WAGNER PARK SITE ASSESSMENT AND SOUTH BATTERY PARK CITY RESILIENCY PLAN

EXECUTIVE SUMMARY

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1. Introduction

In the years since Wagner Park opened in 1994, much has changed: New Yorkers' sensibility toward public spaces, the water and waterfront access has become more sophisticated. Lower Manhattan suffered a devastating tragedy in 2001 but has recovered to become an incredibly vibrant mixed-use neighborhood and one of the City's biggest tourist destinations. In the immediate vicinity of Wagner Park, pedestrian activity has burgeoned, and the revitalization of Pier A has established a destination on the Park's eastern edge.

Notwithstanding the enormous pace of change and transformation in Lower Manhattan, no change carries the prospects for as many significant, long-term impacts to the area, and to the Wagner Park environs in particular, as the increasing manifestations of climate change -- including severe storms with storm surge and flooding at greater frequencies, along with science's projections for significant future sea level rise.

The Wagner Park Site Assessment included a comprehensive assessment of the vulnerability of the area surrounding the Park (including Pier A Plaza) to the risks associated with climate change and the factors involved in creating an effective and appropriate resiliency strategy, one that could eventually be tied into the City's Lower Manhattan Coastal Resiliency Project. Included in the study's scope were considerations of the Park itself and its pavilion and what opportunities the ultimate resiliency strategy may afford to improve the functionality, appeal and efficiencies of the Park.



Study Area

2. Planning Objectives

- Use the property to provide resiliency protection for upland areas.
- Improve the park, for use by BPC residents.
- Improve maintenance and support facilities.
- Extend the Esplanade thru to Pier A and the Battery.
- Provide better opportunity for food and beverage.

3. Overall resiliency context



100 yr flood & Sandy 2012 inundation map

The Wagner Park study area occupies a location that is one of the most vulnerable in Lower Manhattan to tidal inundation, including portions of Wagner Park and Pier A Plaza, which are located at elevations which make them particularly vulnerable to storm surge. The study area also occupies a pivotal location, between the larger Battery Park City perimeter resiliency concept that begins just north of Wagner Park (primarily utilizing existing building faces and garden walls as the basis of a new storm barrier), and the Lower Manhattan Coastal Resiliency protection line as it approaches the study area from the east.

4. South Battery Park City Resiliency Plan

Based upon the resiliency analysis performed during the study, the Assessment Team recommends a discrete Phase 1 flood barrier project that can serve as a stand-alone waterfront barrier, affording flood protection to a significant portion of South Battery Park City and the southwestern corner of the Financial District. The resulting South Battery Park City Resiliency Plan would involve extending the barrier line from the eastern terminus of the study area (at the northeast corner of Pier A Plaza), along Battery Place east to State Street, and from the northern terminus of the study area (adjacent to the Museum of Jewish Heritage) north to First Place.

The South Battery Park City Resiliency Plan would be carefully coordinated with the Lower Manhattan Coastal Resiliency Plan so that it is positioned for tie-in at such time as the Lower Manhattan Coastal Resiliency barrier line approaches the Battery from the east.



Overview of lower Manhattan elevations and proposed standalone phase 1 flood barrier



BPCA Resiliency plan

5. Deployable Flood Barrier Concept

Flood Barrier System

Because a portion of the flood protection line of the South Battery Park City Resiliency Plan will cross just below the southern terminus of Route 9A, the Hudson River Park Greenway and the newly designated Empire Trail, it is important that views and access to the water be preserved to the greatest extent feasible.

The preferred deployable flood barrier system uses flood gates that are stored in the ground and raised in the event of a storm condition. In the raised position, the barriers are supported between columns spaced at a uniform distance of approximately 15 feet, which is the length of the individual flood wall units. The structure is a repeating unit, and each segment of flood wall is linked to form a continuous protective wall.



Foundation base assembly with sheet piles



Foundation base with batter piles and rock anchors

6. Deployable Flood Barrier Design Integration

Precedent: Georgetown Harbor

The type of deployable flood barrier system envisioned for most of Wagner Park and for Pier A Plaza can be found in current operation in Georgetown Harbor in Washington, D.C. [Part of the barrier system in the Park is formed by the wall of a newly constructed pavilion structure as discussed in next section]

This system, which has been in use since 1986, is deployed manually. While simple and

efficient to operate, this system has several benefits: It does not rely on expensive-tomaintain technology, and it does not depend on components being delivered from off site, which would add significant time & expense and risk in the event that the the gates are deployed.

The specific forms and technologies for the segment of the flood barrier that would extend

from Pier A Plaza along Battery Place to State Street have not been definitively identified in this study. This will require further analysis as part of a future engineering project. Additional engineering for this segment will be required to analyze a suitable means for spanning the Battery Park Underpass and the Brooklyn-Battery Tunnel.



Georgetown Harbor: deployable flood barrier columns during non-flood condition



Georgetown Harbor: barrier being deployed



Georgetown Harbor: barrier raised during flood

Columns as Civic Design

When the flood walls are not deployed, they are stored in the ground and not visible, allowing views and access to the park. The freestanding supportive columns, which remain in place permanently, will be designed as civic elements for the Park and the Plaza, while working with the structural specifications required to support the flood walls.

Freestanding columns have a long history as design elements in public environments including many examples in New York City parks. At Wagner Park, the columns can be designed as a mediating element between the new pavilion and the landscape. They can also incorporate other park amenities such as lighting or charging stations for mobile devices.



Hudson River Park near Morton Street, NY



Target Field, Minneapolis, MN

7. Wagner Park Resiliency Concept

The resiliency concept for Wagner Park relies on both deployable barriers and a new pavilion designed to function as a barrier against storm surge. The combination of the two systems forms a continuous barrier from First Place to State Street.



South Battery Park City Resiliency
Deployable Flood Barrier Border
Building as Continuous Flood Barrier
Lower Manhattan Coastal Resiliency

Continuous line of protection formed by the new proposed pavilion and deployable flood barrier.

8. Wagner Park Landscape Concept

The South Battery Park City Resiliency Plan envisions building upon the most successful and popular features of the Park while further expanding upon the range of settings it encompasses. This includes:

- Preserving and expand the ornamental gardens
- Increasing the accessibility and usability of the lawn, with one contiguous area extending from the Museum of Jewish Heritage to the new proposed wetlands on the west side of the Pier A Cove
- Introducing a new wetlands to improve the water quality and environmental quality of the cove, and a woodlands area, representing the transition between "river and meadow."
- An outdoor stage area for seasonal use.



Landscape concept

9. Wagner Park — Use Allocation

The proposed Wagner Park landscape concept of the South Battery Park City Resiliency Plan enhances the quality of the Park experience by:

- expanding the ornamental gardens; •
- simplifying the lawn; ٠
- increasing the planted areas to include a • new wetlands feature at the Pier A cove: and
- reducing existing paved areas. ٠



Existing

Total	116,500 sf	Total	116,500 sf
Water	3,000 sf	- 3,000 sf	0 sf
Yard	1,600 sf	+ 900 sf	2,500 sf
Building	8,000 sf	- 1,700 sf	6,300 sf
Hardscape	43,400 sf	- 8,300 sf	35,100 sf
Wetland + Woodland	0	+ 9,600 sf	9,600 sf
Lawn	39,500 sf	+ 500 sf	40,000 sf
Garden	21,000 sf	+ 2,000 sf	23,000 sf
Landscape Category	Area	Change in Area	Area



Proposed

10. Woodland–Wetland Gardens

The proposed Wagner Park landscape concept of the South Battery Park City Resiliency Plan enhances the quality of the Park experience by expanding the ornamental gardens and lawn, increasing the planted areas to include a new wetlands feature at the Pier A cove, and reducing existing paved areas. The excess of the wetland excavation can be reused to create topography elsewhere in the park, expose park users to even better waterfront views and protect valuable assets by elevating the overlook and the building up to a higher elevation. As part of the integrated flood protection system, the new wetland-woodland transect will make Wagner Park and Battery Park City more resilient to the rising tides and more enriched to its residents and visitors.



Section showing Native Ecology Transect: The proposed wetland and woodland areas make a gradual topographic transition from the central lawn down to the water's edge. Instead of the existing wall and riprap which bring the esplanade to an abrupt end right before it could reach Battery Park, this new transect will not only establish better visual and physical connections to Battery Park and Pier A, it will also create a more natural and diverse ecological environment for Wagner Park, adding new types of gardens with native wetland and woodland plant species, as well as offering a rare opportunity along the west bank of Manhattan to get down close to the river.

11. Wagner Park — Pedestrian Access/Navigation

Added pedestrian benefits:

- continuous waterside Esplanade connecting Battery Park City and Pier A/ Plaza;
- new bridge + overlook providing direct access to Pier A
- elevated overlook with unobstructed panorama; and
- simplified, intuitive accessways into and through the Park.



12. Wagner Park — Existing Pavilion

Following an evaluation of the existing pavilion and its compatibility with the study's resiliency objectives, the Assessment Team recommends that the existing pavilion be replaced with a new pavilion structure. The South Battery Park City Resiliency Plan envisions a new structure of similar footprint that would be able to form a critical component of the Park's flood barrier system.

Existing pavilion considerations relevant to the need for a replacement structure include:

- The first floor is below target protection elevation;
- Exterior envelope is not resilient and would not accommodate built-in resiliency measures;
- Extensive repair/remediation required, plus code-required upgrades, and atypical future maintenance and repairs (due to harsh marine environment and nature of original detailing) approach cost of new construction;

- Even if repaired and upgraded:
 - » New flood barrier would be required to be built around, rather than as part of it;
 - » Parks maintenance and storage space would be inadequate;
 - » No flexible space would be available for BPCA auxiliary needs such as security outpost or site office;
 - » Food and beverage space would be inadequate for current or enhanced restaurant operations;
 - » Underground cistern for storage of storm water would not be accommodated.



Efflorescence on west elevation façade, northern structure



Existing Wagner pavilion

13. Park Pavilion Programming

The new Wagner Park pavilion, in addition to forming a significant element of the flood barrier system for the South Battery Park City Resiliency Plan, is intended to offer enhanced utility and support for the Park by creating improved maintenance, storage and service yard space for BPCA Parks operations and improving space utilization for the public restrooms located within the pavilion. Additional space provided for food and beverage operations will allow for adequate kitchen/service areas and seating capacity similar to that provided by the existing pavilion (including exterior dining space) while employing contemporary restaurant space standards and accessibility requirements. The inclusion of a second-floor publicly-accessible roof deck and community room offer additional Park enhancements.



Program	Existing Usable Area	Proposed Usable Area
Restaurant	3,450 sf	5,000 sf (ground floor)
		1,200 sf (second floor)
Maintenance/Auxiliary	2,100 sf (partial height space)	1,100 sf (full height space)
Restrooms	1,310 sf	900 sf
Community Room	N/A	1,200 sf
Roof Deck	3,126 sf	3,200 sf (public)
		1,400 sf (restaurant)
Steps and landings	3,968 sf	-
Service Yard (Open to Above)	960 sf	3,000 sf
Total	14,914 sf	17,000 sf

14. Park Pavilion as Flood Barrier

The proposed pavilion would need to be built to a height sufficient to allow the building to act as a barrier for flooding and storm surge. The plan assumes a Design Flood Elevation of El +16.5 NAVD 88, per the Design Flood Elevation provided by the Mayor's Office of Rebuilding and Resilience, and the Lower Manhattan Coastal Resiliency Team.



The proposed pavilion would need to be built to a height sufficient to allow the building to act a barrier for storm surge.

15. Siting of a New Pavilion

The proposed program should be provided within a footprint that stays within the area defined by the site's three view corridors.

The new pavilion should occupy within footprint constraints

16. Key Park Places

The proposed plan for Wagner Park can be seen as a series of places, building on, and enhancing what exists. These places form areas for people to enjoy the park individually, or in small groups, yet are integrated into a bigger whole.

Key places with programs

Sketch of The Lawn looking toward Pier A

Sketch view from New South Garden with proposed Woodlands in the foreground

17. Public Engagement and Outreach — Meetings/Presentations

The Team's public engagement efforts consisted of dozens of meetings with local stakeholders; meetings with public agencies and elected officials; participation in larger format open public and community meetings; and an online survey. These meetings are detailed below.

Public Agencies and Elected Officials

- Governors Office (10/28/16, via webex)
- Lower Manhattan Coastal Resiliency Team (1/6/17 and 5/16/17)
- Mayors Office of Recovery and Resiliency (1/13/17)
- State Senator Daniel Squadron (2/10/17)
- Manhattan Borough President Gale Brewer (5/17/17)

Town Hall Meeting, November 9, 2016

Open Public Meetings

- CB1 BPC Committee Meeting (4/5/16)
- BPC Open Community Meeting (4/13/16)
- BPCA Board Meeting (9/20/16)
- BPC Open Community Meeting (11/9/16)
- CB1 BPC Committee Meeting (12/6/16)
- BPC Open Committee Meeting (3/22/17)
- BPCA Board Meeting (3/22/17)
- BPC Committee Meeting (4/4/17)
- CB1 Lower Manhattan Coastal Resiliency (LMCR) Spring Task Force Meeting (4/20/17)
- CB1 BPC Committee Meeting (5/2/17)
- CB1 Resiliency Spring Community-wide Meeting (5/18/17)
- CB1 Waterfront, Parks & Resiliency Committee Meeting (6/20/17)

Extensive adjustments were made in response to community input and comments gathered at the open public meetings. These include:

- Modified the esplanade connection to Pier A Plaza to minimize impact on the Ornamental Gardens
- Expanded the Ornamental Gardens near the Museum of Jewish Heritage

- Reduced overall massing to lessen the appearance of a long continuous wall
- Eliminated the roof deck atop the second floor of the proposed pavilion. (or "third floor" as some were characterizing it; you'll recall there some disagreement there) of the proposed pavilion
- Reduced the footprint of the restaurant's upper level
- Reduced restaurant floor area while retaining sufficient space & seating for normal operations, ADA/access clearances, code conformance, adequate space for trash & service, etc.
- Specifically delineated a public roof deck and public access to the upper level
- Minimized height of yard screen wall to more closely suggest a garden wall
- Reduced the depth and length of the canopy
- Further reduced the area of paved surface
- Provided adequate space for existing number of toilet fixtures in public restrooms

18. Public Engagement and Outreach — Survey

An online survey was administered in April 2016 to solicit input on how people used, perceived, and valued Wagner Park. Over 400 responses were received. While answers varied, they revealed that the quality of the environment, the views and the park's programming were the Park's main source of attraction. The value placed upon the special quality of the park's environment, i.e. the gardens and sense of solitude within the city were reinforced in the public and community meetings.

WHAT THEY LIKE BEST ABOUT WAGNER PARK

HOW WAGNER PARK COULD BE IMPROVED

WHAT THEY LIKE BEST ABOUT WAGNER PARK

