterfront.

Now, those are just our starting point for the Plan. The Plan will be informed by the extensive public outreach we've done thus far and will be doing going forward.

First, let me talk about the work we are doing with the Waterfront Management Advisory Board, the group convened by the Mayor and the Speaker to help inform the city on the preparation of the Waterfront Plan. The group was reconvened last year and we have met 6 times, including a trip aboard a tug boat, in the past year to discuss various topics and potential elements of the Plan. I'd like to recognize Councilwoman Debi Rose, who has been an active member of the Board and I thank her for her participation.

This past Spring, on May 20th, the day in which we celebrate the 520 miles of waterfront, we launched our broader public outreach with walking tours along the waterfront in all five boroughs. And rather than issuing an RFP seeking a planning consulting firm to help prepare the Comprehensive Waterfront Plan, we issued an RFV- a Request for Visions, allowing New Yorkers, the true experts on what our waterfronts need, an opportunity to provide us with their ideas on the waterfront.

Key objectives of our outreach efforts are to broaden people's awareness of NYC's waterfront, highlight the fact that NYC is a waterfront city, and enhance our relationship to our waterfront and water.

We've held 15 events along our waterfront this summer, including the Waterfront Planning Camp in which we discussed various waterfront issues, from learning about water quality monitoring with DEP and trying on scuba diving suits with the Billion Oyster project, to prepping go-bags with NYCEM and designing waterfront sites with the Waterfront Alliance. We also had a LinkNYC campaign running through the month of August throughout the city.

Later this month and through early next year, we are starting a series of five public listening sessions in partnership with the Waterfront Alliance. These forums are an important opportunity for New Yorkers to learn about and engage in key waterfront issues, promote equity and environmental justice through our waterfront communities, and to actively inform the next Comprehensive Waterfront Plan.

We are partnering with the New York Chapter of the American Institute of Architects for a series of six public sessions that focus on different waterbodies intended to provide a platform for architects, design experts, and the general public to express their points of view and experience from work on the city's waterfront.

We are working with local planning graduate schools to delve into specific aspects of the waterfront, leading with an overarching question: "What does NYC have to do to make the waterfront part of your everyday life?" We are also looking to expand this outreach to local public schools through a collaboration with Brooklyn Boatworks.

We are holding meetings with various users of the waterfront—maritime groups, recreational boaters, to get feedback from them on their interests and priorities for the waterfront. These sessions are tailored for organizations and their members to have an opportunity to learn more about the next Comprehensive Waterfront Plan and share their input to shape the future of the city's waterfront.

Starting late Winter/early Spring, we will be holding public workshops in all five boroughs, giving communities the opportunity to discuss their local waterfronts. Should the Council like to partner with us on this outreach, we would be eager to work together.

This amount of outreach even surpasses the outreach we did for the last Comprehensive Waterfront Plan—and for good reason. All of this will help inform what we write into the plan as the plan is ultimately only as valuable as the ideas contained within it. The plan is not binding for the next administration and so public support is critical to see the work carried out beyond the current administration.

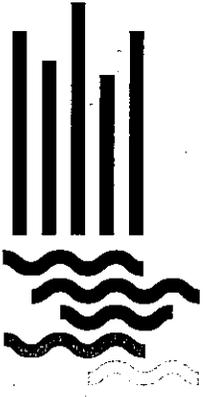
In addition to the public outreach, the plan is also deeply informed by the work of our partnering City, State, and Federal agencies. Though the plan is led by the Department of City Planning, the document is ultimately a reflection of the administration, which is why we are working closely with a long list of agencies: Parks, EDC, DEP, DOT, SBS, DCAS, DOB, DCLA, MOR, and many others. We are also working with New York State DEC and Department of State, who have provided us with a grant to help fund our work,

and are discussing elements of the plan with federal agencies, including the US Army Corps of Engineers.

In summary, the next 13 months will certainly be busy for me and my colleagues.

**Public Testimony – Roland Lewis, CEO and President
November 13, 2019
New York City Council Committee on Resiliency and Waterfronts
Re: Oversight – Comprehensive Waterfront Plan**

Waterfront Alliance is a non-profit civic organization and coalition of more than 1,100 community and recreational groups, educational institutions, businesses, and other stakeholders. Our mission is to inspire and enable resilient, revitalized and accessible coastlines for all communities.



Waterfront Alliance’s involvement with the Comprehensive Waterfront Plan has been extensive:

- In 2008, at the inaugural City of Water Day festival Speaker Chris Quinn proposed a new Comprehensive Waterfront plan for the City of New York. Working with the New York City Council, we helped draft and champion legislation to mandate the first update of New York City’s Comprehensive Waterfront Plan in 18 years and require that the City create a new plan every 10 years.
- Vision 2020: New York City’s Comprehensive Waterfront Plan was informed by diverse content gathered by the Waterfront Alliance in several public meetings.
- The Plan was recognized as an award-winning prescription for our harbor.
- In 2008 Waterfront Alliance championed legislation that reconstituted the Waterfront Management Advisory Board (WMAB) which had been dormant for decades, and more recently working with the Department of City Planning, we have once again breathed new life and relevancy to this oversight advisory group.

The Comprehensive Waterfront Plan is an essential tool for the City. Ten years after Vision 2020, a great deal of progress has been made in each of the eight goals outlined in the plan:

1. Expand Public Access to the Waterfront
2. Enhance the “Blue Network”
3. Support the Working Waterfront
4. Enliven the Waterfront
5. Restore the Natural Waterfront
6. Improve Water Quality
7. Improve Government Oversight
8. Increase Climate Resilience

City, State and Federal agencies have worked to realize many of the recommendations in Vision 2020 and the Waterfront Alliance is proud of championing many of these successes. These include:

- Extensive Wetland Restoration – Saw Mill Creek which is the first state and federally approved mitigation bank in New York City.
- Advocacy to bring citywide ferry service to all five boroughs serving millions of New Yorkers. Progress on a city-wide waterfront greenway
- Progress on multiple resiliency projects across the City, including various coastal protection measures in the Rockaways and Coney Island post-Sandy. A number of significant resiliency projects are getting underway in the next year after extensive planning including Living Breakwaters, Battery Park City and ESCR.
- Through the Waterfront Edge Design Guidelines (WEDG), we have promoted access, ecology and resilience at the water's edge. More and more designers, developers and government agencies are designing to manage risk at the water's edge while innovating in terms of public access and green infrastructure.
 - Examples of WEDG certified projects include Starlight Park on the Bronx River, SIMS recycling, Brooklyn Bridge Park and Hunters Point South in LIC – all projects created since the last Comprehensive Waterfront Plan.
- Provided direct waterfront access to several underserved New York City neighborhoods through our eco-dock program.
- Promoting a working waterfront that includes preserving the Red Hook Container Terminal and revitalizing the South Brooklyn Marine Terminal.

While we celebrate the great progress made under Vision 2020. More important, we look to meet the challenges in our harbor over the next decade:

- The Waterfront Alliance is honored to conduct information-gathering for the next Comprehensive Waterfront Plan with stakeholders and the general public at ten upcoming forums – we will explore the vulnerabilities, funding gaps, equity issues and design questions across all boroughs.
 - Vision 2030 must confront global climate change, which could cause sea levels to rise and dramatically alter the waterfront. The previous plan advocated for “conducting a citywide strategic planning process for climate resilience.” Meaningful legislation, such as Intro 1620, is needed to ensure that resources and focus should be turned to comprehensive resiliency planning.
 - New public spaces and coastal resiliency projects should be informed by community and environmental justice needs.
 - Waterways that have historic pollutants – Newtown Creek, Flushing Creek, and the Gowanus Canal, among others – still require a great deal of attention for ecological restoration

projects and new public spaces. Intro 1618 has been proposed to require NYC DEP to develop integrated watershed management plans for each of the waterbodies getting a CSO LTCP.

- New zoning and building code changes need to be explored - not just for building design standards but changes in the zoning code that allow to either "harden" or "soften" sections of the shoreline. We should be encouraging both private and public developers to make shoreline improvements.
- Maritime port investment and pier infrastructure will be explored to support growing industries like offshore wind and short sea shipping.

Finally, new and better governance to support the dynamic and changing challenges our harbor faces between the 10-year Comprehensive Waterfront Plans:

- Ten years should not go by without oversight or analysis of the Plan's progress. Two examples of recent developments:
 - Sea level at The Battery has been rising at a rate of 0.11 inches per year since 1850; however, new projections by the New York Panel on Climate Change report suggest the possibility of greater global mean sea level rise late in this century than previously anticipated. A new upper-end scenario projects 6.75 ft in the 2080s and 9.5 ft of sea level rise by 2100.
 - Ten years ago, very few were talking about wind power off our shores. Now it is government policy that will transform and expand our working waterfront to support offshore wind infrastructure, operations and maintenance.
- We need a Mayor's Office of the Waterfront housed in the Mayor's Office that will coordinate the many agencies that have jurisdiction over waterfront projects. While the WMAB exists to support this effort, a Mayor's Office of the Waterfront would be a better entity to provide oversight and coordination of these challenging proposals and projects.
- With land along the waterfront being held by a variety of public- and private-sector landowners, the waterfront will only be resilient and revitalized if a coordinated, well-planned approach is undertaken.
- Intro 928 has 45 co-sponsors. Let's make this law and fund this new office.

Thank you!

**Testimony of Catherine McVay Hughes before the
New York City Council Committee on Resiliency and Waterfronts
Oversight Hearing —Update on Comprehensive Waterfront Plan
Wednesday, November 13, 2019 1:00 PM — 250 Broadway, Committee Rm, 14th Fl.**

Good afternoon, Chair Brannan and Council Members Constantinides, Diaz, Sr., Rose and Ulrich. My name is Catherine McVay Hughes¹. I served 20 years on Manhattan Community Board One (CB1), half that time as Chair or Vice-Chair. Today I am representing the **Financial District Neighborhood Association** (FDNA). FiDi is home to roughly 50,000 residents and is the fourth largest business district in the country.

As of yesterday, the text for T2019-5328 was not available on the NYC Council Legislative Calendar website, so I will first focus on the status of the March 2011 *Vision 2020: New York City Comprehensive Waterfront Plan* (a 10-year vision for the future of city's 520 miles of shoreline) for REACH 2-LOWER MANHATTAN² — and then what needs to be included in the City's next 10-year vision to make sure that the Lower Manhattan 2011 plan is finally completed and that our community is protected from sea level rise, storm surge and extreme weather events.



REACH 2 2020 GOALS & PROGRESS

¹ Affiliations (for purposes of disclosure): Catherine McVay Hughes is a member of the Board of the Battery Park City Authority, CERES Presidents Council, Lower Manhattan Development Corporation, The Trust for Governors Island, South Street Seaport Museum, WTC Scientific Technical Advisory Committee, Princeton Climate Analytics Advisory Board and Storm Surge Working Group. She holds an MBA from the Wharton School of Business and a Bachelor of Science degree in Civil Engineering from Princeton University.

² Location: Southern tip of Manhattan, from the Brooklyn Bridge on the East River to Chambers St. on the Hudson, including Governors, Ellis and Liberty Islands Upland Neighborhoods: South St. Seaport, Financial District, Battery Park City

Reachwide

- Test feasibility of commuter ferry service on the East River connecting Brooklyn/Queens with Manhattan.

Brooklyn Bridge Area 1

- Explore path alternatives and improve upland connections to the waterfront.
- Improve west side of South St. sidewalk through widening tree plantings, seating, signage, art, and paving to provide safer access to waterfront.

East River Esplanade South 2

- Complete construction of esplanade between the Battery Maritime Building and Pier 35, including Pier 15 to feature water dependent uses, educational uses and cafe.

New Market Building 2.a

- Support redevelopment for interim or permanent use.
- Provide public waterfront access and amenities.

Pier 17 and TIN Building 2.b

- Improve waterfront access and connectivity.
- Encourage water-dependent uses as part of a mixed-use development.

Pier 16 2.c

- Improve with seating, railing, and landscaping.
- Create infrastructure to allow for future possibility of various in-water recreation activities, provided there are necessary measures to ensure safety.
- Promote continued use for historic vessels.

Pier 13 2.d

- Advance construction of pier before permit expires.
- Explore opportunities for educational resources, passive recreation, in-water recreation, based on the criteria described in the Citywide Strategy or other water-dependent uses.

The Battery 3

- Create continuous waterfront access from East River esplanade to Hudson River esplanade.
- Study means to improve pedestrian connectivity between Peter Minuit Plaza and the East River Esplanade South—options include moving the Battery Tunnel entrance further north and creating a plaza above the existing entrance in front of the Battery Maritime Building.
- Complete Battery Bikeway as part of Manhattan Waterfront Greenway.

Battery Maritime Building 3.a

- Provide elevated views to waterfront.
- Develop hotel, restaurant and community use.
- Consider expanded uses for ferry terminal.

Coast Guard Station 3.b

- Work with Coast Guard to incorporate esplanade.

Esplanade at the Battery 3.c

- Work with National Park Service to explore options for relocating Liberty Island screening tents.

Pier A 3.d

- Complete renovation and restoration for a vibrant public use.

Governors Island 4

- Commence development of Phase I Governors Island Park and Public Space Master Plan, including restoration of historic open spaces and improvements to all gateway dock facilities.
- Support planned development of the Urban Assembly New York Harbor School.
- Encourage adaptive re-use of buildings.
- Explore possibility of boat tie-ups.
- Provide ball fields, active recreation space, and community gardening.

Statue of Liberty & Ellis Island 5

- Work with National Park Service to improve transportation access to destinations.

https://www1.nyc.gov/assets/planning/download/pdf/plans-studies/vision-2020-cwp/reach_maps/reach2.pdf

Reachwide: ferries and tour boats need to minimize their carbon footprint, noise and wake

1	Still being planned	2d	Nothing done
2	Explanade construction not begun between Pier 17 and Brooklyn Bridge; no educational use on Pier 15	3	Completed
2a	Still being planned	3a	Construction in progress
2b	Pier 17 complete; Tin Building under construction	3b	Nothing done
2c	No improvements or new infrastructure	3c	Nothing done
		3d	Completed
		4	Some development under way
		5	Ticket vendors still a problem

One year after the release of *Vision 2020* in 2011, Superstorm Sandy devastated NYC. Sandy caused 48 deaths in New York, \$71 billion in regional economic damage, with \$19 billion in losses to NYC. While

the immediate impact lasted only weeks, major infrastructure systems, including transit, electrical and telecommunications systems, sustained lasting damage, some of which is still not fixed.

The Financial District-Seaport Climate Resilience Master Plan which was announced in March 2019 just had its first meeting in October to kick off a two-year planning process with a Conceptual Timeline with no specific dates. Currently the City's Interim Flood Protection Measures (IFPM) are only north of Wall Street, so the segment between Wall Street and The Battery remains at risk.

In conclusion, Sandy taught us the importance of preparation and investment to prepare for the worst potential impacts of global warming. A few things to remember:

- **Future of National Flood Insurance Program (NFIP) continues to be uncertain** – “If the NFIP expires, the residential housing market in at-risk areas could effectively grind to a halt, as potential buyers would no longer be able to obtain the insurance required by the banks responsible for issuing mortgages to these individuals....The NFIP is USD 20 billion in debt, even after Congress forgave USD 16 billion in November 2017. Additional claims this year from hurricanes Florence and Michael will only serve to deepen the hole the NFIP finds itself in”³. We do not know if or how much the federal government will assist in rebuilding our communities after the next Sandy.
- **Moody's, a major credit rating agency, added climate to credit risks and warns cities to address their climate exposure or face rating downgrades.** In addition, **S&P ratings incorporate Environmental Sustainable Governance Guidelines (ESG) and Climate to the extent that it affects an entity's ability to pay its debt.** Cities that suffer downgrades will not be able to make the investments they need, including the investments required to adapt to climate change and to recover from future storms.
- **2018 Global Disasters Cost \$160 Billion** – a third of that total (\$80 billion) came from just four events in the United States; Climate Change a Factor, says Insurance company [Munich Re Report](#)⁴

Action items remaining for Vision 2020 and what needs to be included for Vision 2030:

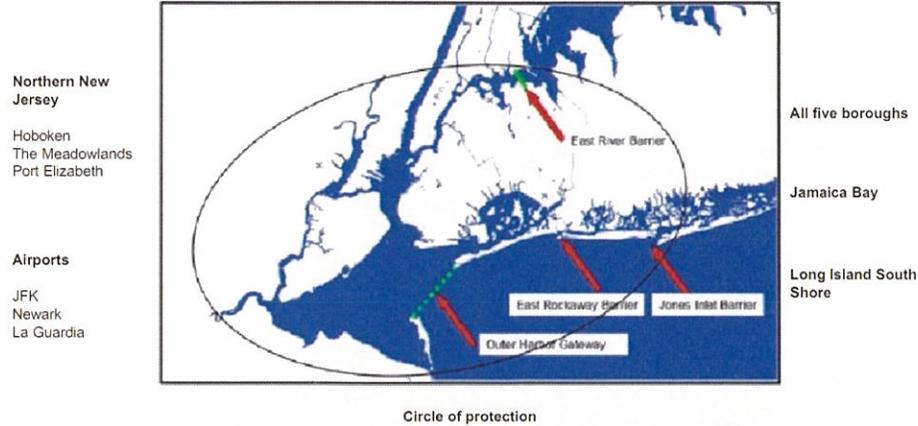
- **Complete Vision 2020 Goals that should have been completed by next year**
- **Incorporate Resiliency Planning and implementation in the Capital Budget (2020 Plan)** – only the funding for a study for the [Lower Manhattan Coastal Resiliency \(LMCR\)](#) for the **Financial District-Seaport Climate Resilience Master Plan** has been funded. The funding for the prior LMCR study was insufficient.
- **Construct a layered defense of local sea walls and a Regional NY Harbor Storm Gate System to address future sea level rise and storm surges**⁵– A local perimeter of land-based seawalls will be necessary to provide protection from rising sea levels, however, huge storm surges are best addressed by a layered defense system built around a regional storm surge sea gates system⁶ that vastly shortens the coast line (here roughly 1,000 miles down to less than 10 miles) and provides comprehensive protection against the devastation caused by occasional, hard to predict, massive storm surges. The U.S. Army Corps of Engineers (USACE) is only at the beginning of a long process in its evaluation of a Regional Storm Surge Barrier. Its New York-New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study includes Natural and Nature-Based Feature

³ <https://www.air-worldwide.com/Blog/What-Happens-if-the-NFIP-Does-Not-Get-Another-Extension/>

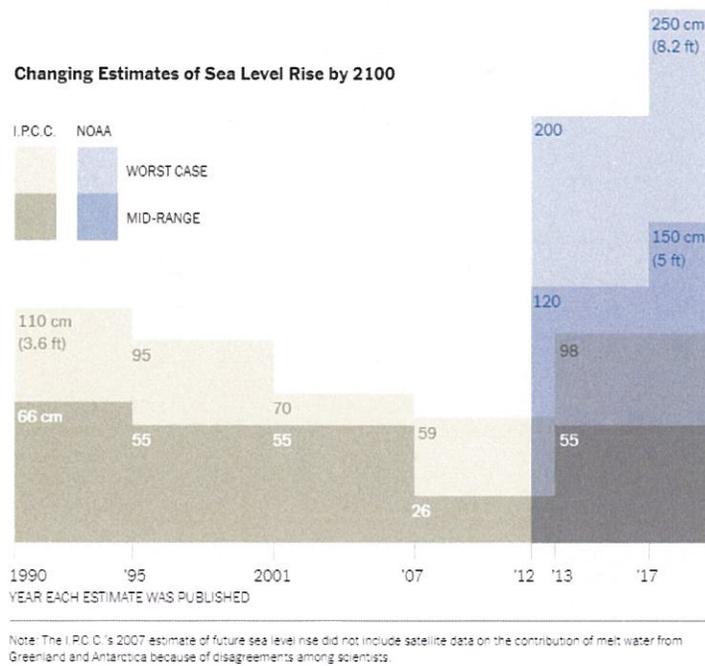
⁴ <https://weather.com/science/environment/news/2019-01-09-disasters-cost-damage-climate-change>

Examples such as Tidal Marsh, Vegetated Dune, Oyster Reef, and Freshwater Wetland. It is imperative to save the Metropolitan Region while maintaining a healthy Hudson and East River.

Protecting the Region from Future Storm Surge Disasters



- **Equitable waterfront access, and amenities** – including in CB1; East River Waterfront immediately south of Brooklyn Bridge continues to have an East River Esplanade in disrepair and only a thin strip of open space south of Pier 15 through The Battery. If there will be additional land added through the extension of the waterfront, open space needs to be created for the densest community in the country since dozens of skyscrapers were added since September 11, 2001.
- **Incorporate Changing Estimates of Sea Level Rise in waterfront projects**



<https://www.nytimes.com/2019/11/08/opinion/sunday/science-climate-change.html>



Testimony of:

Michael Dulong, Senior Attorney, Riverkeeper, Inc.

before the

**New York City Council
Committee on Resiliency and Waterfronts**

on the

2020 New York City Comprehensive Waterfront Plan

November 13, 2019

Thank you, Chairman Brannan and the New York City Council Committee on Resiliency and Waterfronts, for the opportunity to testify concerning the Department of City Planning's forthcoming New York City 2020 Comprehensive Waterfront Plan.

Riverkeeper is a member-supported watchdog organization dedicated to defending the Hudson River and its tributaries and protecting the drinking water supply of nine million New York City and Hudson Valley residents. As part of our mission, we sample water quality throughout New York City, monitor city shorelines for evidence of pollution, and fight to ensure shorefront development proceeds in a sustainable manner.

Previous Comprehensive Waterfront Plans, which the Department of City Planning ("DCP") issues each decade, have helped guide New York City's land use decision-making in myriad ways that affect our waters. While the plan has the power of DCP, it has much greater influence, matching its ambition with the strength and practicality of its ideas.

For instance, the 1992 Comprehensive Waterfront Plan designated three Special Natural Waterfront Areas ("SNWAs") in Northwestern Staten Island, Jamaica Bay, and the East River-Long Island Sound area. These SNWAs protected sensitive wetlands and habitat areas and had the added benefit of preserving livable and desirable communities. The plans have also resulted in decades of restoration projects that improved habitats and ecosystems on hundreds of acres throughout the city.

The Comprehensive Waterfront Plans were also the driving force behind our waterfront greenways and parks, providing New Yorkers with more than 1,000 acres of publicly accessible

waterfront. This is in addition to the waterfront access on private property under zoning that requires developments to provide space for public access to the water. My neighborhood in Williamsburg has been a great beneficiary of this. Riverkeeper has also supported the zoning changes proposed by a previous Waterfront Comprehensive Plan to keep some areas as working waterfronts, such as Newtown Creek, Sunset Park, and parts of western Staten Island.

In the leadup to the 2020 Comprehensive Waterfront Plan, known as “Vision 2030,” we have met with the DCP to propose some of our ideas for what the city’s waterfront could look like. DCP has been very open to listening and discussing ideas with us, and we hope this dialogue will continue. We also look forward to participating in the public forums being held jointly by DCP and Waterfront Alliance on the 2020 plans.

While much of the work of designing the 2020 plan still lies in front of us, Riverkeeper has recommended projects and policy changes derived from our own vision planning for Newtown Creek and Flushing Waterways. In Newtown Creek, which separates Brooklyn and Queens, some of these ideas include street end parks, a continuous loop greenway on and around Dutch Kills, and the restoration of Maspeth Creek to a wetland. In northern Queens, we propose a pedestrian bridge over Flushing Creek to connect the neighborhood of Flushing to World’s Fair Marina, along with added amenities for Flushing Bay Promenade in East Elmhurst, including activity areas, native plantings, and tiered seating.

One of Riverkeeper’s key policy recommendations is akin to the waterfront access requirements that are now necessary for residential buildings. There is no requirement for industrial properties to provide public access to their waterfronts. While those facilities that utilize their shoreline would still rightly preclude any public access, there are many that do not, such as office buildings and storage warehouses. At these sites without a waterfront use, we recommend that the shoreline be made publicly accessible.

We have also recommended that the Comprehensive Waterfront Plan propose a grant program for industrial sites with green shores and/or green roofs. That is, industrial facilities with green roofs and natural shorelines should be rewarded for their stewardship and the water quality and ecosystem benefits that result.

These are some of the great initiatives the Comprehensive Waterfront Plan *can* undertake. But there are others it *likely will not* accomplish. While resiliency measures must be a priority in this plan, the DCP currently does not have the resources or the timeframe necessary to create a resiliency plan for all 520-miles of our city’s coastline. In order to meaningfully incorporate public input for complex plans to protect our nature preserves, beaches, residences and industrial facilities—and everything in between—a real resiliency plan for New York City likely cannot be completed by the end of 2020. Yet we must pursue one, because New Yorkers know best how to protect ourselves from sea level rise and storm surge. Therefore, we urge you to continue pursuing and refining Intro 1620 to develop such a plan.

Based on past Comprehensive Waterfront Plans, it is also exceedingly unlikely that this plan will do anything to reduce pollution to make our waters fishable and swimmable. The city discharges more than 20 billion gallons per year of raw sewage and polluted stormwater into the harbor, making city waters unsafe for human contact on 1/3 of the days in 2018. Not a single one of the city's 11 long-term control plans will address this sewage to bring the waterways into compliance with the federal Clean Water Act and state water quality standards. Therefore, they will remain often unsafe for recreation. Instead of prioritizing water quality, DCP's previous Comprehensive Waterfront Plans have not dealt with this issue, but instead reiterated pre-existing plans of the Department of Environmental Protection ("DEP"), allowing that agency to merely continue on its course.

Crucially, our waterfronts are only attractive when water quality allows. All waterfront uses—from recreation and aesthetic enjoyment to the ability to develop and operate businesses on contaminated waterfronts—are directly affected by the quality of the waterway. Under the de Blasio Administration, there is a firewall between resiliency planning (in the Office of Recovery and Resiliency ("ORR")) and sewage and stormwater reduction (in DEP). You can tell this is the case when ORR defers to DEP on all sewage and water quality issues during City Council hearings. Despite city forecasts for significantly increased precipitation and rising sea levels, planning for sewage reduction is not being done in conjunction with resiliency planning or zoning. Our sewage contamination problems, as bad as they are now—with more than 20 billion gallons of raw sewage discharged to our waters each year—likely will grow worse.

Therefore, we urge you to pass Intro 1618, the sewage study bill, which would require DEP to identify potential pollution reduction measures, including inventorying pollutant conditions in city waterways; identifying green infrastructure opportunities; studying unintended impacts of chlorination; and evaluating pollution reduction measures holistically instead of focusing only on combined sewage outfalls. The DCP simply does not have the capacity or the impetus to evaluate these issues. City Council leadership is necessary.

* * * *

Riverkeeper thanks the Committee on Resiliency and Waterfronts for the opportunity to participate in today's hearing and for the important role that the City Council continues to play in stewarding our water and waterfront. We look forward to continuing to work with the Council and with DCP to ensure clean, healthy, usable and enjoyable waters for all New York City residents.

Contact:

Michael Dulong, Riverkeeper, Inc., 914.422.4133, mdulong@riverkeeper.org

To: Committee on Resiliency and Waterfronts, the New York City Council

Re: Oversight Hearing: Update on New York City Comprehensive Waterfront Plan,
November 13, 2019

As a member of the New York Panel on Climate Change, associated with Columbia University and the Goddard Institute for Space Studies, I was lead author on the sea level rise chapter, and worked closely with Philip Orton and others on the coastal flooding chapter in the recently published NPCC 2019 report: *Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration*. Rosenzweig, C. and Solecki, W. (eds). *Ann. New York Acad. Sci.* 1439.

The current *Vision 2020: New York City Comprehensive Waterfront Plan* outlines a set of ambitious goals designed to enhance the usage of the city's extensive waterfront for multiple uses, including recreation, economic development, environmental restoration, and greater waterfront accessibility. It clearly attempts to balance the diverse needs of the multiple stakeholders who have an interest in the waterfront's future. The following comments focus on Goal 8 which is specifically intended to strengthen the city's resilience to climate change and sea level rise. Goal 8, as it now stands, acknowledges the New York City Panel on Climate Change's conclusions of potentially higher sea levels and increased coastal flooding by the 2050s and it also outlines a wide range of resiliency strategies and projects that should be undertaken in response. However, a later chapter that examines specific neighborhood improvement strategies does not refer to many of the approaches discussed at length elsewhere in this and other city reports, designed to strengthen neighborhood resiliency to future coastal hazards. Instead, the emphasis appears to be mainly on improved pedestrian access, beautification plans, and needed infrastructure repairs or upgrades. The updated report should include neighborhood-specific coastal protection measures as well.

Moving ahead to *Vision 2030: New York City Comprehensive Waterfront Plan*, the updated report should be sure to include key findings from recent city reports relating to climate resiliency and sea level rise, such as: *Safeguarding Our Shores: Protecting New York City's Coastal Communities from Climate Change*, Bureau of Policy and Research, May 2019; *Zoning for Coastal Flood Resiliency: Planning for Resilient Neighborhoods*, Department of City Planning, May 2019; Lower Manhattan Climate Resiliency Study, NYCEDC and Mayor's Office of Recovery & Resiliency, March 2019; and *NPCC 2019: Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration*. Rosenzweig, C. and Solecki, W. (eds).

Although uncertainties remain as to how much sea level will rise by 2100, most models agree that the rate of sea level rise will increase significantly beyond the 2050s, especially at high rates of greenhouse gas emissions. Therefore, coastal resiliency planning needs to consider sea level rise beyond the 2050s, especially for long-lived infrastructure projects. Recent ice sheet trends and improved understanding of ice sheet-ocean-atmosphere interactions raise the prospects of even higher sea levels than previously projected. In looking ahead, planners also need to be aware of possible high consequence, extreme upper-end, low probability scenarios. The NPCC 2019 report examines one such extreme scenario that incorporates potential ice sheet

instabilities. However, it should be emphasized that the NPCC (2015) sea level projections remain the scientific basis for climate change adaptation guidelines for New York City at this time.

Sea level will likely continue to rise well beyond 2100, because of the longevity of carbon dioxide in the atmosphere even after greenhouse gas emission stabilization. Although some carbon dioxide is removed within decades after cessation of further emissions, most carbon dioxide remains in the atmosphere and could take centuries to millennia to slowly dissipate. This, and slow heat penetration into the deep ocean, ensures continued higher temperatures and sea level rise long after 2100. During this extended period of sustained warmth, continued ice losses on Greenland and Antarctica could become quite substantial.

Because of the enormous economic and societal consequences to New York City of significantly higher sea levels, appropriate land use zoning and land use should become an important planning tool, in addition to the broad suite of other proposed resiliency measures. It seems ill-advised to keep building high density structures in or near today's high flood-prone areas (which will expand landward with sea level rise) even although the building themselves conform to stricter flood-protection standards. What about nearby street or major transportation route access during major flood events? Will these new coastal high-rise areas become islands in a surrounding sea of floodwater? Perhaps it is also time to consider some unconventional future approaches such as increasing boat accessibility through waterfront re-development, constructing floating neighborhoods, multi-purpose levees as in the Netherlands, and as the need arise, replacing streets with canals. Planners also need to establish thresholds or tipping points when specific actions need to be taken and the optimum timing of when to implement such measures.

Another often overlooked consideration is that coastal floods do not always remain within mapped flood risk boundaries. Existing flood models may not be able to predict exact flood drainage pathways and flood depths, because of subtle differences in topography and land use, not mapped. Nor do present FEMA flood maps fully account for flooding from combined coastal storm surges and heavy rainfall--a still active area of research, nor do they currently include future sea level rise. The NYC Flood Hazard Mapper (NYC Dept. of City Planning) shows areas potentially affected by the 100-year flood with future sea level rise in the 2020s, 2050s, 2080s and 2100, based on findings from the *NPCC 2015: Building the Knowledge Base for Climate Resiliency: New York City Panel on Climate Change 2015 Report*. C. Rosenzweig and W. Solecki, eds. The landward extension of the 100-year and monthly tidal floods, based on results from the NPCC 2015 and 2019 reports, is shown on Figures 1 and 2 below.

Some New York city neighborhoods already experience "sunny day" or tidal flooding, particularly around Jamaica Bay. With rising sea levels, the frequency of "nuisance flooding" will increase, and monthly high waters may become a daily event. Goal 8 of the NYC Comprehensive Waterfront Plan recommends a broad array of risk reduction and adaptation approaches, including "retreat", preferably referred to as "managed relocation". This latter approach, although implemented successfully in a few Staten Island neighborhoods with buyouts after Hurricane Sandy, is generally not very popular in most neighborhoods. Most coastal residents still prefer to remain in place and rebuild, although they may face increasing hardships in meeting FEMA's tighter flood protection requirements to qualify for flood insurance.

Figure 1. Expansion of the 100-year return period floodplain over time in New York City with sea level rise, based on the results of the NPCC 2015 and 2019 reports, assuming no other changes in shoreline due to either coastal erosion or flood protection measures. (It should be kept in mind that these maps are for informational purposes only and should not be used for assessments of actual coastal hazards nor for meeting insurance requirements. They are based on model estimates that contain uncertainties and are subject to change as new information becomes available).

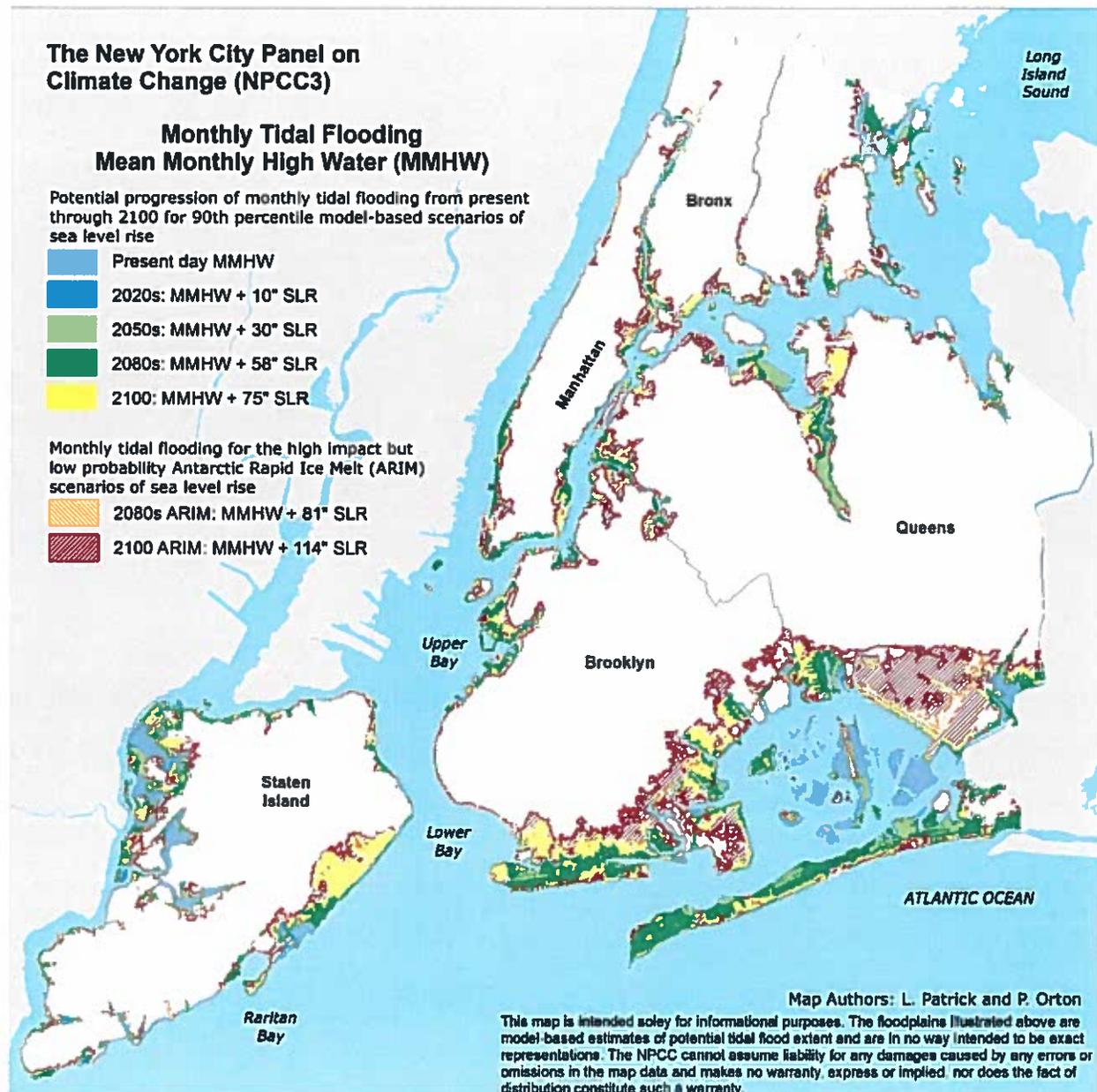
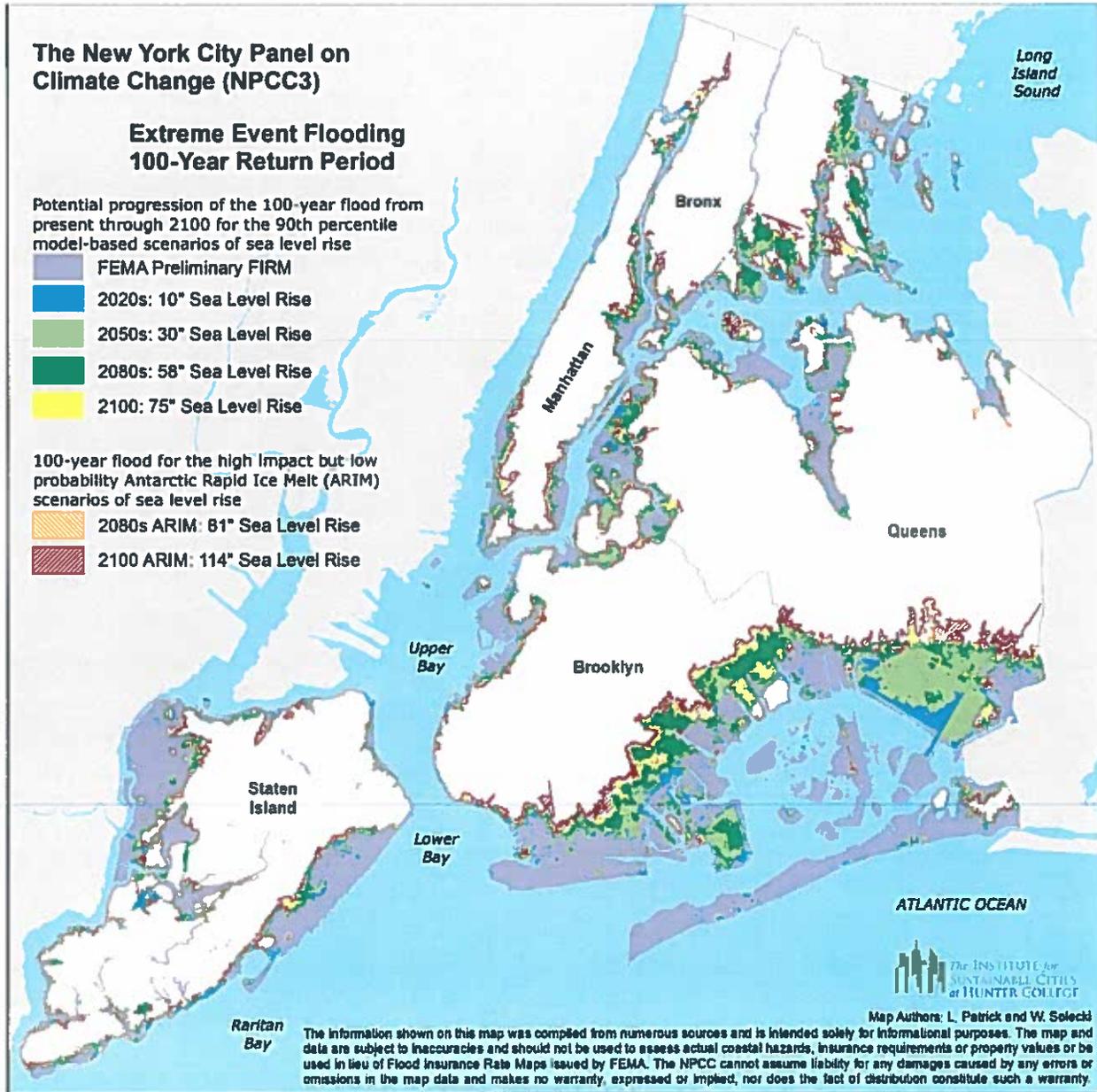


Figure 2. Expansion of monthly tidal flooding over time in New York City with sea level rise, based on the results of the NPCC 2015 and 2019 reports, assuming no other changes in shoreline

Furthermore, increased frequency of sunny day, or tidal, flooding will increase far sooner than actual land submergence. A time may come when even the proposed suite of shoreline stabilization methods outlined in city reports, even if all are implemented, may not suffice against future sea level rise, especially for high end scenarios at high greenhouse gas emissions levels, toward the end of this century. Then managed relocation may become a necessity, with many hard decisions and high associated costs.



due to either coastal erosion or flood protection measures. Again, these maps are simply informational and should not be used in planning.

Key points

- *Vision 2030: New York City Comprehensive Waterfront Plan* should itemize neighborhood-specific coastal protections as well as greater waterfront accessibility, neighborhood improvements, and needed infrastructure repairs or upgrades.
- The updated waterfront plan should include key findings from other recent city reports.
- Appropriate land use planning should become a priority.
- Future coastal resiliency planning should prepare for the greatest increases in sea level after the 2050s, particularly for long-lived infrastructure.
- Planners should be aware of possible high consequence, extreme upper-end, low probability scenarios by 2100, under high emissions scenarios.
- The longevity of atmospheric carbon dioxide after greenhouse gas emission stabilization leads to sustained warmth, continued ice sheet melting, and higher sea levels after 2100.
- Planners should be aware of the limitations of flood risk maps.
- Planners should also consider unconventional coastal adaptation measures such as greater boat transportation, floating neighborhoods, multi-purpose levees as in the Netherlands, and canals serving as streets.
- Managed relocation, although unpopular today, may become necessary for certain neighborhoods in the future.

FRIENDS OF THE EAST RIVER ESPLANADE

60th - 120th St

November 13, 2019

My name is Dr. Jennifer Ratner and I am the Board Chairperson of Friends of the East River Esplanade (60th – 120th Streets), the conservancy for the waterfront that stretches from East Harlem down to Yorkville and the Upper East Side, the only contiguous area of waterfront in that area. We are community members who love and use the waterfront – runners, bikers, walkers and fishermen. Our organization is dedicated to the restoration and reinvention of this beautiful and precious waterfront.

Unfortunately, this Esplanade is quite literally falling in. As you may recall, a section of the Esplanade seawall fell into the East River behind Gracie Mansion in 2017, dragging fencing and part of the walkway with it. Luckily, there was no loss of human life in this incident. There are other areas where you can see the East River water lapping beneath-spots there for not days or months, but for years. Some of the necessary funds for repair have been allocated in past budgets, but we are urging full funding for these repairs so they can be done in an expedient manner and so the City does not have to do emergent patch repairs.

We are grateful that earlier this year the East Harlem waterfront received a \$75 million allocation in the City budget for the rebuilding and repair of the Esplanade. However, the NYC Parks Department reports that they will not begin to spend this allocation for another two years, even though the planning and need for repairs has existed for about a decade. Our organization believes that NYC EDC likely would spend these funds faster and allow East Harlem to enjoy its waterfront sooner—so that we don't have to wait for another generation to lose out on a beautiful waterfront.

Another of our main focal points has been the Pier at 107th Street. This pier (which won an architectural award just a few decades ago) is now also literally falling in. It is crucial that we build a resilient, state-of-the-art pier right now so this deserving community can enjoy recreational activities, boat access, fishing,

commerce and much more. The plans already exist and this is what the fishermen, families and residents of the East Harlem community deserve. This plan could be a model of reinvented waterfront in the inner city for all of New York and, indeed, the nation. There is already approximately 3 million dollars of state funding committed to the rebuild and the estimate for a full rebuild is approximately 18 million dollars.

Esplanade Friends wholeheartedly supports the budget allocation for a new Esplanade just south of 60th Street. At the same time, we urge you to fund the expeditious repair of the waterfront that already exists and the resilient, state-of-the-art Pier 107 that East Harlem and the East Side deserve.

Friends of the East River Esplanade (60th – 120th Streets), Inc. is a nonprofit organization recognized under section 501(c)(3) of the Internal Revenue Code.

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Name: Luke Gayford

Address: 6 Fort Hill Circle S.I., N.Y. 10301

I represent: The S.S. Lilac restoration project.

Address: Pier 25 Hudson River.

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