A. PROJECT IDENTIFICATION

The applicant—Young Woo & Associates, through the entity Hudson Eagle LLC ("Hudson Eagle")—proposes to redevelop the Pier 57 site located within Hudson River Park at approximately West 15th Street (see **Figure S-1**), with retail, restaurant, and other commercial uses; a marina; and educational and cultural and public open spaces uses. Integral to the proposed project is the repair and rehabilitation of Pier 57's historic pier structure, including its caissons.

To develop this project, discretionary actions would be required from the Hudson River Park Trust (HRPT), the New York City Planning Commission (CPC), and the New York State Department of Environmental Conservation (NYSDEC), and possibly other agencies, including the New York State Department of Transportation (NYSDOT). Thus, the proposed Pier 57 project is subject to environmental review under the State Environmental Quality Review (SEQR) regulations and guidelines. HRPT will act as the lead agency for this proposal. In addition, the project will be subject to review under the Uniform Land Use Review Procedure (ULURP). Federal approvals would be necessary for permits for in-water work and would be subject to environmental review under the National Environmental Policy Act.

Since development of the proposed project may result in potentially significant adverse environmental impacts, this environmental impact statement (EIS) has been prepared to describe the proposed project, present the proposed framework for the EIS analysis, assess the potential for project impacts, and identify mitigation for any potential significant adverse impacts. New York City's 2012 *CEQR Technical Manual* served as a guide to the methodologies and impact criteria for evaluating the project's potential effects on the environmental areas of analysis.

B. PROPOSED PROJECT

The project site consists of historic Pier 57, adjacent lands underwater, and some associated frontage area, all of which are located in Hudson River Park at approximately West 15th Street. Immediately adjacent to and east of the site are other portions of Hudson River Park and the Route 9A bikeway and roadway (see **Figure S-2**).

The pier was constructed from 1950 to 1954 and consists of three underwater caissons, which are concrete boxes that form most of the pier's substructure. Above the caissons are the pier's headhouse (the eastern portion of the pier structure that is parallel to Route 9A) and "finger" building, or pier shed (the portion of the pier that is perpendicular to Route 9A and extends into the water).

The pier is listed on the State and National Registers of Historic Places and was historically used for the Grace Lines cruises (through 1967). Between 1967 and 2003, it was used as a bus garage and maintenance facility by the Manhattan and Bronx Surface Transportation Operating

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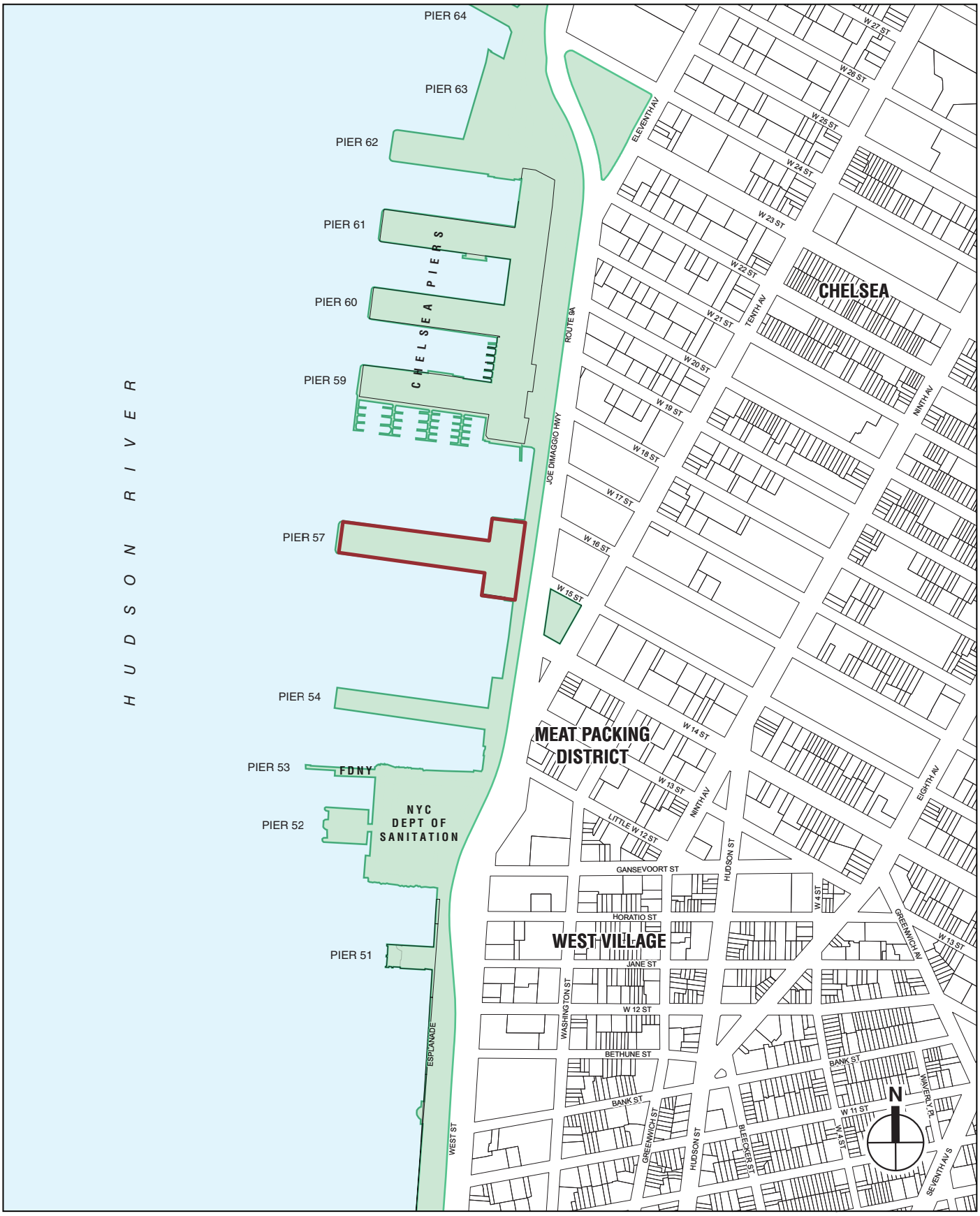
Project Site

Hudson River Park

Project Location
Figure S-1

9.10.12



Project Site

Hudson River Park

HUDSON RIVER PARK PIER 57

Project Site Location

Figure S-2

Authority and later the Metropolitan Transportation Authority (MTA). The pier has been vacant since 2004.

The pier is zoned M2-3, which allows commercial or manufacturing uses at a maximum floor area ratio of 2.0 (see **Figure S-3**). Many uses otherwise permitted by zoning are prohibited by the Hudson River Park Act, Chapter 592 of the Laws of 1998 ("the Act"), which created Hudson River Park and HRPT to design, build, and operate it.

Pier 57 is part of the 550-acre Hudson River Park, which was the subject of an environmental review in the late 1990s (*Hudson River Park Final EIS*, May 1998).

The rehabilitated pier is expected to include a public retail marketplace, restaurant, and other commercial uses, as well as educational, cultural, and public open space uses and a marina. The pier would become an important component of Hudson River Park, generating needed revenue to support the Park's operations, and improving the visual and programming links between the Park and inland communities. The project would also preserve an important physical component of the waterfront's history and reintroduce some maritime uses to a pier once built explicitly for that purpose while also introducing innovative architectural components designed to respect and enliven the historic structure. **Table S-1** summarizes the proposed program elements, which are preliminary and subject to refinement based on project design and market conditions. **Figures S-4 through S-10** show the project's preliminary floor plans and the marina plan, and **Figure S-11** shows the exterior elevations of the proposed project.

Table S-1
Preliminary Program of Project Uses

Use	Location within the Pier	Gross Square Footage
Commercial/Educational/Cultural Uses		
Work/Sell Marketplace	Level II/Level IIM	49,200
Gallery/Spa/Storage/other uses	Caisson Level	40,000
Technical Art School and Ancillary Facilities	Level II/Level IIM	32,700
Food Market and Restaurants	Level I/Level IM/Rooftop	109,400
Restaurant Terrace	Level II	13,500
Flexible Retail Space	Level I/Level II/Level IIM	45,200
General Retail	Level I/Level II/Level IIM	44,600
Circulation	Caisson/Level I/Level IM/Level II/Level IIM	82,400
Cultural Use	Level I/Level IM	11,000
Total Commercial/Educational/Cultural gsf		**428,000**
Other Uses		
Public Open Space	Level I/Rooftop	110,000
Marina	Level I	141 slips
Parking	Caisson Level	Approximately 75 spaces

Note: gsf = gross square feet
Source: Hudson Eagle LLC.

PROGRAM

RETAIL, RESTAURANT, AND OTHER COMMERCIAL/EDUCATIONAL/CULTURAL USES

The programming and design concepts at Pier 57 have been shaped by the west side neighborhoods in which the pier is located as well as the pier itself. While specific tenants have not yet been finalized, the primary retail use is a planned public marketplace modeled on several

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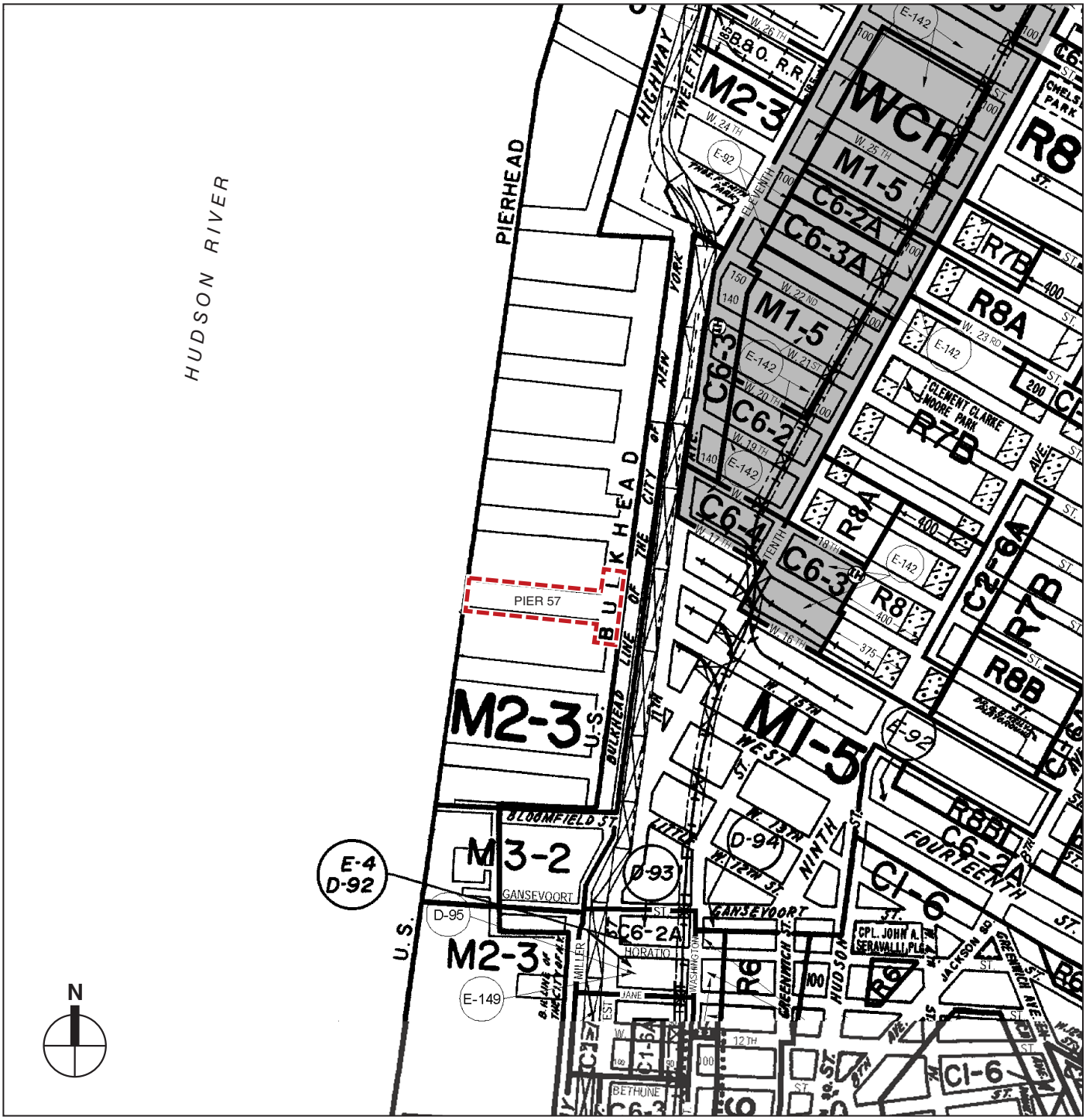
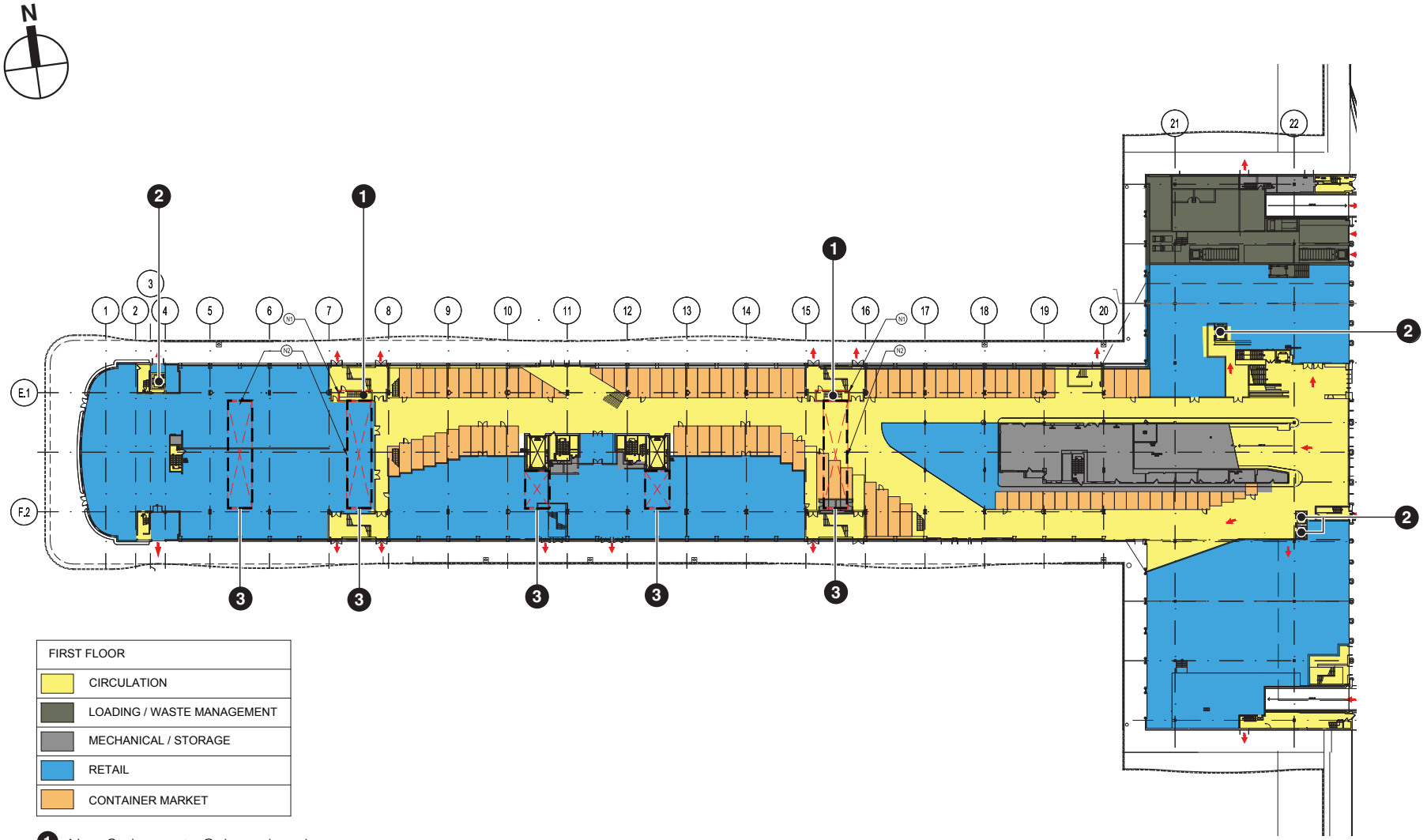


Zoning
Figure S-3



FOR ILLUSTRATIVE PURPOSES ONLY

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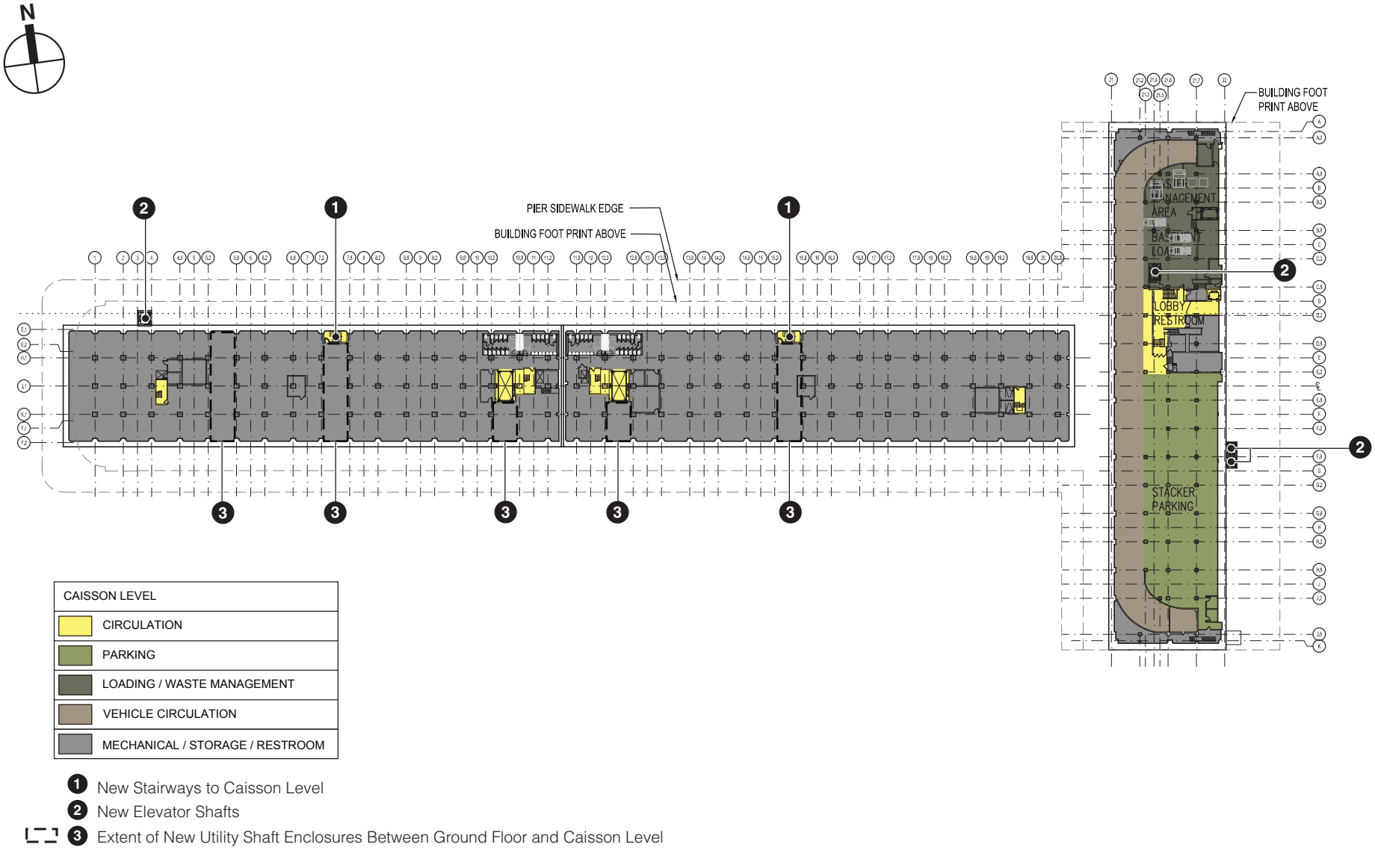
SCALE

First Floor Plan
Figure S-4



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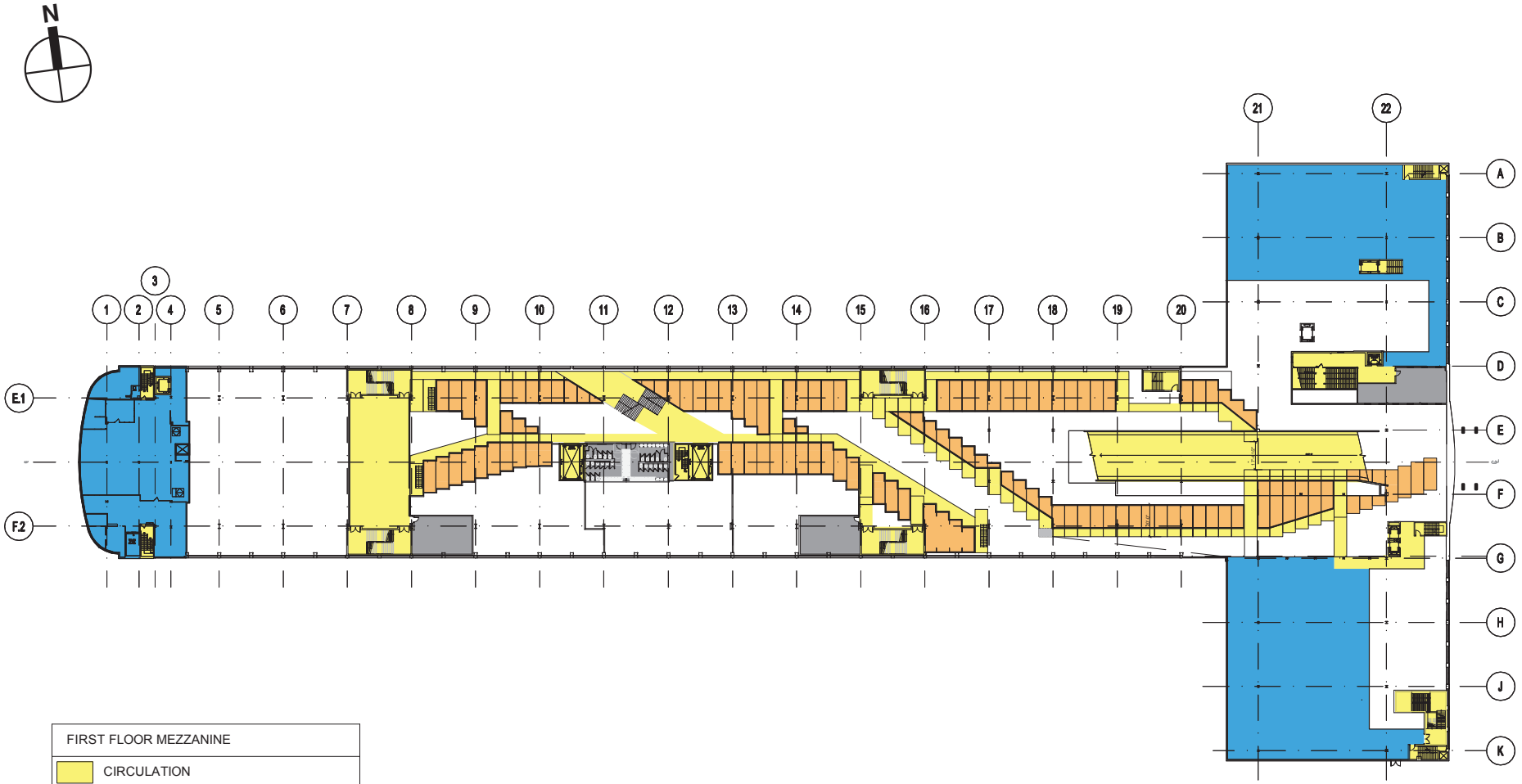
Cellar Plan
Figure S-5



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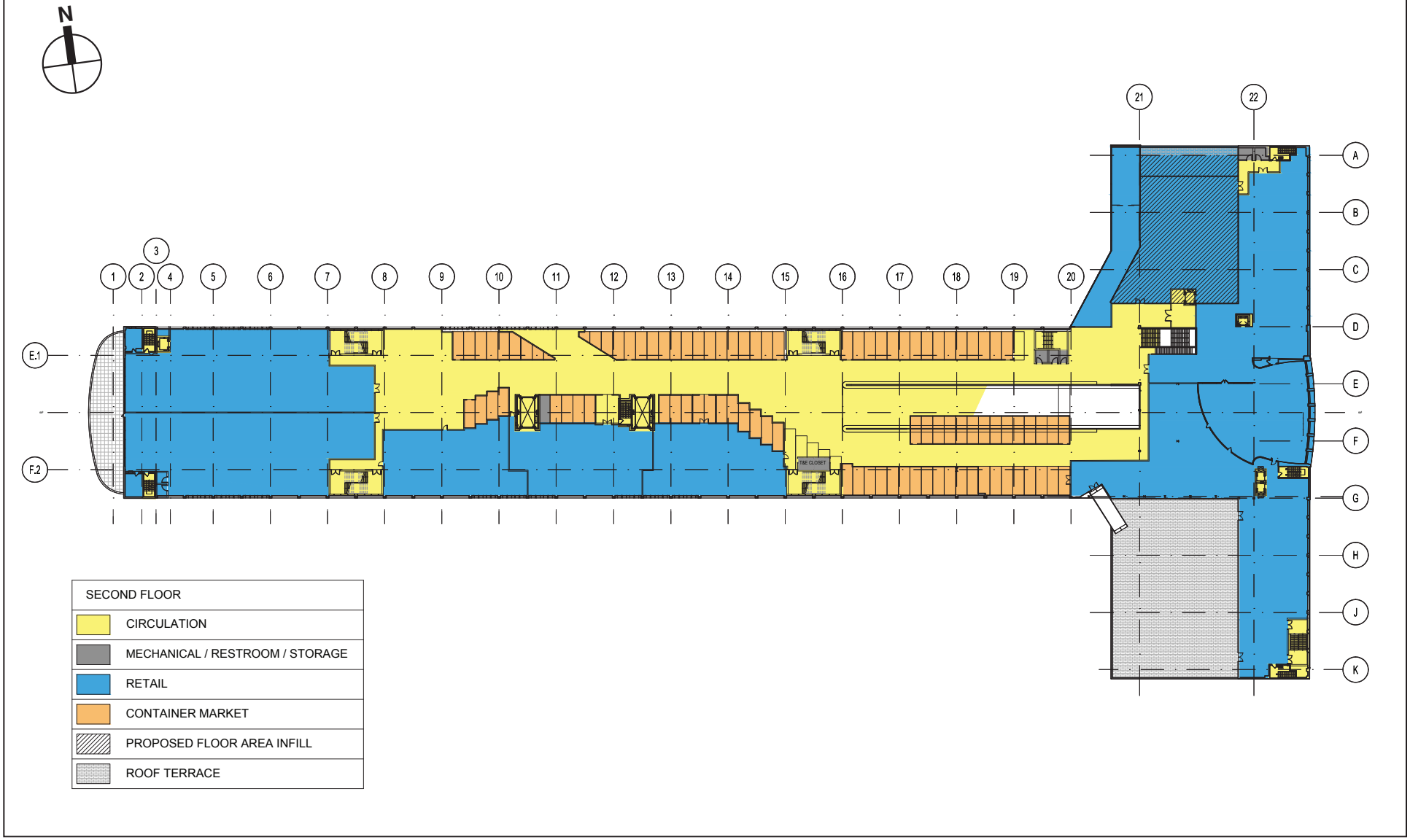
First Floor Mezzanine Plan

Figure S-6



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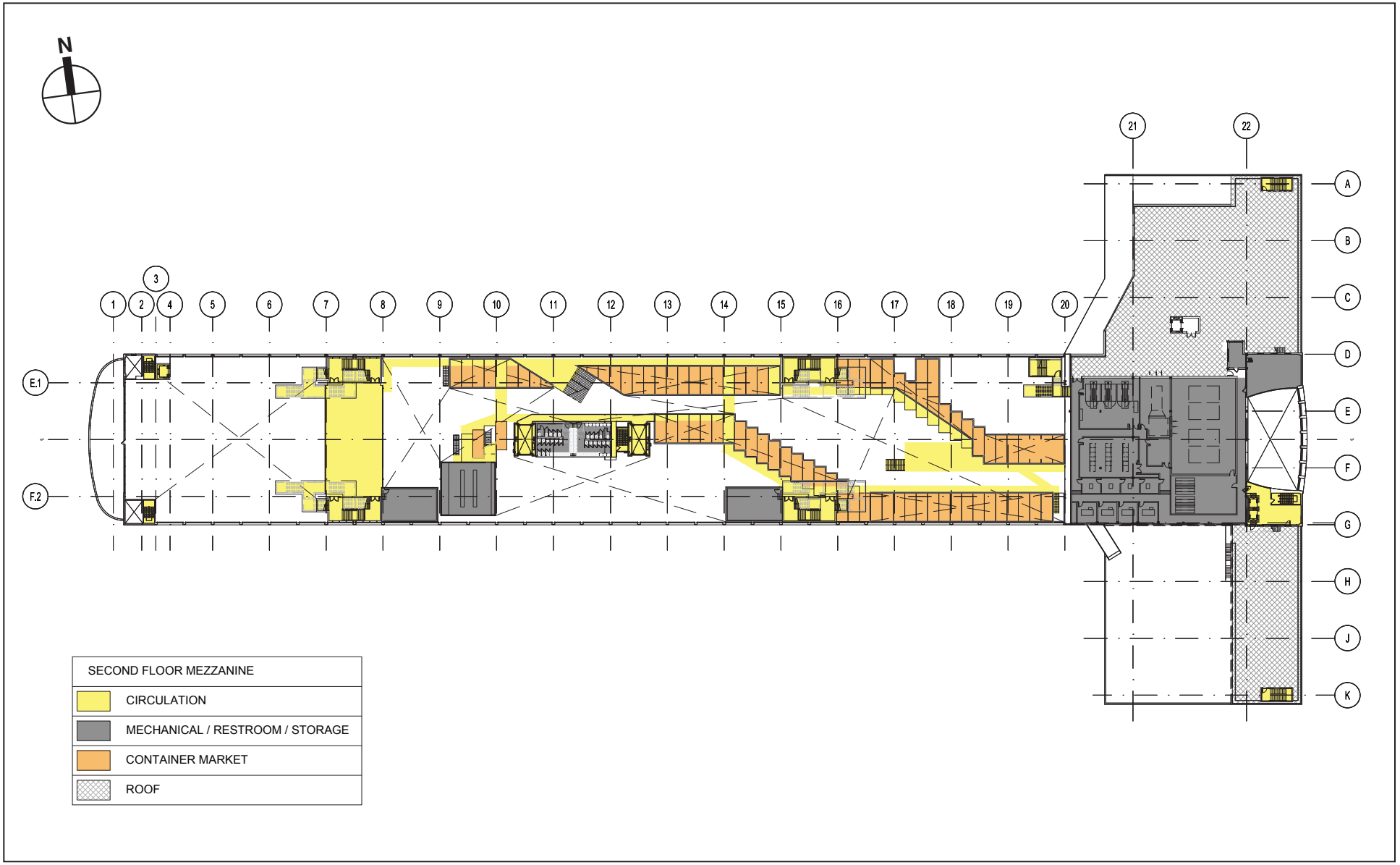
Second Floor Plan
Figure S-7



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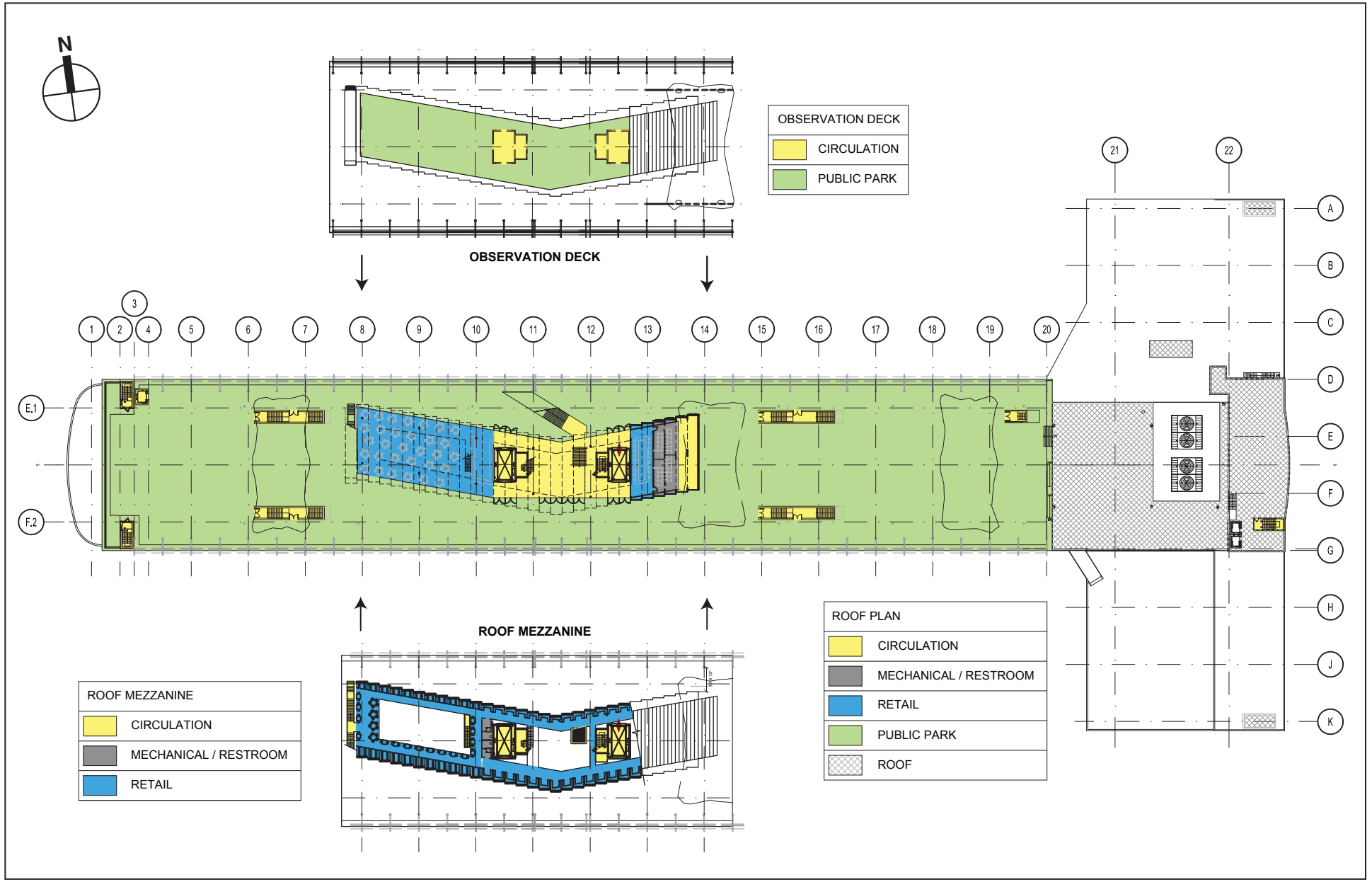
Second Floor Mezzanine Plan

Figure S-8



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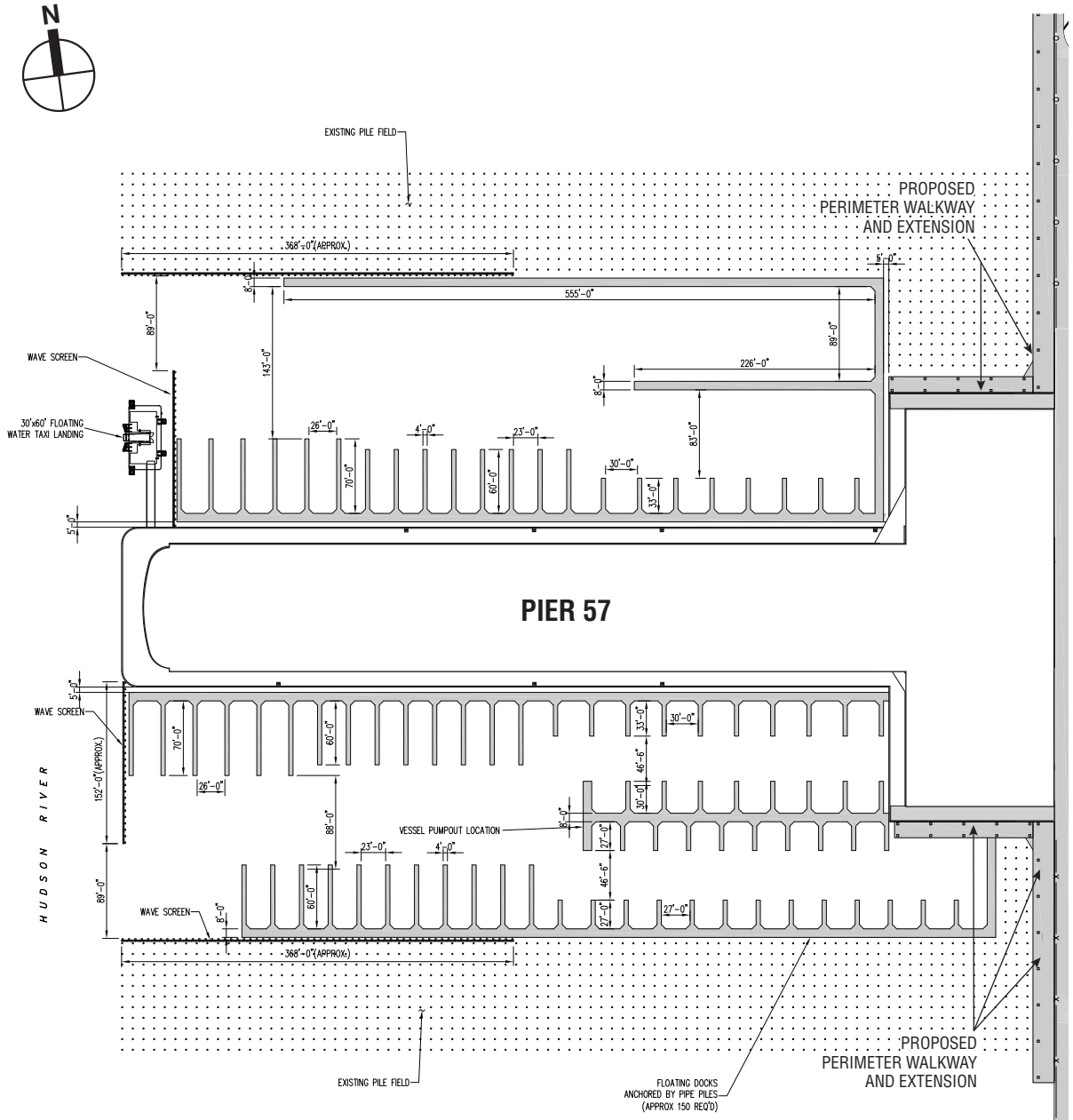
Roof Plan
Figure S-9

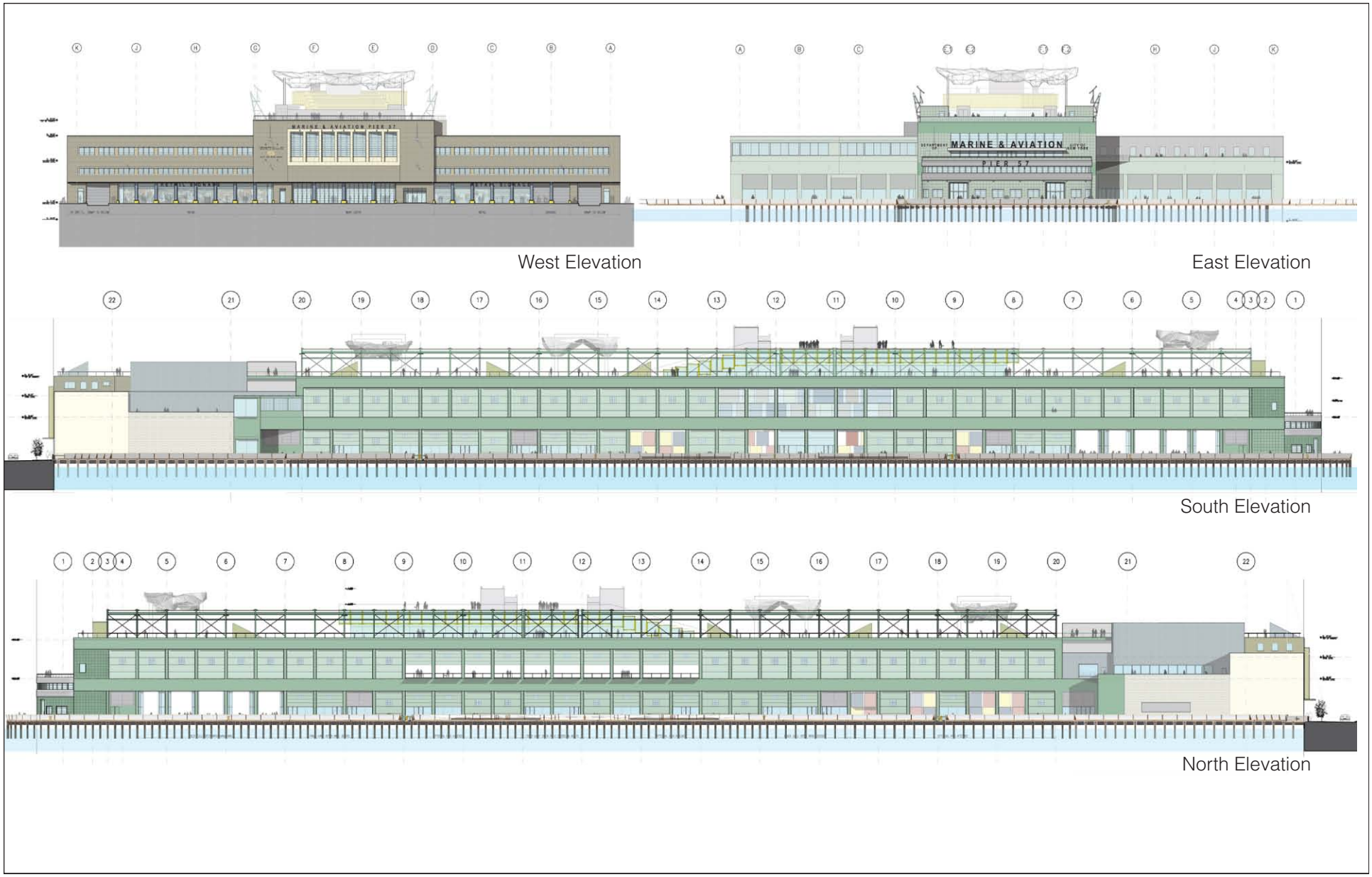


PRELIMINARY SLIP DISTRIBUTION	
VESSEL SIZE	NO. OF SLIPS
160'	2
120'	4
70'	10
60'	26
30'	53
25'	46
TOTAL	141

NOTE: The location of the public launch for non-motorized boats will be determined once the final plan for the marina is established.

0 100 200 FEET
SCALE

Proposed Marina Plan
Figure S-10



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Elevations
Figure S-11

existing year-round markets located in London (Spitalfields and Camden Lock). Urban Space Management is the U.S. arm of the operator of these markets. The firm operated the Dekalb Market and still operates the holiday markets at Grand Central Terminal and Union Square in Manhattan, and is the anticipated operator of the Pier 57 marketplace.

At Pier 57, the public marketplace concept draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District in the realms of fashion, design, art, and food. Repurposed shipping containers would be stacked to create four market levels (first floor, first-floor mezzanine, second floor, and second-floor mezzanine); the stacking is possible because of existing ceiling heights of approximately 28 feet, which can accommodate two levels of stacked containers. Throughout the length of the pier shed, new vertical circulation would be provided to satisfy building codes and facilitate access, including ADA access.

In combination with some traditional walled enclosures, these containers would create multiple "work/sell" retail stores and showrooms expected to range in size between approximately 160 and 640 square feet. These retail uses would be oriented primarily toward a collection of independent designers and food purveyors. The work/sell marketplace would be an incubator for new retail businesses, designers, and food-related businesses as well as a community gathering place. Towards the western end of the pier shed, the design would open to a large double-height space with views of the water to the north and south. This end of the pier shed would include open, public "piazza" spaces to be used for occasional entertainment or small-format displays, and would be designed to accommodate rotating food markets and "bazaars," with the idea of providing lively surroundings for resident and visiting chefs and food purveyors to exhibit and promote their food products.

The proposed project would include a wide range of uses oriented toward food and design, including a technical arts school, as well as restaurants and rotating food exhibition and sales spaces. These are anticipated to be located primarily on the second floor, which, as noted above, would also have a mezzanine level over portions of the pier shed. Restaurants are expected to include both full-service restaurants and limited-service restaurants and would complement the food purveyors and prepared foods in other retail spaces on the pier. Under the terms of the proposed lease agreement, at least one publicly accessible sit-down restaurant must be located at the western end of the pier shed.

Larger retail tenants, such as a sports-related store, would be located in the headhouse. There would also be retail tenants in the larger spaces alongside the work/sell marketplace in the pier shed. Aside from a sports-related store, other possible tenants for the larger retail spaces are expected to include a themed market selling prepared food from small vendors and specialty food purveyors. Under the terms of the Trust's proposed lease with the applicant, "big box" retail would be prohibited.

The pier could also include a cultural use, such as a theater. The terms of the Trust's proposed lease would prohibit tenancies and uses that are primarily trade shows, event, or ballroom spaces.

MARINA

The Pier 57 project would include a marina of up to 141 slips located on the north and south sides of Pier 57. The marina is anticipated to include four wave screens located north and south of the western end of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier. It would include a vessel pumpout station within the portion of the

marina south of Pier 57 and slips for one or more historic vessels and a non-motorized boat launch. No dredging would be required for the marina. A 30-by-60-foot water taxi landing may be located on the northwest corner of the pier. **Figure S-10** above shows the project's marina plan.

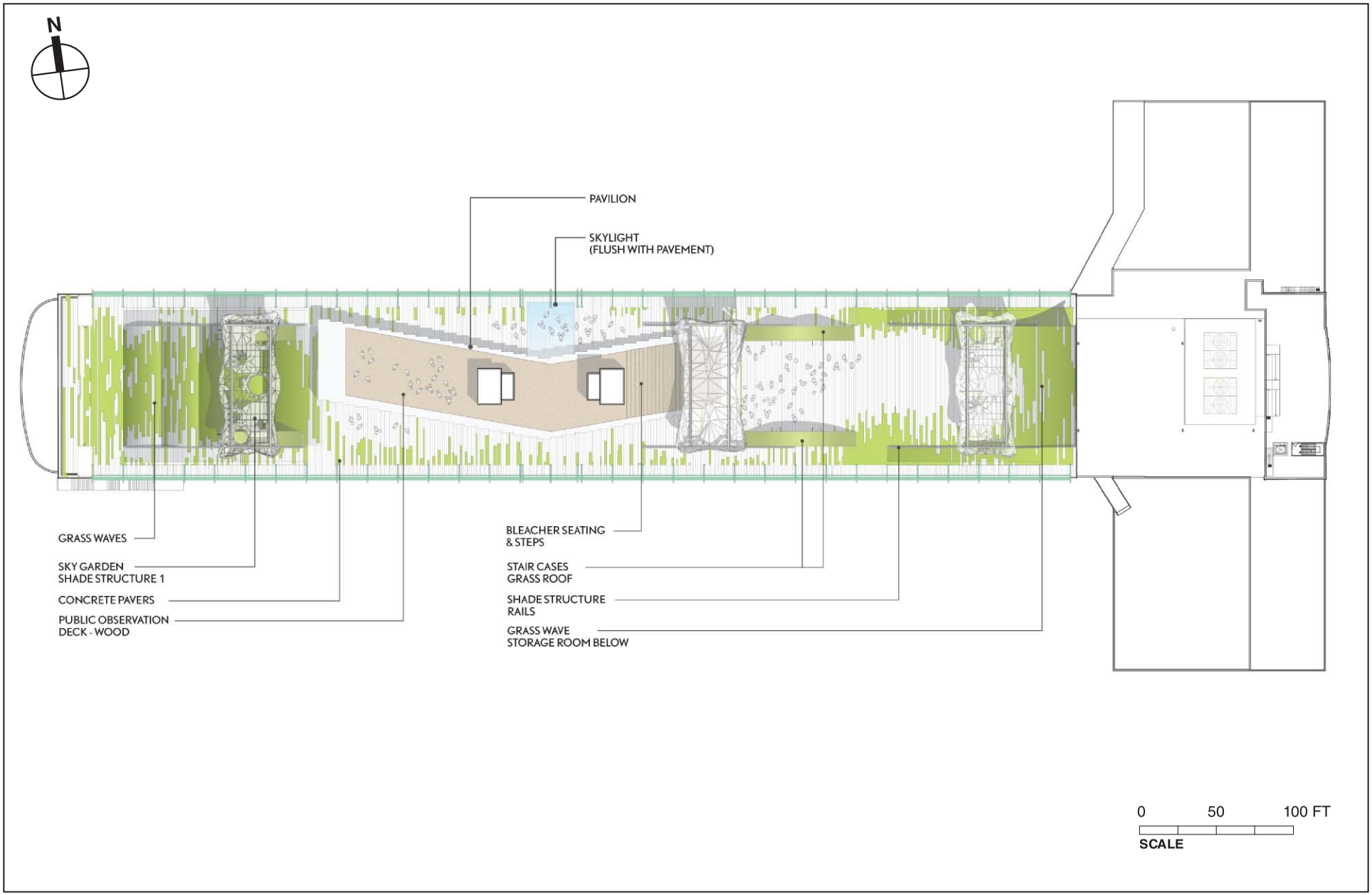
PUBLIC OPEN SPACE AND OUTDOOR PROGRAMMING

The Pier 57 project would add approximately 2.5 acres of open space to Hudson River Park in three main areas:

- Perimeter walkway. The existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the Hudson River Park waterfront esplanade to the east of the pier, consistent with existing permits previously received by HRPT. The walkway would include seating.
- New perimeter walkway. New public walkways parallel to the existing bulkhead, previously approved and permitted, would extend to the north and south, extending the currently limited public circulation space along the bulkhead. Treatments would be compatible with existing designs for areas bordering the river within Hudson River Park.
- Rooftop open space. On the pier's finger building, approximately 1.8 acres of open space would be created. The roof would be divided into open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western portions of the rooftop would mostly provide flexible space for seating, relaxation, and views of the river. These areas could include wooden decking, hardscape, paving, and small lawn areas. The center of the rooftop would contain a pavilion with a public observation deck on the roof and wide stairs on the east that would function as seating areas during events. At times, the roof would be programmed with film-, art-, or sports-related installations, as well as Tribeca Film Festival events. Some shipping containers may be repurposed as seating around the pavilion. The original "burtons"—the metal framework along the north and south edges of the roof originally used for cargo handling—would be preserved, and the railing would be improved to allow safe public access up to the pier edge. The rooftop would also include shade structures that would be minimally attached to the pier structure. The shade structures would be mounted on rails, which could be moved manually in an east-west direction to provide shade where necessary**. Figure S-12** illustrates the project's rooftop open space. It is also expected that portions of the headhouse rooftop would be publicly accessible.

The outdoor rooftop open space would function primarily as public open space, with a capacity of 2,500 persons. It would also periodically host a variety of exhibits, ranging from film screenings to outdoor art installations to exhibitions linked to film subjects—for example, a temporary skate park to coincide with a sports-related film series. While free, some of these events would require tickets to control capacity. Attendance for such events typically would not exceed 1,500 people, but it is expected that maximum capacity events would occur approximately 8 to 10 times per year. For approximately two weeks in late April/early May each year, the rooftop would also be used for Tribeca Film Festival events.

It is expected that the rooftop open space would be open to the public from 9 AM to 9:30 PM (later for special events) and the perimeter walkways would have the same operating hours as the rest of Hudson River Park (6 AM to 1 AM).



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Proposed Landscape Roof Plan

Figure S-12

CAISSONS

Pier 57 has three underwater caissons that support the pier structure. The caissons are unique in Hudson River Park and are a major reason for the pier's historic significance. Because these "basement" structures are not connected to each other, access and code considerations limit plans for future uses. The proposed project proposes to use the easternmost caisson for vehicular circulation and parking for up to approximately 75 accessory vehicles. This caisson was historically used for vehicle parking and circulation. If code concerns can be satisfied, ideas for the middle and western caissons include ancillary storage related to uses in the pier, art galleries or large rotating art installations, a spa, a wine cellar, and one or more areas accessible to the general public, potentially in small organized groups, to view and tour these underwater spaces. As discussed below, limited penetrations of the caissons would be necessary to facilitate access and provide utility space.

PROJECT DESIGN

The proposed project's overall design has been guided by three principles. First, the design seeks to respect the pier's history and reconnect with it. Second, the redevelopment approach is intended to limit intensive construction and intervention with the existing structure. Third, to create a successful public and commercial venue, the approach is intended to bring innovative design and use ideas to the interior space to transform and activate the currently vacant property. **Figure S-13** illustrates an aerial view of the proposed project.

The revitalized headhouse at Pier 57 would become an iconic gateway and a greatly improved entrance into the park from Chelsea and the Meatpacking District, further connecting these neighborhoods to the waterfront. It would restore the building's 1950s façade, open the ground floor to the public and welcome visitors from the north, south, and east.

The center of the headhouse entrance would be a virtual extension of 15th Street, drawing visitors across Route 9A, through the headhouse, and up an existing interior ramp to the second floor. This "interior street" would continue through the second floor with the addition of a new staircase from the second floor to the roof, where visitors to the pier would have access to the new public rooftop. Retail on the ground floor and second floors would flank this interior street and extend west. The repurposed shipping containers would be a distinctive feature in these sections of the pier shed. **Figure S-14** illustrates the proposed changes to the interior of the pier shed.

Along with the repurposed shipping containers, the design would include other elements that acknowledge the pier's historic character, such as the burtoning system described above. In addition, the original "gangplanks" on the north and south pier façades would be lowered to a horizontal position and repurposed as balconies, where visitors could experience views over the water. The original burtoning would be preserved along the rooftop edge and a railing would be incorporated for safety. The 20-foot-wide modular vertical doors spanning the length of the pier shed—which historically were opened to allow goods to be loaded onto adjacent ships—would be restored and opened during good weather to allow the pier to be naturally ventilated. Utilizing the existing modular doors for ventilation would require less rooftop space for mechanical equipment, maximizing the amount of rooftop space dedicated for public open space, and would allow the structure to be passively cooled, thereby reducing energy use. Some doors would be permanently raised, and the openings would be screened with glass to provide views from outside the pier to the interior. On the ground floor, some openings would provide a direct link to the public perimeter walkway. In addition to energy efficiency and open space benefits, the

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Aerial Perspective of Proposed Project

Figure S-13

Renderings of Proposed Container Market

Figure S-14

open modular doors are intended to differentiate the pier from traditional enclosed retail spaces, creating the sense that the pier is an extension of the existing urban street network and the surrounding Hudson River Park.

A central feature on the public rooftop would be the pavilion and observation deck, designed to provide food retail, public restrooms, circulation, and mechanical space, as well as views of the City. Like the existing burtoning system that would be retained, the observation pavilion would have a lightweight, industrial character. **Figure S-15** illustrates the proposed rooftop. As discussed above, the balance of the rooftop would have flexible open space with small lawn areas and seating.

Overall, there are three proposed rooftop additions:

1). On the north side of the lower headhouse rooftop, a new enclosure measuring approximately 7,500 square feet would be built, connecting to the second floor of the pier structure to provide for additional retail space.

2). Another enclosure measuring approximately 11,400 square feet would be constructed in the center of the upper level of the headhouse roof. This enclosure would connect to the second-floor mezzanine level of the pier structure, and would also provide additional retail and mechanical space. Both of these additions would be lower than the existing eastern façade of the headhouse.

3). A pavilion would be developed at the center of the pier shed roof that would provide food retail, public restrooms, circulation, and mechanical space, as well as a public observation area.

In addition to the rooftop additions, several code-required stair tower and elevator enclosures would also be added to the roof to allow for egress for roof occupants, as well as the shade structures described above. No new element on the rooftop, including the shade structures, would be taller than the height of the existing elevator bulkheads. Because of the federal approvals required for the proposed project, and as set forth in the Programmatic Agreement executed under Section 106 of the National Historic Preservation Act for the Hudson River Park project in 2000, modifications to the Pier 57 structure require consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). In addition, the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Should the project successfully obtain approval for such credits, the project would be required to be built to the Secretary's Rehabilitation Standards. For these reasons, the design intent for the rooftop additions is to create minimally intrusive new elements.

The proposed project would also include the construction of new stairways, elevator shafts, and utility shafts between the ground-floor and caisson level to facilitate access and egress from the caissons, to improve accessibility in compliance with the Americans with Disabilities Act (ADA), and to provide for the necessary utility space to support the proposed uses on the ground floor, in particular the proposed restaurant uses. The new stairways, elevators, and utility shafts are described in more detail below and shown in **Figures S-4** and **S-5**:

1). New Stairways: Two new stairways would be created to provide access from the caisson level to the upper floors and to the perimeter walkway. One stairway would be located in the middle caisson and the other would be located in the westernmost caisson. These stairways would be located in new enclosures that would extend below the ground floor,

View from roof top pavilion facing east

View from west end of piershed to the west

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Renderings of Proposed Rooftop

Figure S-15

through the open water area between the caisson and ground floor, and into the caisson roof. These stairways are necessary to create a legal means of egress from the caissons and to increase the legal occupancy level in the caissons.

2). New Elevator Shafts: Four new elevator shafts would be created within the Pier 57 structure. Three of these elevators would extend from the ground floor to the upper floors of the structure and would make the structure ADA-accessible. The shafts for each of these three elevators would extend below the ground floor and would at times be within the waters of the Hudson River below the pier shed, depending on tidal conditions. These shafts would be adjacent to the exterior of the caisson but would not penetrate the caisson structure. The fourth elevator would be located in the headhouse and would provide access from the loading zone in the easternmost caisson to the upper floors. This elevator would penetrate the caisson structure but would not pass through areas between the caisson and ground floor that are currently open water.

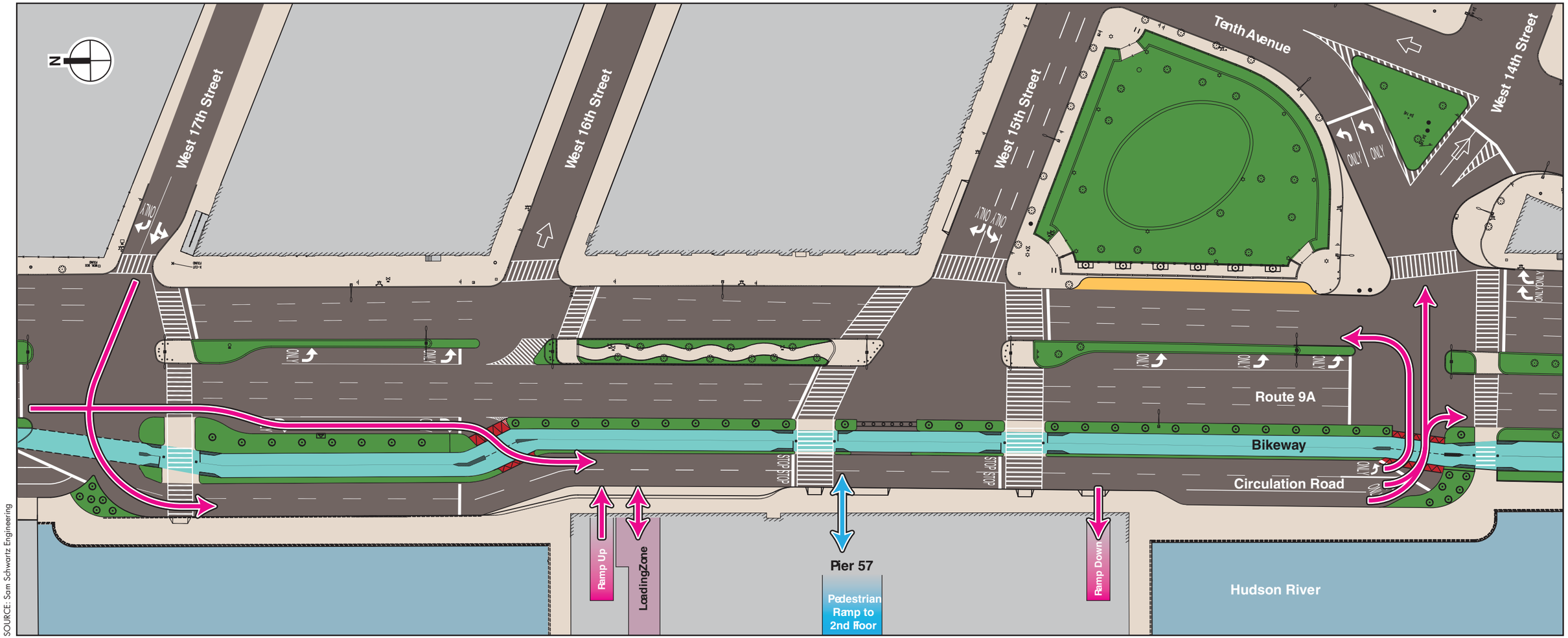
3). New Utility Shafts: Five new utility shafts would be created below the ground floor to house utilities needed to support the proposed uses on the ground floor, in particular the restaurant uses. These shafts would be constructed in the intervening spaces between the girders that support the pier shed on the caissons, and would result in new enclosures that would extend between the ground floor and the caisson roof. It is expected that three of these enclosures would measure approximately 80 by 18 feet and two would measure approximately 26 by 18 feet. Within these new enclosures, there would be smaller utility shafts that would penetrate the caisson roof in a limited number of locations. It is expected that each of these smaller shafts would be approximately 18 by 10 feet and would be contain utilities (e.g., piping). Within the caisson, these smaller utility shafts would drop down from the ceiling and enclose the necessary utilities.

PIER ACCESS / CIRCULATION

To efficiently utilize the pier, the existing access routes would be modified to improve pedestrian access, and to allow for proper servicing and vehicular access. **Figure S-16** shows the project's conceptual access plan and **Figure S-17** shows a detailed access plan.

Access to the project site would be limited to locations along Route 9A. Vehicles approaching the site from the north would access the site at the Route 9A and West 16th Street intersection via a southbound right turn from a dedicated turn lane. Vehicles approaching the site from the east and south would access the site at the Route 9A and West 17th Street intersection via a through movement from West 17th Street. Vehicles would egress the site at the Route 9A and West 14th Street intersection and be able to turn right onto southbound Route 9A, left onto northbound Route 9A, or continue straight across Route 9A to West 14th Street eastbound. Taxis would load/unload along a frontage road in front of the pier structure separated from Route 9A by the bikeway or at a designated taxi stand located on northbound Route 9A between West 14th and West 15th Streets. Most trucks would load/unload along the frontage road, largely during off-peak hours. During overnight hours when the facility is closed, a truck-only entry off Route 9A at West 15th Street would be used for larger truck deliveries. Deliveries that require access to the truck-only entry would be scheduled in advance. All traffic movements into and out of the site would be controlled by traffic signals.

The frontage road would operate with two travel lanes. A third eight-foot-wide drop-off lane adjacent to the project frontage would be paved with special pavement treatments such that it would operate as a pedestrian space during peak periods and would be available as a loading and



SOURCE: Sam Schwartz Engineering

Vehicular Access and Egress

Pedestrian Access and Egress

Proposed Taxi Lay-by Lane

Route 9A Bikeway

Median / Open Space

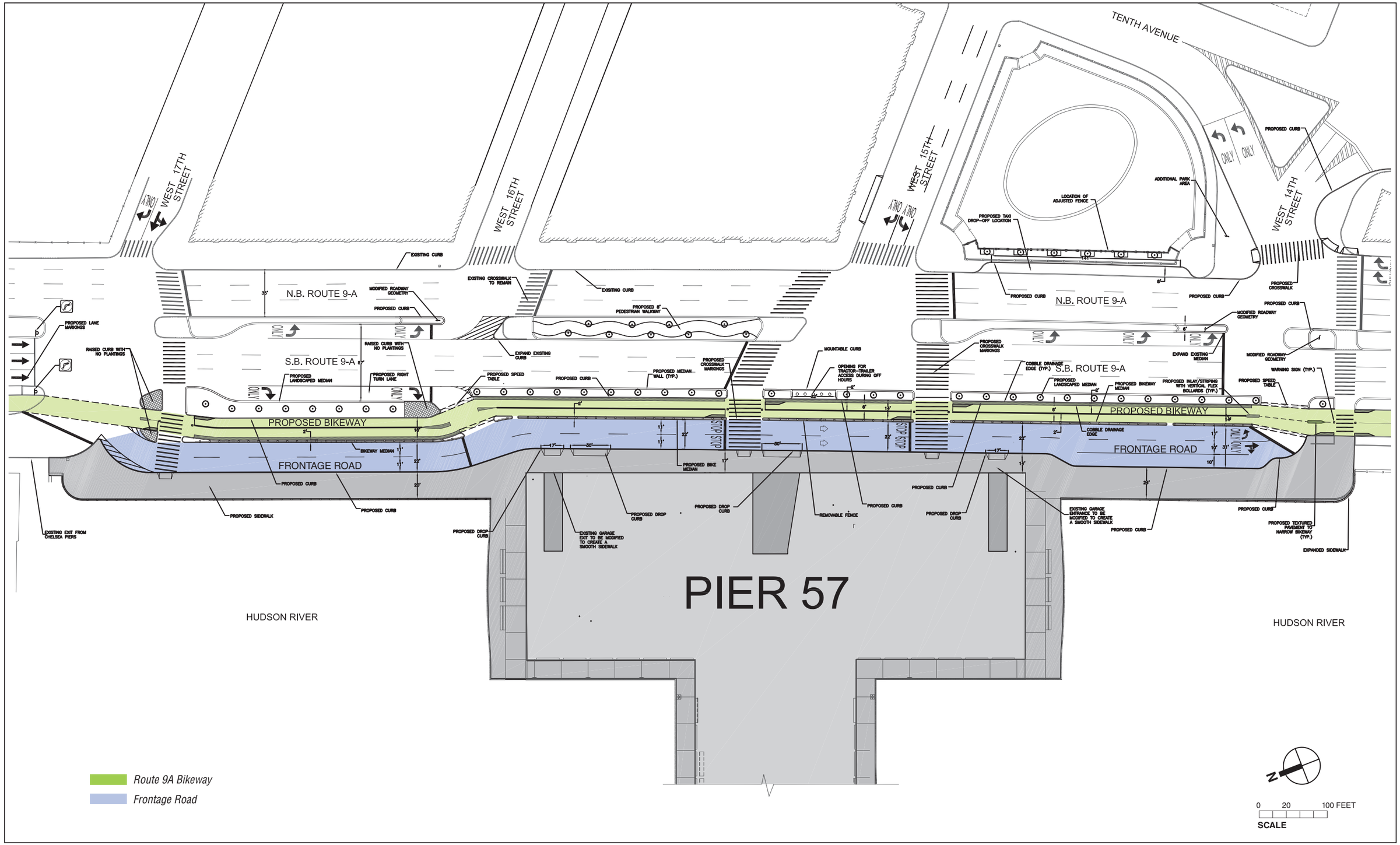
Speed Tables

Sidewalks / Pedestrian Walkway

Buildings

Roadway

Conceptual Access Plan
Figure S-16



SOURCE: Philip Habib and Associates

HUDSON RIVER PARK PIER 57

Detailed Access Plan
Figure S-17

unloading lane for trucks during off-peak periods when a greater number of truck deliveries are expected. From this frontage road, cars, vans, and small trucks would enter the pier via an existing ramp at the south end of the headhouse (near West 14th Street) down to approximately 75 accessory parking spaces and a loading area for vans and small trucks located in the easternmost caisson. The outbound driveway from the parking garage would be located on the north end of the headhouse closer to West 16th Street. No on-site public parking facilities would be provided, which would limit conflicts with vehicles crossing the bikeway and sidewalk.

As part of the overall access plan, the proposed project would implement a number of other improvements to nearby intersections in consultation with NYSDOT and the New York City Department of Transportation (NYCDOT). These improvements would include widening crosswalks, changing signalizations, curb extensions, and construction of a protected pedestrian pathway within the median on Route 9A between West 15th Street and West 16th Street. There is the potential that the walkway in the Route 9A median between West 15th and West 16th Streets may not be constructed as part of the proposed project and that the crosswalk across Route 9A at West 16th Street would be eliminated from the project design. This potential scenario is considered as part of the transportation analyses.

Pedestrians would access the site via the Hudson River Park waterfront esplanade from the north and south, or from any of the nearby crosswalks which cross Route 9A. The east façade of the pier would have multiple pedestrian access points; pedestrians could also access the pier via the public walkway that would surround the pier on the south, west, and north sides. A wide sidewalk would be provided along the project frontage to encourage pedestrians to walk adjacent to the project rather than on the bikeway. In addition, there is also the possibility of providing a bus stop for the New York City Transit (NYCT) M14 bus route along the frontage road, which would improve transit access to the project site and the waterfront. However, because the details of the bus stop have not been determined at this time, the bus stop is not accounted for in the technical analyses in this EIS.

Access from the ground floor to the upper levels would be via the existing ramp that leads from the central eastern entrance to the second floor, as well as from a new staircase that would lead from the second floor to the newly adapted roof. This primary circulation path, aligned with West 15th Street, would be a virtual extension of that street; it would improve air circulation on the second floor during warm weather seasons and increase opportunities for the public to enjoy the rooftop park. In addition to the ramp and central staircase, pedestrians would have access to enclosed stairwells (both new and existing), which would be adapted for use by pedestrians.

The Route 9A bikeway, also providing access to the site, would be realigned somewhat, but would maintain at least a 14-foot width.

The proposed access plan would accommodate potential tour bus activity, if needed. Tour buses could be accommodated along the frontage road, and an area for loading and unloading such buses has been identified on the frontage road, though this area could also be used by other vehicles when no tour buses are present. However, to maximize views of the Hudson River for park users and along the bikeway, the proposed project's intention is to have tour buses layover off-site at sites designated for this purpose by NYCDOT.

IN-WATER CONSTRUCTION

The proposed project would require a number of in-water construction activities related to the marina and wave screens, pier repairs, and perimeter walkways and walkway extensions. These activities are discussed in more detail below.

Some aspects of the work to be conducted at Pier 57 were previously assessed in the Final EIS (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to HRPT. U.S. Army Corps of Engineers (USACE Permit 1998-00290) and NYSDEC (NYSDEC Permit 2-6299-00004/00001) permits issued to HRPT authorize the repair of the existing perimeter walkway and its extension to connect with the public esplanade to the east of the pier; the development of new public walkways parallel to the existing bulkhead; and pile jacketing and repair work. While this work was evaluated in the FEIS for Hudson River Park and has been permitted, the cumulative effects of these activities with the proposed project were not addressed and have been included in the analyses of this EIS.

PIER REPAIRS

The project would require a number of in-water construction activities related to the pier. These would include repairs to the caissons; repairs to girders supporting the apron walkway; pile jacketing and repair work; and repairs to the timber fender system attached to the pier apron, including pile driving for fender piles along the periphery of the pier. Caisson repairs would include the placement of riprap for scour protection at the base of the westernmost caisson and repairs to cracks in the caissons.

PERIMETER WALKWAY AND WALKWAY EXTENSIONS

Construction activities associated with the perimeter walkways and walkway extensions would include pile driving for the perimeter walkway extensions and the new public walkways parallel to the existing bulkhead. As noted above, these activities were previously approved and permitted.

MARINA CONSTRUCTION

In-water construction activities associated with the marina would include installation of guide piles, walkways, and fingerfloats, and the piles and panels associated with the wave screen structures and potential water taxi landing. The proposed development of a marina would not include dredging of the Hudson River or refueling facilities.

OTHER IN-WATER CONSTRUCTION

The proposed project would include the construction of new stairways, elevator shafts, and utility shafts between the ground-floor and caisson level. As described above, these structures would involve construction activities in the open water areas below the ground floor of the pier shed.

C. PROPOSED ACTIONS

DISCRETIONARY ACTIONS

To develop the proposed project, various discretionary actions would be required.

In addition, coordination would be required with the New York State Office of Parks, Recreation and Historic Preservation's State Historic Preservation Office (SHPO) under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law, and Section 106 of the National Historic Preservation Act since the project is seeking certain state and federal permits (see below). Coordination is also required because the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Also, because the project will require Federal permits, it will be subject to review by New York State Department of State (NYSDOS) for consistency with the New York State Coastal Management Program. The proposed project would also require coordination with NYSDOT and NYCDOT for approvals related to site access at Route 9A.

HRPT APPROVAL

HRPT would need to approve lease terms with Hudson Eagle.

CITY ACTIONS

- Zoning map amendment. The applicant would seek an amendment to the New York City zoning map to rezone the project site from M2-3 to an M1-5 to allow the public marketplace and anticipated floor area.
- Relief from various Waterfront Zoning Regulations related to bulk, height and setback, yards, public access and visual corridors, and design requirements.
- Special permit to allow certain retail and other uses over 20,000 square feet of floor area on existing piers.
- Special permit for retail in excess of 10,000 square feet.
- Special permit to allow the proposed accessory parking garage.
- Certification that the project complies with the applicable waterfront public access and visual corridor requirements, as modified by the requested approvals.

STATE ACTIONS

- NYSDEC—The applicant would seek a Part 608 Protection of Waters permit for in-water work.
- NYSDEC—The applicant would seek a Part 203 permit for the proposed accessory parking garage.

FEDERAL ACTIONS

- USACE—The applicant would seek Section 10 and Section 404 permits for in-river work.

OTHER APPROVALS

- Other approvals as necessary to effectuate the project.

D. PURPOSE AND NEED

Consistent with the Hudson River Park Act, the purpose of the proposed Pier 57 project is to reuse this portion of the Hudson River waterfront for the public benefit, making it an asset for the city, state, and the region. The Pier 57 project would increase public access to the waterfront, provide additional public open space resources and cultural space within Hudson River Park, and include program components that are compatible with park uses and that would generate funds to contribute to the operation and maintenance of the park. The Pier 57 project would also restore and modernize the Pier 57 structure, which is listed on the State and National Registers of Historic Places.

E. PROJECT SCHEDULE

The proposed project would be completed in one phase and construction would take approximately 18 months. If the proposed actions are approved, it is anticipated that construction would begin in 2013, with the renovated Pier 57 complete and operational in 2015.

F. ANALYSIS FRAMEWORK FOR ENVIRONMENTAL REVIEW

The *CEQR Technical Manual* serves as a general guide on the methodologies and impact criteria for evaluating the project's potential effects on the various environmental areas of analysis.

In disclosing impacts, the EIS considers the proposed project's adverse impacts on the environmental setting. Because the proposed project is expected to be operational in 2015, its environmental setting is not the current environment, but that of the future. Therefore, the technical analyses and consideration of alternatives characterize current conditions and forecast these conditions to 2015, the project's analysis year, for the purpose of determining impacts. The EIS provides a description of "Existing Conditions" and assessments of future conditions without the proposed project ("Future Without the Proposed Project," or "No Action scenario") and with the proposed project ("Probable Impacts of the Proposed Project," or "With Action scenario").

The future without the proposed project in all technical areas assumes that none of the discretionary actions are approved. In this case, absent the proposed project, the existing Pier 57 structure will remain vacant. The analysis of the No Action scenario accounts for other future developments that would occur independent of the proposed project. In each technical area of the EIS, the future with the proposed project is compared with the No Action scenario as a basis for assessing impacts.

G. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

Overall, the proposed project would not have any significant adverse impacts on land use, zoning, or public policy. The project would introduce a variety of new uses to a site that has been vacant and underutilized in recent years. These uses would contribute to the completion and financial support of Hudson River Park and be compatible with the surrounding mixed-use neighborhood. Moreover, these uses would be compatible with other trends in the study area that include new residential, cultural uses, retail, and commercial development in place of former industrial and manufacturing uses. The proposed project would have a positive effect on land use

by reactivating a portion of the waterfront and providing new open space for study area residents and workers. The proposed project would be consistent with zoning in the study area and would promote public policy goals with respect to completion and support of Hudson River Park and providing access to and revitalizing the waterfront.

SOCIOECONOMIC CONDITIONS

This analysis finds that the proposed project would not result in any significant adverse impacts as measured by the six socioeconomic areas of concern prescribed in the *CEQR Technical Manual*. The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to direct residential displacement. The proposed project would redevelop a vacant building, and therefore would not directly displace any residents.

DIRECT BUSINESS DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to direct business displacement. The proposed project would redevelop a vacant building, and therefore would not directly displace any businesses.

INDIRECT RESIDENTIAL DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to indirect residential displacement. The proposed project would not include any residential development, and therefore falls below the *CEQR Technical Manual's* 200-unit threshold warranting assessment.

INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS

A preliminary assessment finds that the proposed project would not result in significant adverse indirect business displacement impacts due to increased rents. The proposed project would introduce a variety of specialty retail goods, food retail, and eating and drinking establishments to the study area. This type of retail is already common in the ¼-mile socioeconomic study area, and there is an existing trend of increased commercial development in the area. The proposed project would contribute to this existing trend, rather than alter existing economic patterns. Industrial uses in the ¼-mile study area—including, but not limited to wholesalers, warehouses, and auto repair shops—are currently vulnerable to indirect displacement due to increased rents, and will continue to be vulnerable in the future without the proposed project.

INDIRECT BUSINESS DISPLACEMENT DUE TO RETAIL MARKET SATURATION

A detailed analysis finds that the proposed project would not result in significant adverse indirect business displacement impacts due to retail market saturation (i.e. competition). The detailed analysis focused on retail concentrations in a ¼-mile Local Trade Area around the project site.

The ¼-mile Local Trade Area includes distinct concentrations of shoppers' goods stores, including concentrations of art galleries in Chelsea and high-end boutiques in the Meatpacking District. There would be some overlap between products offered at existing and proposed project

shoppers' goods stores. However, the proposed project would not include a department store or other traditional anchor store that would draw a significant number of repeat local shoppers and be potentially competitive with a wide variety of nearby existing stores. In contrast, the larger retail tenants in the proposed project, such as a sports-related store, would not have the potential to draw frequent, repeat local shoppers away from existing stores because of their limited footprint and narrowly-focused merchandise selection, which would have limited competitive overlap with nearby stores. The specialty shoppers' goods retailers included in the proposed project are expected to be a curated selection intended to appeal to a design-conscious consumer and would therefore be expected to draw less comparison shopping than traditional shoppers' goods stores. It is expected that the economic viability of the specialized concentrations of shoppers' goods stores currently located in the ¼-mile Local Trade Area would not be affected by new retail introduced as part of the proposed project. Instead, the proposed project would contain retail that would complement the surrounding retail by drawing specific inspiration from existing businesses in West Chelsea and the Meatpacking District that offer products related to fashion, design, and art and food, and would provide a new amenity for the surrounding neighborhoods.

The proposed project would contain convenience goods stores comprised primarily of specialty foods. The specialty food offerings included in the proposed project would likely overlap to some degree with Chelsea Market and to a lesser extent with the Western Beef grocery store in the ¼-mile Local Trade area. Western Beef is a traditional grocery store specializing in low-cost groceries and bulk meats, and Chelsea Market is primarily a destination for food-related retail that features wholesalers with retail operations. In contrast, the proposed project would include a broader mix of curated shoppers' goods stores, restaurants, and food-related retail, and would not contain a wholesale component. Therefore, the overlap between the products at these businesses and the proposed project would be limited. In addition, Western Beef and Chelsea Market each have an established customer base, with Chelsea Market drawing local residential and worker population in addition to customers from all over Manhattan, and Western Beef drawing customers from the surrounding concentration of residential development. For these reasons, as well as the lack of a traditional anchor grocery store as part of the proposed project, the proposed project is not expected to substantially affect the sales of either of these existing businesses.

The eating and drinking establishments included in the proposed project would be part of the overall food-related retail experience offered by the proposed project. While eating and drinking establishments in the proposed project would overlap with existing restaurants in the study area, these restaurants would be expected to continue to attract customers. Therefore, the proposed project would not be expected to affect the economic viability of existing eating and drinking establishments.

Overall, the proposed project would not result in any significant adverse impacts related to indirect business displacement due to competition. While the possibility of some limited indirect business displacement due to competition cannot be ruled out, any displacement that might occur is expected to be limited and would not jeopardize the viability of any local retail strips.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

A preliminary assessment finds that the proposed project would not have a significant adverse impact on any specific industry. The proposed project would not directly displace any

businesses, and any indirect business displacement would be limited and would not affect conditions within a specific industry or category of business.

COMMUNITY FACILITIES AND SERVICES

The proposed project would not result in significant adverse impacts on community facilities as the project would not result in a direct effect on any community facility, nor would it contain a residential component that would place additional demands on the service delivery of any community facility.

OPEN SPACE

A preliminary analysis of the proposed project's indirect effects on open space determined that the proposed projects would not result in a significant adverse impact on open space.

Table S-2 provides a summary of the open space analysis including a comparison of conditions with and without the proposed project. As shown in the table, the proposed project would result in an increase in the passive open space ratio for workers in the study area. The open space ratio for workers in the study area would remain well over the City's recommended guideline ratio of 0.15 acres per 1,000 workers, and the open space conditions in the area would be improved with the addition of new open space on the waterfront and the enlivening of a vacant and underutilized portion of Hudson River Park. By creating 2.5 acres of public open space in the area, and improving an underutilized portion of Hudson River Park, the proposed project would improve open space conditions. Furthermore, the proposed project would not result in any significant adverse direct impacts to open space related to shadows, air quality, or odors. In addition, although noise levels in the proposed open space would be above the 55 dBA $L_{10(1)}$ guideline noise level, this noise level would not constitute a significant adverse direct impact on the proposed open space because it would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas, and would not affect the overall usefulness of the proposed open space. Therefore, the proposed project would not result in significant adverse impacts on open space in the study area.

Table S-2
Open Space Ratios Summary

Ratio	City Guideline Ratio	Open Space Ratios (Acres/1,000 Workers)			Incremental Change Future Without to Future With the Proposed Project
		Existing Conditions	Future Without the Proposed Project	Future With the Proposed Project	
Passive Acreage Per 1,000 Workers	0.15	0.44	0.40	0.42	5.5%

SHADOWS

New shadows from the proposed rooftop structures and marina would fall on the Hudson River in all seasons, and on small areas within Hudson River Park adjacent to Pier 57 in the fall, winter, and early spring. The new shadows would be limited in extent and duration and would not cause significant adverse impacts to these resources.

HISTORIC AND CULTURAL RESOURCES

As noted above, the proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 in Hudson River Park, a vacant building listed on the State/National Registers of Historic Places. As discussed in Chapter 7, "Historic and Cultural Resources," Pier 57 is significant under National Register criterion C for its importance in engineering history; specifically, for its unique caisson structural system.

Since the proposed project would result in new construction and renovation activities at Pier 57, the proposed project would comply with LPC's *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in the New York City Department of Buildings' TPPN #10/88. This includes preparation of a construction protection plan (CPP), to be prepared prior to construction activities and submitted to LPC and OPRHP for review and approval. Because of the federal approvals required for the proposed project, and as set forth in the Programmatic Agreement executed under Section 106 of the National Historic Preservation Act for the Hudson River Park project in 2000, modifications to the Pier 57 structure require consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP); this consultation is ongoing. In addition, the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Should the project successfully obtain approval for such credits, the project would be required to be built to the Secretary's rehabilitation Standards.

The design of the proposed project is intended to respect the pier's history, preserve and make accessible the structure's existing fabric, and introduce a limited number of new, innovative architectural components to enliven the historic resource. The proposed project would not result in physical destruction, demolition, damage, or neglect of the historic Pier 57 structure. While the pier would undergo some alterations, including at the caisson level, these changes would not adversely affect the characteristics that make the pier eligible for listing on the Registers, nor would they cause it to become a different visual entity. The proposed project would not isolate the pier structure from, or significantly alter, its setting or visual relationship with the streetscape. The proposed rooftop additions would not change the resource's visual prominence such that it would no longer conform to the streetscape in terms of height, footprint or setback. The proposed project also would not introduce incompatible visual, audible, or atmospheric elements to the setting of the pier or the architectural resources in the surrounding area. Lastly, the proposed project would not introduce significant new shadows, or significantly lengthen the duration of existing shadows over a historic landscape or on a historic structure.

The proposed project would result in construction activities within 90 feet of the Hudson River bulkhead, which has been determined eligible for listing on the State and National Registers. Therefore, the CPP to be prepared for the proposed project would include measures to ensure that the bulkhead is not affected by ground-borne construction vibrations or other potential construction-related issues. None of the other architectural resources in the study area are close enough to experience direct, physical impacts from construction of the proposed project. Any bulkhead work required for the proposed project would be relatively minor—such as assuring that coping stones are capable to support railing attachments—and would be undertaken in a manner consistent with bulkhead activities in the rest of Hudson River Park and in conformance with relevant stipulations in the Hudson River Park Programmatic Agreement. Therefore, the proposed project is not anticipated to have any significant adverse impacts to this historic resource.

Overall, the proposed project would not have any significant adverse physical, contextual, or visual impacts on the architectural resources on the project site or within the 400-foot study area, and would not have any significant adverse impacts on archaeological resources.

URBAN DESIGN AND VISUAL RESOURCES

Overall, the analysis of urban design and visual resources concludes that the proposed project would not have any significant adverse impacts related to urban design and visual resources. The proposed project would result in changes to the historic structure, but these changes would not be characterized as substantial or adverse. Rather, the majority of the changes would involve restoring building elements and renovation. The design of the proposed project is intended to respect the pier's history, preserve and make accessible the structure's existing fabric, and introduce a limited number of new, innovative architectural components to enliven the historic resource. The proposed head house additions would not noticeably change the scale of the existing structure, nor would they result in a substantial change to the pedestrian environment in Hudson River Park. The provision of new perimeter and bulkhead walkways, as well as the open spaces on the rooftop of the pier shed, would enhance the existing streetscape and pedestrian environment of Hudson River Park and Route 9A. The rehabilitated pier also would improve the visual and programming links between the Hudson River Park and inland communities, transforming the vacant pier into a handsome new component of Hudson River Park.

NATURAL RESOURCES

The natural resources assessment considered the potential impacts on floodplain, wetlands, aquatic, and terrestrial resources from both the construction and operation of the proposed project. Overall, the proposed project would not result in any significant adverse impacts to natural resources.

The construction activities associated with the proposed project would not cause any significant adverse environmental impacts on terrestrial or aquatic resources. Pile driving and placement of riprap along the western base of the outermost of the three caissons supporting historic Pier 57, and other in-water construction activities associated with the redevelopment of the pier and construction of the marina would not result in significant adverse impacts to floodplains, wetlands, water quality or aquatic biota. Increases in suspended sediment resulting from construction activities would be temporary and localized and would be expected to dissipate quickly. Turbidity curtains would be used during pile driving activities to further reduce the potential for increases in suspended sediment within the study area. Aquatic threatened or endangered species or species of concern that are known to occur in the vicinity of Pier 57, shortnose sturgeon and Atlantic sturgeon, would only occur in the area as occasional transient individuals and would prefer the deeper water habitat of the navigation channel, which would not be affected by the proposed project. The prohibition of pile driving from November through April to protect overwintering striped bass would minimize potential impacts to striped bass and other fish overwintering within the vicinity of Pier 57. Seals and the four species of threatened or endangered sea turtles that may be present in the Harbor Estuary would only be expected to be present in the vicinity of Pier 57 as occasional transient individuals and would likewise not be significantly impacted by construction activities. Through consultation and coordination between HRPT and NYSDEC, the proposed project would not result in significant adverse impacts to the NYSDEC-listed endangered peregrine falcon pair that has at times been nesting on the pier since 2009. Coordination activities may include attempting to relocate the nest, staging construction to avoid sensitive periods, or may include the use of monitoring cameras.

Operation of the proposed project, including the discharge of stormwater from the pier to the Hudson River, and the operation of the marina and water taxi landing, is consistent with the use of this portion of the park for motorized and non-motorized boating, as specified in the Hudson River Park Estuarine Sanctuary Management Plan (Sanctuary Plan), and would not result in significant adverse impacts to floodplains, wetlands, water quality, aquatic habitat, fish or benthic macroinvertebrates, essential fish habitat or a Significant Coastal Fish and Wildlife Habitat. The proposed project would include provisions for installing 4- to 5-foot flood barriers around the pier on an as needed basis (i.e., before predicted storm events). These flood barriers would extend more than 2 feet above the existing 100-year flood elevation and would therefore make the structure resilient to predicted increases in the flood elevation due to sea level rise. Operation of the proposed project would not result in significant adverse impacts to terrestrial resources.

HAZARDOUS MATERIALS

The Phase I Environmental Site Assessment (ESA) and Phase II Subsurface Investigation for the site revealed the potential for subsurface contamination and hazardous materials (such as asbestos-containing materials [ACM] and lead-based paint) on the project site. Renovation and rehabilitation of the project site would be conducted in accordance with applicable federal, state and local regulatory requirements. Excavation work would be performed in accordance with a New York City Department of Environmental Protection (NYCDEP)-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) and all excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur either during or following construction at the site.

WATER AND SEWER INFRASTRUCTURE

The proposed project would result in an increased demand on the City's water supply and wastewater treatment infrastructure. The increases in water demand and wastewater due to the proposed project, however, would be minimal and would not significantly impact existing infrastructure. Given that the project site is a pier, stormwater runoff is directly discharged into the Hudson River; therefore the City's stormwater conveyance infrastructure would not be affected. Accordingly, the proposed project would not result in any significant adverse impacts on the City's water supply, wastewater treatment or stormwater conveyance infrastructure.

SOLID WASTE

The proposed project would generate approximately 138,000 pounds (approximately 69.0 tons) per week of solid waste. Though this would be an increase compared with conditions in the No Action scenario, it would be a negligible increase relative to the 13,000 tons of waste handled by commercial carters every day. The proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the City's solid waste management objectives as stated in its Solid Waste Management Plan (SWMP). Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services.

ENERGY

The proposed project is projected to generate demand for 93,000 million British Thermal Units (BTUs) of energy per year. Because the existing pier structure would remain vacant in the No Action scenario, this energy demand represents the total incremental increase in energy consumption that would be generated by the proposed project. As explained in the *CEQR Technical Manual*, the incremental demand produced by most projects would not create a significant impact on energy capacity, and detailed assessments are only recommended for projects that may significantly affect the transmission or generation of energy. The proposed project would generate an incremental increase in energy demand that would be negligible when compared with the overall demand within Con Edison's New York City and Westchester County service area.

TRANSPORTATION

The transportation analysis examined the potential traffic, parking, transit, pedestrian, and safety impacts of the proposed project in the Chelsea neighborhood of Manhattan. Two scenarios were considered for the analysis: a "Typical" scenario, in which the rooftop was assumed to operate as public open space with a small area intended for art installations and exhibits; and an evening "Pre-Event" scenario, in which the rooftop was conservatively assumed to operate as an event space with a 2,500-person event (although events would generally not exceed 1,500 people and would not occur on a regular basis). The Typical Scenario represents the reasonable worst-case scenario for the Weekday Midday (12:00 to 1:00 PM), Weekday PM (5:30 PM to 6:30 PM), and Saturday Midday peak hours (12:45 to 1:45 PM), while the Pre-Event Scenario represents the reasonable worst-case scenario for the Weekday Evening and Saturday Evening peak hours (7:00 to 8:00 PM).

TRAFFIC

The proposed project would add a substantial number of vehicle trips to the study area. Based on the traffic analysis the proposed project is forecast to result in significant adverse traffic impacts at the following locations in the With Action scenario:

Weekday PM Typical Peak Hour (2 locations)

- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street

Weekday Evening Pre-Event Peak Hour (4 locations)

- Route 9A and West 17th Street
- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street
- Eighth Avenue and West 14th Street

Saturday Midday Typical Peak Hour (3 locations)

- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street
- Eighth Avenue and West 14th Street

Saturday Evening Pre-Event Peak Hour (2 locations)

- Eighth Avenue and West 17th Street
- Eighth Avenue and West 14th Street

PARKING CONDITIONS

While the proposed project would provide on-site accessory parking for approximately 75 cars, the full project generated demand would not be accommodated on-site during any of the peak hours. However, off-site parking facilities in the area could accommodate the remaining project generated demand. Therefore, there would not be any parking-related significant adverse impacts.

SUBWAY SERVICE AND FACILITIES

With the addition of project-generated subway trips, subway stairs would continue to operate at Level of Service (LOS) D or better with a volume-to-capacity (v/c) ratio not in excess of 1.0 and subway control areas would continue to operate at LOS B or better. Therefore, there would not be any subway-related significant adverse impacts.

BUS SERVICE

With the addition of project-generated bus trips, there is still expected to be remaining capacity on route M14. Therefore, there would not be any bus-related significant adverse impacts.

PEDESTRIAN FACILITIES

Corners

In the With Action scenario, all corners are projected to operate at LOS D or better, with more than 19.5 square-feet per pedestrian (ft^2/p). Therefore, there would not be any corner-related significant adverse impacts.

Sidewalks

With the addition of project generated pedestrian traffic, all sidewalks are projected to operate with pedestrian flows less than 6.4 pedestrians per foot per minute (PMF). Therefore there would not be any sidewalk-related significant adverse impacts.

Crosswalks

The pedestrian analysis shows that the proposed project would result in significant adverse pedestrian impacts at the following locations in the With Action scenario:

Weekday Midday Typical Peak Hour (1 crosswalk)

- Ninth Avenue and West 15th Street, North Crosswalk

Weekday PM Typical Peak Hour (1 crosswalk)

- Ninth Avenue and West 15th Street, North Crosswalk

Weekday Evening Pre-Event Peak Hour (2 crosswalks)

- Ninth Avenue and West 15th Street, North Crosswalk
- Route 9A and West 15th Street, North Crosswalk

Saturday Midday Typical Peak Hour (2 crosswalks)

- Ninth Avenue and West 15th Street, North Crosswalk
- Ninth Avenue and West 14th Street, North Crosswalk, west side

Saturday Evening Pre-Event Peak Hour (1 crosswalk)

- Ninth Avenue and West 15th Street, North Crosswalk

SAFETY ASSESSMENTS

The intersection at Eighth Avenue and West 14th Street is the only study intersection classified as a high pedestrian/bicycle crash location. The proposed project would increase the level of pedestrian activity at this intersection, and measures are recommended to address the potential safety issues. Additional measures are recommended at the project frontage to address the potential safety issues that result from the addition of high pedestrian volumes crossing the bikeway.

In addition, to manage conflicts between pedestrians, cyclists, and motorists traveling on or across the Route 9A bikeway the project would include the development and implementation of a Traffic Management Plan (TMP), particularly during large events at the pier. The TMP would be implemented during typical higher-volume times and event conditions and would include active management of the frontage road and other transportation elements by project staff. The objectives of the TMP are to ensure operational efficiency and enhance pedestrian/traffic safety. The lease between HRPT and the applicant would include a requirement for the implementation of a TMP.

AIR QUALITY

The proposed project would create new sources of air pollutant emissions, both mobile (emissions from project generated vehicle trips and motorized boat trips) and stationary (such as exhaust from fossil fuel-fired heating and hot water systems). A detailed assessment found that the proposed project would not result in significant adverse impacts from mobile source emissions. Vehicle emissions inside the proposed parking garage would be mechanically vented, and the concentrations resulting from the emissions within the parking garage and from on-street traffic would be in compliance with the applicable standards and thresholds. Based on a screening analysis of motorized boat emissions and dispersion at the proposed marina and water taxi landing there would be no potential for significant adverse impacts. Based on stationary source screening analyses, there would be no potential for significant adverse air quality impacts from the heat and hot water systems of the proposed project.

The nearby area zoned for manufacturing uses was surveyed to identify potential sources of emissions that could affect the proposed project. There are no existing permitted sources of manufacturing use emissions within the study area that could affect the proposed project. Therefore, there would be no potential for significant adverse impacts on air quality due to industrial sources.

GREENHOUSE GAS EMISSIONS

Based on the greenhouse gas emissions consistency assessment, the proposed project would be consistent with the city's emissions reduction goal, as defined in the *CEQR Technical Manual*. The proposed project would result in annual GHG emissions of approximately 16,790 metric tons of carbon dioxide equivalent (CO_2e). Of that amount, approximately 4,141 metric tons of CO_2e would be emitted by the proposed project as a result of grid electricity use and fuel

consumption in on-site energy systems. The proposed project would facilitate the reuse of an existing structure, situated in an area that already supports walking and biking. The proposed project's design includes many other features aimed at reducing energy consumption and GHG emissions, including measures to maximize daylighting, natural ventilation, and passive cooling of the structure; the use of water conserving fixtures; and the reuse of shipping containers, rather than new raw materials, to create the interior retail spaces. Overall, the proposed project would be consistent with the City's citywide GHG reduction goal.

The proposed project's design would also accommodate sea level rise due to climate change, which is projected for the end of the century by the New York City Panel on Climate Change to be up to 2 feet (excluding the rapid ice melt scenario). The proposed project would include provisions for installing 4- to 5-foot flood barriers around the perimeter of the pier on an as needed basis (i.e., before predicted storm events), and the proposed project has been designed to locate mechanical space and other critical infrastructure on the roof of the headhouse, well above current and any anticipated future flood levels.. The flood barriers would extend more than 2 feet above the existing 100-year flood elevation and would therefore make the structure capable of withstanding the likely sea level rise due to climate change (i.e., up to 2 feet).

NOISE

The noise analysis concludes that traffic generated by the proposed project would not be expected to result in any significant increases in noise levels. While achieving an interior noise level of 50 dBA $L_{10(1)}$ for commercial uses as prescribed by CEQR interior noise level criteria may not be attainable in this case due to the nature of the proposed project, this would not constitute a significant adverse impact, because the specific uses included in the proposed project, especially the retail component, would be substantially different from the commercial office or meeting room uses for which the CEQR criteria are intended to apply.

Noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$ prescribed by CEQR criteria, and would therefore constitute a significant adverse impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas around New York City.

NEIGHBORHOOD CHARACTER

This assessment of neighborhood character concludes that the proposed project would not have a significant adverse impact on neighborhood character in the study area. Rather, it is anticipated that the proposed project would reactivate a vacant and historic structure with a dramatic change in use, creating a new cultural, commercial, and open space destination, while enhancing the essential character of the area and adding to the open space amenities of Hudson River Park.

CONSTRUCTION IMPACTS

Although there would be localized, temporary disruptions due to construction activity, as is the case with any construction activity, the construction analysis finds that the proposed project would not result in any significant adverse impacts due to construction activities. This finding is based on an analysis of the types of construction activities and their intensity, the location of

sensitive receptors that could be affected by the proposed project's construction, and the overall construction duration.

The overall construction duration of the proposed project would be short-term (less than two years), with the majority of the activities occurring within the existing Pier 57 structure. During interior work, the walls of the building would act as barriers to the transport of air pollutants and would provide acoustical shielding for noise sources, thus limiting potential impacts from construction activity. Unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of noise and air emissions. In terms of air emissions and noise levels, the most intense construction activity would be pile driving, but this task would be limited in duration (only 12 weeks), would involve piles of small size (predominantly 18-inch diameter steel pipe piles), and is expected to utilize vibratory hammers (which create less intrusive noise levels) rather than impact hammers to the greatest extent possible. With the exception of adjacent portions of Hudson River Park (which consists primarily of an esplanade with limited seating and portions of the publicly accessible Pier 54) and the walkway and seating area around the perimeter of Chelsea Piers, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. In fact, the nearest residences are located approximately 550 feet from the project site, at 450 West 17th Street. In addition, construction of the proposed project would only result in a small number of construction-related vehicle, pedestrian, and transit trips.

Since the proposed project would result in new construction and renovation activities within and abutting the Pier 57 structure, which is listed on the State/National Registers of Historic Places (S/NR), the proposed project would comply with the New York City Landmarks Preservation Commission's (LPC) *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in the New York City Department of Building's (DOB) *Technical Policy and Procedure Notice (TPPN) #10/88*. This includes preparation of a Construction Protection Plan (CPP), to be prepared prior to construction activities and submitted to LPC and OPRHP for review and approval. The proposed project would also result in construction activities within 90 feet of the S/NR-eligible Hudson River bulkhead. Therefore, the CPP to be prepared for the proposed project would include measures to ensure that the bulkhead is not affected by potential construction-related issues.

Renovation and rehabilitation of Pier 57 would be conducted in accordance with applicable Federal, State, and local regulatory requirements. Excavation work would be performed in accordance with a NYCDEP-approved RAP and CHASP. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur during construction at the site.

As described above, the construction activities associated with the proposed project would not cause any significant adverse environmental impacts on terrestrial or aquatic resources. Pile-driving and other in-water construction activities associated with the redevelopment of Pier 57 and construction of the marina would not result in significant adverse impacts to floodplains, wetlands, water quality, or aquatic biota.

Therefore, after taking into account the short duration of construction tasks, the relatively low intensity of construction activities and the fact that much of the activity would be interior work, the very limited number of nearby sensitive receptors (such as residences), and other factors as

described above, the analysis concludes that the proposed project would not result in any significant adverse construction-related impacts.

PUBLIC HEALTH

According to the *CEQR Technical Manual*, for most proposed actions, a public health analysis is not necessary. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, no public health analysis is warranted. If an unmitigated significant adverse impact is identified in one of these analysis areas, the lead agency may determine that a public health assessment is warranted for that specific technical area. The proposed project would not result in significant unmitigated adverse impacts to air quality, water quality, or hazardous; however, it would result in an unmitigated significant adverse impact with respect to noise. Specifically, noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$ guideline prescribed by CEQR criteria, and would therefore constitute a significant adverse impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the project-created open spaces would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. Due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) the 55 dBA $L_{10(1)}$ guideline noise level is often not achieved. Because park users already experience similar noise levels in Hudson River Park and other urban open space areas, the unmitigated significant adverse noise impact would not constitute a significant adverse public health impact.

ALTERNATIVES

The alternatives analysis considers a No Action Alternative, a Pedestrian Bridge Alternative, and a No Unmitigated Impact Alternative. The conclusion of the alternatives analysis is that the No Action Alternative and the No Unmitigated Impact Alternative would not substantively meet the goals and objectives of the proposed project. The Pedestrian Bridge Alternative would include the same development as the proposed project, but would also include a pedestrian bridge over Route 9A south of West 15th Street. This alternative would meet the goals and objectives of the proposed project, if funding can be identified to implement it. Each of the alternatives is summarized briefly below.

NO ACTION ALTERNATIVE

The No Action Alternative assumes the proposed discretionary actions would not be adopted, and the proposed project would not be constructed. The project site would remain occupied by the existing Pier 57 structure, which would remain vacant. The existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure, assuming funding is available. This alternative would avoid the proposed project's significant adverse impacts relating to transportation (traffic and pedestrians) and noise. In this alternative, no new public access to the waterfront would be provided on Pier 57, and no new public open space or cultural uses would be created. This alternative would also not generate funds to contribute to the operation and maintenance of Hudson River Park. In summary, this alternative would fail to meet the goals and objectives of the proposed project.

PEDESTRIAN BRIDGE ALTERNATIVE

The Pedestrian Bridge Alternative would be identical to the proposed project, except that it would include a pedestrian bridge to provide access to the project site over Route 9A. Although no specific designs have been developed for the pedestrian bridge, it was assumed that it would be located south of West 15th Street and would extend over Route 9A. On the east side of Route 9A, the pedestrian bridge would touch down within the 14th Street Park section of Hudson River Park. On the west side of Route 9A, the bridge would provide access to the project site, connecting to the second story of the headhouse through the south façade. This design would provide an option for pedestrians to cross Route 9A and enter directly at the second floor of the proposed project. It is also assumed that the bridge would provide a staircase down to the proposed walkway extensions along the bulkhead and the Hudson River Park waterfront esplanade on the west side of Route 9A. The staircases from the pedestrian bridge to the waterfront esplanade and 14th Street Park on the east and west sides of Route 9A would result in a slight narrowing of the public space along the esplanade and a slight reduction in the amount of usable space provided within 14th Street Park. This alternative would otherwise rehabilitate and redevelop the Pier 57 structure with the same development program and mix of uses anticipated with the proposed project. It would result in the same environmental impacts as the proposed project in all technical areas except historic resources and cultural, urban design and visual resources, and transportation. With respect to historic and cultural resources and urban design and visual resources, depending on the size, design, and scale of the pedestrian bridge, this alternative could result in impacts to these technical areas that would not occur under the proposed project. Depending on whether at-grade crosswalks are provided at Route 9A and West 15th Street, this alternative could eliminate the significant adverse traffic and crosswalk impacts at this intersection that would occur with the proposed project. Overall, the Pedestrian Bridge Alternative would satisfy the goals of the proposed project, if funding can be identified to implement it.

NO UNMITIGATED IMPACTS ALTERNATIVE

The No Unmitigated Impact Alternative considers modifications to the proposed project to avoid the unmitigated significant adverse impact related to noise in the proposed public open space. Eliminating this impact would require the development of an alternative with no public open space, which would not meet the goals and objectives of the proposed project.

MITIGATION

The potential for significant adverse impacts to result from the proposed project have been identified in the areas of transportation (traffic and pedestrians) and noise. Therefore, measures to minimize or eliminate the anticipated impacts to the fullest extent practicable are examined below.

TRANSPORTATION

A number of transportation elements in the study area would experience significant adverse traffic and pedestrian impacts as a result of the proposed project. The discussion below outlines readily implementable mitigation measures (e.g., revised signal timings, lane restriping, etc.) that would fully mitigate the identified impacts. The implementation of these measures would be conducted in coordination with NYCDOT, NYSDOT, and New York Police Department (NYPD) as development proceeds.

Traffic Operations

Based on the results of the traffic analysis, five locations in the study area are forecast to experience significant adverse traffic impacts attributable to the proposed project during one or more of the analyzed peak periods:

- *Route 9A and West 17th Street*, during the Weekday Evening Pre-Event peak hour.
- *Route 9A and West 15th Street*, during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours.
- *Tenth Avenue and West 14th Street*, during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours.
- *Eighth Avenue and West 17th Street*, during the Saturday Evening Pre-Event peak hour.
- *Eighth Avenue and West 14th Street*, during the Weekday Evening Pre-Event, Saturday Midday, and Saturday Evening Pre-Event peak hours.

Each of the above significant adverse impacts could be fully mitigated as outlined below.

Route 9A and West 17th Street

This intersection would experience a significant impact in the westbound direction for the Weekday Evening Pre-Event peak hour. To mitigate the potential impact, one second of green time would be reallocated from the northbound/southbound phase to the westbound phase.

Route 9A and West 15th Street

Due to increases in pedestrian volumes on the north crosswalk, this intersection would experience a significant impact for the westbound right-turn movement during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours. To mitigate the potential impacts, green time could be reallocated from the northbound/southbound phase to the westbound phase as follows: three seconds during the Weekday PM peak, five seconds during the Weekday Evening Pre-Event peak, and two seconds during the Saturday Midday peak. However, during the Weekday Evening Pre-Event peak, pedestrian impacts that are projected for the north side crosswalk at this intersection would warrant the presence of police control at this location; as described below; provision of police control would eliminate the need to reallocate signal timing during this peak hour.

There is the potential that the walkway in the Route 9A median would not be constructed as part of the proposed project and that the crosswalk at Route 9A at West 16th Street would be eliminated from the project design. Under this potential scenario, this intersection would experience significant adverse impacts during the same three peak hours as described above and would require similar mitigation measures. To mitigate the potential impacts, green time could be reallocated from the northbound/southbound phase to the westbound phase as follows: four seconds during the Weekday PM peak, five seconds during the Weekday Evening Pre-Event peak, and three seconds during the Saturday Midday peak. However, as described below, during the Weekday Evening Pre-Event peak, pedestrian impacts that are projected for the north side crosswalk at this intersection would warrant the presence of police control at this location; provision of police control would mitigate the significant adverse traffic impact and eliminate the need to reallocate signal timing during the Weekday Evening Pre-Event peak hour.

Tenth Avenue and West 14th Street

Increases in traffic would result in significant impacts to the westbound approach during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peaks and to the eastbound right turn during the Weekday Evening Pre-Event peak. To mitigate the potential impacts, green

time would be reallocated from the eastbound left-turn phase to the eastbound/westbound phase as follows: three seconds during the Weekday PM and Weekday Evening Pre-Event peaks and four seconds during the Saturday Midday peak.

Eighth Avenue and West 17th Street

This intersection would experience a significant impact in the westbound direction during the Saturday Evening Pre-Event peak hour. To mitigate the potential impact, one second of green time would be reallocated from the northbound through phase to the westbound phase.

Eighth Avenue and West 14th Street

This intersection would experience a significant impact in the westbound direction during the Saturday Evening Pre-Event peak hour. To mitigate the potential impact, green time would be reallocated from the northbound through/right phase to the eastbound/westbound phase as follows: one second during the Weekday Evening Pre-Event peak and three seconds during the Saturday Midday and Saturday Evening Pre-Event peaks.

Pedestrian Operations

Based on the results of the pedestrian analysis, three pedestrian crosswalks in the study area are forecast to experience significant adverse impacts attributable to the proposed project during one or more of the analyzed peak periods. All of the significant adverse impacts could be fully mitigated as outlined below.

North Crosswalk at Route 9A and West 15th Street

To mitigate the impacts for the Weekday Evening Pre-Event peak hour, the north crosswalk at this intersection would have to be widened to 41.8 feet, which is beyond what is geometrically feasible. Therefore, the recommended strategy to mitigate this impact, which is only projected for the intermittent condition of the Weekday Evening Pre-Event peak as events would not occur on a regular basis, would be to implement police control by deploying traffic enforcement agents (TEAs) before weekday evening events at Pier 57. To facilitate safe and efficient traffic and pedestrian flows, TEAs would override traffic signal operations when necessary and would direct traffic and control vehicular and pedestrian movements. As such, the use of TEAs would eliminate the conflict between pedestrians crossing Route 9A and vehicles turning from West 15th Street that results in this significant adverse impact at this location, and would make it unlikely that the physical widening of the existing crosswalk would be necessary.

The applicant would work with the Hudson River Park Trust, NYCDOT, NYSDOT, and NYPD to determine the hours and TEA staffing level and locations needed for a given event.

North Crosswalk at Ninth Avenue and West 15th Street

Due to increased pedestrian traffic, the north crosswalk at this intersection would be significantly impacted during all five peak hours. To mitigate the potential impacts for all analysis periods, the crosswalk would need to be widened by 3.3 feet, which would increase the width of the crosswalk from 9.9 feet to 13.2 feet.

North Crosswalk (West Side of Median) at Ninth Avenue and West 14th Street

Due to increased pedestrian traffic, the north crosswalk at this intersection would be impacted during the Saturday Midday peak hour. This north crosswalk is bisected by a median plaza, and only the segment of the crosswalk west of this median would experience the impact. To mitigate the potential impact, this segment of the crosswalk would need to be widened by 0.4 feet (5 inches), which would increase the width of the crosswalk from 15.4 feet to 15.8 feet.

UNAVOIDABLE ADVERSE IMPACTS

As described in "Mitigation," the proposed project's potential impacts to transportation (traffic and pedestrians) could be fully mitigated. However, the potential impacts related to noise in the proposed project's open space areas could not be mitigated with practicable measures.

Noise levels at the proposed project's open space, both during event and non-event conditions, would exceed the 55 dBA $L_{10(1)}$ noise level guideline for outdoor areas requiring serenity and quiet provided in the *CEQR Technical Manual* noise exposure guidelines. Noise levels would exceed the guideline level due to a combination of high existing noise levels generated by traffic on Route 9A, amplified sound from events at the proposed project, and operation of the proposed project's marina and water taxi landing, and would therefore constitute a significant adverse impact.

To reduce the noise levels below the 55 dBA $L_{10(1)}$ guideline within the proposed project's open space areas, typical noise abatement measures, such as the use of noise barriers along Route 9A, would not be practicable, since the barriers would isolate the new public walkways along the bulkhead behind a wall, making them unappealing and potentially unsafe. Therefore, there are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. Therefore, the noise levels in the park would be considered an unavoidable significant adverse impact. However, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas.

GROWTH-INDUCING ASPECTS OF THE PROPOSED PROJECT

The proposed project would not induce additional development in the surrounding area and would not expand infrastructure capacity. Development would be limited to the project site where it would result in the redevelopment of Pier 57 with retail, public open space, restaurant, and other commercial uses; a marina; and educational and cultural and uses. These new uses would be compatible with other trends in the study area that include new residential, cultural uses, retail, and commercial development in place of former industrial and manufacturing uses. The proposed uses would not introduce a substantial new land use, residential population, or employment base. The proposed project would utilize existing infrastructure; it would not introduce new infrastructure or result in the expansion of infrastructure capacity. Furthermore, as part of Hudson River Park, the project site is governed by the Hudson River Park Act of 1998, which controls the extent of development within the park and defines permissible land uses. Therefore, the proposed project would not "induce" new growth in the surrounding area.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

There are a number of resources that would be expended in the construction and operation of the proposed project. These include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation of the proposed development; and the human effort (i.e., time and labor) required to develop, construct, and operate various components of the proposed project. The resources are considered irretrievably committed because their reuse for some purpose other than the proposed project would not be possible. The land use changes associated with the development of the proposed project site may be considered a resource loss. The proposed project constitutes an irreversible and irretrievable

commitment of the development site as a land resource, thereby rendering land use for other purposes infeasible, at least in the near term.

These commitments of land resources and materials are weighed against the benefits of the proposed project. The proposed project would introduce a variety of uses, including public open space, to a site that would remain vacant and underutilized without the proposed project. These uses would be compatible with the surrounding mixed-use character of the neighborhood, would reactivate a portion of the waterfront, and would contribute to the completion and financial support of Hudson River Park. ✷

PIER 57 REDEVELOPMENT PROJECT

Final Environmental Impact Statement

CEQR No.:
11HRP001M

Lead Agency
Hudson River Park Trust

Project Applicant
Hudson Eagle, LLC

Prepared by
AKRF, Inc.
Sam Schwartz Engineering

February 2013

Pier 57 Redevelopment Project
FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)

Project Location:	Community District 4 Borough of Manhattan
CEQR No.	11HRP001M
Type of Action:	Type I
ULURP Nos.	130100 ZMM 130101 ZSM 130102 ZSM 130103 ZSM 130104 ZCM
Lead Agency:	Hudson River Park Trust
Lead Agency Contact:	Noreen Doyle
Project Applicant:	Hudson Eagle, LLC c/o YoungWoo & Associates 435 Hudson Street 4th Floor New York, NY 10014
Preparers:	AKRF, Inc. 440 Park Avenue South New York, NY 10016 Sam Schwartz Engineering 611 Broadway, Suite 415 New York, NY 10012
Acceptance Date:	February 22, 2013

The FEIS is available for review on the website of the Hudson River Park Trust:
www.hudsonriverpark.org

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Foreword[1]

This document is the final environmental impact statement (FEIS) for the proposed Pier 57 Redevelopment project (the proposed project). A draft environmental impact statement (DEIS) was prepared for the proposed project and a Notice of Completion was issued by the Hudson River Park Trust (HRPT) as lead agency on October 25, 2012. A public hearing on the DEIS was held on January 23, 2013. Oral comments were received during the DEIS public hearing, and written comments were accepted from the date of the Notice of Completion through the close of the DEIS public comment period, which ended February 4, 2013.

This FEIS addresses all substantive comments made on the DEIS during the DEIS public hearing and DEIS comment period. Those comments are summarized and responded to in Chapter 26, "Response to Comments on the DEIS." Changes to the text and graphics from the DEIS were made in this FEIS, as necessary, in response to these comments.

The FEIS includes the following principal changes:

- Chapter 14, "Transportation," has been updated to describe a preliminary Traffic Management Plan (TMP) for the proposed project. The chapter has also been updated to include traffic and pedestrian analyses of a potential configuration of the Route 9A pedestrian crossing in which there would be no walkway in the Route 9A median between West 15th and West 16th Streets and no crosswalk across Route 9A at West 16th Street.
- Chapter 22, "Mitigation," has been revised to address the traffic mitigation measures that would be required for the alternate configuration of the Route 9A pedestrian crossing analyzed in Chapter 14, "Transportation."
- Chapter 26, "Response to Comments on the DEIS," has been prepared to address all relevant oral and written comments on the DEIS. Appendix E, "Comments Received on the DEIS," has also been added to the FEIS.

Except where indicated, all text changes since publication of the DEIS are marked by double-underlining in this FEIS. No double-underlining is used for the Foreword or Chapter 26, "Response to Comments on the DEIS," both of which are entirely new. ✶

[1] This chapter is new to the FEIS.

Chapter 1: Project Description

A. PROJECT IDENTIFICATION

The applicant—Young Woo & Associates, through the entity Hudson Eagle LLC ("Hudson Eagle")—proposes to redevelop the Pier 57 site, which is located within Hudson River Park at approximately West 15th Street (see **Figure 1-1**), with retail, restaurant and other commercial uses; a marina; and educational and cultural and public open spaces uses. Integral to the proposed project is the repair and rehabilitation of Pier 57's historic pier structure, including its caissons.

In order to develop this proposed project, discretionary actions would be required from the Hudson River Park Trust (HRPT), the New York City Planning Commission (CPC), and the New York State Department of Environmental Conservation (NYSDEC), and possibly other agencies, including the New York State Department of Transportation (NYSDOT). Thus, the proposed Pier 57 project is subject to environmental review under the State Environmental Quality Review (SEQR) regulations and guidelines. HRPT will act as the lead agency for this proposal. In addition, the project will be subject to review under the Uniform Land Use Review Procedure (ULURP) and, because the proposed project is located in New York City, New York City's 2012 *City Environmental Quality Review (CEQR) Technical Manual* will serve as a general guide on the methodologies and impact criteria for evaluating the project's potential effects on the various environmental areas of analysis. Federal approvals would be necessary for permits for in-water work and would be subject to environmental review under the National Environmental Policy Act.

Development of the proposed project may result in potentially significant adverse environmental impacts, requiring that an environmental impact statement (EIS) be prepared. This final EIS has been prepared to describe the proposed project, present the proposed framework for the EIS analysis, assess the potential for project impacts, and identify mitigation for any potential significant adverse impacts.

B. PROPOSED PROJECT

The project site consists of historic Pier 57, adjacent lands underwater, and some associated frontage area, all of which are located in Hudson River Park at approximately West 15th Street. Immediately adjacent to and east of the site are other portions of Hudson River Park and the Route 9A bikeway and roadway (see **Figure 1-2**).

The pier, at 15th Street west of Route 9A, was constructed from 1950 to 1954 and consists of three underwater caissons, which are concrete boxes that form most of the pier's substructure. Above the caissons are the pier's headhouse (the eastern portion of the pier structure that is parallel to Route 9A) and "finger" building, or pier shed (the portion of the pier that is perpendicular to Route 9A and extends into the water).

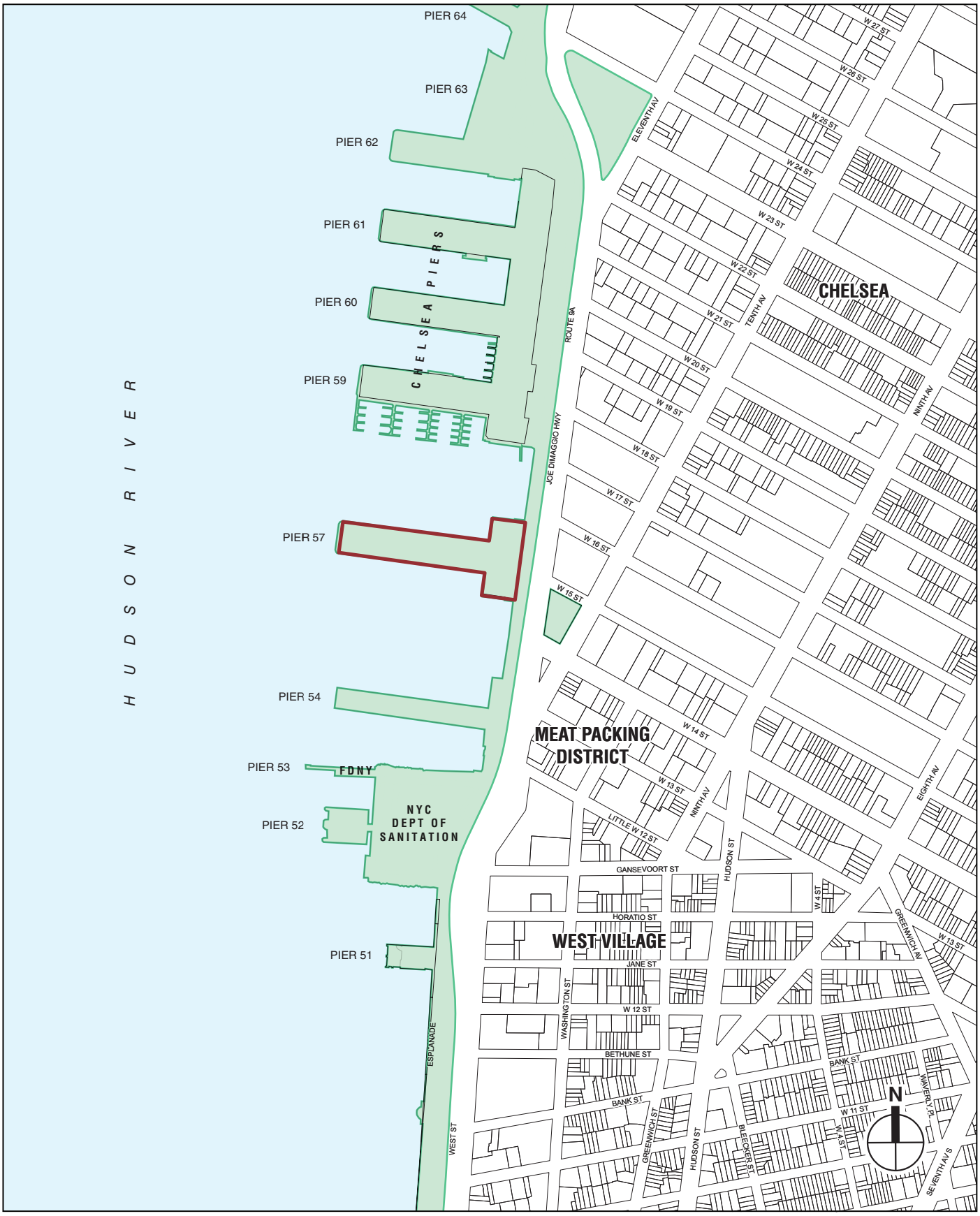
9.19.11

Project Site

Hudson River Park

Project Location
Figure 1-1

9.19.11



Project Site Location

Figure 1-2

The pier, which is listed on the State and National Registers of Historic Places, was historically used for the Grace Lines cruises (through 1967). Between 1967 and 2003, it was used as a bus garage and maintenance facility by the Manhattan and Bronx Surface Transportation Operating Authority and later the Metropolitan Transportation Authority. The pier has been vacant since 2004.

The pier is zoned M2-3, which allows commercial or manufacturing uses at a maximum floor area ratio of 2.0 (see **Figure 1-3**). Many uses otherwise permitted by zoning are prohibited by the Hudson River Park Act, Chapter 592 of the Laws of 1998 ("the Act"), which created Hudson River Park and HRPT to design, build and operate it.

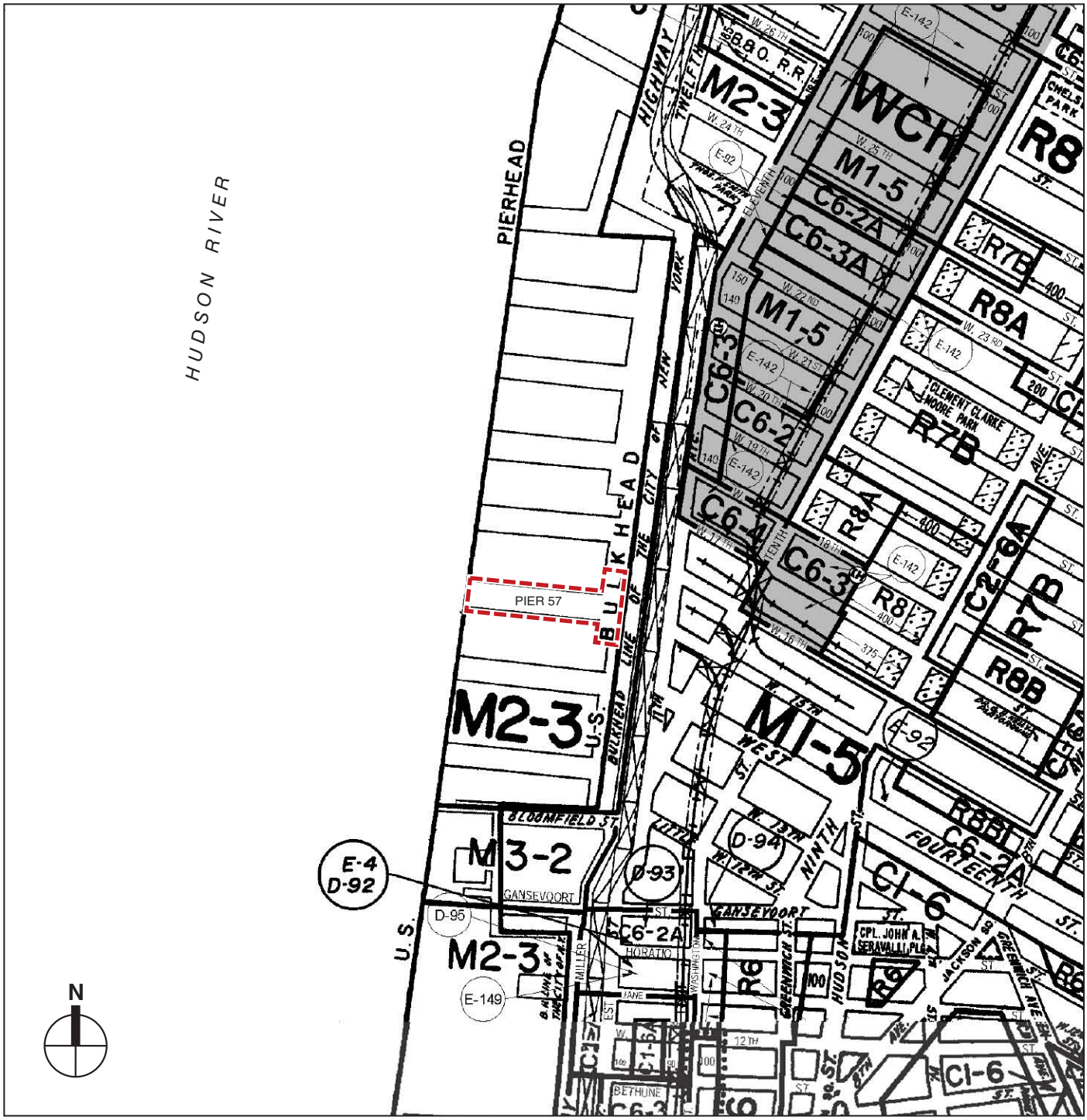
Pier 57 is part of the 550-acre Hudson River Park, which was the subject of an environmental review in the late 1990s (*Hudson River Park Final Environmental Impact Statement*, May 1998).

The rehabilitated pier is expected to include a public retail marketplace, restaurant and other commercial uses, as well as educational, cultural and public open space uses and a marina. The pier would become an important component of Hudson River Park, generating needed revenue to support the Park's operations, and improving the visual and programming links between the Park and inland communities. The project would also preserve an important physical component of the waterfront's history and reintroduce some maritime uses to a pier once built explicitly for that purpose while also introducing innovative architectural components designed to respect and enliven the historic structure. **Table 1-1** summarizes the proposed program elements; the project uses are preliminary and subject to refinement based on project design and market conditions. **Figures 1-4 through 1-10** show the project's preliminary floor plans and the marina plan, and **Figure 1-11** shows the exterior elevations of the proposed project.

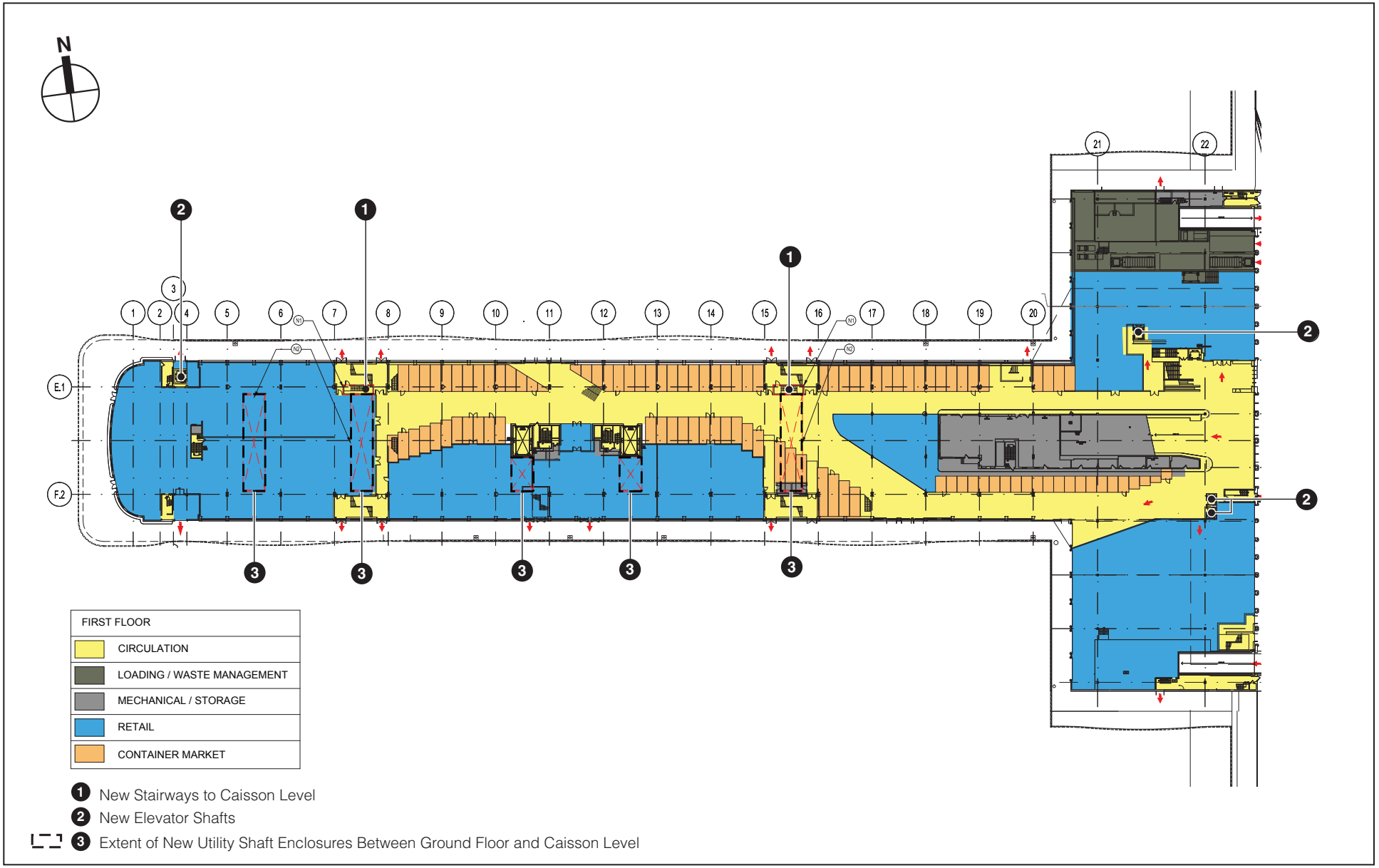
Table 1-1
Preliminary Program of Project Uses

Use	Location within the Pier	Gross Square Footage
Commercial/Educational/Cultural Uses		
Work/Sell Marketplace	Level II/Level IIM	49,200
Gallery/Spa/Storage/Other Uses	Caisson Level	40,000
Technical Art School and Ancillary Facilities	Level II/Level IIM	32,700
Food Market and Restaurants	Level I/Level IM/Rooftop	109,400
Restaurant Terrace	Level II	13,500
Flexible Retail Space	Level I/Level II/Level IIM	45,200
General Retail	Level I/Level II/Level IIM	44,600
Circulation	Caisson/Level I/Level IM/Level II/Level IIM	82,400
Cultural Use	Level I/Level IM	11,000
Total Commercial/Educational/Cultural gsf		**428,000**
Other Uses		
Public Open Space	Level I/Rooftop	110,000
Marina	Level I	141 slips
Parking	Caisson Level	Approximately 75 spaces

Note: gsf = gross square feet
Source: Hudson Eagle LLC.



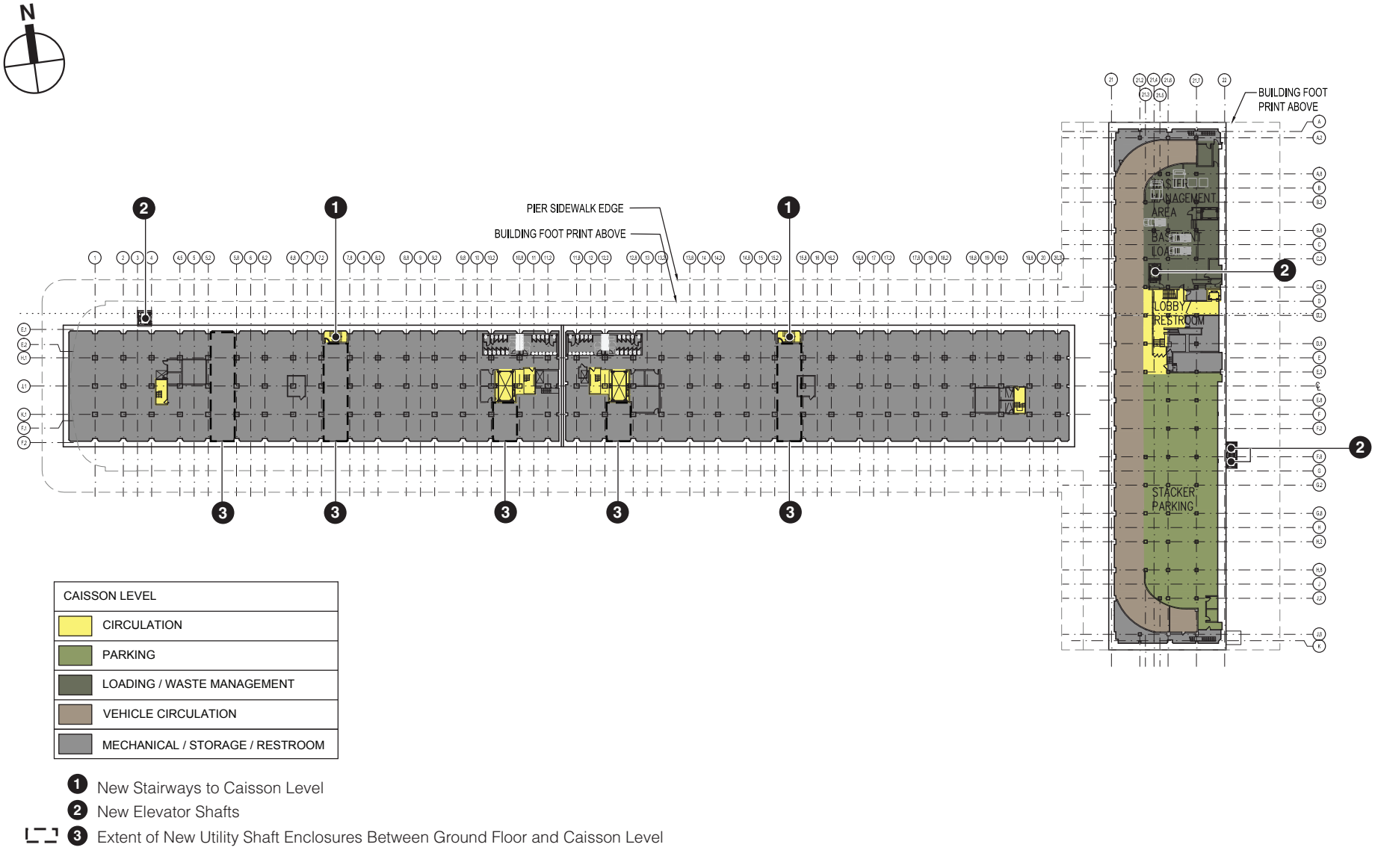
Zoning
Figure 1-3



FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

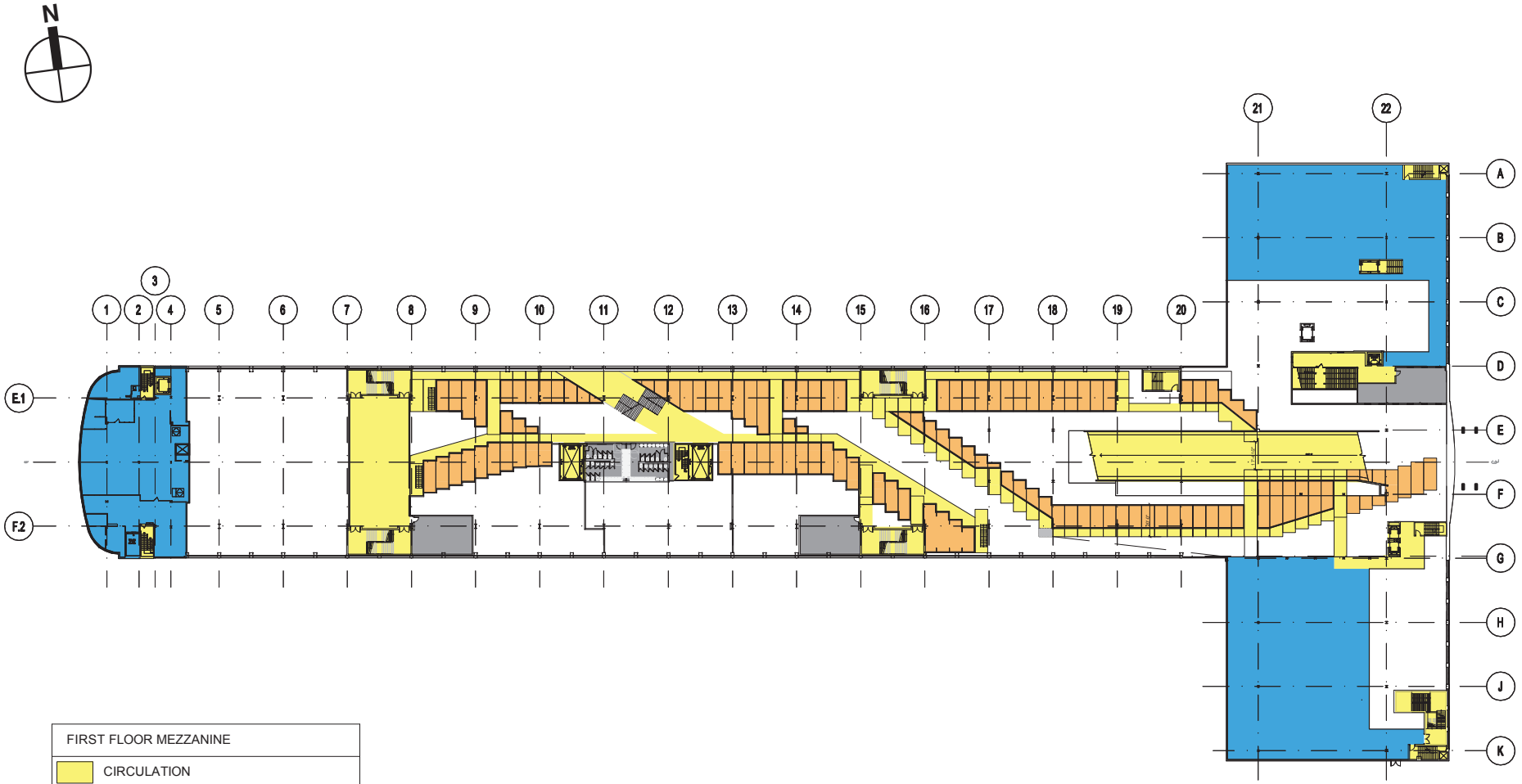
First Floor Plan
Figure 1-4



FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

Cellar Plan
Figure 1-5

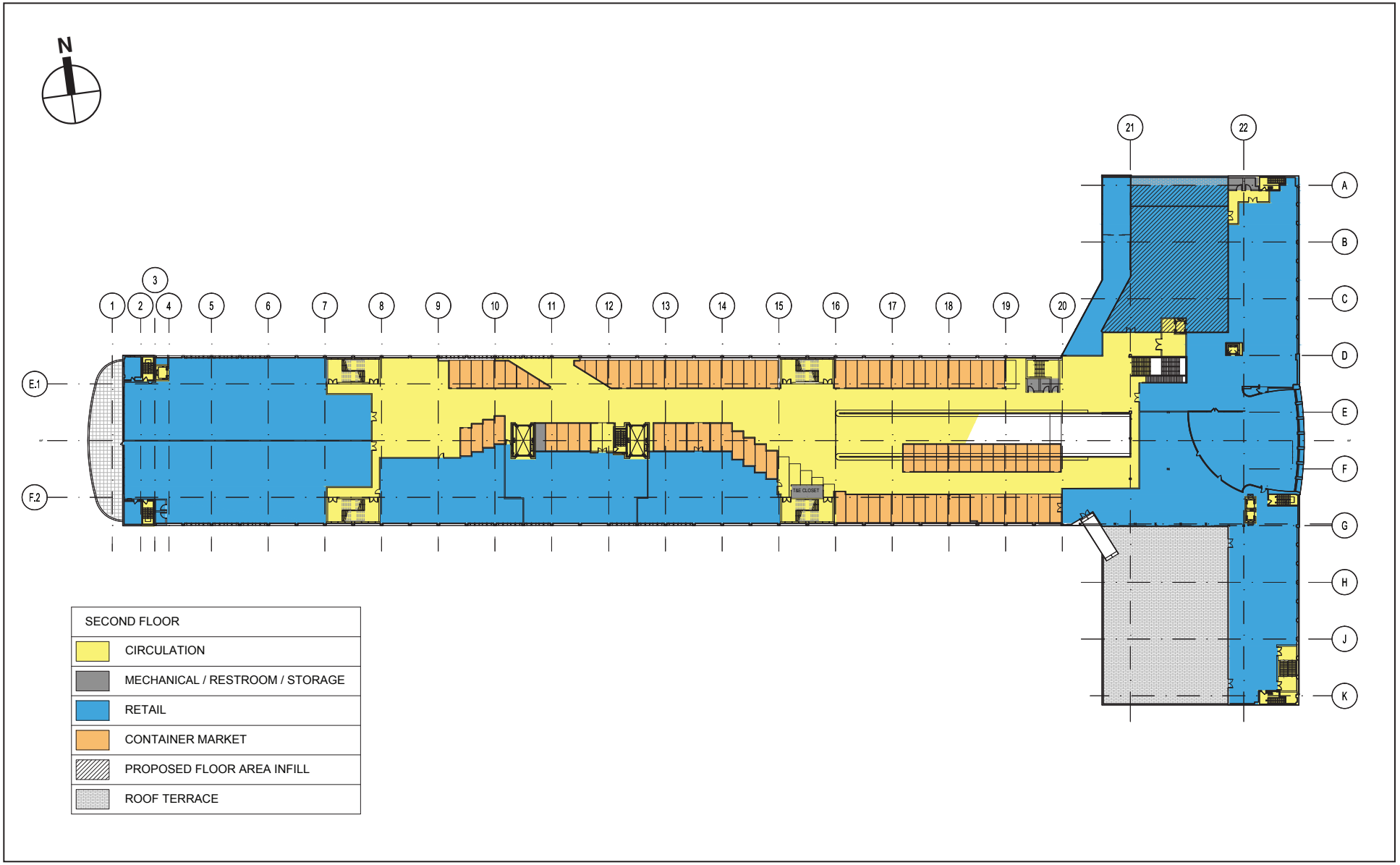


FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

First Floor Mezzanine Plan

Figure 1-6



FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

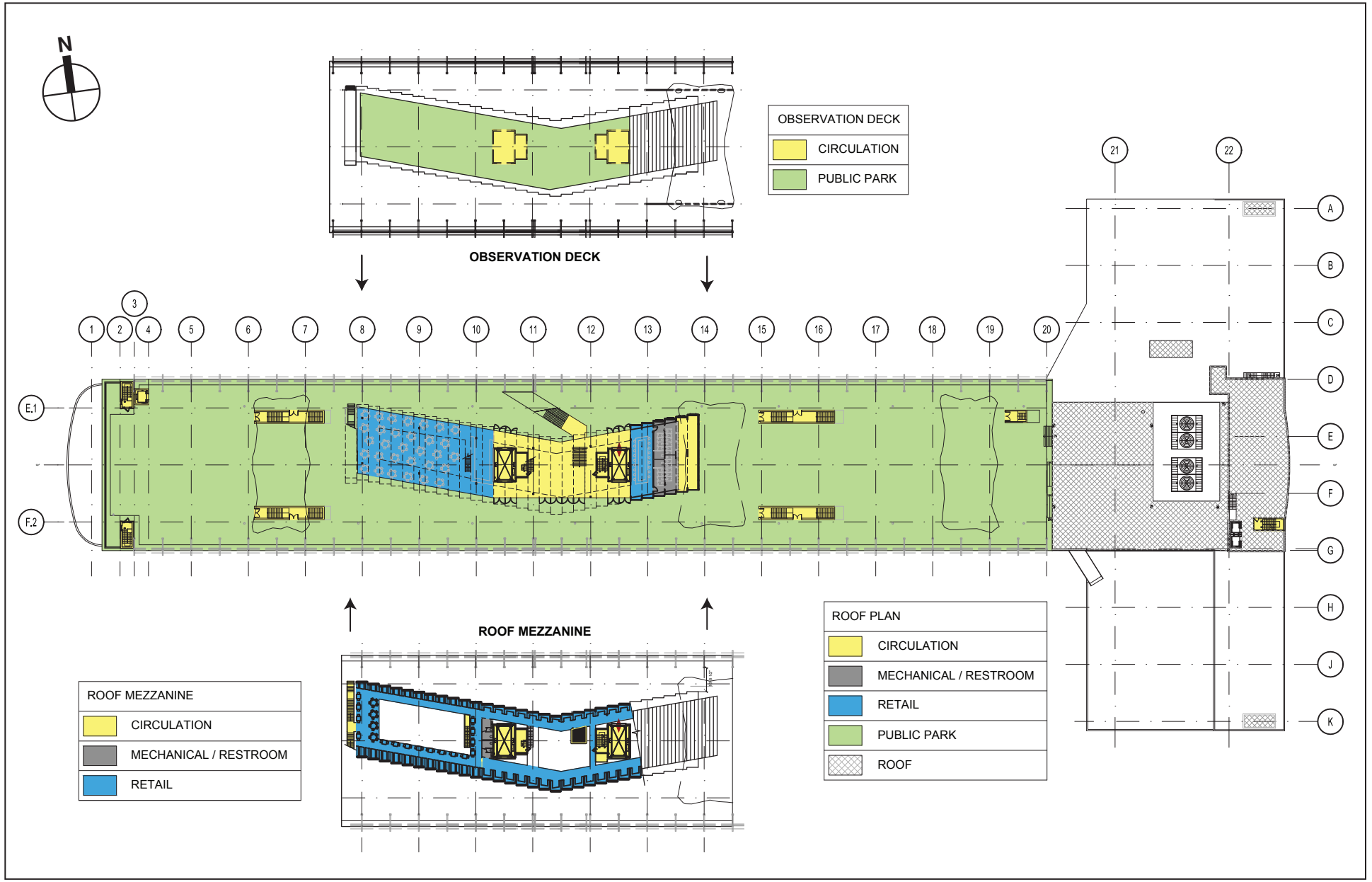
Second Floor Plan
Figure 1-7

FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

Second Floor Mezzanine Plan

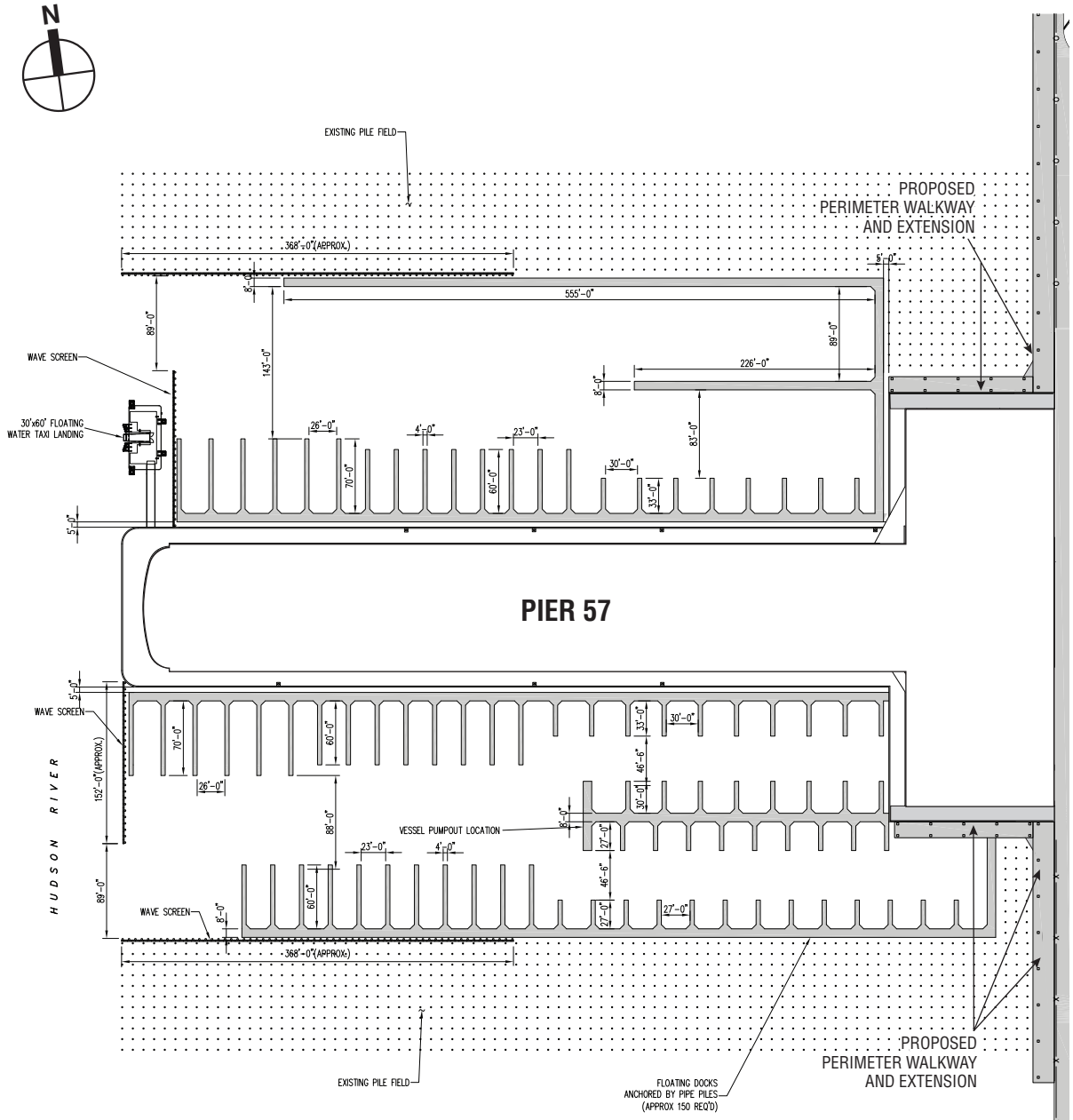
Figure 1-8



FOR ILLUSTRATIVE PURPOSES ONLY

0 50 100 FEET
SCALE

Roof Plan
Figure 1-9

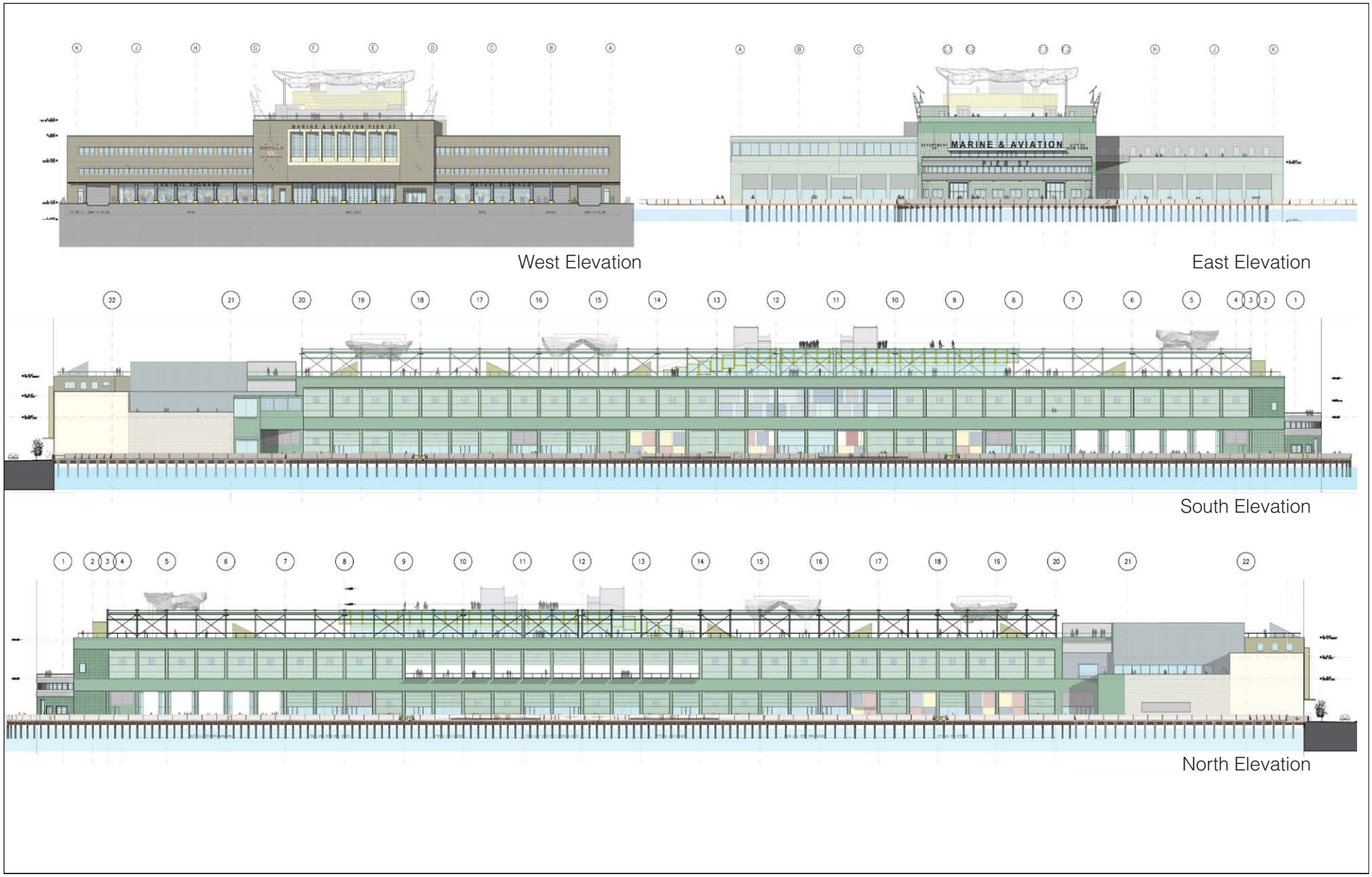


PRELIMINARY SLIP DISTRIBUTION	
VESSEL SIZE	NO. OF SLIPS
160'	2
120'	4
70'	10
60'	26
30'	53
25'	46
TOTAL	141

NOTE: The location of the public launch for non-motorized boats will be determined once the final plan for the marina is established.

0 100 200 FEET
SCALE

Proposed Marina Plan
Figure 1-10



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Elevations
Figure 1-11

PROGRAM

RETAIL, RESTAURANT, AND OTHER COMMERCIAL/EDUCATIONAL/CULTURAL USES

The programming and design concepts at Pier 57 have been shaped by the west side neighborhoods in which the pier is located as well as the dramatic pier itself. While specific tenants have not yet been finalized, the primary retail use is a planned public marketplace modeled on several existing year-round markets located in the United Kingdom (Spitalfields and Camden Lock). Urban Space Management, the US arm of the operator of these markets, operated the Dekalb Market and still operates holiday markets at Grand Central Terminal and Union Square in Manhattan, and is the anticipated operator of the Pier 57 marketplace.

At Pier 57, the public marketplace concept draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District in the realms of fashion, design, art and food. Repurposed shipping containers would be stacked to create four market levels (first floor, first floor mezzanine, second floor, and second floor mezzanine); the stacking is possible because of existing ceiling heights of approximately 28 feet, which can accommodate two levels of stacked containers. Throughout the length of the pier shed, new vertical circulation would be provided to satisfy building codes and facilitate access, including ADA access.

In combination with some traditional walled enclosures, these containers would create multiple "work/sell" retail stores and showrooms expected to range in size between approximately 160 and 640 square feet. These retail uses would be oriented primarily toward a collection of independent designers and food purveyors. The work/sell marketplace would be an incubator for new retail businesses, designers, and food-related businesses as well as a community gathering place. Towards the western end of the pier shed, the design would open to a large double-height space with views of the water to the north and south. This end of the pier shed would include open, public "piazza" spaces to be used for occasional entertainment or small-format displays, and would be designed to also accommodate rotating food markets and "bazaars," with the idea of providing lively surroundings for resident and visiting chefs and food purveyors to exhibit and promote their food products.

The proposed project would include a wide range of uses oriented towards food and design, including a technical arts school, as well as restaurants and rotating food exhibition and sales spaces. These are anticipated to be located primarily on the second floor, which, as noted above, would also have a mezzanine level over portions of the pier shed. Restaurants are expected to include both full-service restaurants and limited-service restaurants and would complement the food purveyors and prepared foods in other retail spaces on the pier. Under the terms of the proposed lease agreement, at least one publicly accessible sit-down restaurant must be located at the western end of the pier shed.

Larger retail tenants, such as a sports-related store, would be located in the headhouse. There would also be retail tenants in the larger spaces alongside the work/sell marketplace in the pier shed. Aside from a sports-related store, other possible tenants for the larger retail spaces are expected to include a themed market selling prepared food from small vendors and specialty food purveyors. Under the terms of the Trust's proposed lease with the applicant, "big box" retail would be prohibited.

The pier could also include a cultural use, such as a theater. The terms of the Trust's proposed lease would prohibit tenancies and uses that are primarily trade shows, event or ballroom spaces.

MARINA

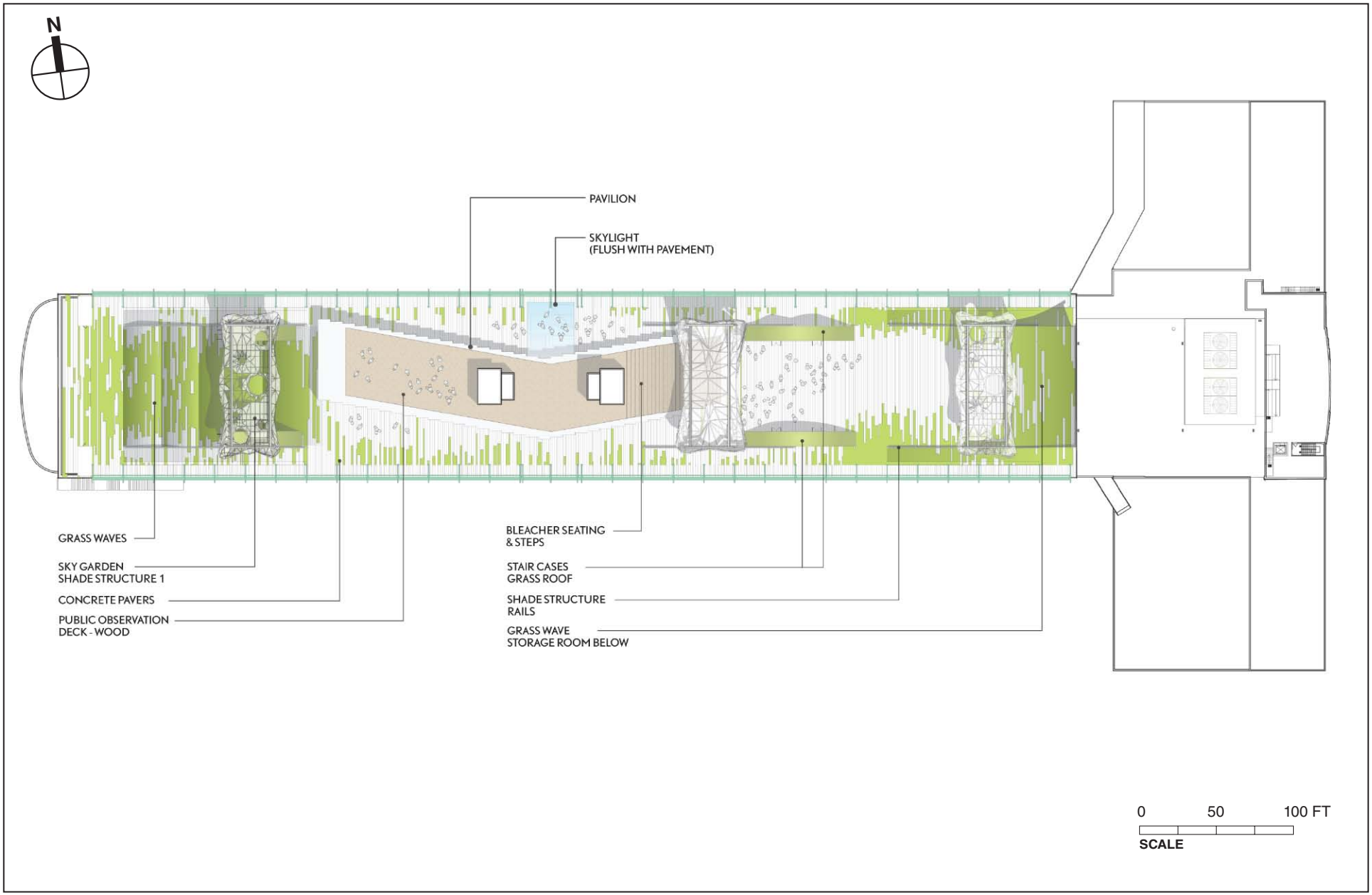
The Pier 57 project would include a marina of up to 141 slips located on the north and south sides of Pier 57. The marina is anticipated to include four wave screens located north and south of the western end of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier. It would include a vessel pumpout station within the portion of the marina south of Pier 57 and slips for one or more historic vessels and a non-motorized boat launch. No dredging would be required for the marina. A 30- by 60-foot water taxi landing may be located on the northwest corner of the pier. **Figure 1-10** above shows the project's marina plan.

PUBLIC OPEN SPACE AND OUTDOOR PROGRAMMING

The Pier 57 project would add approximately 2.5 acres of open space to Hudson River Park in three main areas:

- Perimeter walkway. The existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the Hudson River Park waterfront esplanade to the east of the pier, consistent with existing permits previously received by HRPT. The walkway would include seating.
- New perimeter walkway. New public walkways parallel to the existing bulkhead, previously approved and permitted, would extend to the north and south, extending the currently limited public circulation space along the bulkhead. Treatments would be compatible with existing designs within Hudson River Park for areas bordering the river.
- Rooftop open space. On the pier's finger building, approximately 1.8 acres of open space would be created. The roof would be divided into open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western portions of the rooftop would mostly provide flexible space for seating, relaxation, and views of the river. These areas could include wooden decking, hardscape, paving and small lawn areas. The center of the rooftop would contain a pavilion with a public observation deck on the roof and wide stairs on the east that would function as seating areas during some events. At times, the roof would be programmed with film, art, or sports related installations, as well as Tribeca Film Festival events. Some shipping containers may be repurposed as seating around the pavilion. The original "burtons"—the metal framework along the north and south edges of the roof originally used for cargo handling—would be preserved, and the railing would be improved to allow safe public access up to the pier edge. The rooftop would also include shade structures that would be minimally attached to the pier structure. The shade structures would be mounted on rails, which could be moved manually in an east-west direction to provide shade where necessary**. Figure 1-12** illustrates the project's rooftop open space. It is also expected that portions of the headhouse rooftop would be publicly accessible.

The outdoor rooftop open space would function primarily as public open space, with a capacity of 2,500 persons. It would also periodically host a variety of exhibits, ranging from film screenings to outdoor art installations to exhibitions linked to film subjects—for example, a temporary skate park to coincide with a sports-related film series. While free, some of these events would require tickets to control capacity. Attendance for such events typically would not exceed 1,500 people, but it is expected that maximum capacity events would occur



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Proposed Landscape Roof Plan

Figure 1-12

approximately 8 to 10 times per year. For approximately two weeks in late April/early May each year, the rooftop would also be used for Tribeca Film Festival events.

It is expected that the rooftop open space would generally be open to the public from 9 AM to 9:30 PM (later for special events) and the perimeter walkways would have the same operating hours as the rest of Hudson River Park (6 AM to 1 AM).

CAISSONS

Pier 57 has three underwater caissons that support the pier structure. The caissons are unique in Hudson River Park and are a major reason for the pier's historic significance. Because these "basement" structures are not connected to each other, access and code considerations limit plans for future uses. The proposed project proposes to use the easternmost caisson for vehicular circulation and parking of up to approximately 75 accessory vehicles. This caisson was historically used for vehicle parking and circulation. If code concerns can be satisfied, ideas for the middle and western caissons include ancillary storage related to uses in the pier, art galleries or large rotating art installations, a spa, a wine cellar, and one or more areas accessible to the general public, potentially in small organized groups, to view and tour these underwater spaces. As discussed below, limited penetrations of the caissons would be necessary to facilitate access and provide utility space.

PROJECT DESIGN

The proposed project's overall design has been guided by three principles. First, the design seeks to respect the pier's history and reconnect with it. Second, the redevelopment approach is intended to limit intensive construction and intervention with the existing structure. Third, to create a successful public and commercial venue, the approach is intended to bring innovative design and use ideas to the interior space to transform and activate the currently vacant property. **Figure 1-13** illustrates an aerial view of the proposed project.

The revitalized headhouse at Pier 57 would become an iconic gateway and a greatly improved entrance into the park from Chelsea and the Meatpacking District, further connecting these neighborhoods to the waterfront. It would restore the building's 1950s façade, open the ground floor to the public and welcome visitors from the north, south, and east.

The center of the headhouse entrance would be a virtual extension of 15th Street, drawing visitors across Route 9A, through the headhouse and up an existing interior ramp to the second floor. This "interior street" is continued through the second floor with the addition of a new staircase from the second floor to the roof, where visitors to the pier would have access to the new public rooftop. Retail on the ground floor and second floors would flank this "interior street" and would extend west. The repurposed-stacked shipping containers would be a distinctive feature in these sections of the pier shed. **Figure 1-14** illustrates the proposed changes to the interior of the pier shed.

Along with the repurposed shipping containers, the design would include other elements referential to the pier's historic character, such as the burtoning system described above. In addition, the original "gangplanks" on the north and south pier facades would be lowered to a horizontal position and repurposed as balconies, where visitors could experience views over the water. The original burtoning would be preserved along the rooftop edge and a railing would be incorporated for safety. The 20-foot-wide modular vertical doors spanning the length of the pier shed—which historically were opened to allow goods to be loaded onto adjacent ships—would

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Aerial Perspective of Proposed Project

Figure 1-13

Renderings of Proposed Container Market

Figure 1-14

be restored and opened during good weather to allow the pier to be naturally ventilated. Utilizing the existing modular doors for ventilation would require less rooftop space for mechanical equipment, maximizing the amount of rooftop space dedicated for public open space, and would allow the structure to be passively cooled, reducing energy use. Some doors would be permanently raised, and the openings would be screened with glass to provide views from outside the pier to the interior. On the ground floor, some openings would provide a direct link to the public perimeter walkway. In addition to energy efficiency and open space benefits, the open modular doors are intended to differentiate the pier from traditional enclosed retail spaces, creating the sense that the pier is an extension of the existing urban street network and the surrounding Hudson River Park.

A central feature on the public rooftop would be the pavilion and observation deck, designed to provide food retail, public restrooms, circulation, and mechanical space, as well as views of the City. Like the existing burtoning system that would be retained, the observation pavilion would have a lightweight, industrial character. **Figure 1-15** illustrates the proposed rooftop. As discussed above, the balance of the rooftop would have flexible open space with small lawn areas and seating.

Overall, there are three proposed rooftop additions:

1). On the north side of the lower headhouse rooftop, a new enclosure measuring approximately 7,500 square feet would be built, connecting to the second floor of the pier structure to provide for additional retail space.

2). Another enclosure measuring approximately 11,400 square feet would be constructed in the center of the upper level of the headhouse roof. This enclosure would connect to the second floor mezzanine level of the pier structure, and would also provide additional retail and mechanical space. Both of these additions would be lower than the existing eastern façade of the headhouse.

3). As described above, a pavilion would be developed at the center of the pier shed roof that would provide food retail, public restrooms, circulation, and mechanical space, as well as a public observation area.

In addition to the rooftop additions, several code-required stair tower and elevator enclosures would also be added to the roof to allow for egress for roof occupants, as well as the shade structures described above. No new element on the rooftop, including the shade structures, would be taller than the height of the existing elevator bulkheads. Because of the federal approvals required for the proposed project, and as set forth in the Programmatic Agreement executed under Section 106 of the National Historic Preservation Act for the Hudson River Park project in 2000, modifications to the Pier 57 structure require consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). In addition, the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Should the project successfully obtain approval for such credits, the project would be required to be built to the Secretary's Rehabilitation Standards. For these reasons, the design intent for the rooftop additions is to create minimally intrusive new elements.

The proposed project would also include the construction of new stairways, elevator shafts, and utility shafts between the ground-floor and caisson level to facilitate access and egress from the caissons, to improve accessibility in compliance with the Americans with Disabilities Act (ADA), and to provide for the necessary utility space to support the proposed uses on the ground

View from roof top pavilion facing east

View from west end of piershed to the west

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Renderings of Proposed Rooftop

Figure 1-15

floor, in particular the proposed restaurant uses. The new stairways, elevators, and utility shafts are described in more detail below and shown in **Figures 1-4** and **1-5**:

1). New Stairways: Two new stairways would be created to provide access from the caisson level to the upper floors and to the perimeter walkway. One stairway would be located in the middle caisson and the other would be located in the westernmost caisson. These stairways would be located in new enclosures that would extend below the ground floor, through the open water area between the caisson and ground floor, and into the caisson roof. These stairways are necessary to create a legal means of egress from the caissons and to increase the legal occupancy level in the caissons.

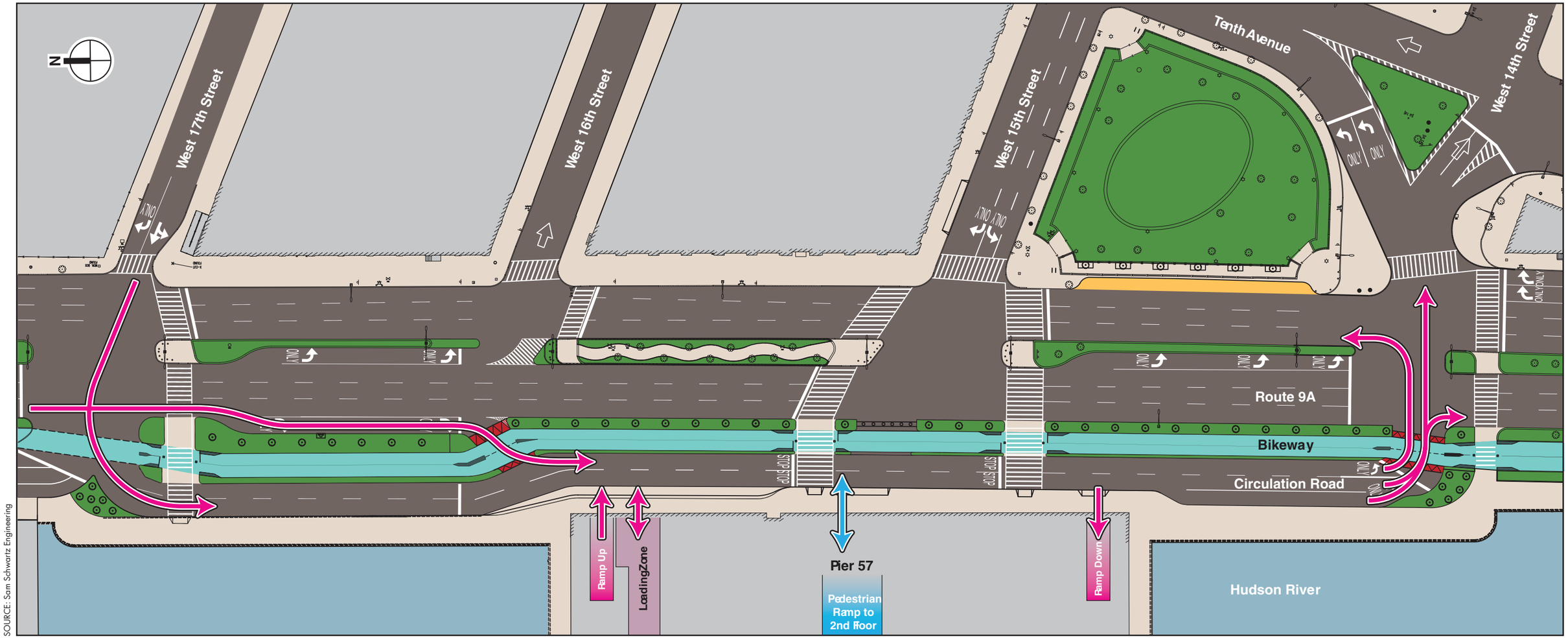
2). New Elevator Shafts: Four new elevator shafts would be created within the Pier 57 structure. Three of these elevators would extend from the ground floor to the upper floors of the structure and would make the structure ADA-accessible. The shafts for each of these three elevators would extend below the ground floor and would at times be within the waters of the Hudson River below the pier shed, depending on tidal conditions. These shafts would be adjacent to the exterior of the caisson but would not penetrate the caisson structure. The fourth elevator would be located in the headhouse and would provide access from the loading zone in the easternmost caisson to the upper floors. This elevator would penetrate the caisson structure but would not pass through areas between the caisson and ground floor that are currently open water.

3). New Utility Shafts: Five new utility shafts would be created below the ground floor to house utilities needed to support the proposed uses on the ground floor, in particular the restaurant uses. These shafts would be constructed in the intervening spaces between the girders that support the pier shed on the caissons, and would result in new enclosures that would extend through the open water area between the ground floor and the caisson roof. It is expected that three of these enclosures would measure approximately 80 by 18 feet and two would measure approximately 26 by 18 feet. Within these new enclosures, there would be smaller utility shafts that would penetrate the caisson roof in a limited number of locations. It is expected that each of these smaller shafts would be approximately 18 by 10 feet and would contain utilities (e.g., piping). Within the caisson, these smaller utility shafts would drop down from the ceiling and enclose the necessary utilities.

PIER ACCESS / CIRCULATION

To efficiently utilize the pier, the existing access routes would be modified to improve pedestrian access, and to allow for proper servicing and vehicular access. **Figure 1-16** shows the project's conceptual access plan and **Figure 1-17** shows a detailed access plan.

Access to the project site would be limited to locations along Route 9A. Vehicles approaching the site from the north would access the site at the Route 9A and West 16th Street intersection via a southbound right turn from a dedicated turn lane. Vehicles approaching the site from the east and south would access the site at the Route 9A and West 17th Street intersection via a through movement from West 17th Street. Vehicles would egress the site at the Route 9A and West 14th Street intersection and be able to turn right onto southbound Route 9A, left onto northbound Route 9A, or continue straight across Route 9A to West 14th Street eastbound. Taxis would load/unload along a frontage road in front of the pier structure separated from Route 9A by the bikeway or at a designated taxi stand located on northbound Route 9A between West 14th and West 15th Streets. Most trucks would load/unload along the frontage road, largely during

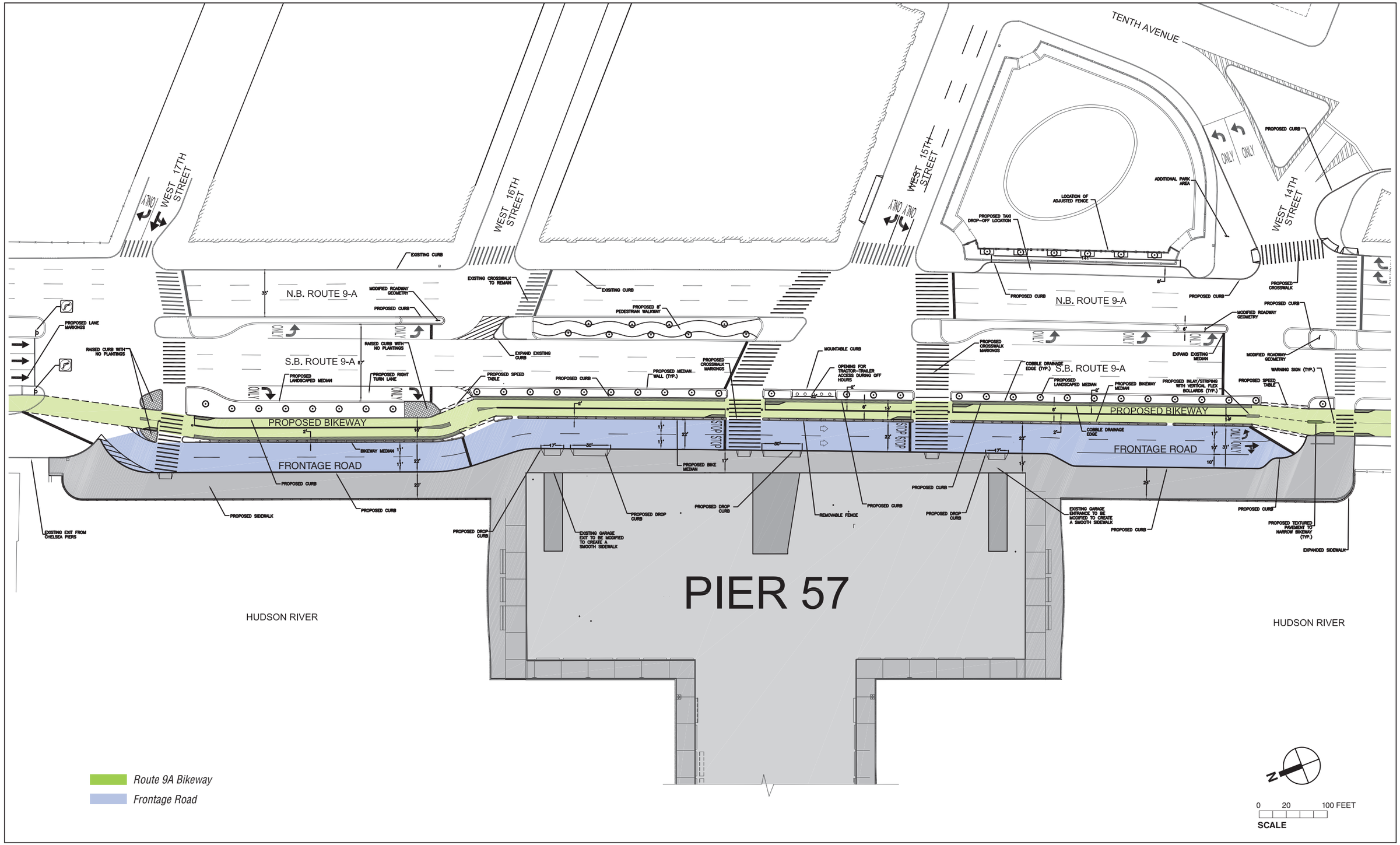


SOURCE: Sam Schwartz Engineering

0 60 120 FEET
SCALE

- *Vehicular Access and Egress*
- *Pedestrian Access and Egress*
- *Proposed Taxi Lay-by Lane*
- *Route 9A Bikeway*
- *Median / Open Space*
- *Speed Tables*
- *Sidewalks / Pedestrian Walkway*
- *Buildings*
- *Roadway*

Conceptual Access Plan
Figure 1-16



SOURCE: Philip Habib and Associates

HUDSON RIVER PARK PIER 57

Detailed Access Plan
Figure 1-17

off-peak hours. During overnight hours when the facility is closed, a truck-only entry off Route 9A at West 15th Street would be used for larger truck deliveries. Deliveries that require access to the truck-only entry would be scheduled in advance. All traffic movements into and out of the site would be controlled by traffic signals.

The frontage road would operate with two travel lanes. A third eight-foot-wide drop-off lane adjacent to the project frontage would be paved with a special pavement treatments such that it would operate as a pedestrian space during peak periods and would be available as a loading and unloading lane for trucks during off-peak periods when a greater number of truck deliveries are expected. From this frontage road, cars, vans, and small trucks would enter the pier via an existing ramp at the south end of the headhouse (near West 14th Street) down to approximately 75 accessory parking spaces and a loading area for vans and small trucks located in the easternmost caisson. The outbound driveway from the parking garage would be located on the north end of the headhouse closer to West 16th Street. No on-site public parking facilities would be provided, which would limit conflicts with vehicles crossing the bikeway and sidewalk.

As part of the overall access plan, the proposed project would implement a number of other improvements to nearby intersections in consultation with NYSDOT and the New York City Department of Transportation (NYCDOT). These improvements would include widening crosswalks, changing signalizations, curb extensions, and construction of a protected pedestrian pathway within the median on Route 9A between West 15th Street and West 16th Street. These improvements are discussed in more detail in Chapter 14, "Transportation." There is the potential that the walkway in the Route 9A median between West 15th and West 16th Streets may not be constructed as part of the proposed project and that the crosswalk across Route 9A at West 16th Street would be eliminated from the project design. This potential scenario is considered as part of the transportation analyses.

Pedestrians would access the site via the Hudson River Park waterfront esplanade from the north and south, or from any of the nearby crosswalks which cross Route 9A. The east facade of the pier would have multiple pedestrian access points; pedestrians could also access the pier via the public walkway that would surround the pier on the south, west and northern sides. A wide sidewalk would be provided along the project frontage to encourage pedestrians to walk adjacent to the project rather than on the bikeway. In addition, there is also the possibility of providing a bus stop for the New York City Transit (NYCT) M14 bus route along the frontage road, which would improve transit access to the project site and the waterfront. However, because the details of the bus stop have not been determined at this time, the bus stop is not accounted for in the technical analyses in this EIS.

Access from the ground floor to the upper levels would be via the existing ramp that leads from the central eastern entrance to the second floor, as well as from a new staircase that would lead from the second floor to the newly adapted roof. This primary circulation path, aligned with West 15th Street, would be a virtual extension of that street; it would improve air circulation on the second floor during warm weather seasons and increase opportunities for the public to enjoy the rooftop park. In addition to the ramp and central staircase, pedestrians would have access to enclosed stairwells (both new and existing), which would be adapted for use by pedestrians.

The Route 9A bikeway, also providing access to the site, would be realigned somewhat, but would maintain at least a 14-foot width.

The proposed access plan would accommodate potential tour bus activity, if needed. Tour buses could be accommodated along the frontage road, and an area for loading and unloading such

buses has been identified on the frontage road, though this area could also be used by other vehicles when no tour buses are present. However, to maximize views of the Hudson River for park users and along the bikeway, the proposed project's intention is to have tour buses layover off-site at sites designated for the purpose by NYCDOT.

IN-WATER CONSTRUCTION

The proposed project would require a number of in-water construction activities related to the marina and wave screens, pier repairs, and perimeter walkways and walkway extensions. These activities are discussed in more detail below.

Some aspects of the work to be conducted at Pier 57 were previously assessed in the Final EIS (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to HRPT. U.S. Army Corps of Engineers (USACE Permit 1998-00290) and New York State Department of Environmental Conservation (NYSDEC Permit 2-6299-00004/00001) permits issued to HRPT authorize the repair of the existing perimeter walkway and its extension to connect with the public esplanade to the east of the pier; the development of new public walkways parallel to the existing bulkhead; and pile jacketing and repair work. While this work was evaluated in the FEIS for Hudson River Park and has been permitted, the cumulative effects of these activities with the proposed project were not addressed and have been included in the analyses of this EIS.

PIER REPAIRS

The project would require a number of in-water construction activities related to the pier. These would include repairs to the caissons; repairs to girders supporting the apron walkway; pile jacketing and repair work; and repairs to the timber fender system attached to the pier apron, including pile driving for fender piles along the periphery of the pier. Caisson repairs would include the placement of riprap for scour protection at the base of the westernmost caisson and repairs to cracks in the caissons.

PERIMETER WALKWAY AND WALKWAY EXTENSIONS

Construction activities associated with the perimeter walkways and walkway extensions would include pile driving for the perimeter walkway extensions and the new public walkways parallel to the existing bulkhead. As noted above, these activities were previously approved and permitted.

MARINA CONSTRUCTION

In-water construction activities associated with the marina would include installation of guide piles, walkways, and fingerfloats, and the piles and panels associated with the wave screen structures and potential water taxi landing. The proposed development of a marina would not include dredging of the Hudson River or refueling facilities.

OTHER IN-WATER CONSTRUCTION

The proposed project would include the construction of new stairways, elevator shafts, and utility shafts between the ground floor and caisson level. As described above, these structures would involve construction activities in the open water areas below the ground floor of the pier shed.

C. PROPOSED ACTIONS

To develop the proposed project, various discretionary actions would be required.

In addition, coordination would be required with the New York State Office of Parks, Recreation and Historic Preservation's State Historic Preservation Office (SHPO) under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law, and Section 106 of the National Historic Preservation Act since the project is seeking certain state and federal permits (see below). Coordination is also required because the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Also, because the project will require Federal permits, it will be subject to review by New York State Department of State (NYSDOS) for consistency with the NY State Coastal Management Program. The proposed project would also require coordination with NYSDOT and NYCDOT for approvals related to site access at Route 9A.

HRPT APPROVAL

HRPT would need to approve lease terms with Hudson Eagle.

CITY ACTIONS

- Zoning map amendment. The applicant would seek an amendment to the New York City zoning map to rezone the project site from M2-3 to an M1-5 to allow the public marketplace and anticipated floor area.
- Relief from various Waterfront Zoning Regulations related to bulk, height and setback, yards, public access and visual corridors, and design requirements.
- Special permit to allow certain retail and other uses over 20,000 square feet of floor area on existing piers.
- Special permit for retail in excess of 10,000 square feet.
- Special permit to allow the proposed accessory parking garage.
- Certification that the project complies with the applicable waterfront public access and visual corridor requirements, as modified by the requested approvals.

STATE ACTIONS

- NYSDEC—The applicant would seek a Part 608 Protection of Waters permit for in-water work.
- NYSDEC—The applicant would seek a Part 203 permit for the proposed accessory parking garage.

FEDERAL ACTIONS

- USACE—The applicant would seek Section 10 and Section 404 permits for in-river work.

OTHER APPROVALS

- Other approvals as necessary to effectuate the project.

D. PURPOSE AND NEED

Consistent with the Hudson River Park Act, the purpose of the proposed Pier 57 project is to reuse this portion of the Hudson River waterfront for the public benefit, making it an asset for the city, state, and the region. The Pier 57 project would increase public access to the waterfront, provide additional public open space resources and cultural space within Hudson River Park, and include program components that are compatible with park uses and that would generate funds to contribute to the operation and maintenance of the park. The Pier 57 project would also restore and modernize the Pier 57 structure, which is listed on the State and National Registers of Historic Places.

E. PROJECT SCHEDULE

The proposed project would be completed in one phase and construction would take approximately 18 months. If the proposed actions are approved, it is anticipated that construction would begin in 2013, with the renovated Pier 57 complete and operational in 2015.

F. ANALYSIS FRAMEWORK FOR ENVIRONMENTAL REVIEW

The *CEQR Technical Manual* serves as a general guide on the methodologies and impact criteria for evaluating the project's potential effects on the various environmental areas of analysis.

In disclosing impacts, the EIS considers the proposed project's adverse impacts on the environmental setting. Because the proposed project is expected to be operational in 2015, its environmental setting is not the current environment, but that of the future. Therefore, the technical analyses and consideration of alternatives characterize current conditions and forecast these conditions to 2015, the project's analysis year, for the purpose of determining impacts. The EIS provides a description of "Existing Conditions", and assessments of future conditions without the proposed project ("Future Without the Proposed Project") and with the proposed project ("Probable Impacts of the Proposed Project").

The future without the proposed project—also known as the "No Action scenario"—in all technical areas assumes that none of the discretionary actions are approved. In this case, absent the proposed project, the existing Pier 57 structure will remain vacant. The analysis of the No Action scenario accounts for other future developments as identified in Chapter 2, "Land Use, Zoning, and Public Policy" that would occur independent of the proposed project.

In each technical area of the EIS, the future with the proposed project is compared with the No Action scenario as a basis for assessing impacts.

G. ENVIRONMENTAL REVIEW

The proposed actions are subject to the City's land use and environmental review processes, described below.

UNIFORM LAND USE REVIEW PROCEDURE

The City's Uniform Land Use Review Procedure (ULURP), mandated by Sections 197-c and 197-d of the City Charter, is a process specifically designed to allow public review at four levels: Community Board, Borough President, CPC, and City Council. The procedure sets time limits at each review with a maximum period of approximately 7 months.

The process begins with certification by the Department of City Planning (DCP) that the ULURP application is complete. The application is then referred to the Community Board in which the project takes place (for the proposed project, Manhattan Community Board 4). The Community Board has up to 60 days to review the proposal, hold a public hearing, and adopt a resolution regarding the proposal. Next, the Borough President has up to 30 days to perform the same steps. CPC then has up to 60 days, and during that time, a ULURP public hearing is held. When a Draft EIS (DEIS) accompanies the ULURP application, as with this proposal, the CEQR public hearing may be held jointly with the ULURP hearing. Comments made at the DEIS public hearing are incorporated into an FEIS; the FEIS must be completed at least 10 days before any action by the CPC on the ULURP application. CPC then forwards the application to the City Council. Following the Council's vote, the Mayor, at his discretion, may choose to veto the action. The City Council can override that veto.

ENVIRONMENTAL REVIEW

The EIS for the Pier 57 Redevelopment Project has been prepared pursuant to SEQRA and its implementing regulations. The environmental review provides a means for decision-makers to take a "hard look" at the environmental effects of a proposed project, evaluate reasonable alternatives, and identify (and, to the maximum extent practicable, mitigate) significant adverse environmental effects. The environmental review process is outlined below.

- *Establishing a Lead Agency.* Under SEQRA, the "lead agency" is the public entity responsible for conducting environmental review. Usually, the lead agency is also the entity primarily responsible for carrying out, funding, or approving the proposed action. As previously stated, the lead agency for the proposed project is HRPT.
- *Determination of Significance.* The lead agency's first charge was to determine whether the proposed action might have a significant impact on the environment. To do so, it prepared an Environmental Assessment Form (EAF). The proposed project was the subject of an EAF, which was issued in June 2011. HRPT determined that the project might have a significant effect on the environment—requiring that an EIS be prepared—and issued a Positive Declaration.
- *Scoping.* Once the lead agency issued its Positive Declaration, it then issued a draft scope of work for preparing the EIS. "Scoping," or creating the scope of work, is the process of focusing the environmental impact analyses on the key issues that are to be studied. A public scoping meeting was held to take comments on the draft scoping document, dated June 14, 2011. The meeting took place on July 14, 2011 at the Chelsea Market Events Space, 75 Ninth Avenue, New York, NY. Written comments on the draft Scope of Work were also accepted until the close of business on July 29, 2011. A final Scope of Work, reflecting comments made during scoping and other refinements to the proposed project, was issued on October 10, 2012.
- *Draft Environmental Impact Statement (DEIS).* In accordance with the final scope of work, a DEIS was prepared. The lead agency and other involved agencies reviewed all aspects of the document, calling on other agencies to help, as deemed appropriate. Once the lead agency was satisfied that the DEIS was complete, it issued a Notice of Completion (NOC) and circulated the DEIS for public review. HRPT issued an NOC for the DEIS on October 25, 2012.
- *Public Review.* Publication of the DEIS and issuance of the Notice of Completion signal the start of the public review period. During this time, the public may review and comment on

the DEIS either in writing or at a public hearing convened for the purpose of receiving such comments. The lead agency must publish a notice of the hearing at least 14 days before it takes place and must accept written comments for at least 10 days following the close of the hearing. Such a hearing was held for the proposed project on January 23, 2013. Comments were received during the period leading up to and through the DEIS public hearing, and written comments were accepted through the close of the DEIS public comment period, which ended February 4, 2013. The public review period must extend for a minimum of 30 days. All substantive comments received at the hearing or during the comment period become part of the SEQRA record and must be summarized and responded to in an FEIS (see Chapter 26, "Response to Comments on the DEIS").

- *Final Environmental Impact Statement (FEIS).* The FEIS responds to all substantive comments made on the DEIS, either in a separate chapter or in changes to the body of the text, graphics, and charts. When the lead agency has determined that the FEIS is complete, a Notice of Completion will be issued and the document published.
- *Findings.* To demonstrate that the responsible public decision-maker has taken a hard look at the environmental consequences of a proposed action, any agency taking a discretionary action regarding a project must adopt a formal set of written findings, reflecting its conclusions about the significant adverse environmental impacts of the proposed action, potential alternatives, and potential mitigation measures. The findings may not be adopted until 10 days after the Notice of Completion has been issued for the FEIS. Once findings are adopted, the lead and involved agencies may take their actions (or take "no action"). ✷

Chapter 2: Land Use, Zoning, and Public Policy

A. INTRODUCTION

The proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 structure in Hudson River Park—a vacant building listed on the State/National Registers of Historic Places—with new public open space, retail, restaurant and other commercial uses, as well as educational and cultural uses, accessory parking and a marina. To develop the proposed project, various discretionary actions would be required, including a zoning map amendment.

Because the proposed project would change land use and zoning on the project site, this chapter considers the proposed project's potential impacts on land use, zoning, and public policy. The analysis characterizes existing conditions, evaluates changes in land use and zoning that are expected to occur independently of the proposed project, and identifies and addresses any potential impacts to land use, zoning, and public policy associated with the proposed project. To determine existing conditions and assess the potential for project-related impacts, the land use study area has been defined as the area within a ¼-mile radius of the project site, where the proposed project has the greatest potential to affect land use trends. The study area is roughly bounded by Pier 61 and West 21st Street to the north, Ninth Avenue to the east, and Gansevoort Street and Pier 52 to the south. Various sources were used to analyze land use, zoning, and public policy characteristics of the study area, including field surveys and land use and zoning maps.

PRINCIPAL CONCLUSIONS

Overall, the proposed project would not have any significant adverse impacts on land use, zoning, or public policy. The project would introduce a variety of new uses to a site that has been vacant and underutilized in recent years. These uses would contribute to the completion and financial support of Hudson River Park and be compatible with the surrounding mixed-use neighborhood. Moreover, these uses would be compatible with other trends in the study area that include new residential, cultural uses, retail, and commercial development in place of former industrial and manufacturing uses. The proposed project would have a positive effect on land use by reactivating a portion of the waterfront and providing new open space for study area residents and workers. The proposed project would be consistent with zoning in the study area and would promote public policy goals with respect to completion and support of Hudson River Park and providing access to and revitalizing the waterfront.

B. BACKGROUND AND DEVELOPMENT HISTORY

The project area is located at the western edge of the neighborhoods of the West Village/Meatpacking District to the south and Chelsea to the north.

In the pre-Civil War period, the area was characterized by a mix of residential and industrial uses including row houses, townhouses, and factory buildings. The 1880s saw the development

of two large markets in the project area. The Gansevoort farmer's market, a retail produce market, opened in 1884, and the West Washington Market, a wholesale meat and poultry market, opened in 1889. Railroad service in the area spurred the development of purpose-built market structures and ancillary businesses throughout the area. Large commercial complexes built starting in the 1890s included those of the National Biscuit Company and the Manhattan Refrigerating Company. Purpose-built market buildings continued to be added to the area through 1940, and older residential buildings were also converted to market use.

Market uses in the project area further expanded following the completion of the Holland Tunnel (1927), the Miller Elevated Highway (1931), and the New York Central Railroad's elevated freight railway (1934), which allowed for improved access from the district to the larger metropolitan region. The elevated freight railway (the High Line) soon became one of the primary means of transporting food and merchandise into the city. The project area's meat industry and large commercial ventures continued to flourish into the late 1940s, when post-World War II suburbanization began to draw industry from the nation's cities. The West Washington Market was demolished and replaced by the Gansevoort Market meat center in 1950, and the Nabisco Company relocated to New Jersey in the late 1950s.

Between the mid-1890s and 1910, piers were constructed to accommodate longer ships; such piers were increasingly used by large transatlantic steamship companies for passenger and freight lines. Five piers between West 11th and Gansevoort Streets were opened to the Cunard, White Star, and Leyland lines for their passenger trade in 1902. The luxury steamships of the Cunard and White Star lines berthed at the Chelsea piers, which extended from West 12th Street to West 23rd Street, and became clientele for Gansevoort area ship provisioners and hotel suppliers.

Pier 57 was constructed as an ocean liner pier for the Grace Line in 1950–1954, under the oversight of the New York City Department of Marine and Aviation. The original pier at this location, which also had been used by the Grace Line, was destroyed by fire in 1947. The pier remained in its original use until 1967, when the Grace Line moved to New Jersey. It then became a bus depot for the Metropolitan Transit Authority.

In 1973, a section of the deteriorated Miller Elevated Highway collapsed and was subsequently demolished in stages between 1977 and 1989, removing a visual blight along the waterfront. The elevated railway (the High Line) was decommissioned in 1980, and in 1991, a five-block section of the southern end of the railway was removed, bringing the southern terminus of the High Line to Gansevoort Street. These events further diminished the industrial character of the area but helped to improve its eventual appeal for residential and retail uses.

In 1998, the New York State Legislature passed the "Hudson River Park Act," Chapter 592 of the Laws of 1998, which created Hudson River Park and the Hudson River Park Trust (The "Trust") to design, build and operate it. Since that time, the Trust has rebuilt 13 piers for public recreation and a fourteenth, Pier 97, began construction in the spring of 2011.

Since the late 1980s, as residential and commercial development began to expand toward the Hudson River waterfront in the West Chelsea and West Village neighborhoods, many former industrial and market-related loft buildings were converted to retail, restaurants, galleries, bars, and clubs. Reconstruction of Route 9A as an urban boulevard and the creation of Hudson River Park have supported these trends, encouraging new development along the farthest reaches of southern Manhattan's west side.

C. EXISTING CONDITIONS

LAND USE

PROJECT SITE

The project site consists of Pier 57 (Block 662, Lot 3), adjacent lands underwater, and associated frontage area, all located within Hudson River Park at approximately West 15th Street (see **Figure 2-1**). The pier, which is listed on the State and National Registers of Historic Places, has been vacant since 2004. The site consists of a vacant headhouse and "finger" building, or pier shed, supported by three underwater caissons that form the pier's substructure. To the east of the pier are a paved apron area and the adjacent Route 9A Bikeway. The project site is located in the Chelsea neighborhood of Community District 4.

STUDY AREA

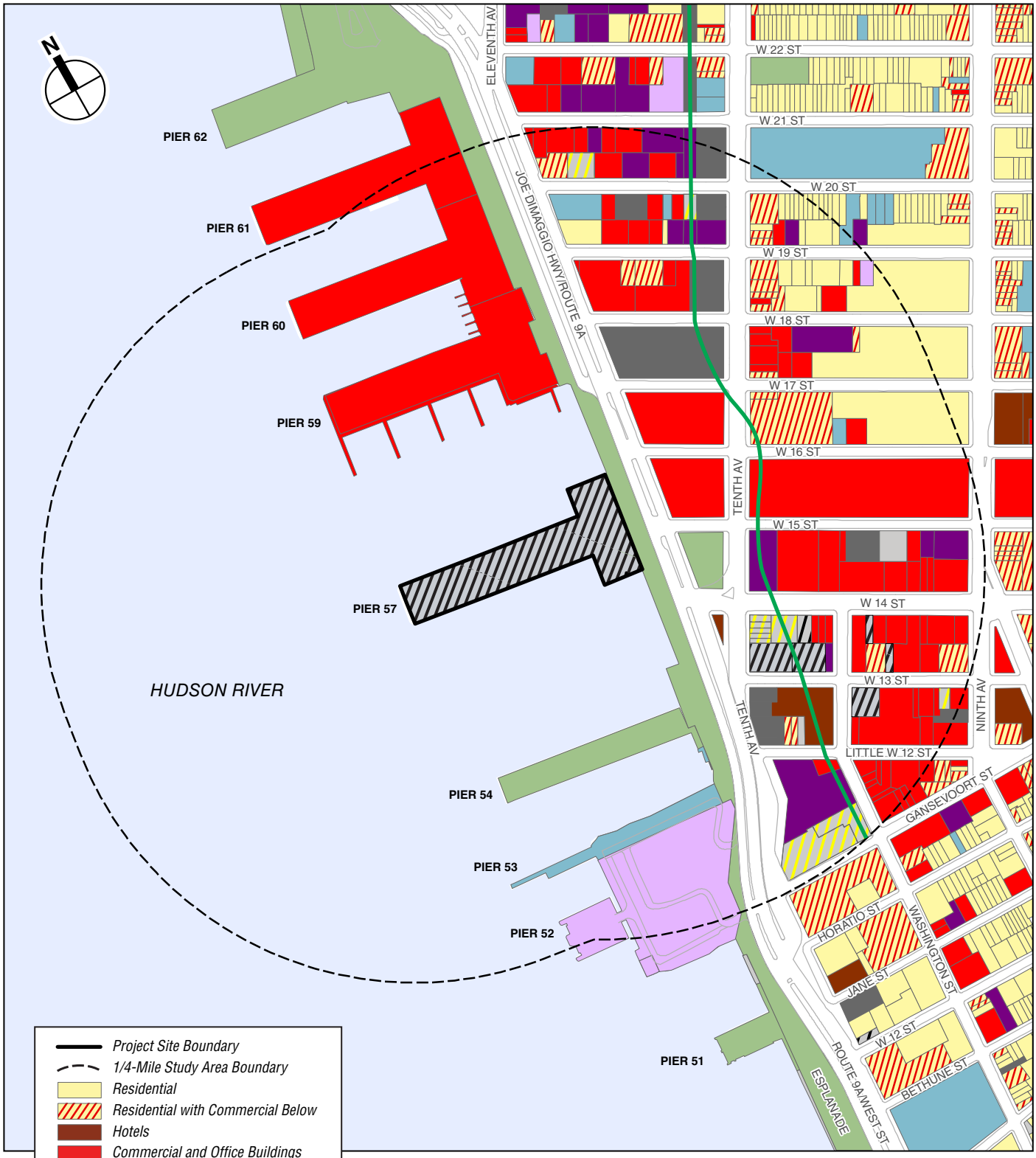
The ¼-mile study area is roughly bounded by Pier 61 of Chelsea Piers and West 21st Street to the north, Ninth Avenue to the east, and Gansevoort Street and Pier 52 on the Gansevoort Peninsula to the south. The study area includes portions of Chelsea in Community District 4 as well as the Meatpacking and West Village neighborhoods in Community District 2.

The study area is characterized by a mix of residential and commercial uses, including a notable concentration of retail, restaurants, hotels, art galleries, and studios. It has seen a trend toward the conversion or replacement of former industrial uses, which has largely preserved the physical character of the historic Meatpacking district. The study area is also defined by major open space uses, most notably Hudson River Park to the north and south and the High Line Park to the east.

Route 9A, a major north-south thoroughfare, runs along the Hudson River waterfront east of the project site. Hudson River Park occupies the land between Route 9A and the waterfront, and is itself a major land use feature in the study area. The majority of the park is linear, expanded by several redeveloped piers, and extends continuously from Battery Place to West 59th Street. The study area includes Piers 52, 53 and the Gansevoort Peninsula, and Piers 54, 57, 59, 60, and part of Pier 61, along with the upland area connecting them and all lands under water to the U.S. Pierhead Line. A portion of Pier 54 is currently open to the public. Piers 52 and 53 and the rest of the Gansevoort Peninsula currently contain City municipal sanitation operation, and Piers 59, 60 and 61 are part of the Chelsea Piers Complex, all of which are described below. The study area also currently includes two pile fields, one on either side of the project site.

To the east of the site, across Route 9A, is an 11-story office building. South of the office building, also across from the project site, is the Hudson River Park area known as 14th Street Park, which serves the local office worker population and visitors to the Meatpacking district with a grass oval and seating.

The northwest portion of the study area is occupied by the Chelsea Piers Sports and Entertainment Complex, a 28-acre sports facility and event center that occupies Piers 59, 60, and 61 on the Hudson River. The complex includes a private recreation center, golf club, skating rink, field house, spa, event center, bowling, and banquet facilities, along with a marina, and generates rental income for Hudson River Park.



Existing Land Use

Figure 2-1

The northern central portion of the study area between Hudson River Park and Tenth Avenue consists of a mix of commercial buildings, large parking facilities, and a few industrial uses. Most of the building stock is characterized by old warehouses and industrial buildings that have been converted to commercial uses, mainly art galleries and studios. There are also a few institutional buildings in this portion of the study area, namely the Kingdom Hall of Jehovah's Witnesses at 512 West 20th Street and the Bayview Correctional Facility, a medium-security women's prison at the corner of West 20th Street and Eleventh Avenue. The General Theological Seminary of the Episcopal Church is located just outside the study area and occupies most of the block bounded by West 20th and West 21st Streets and Ninth and Tenth Avenues.

The blocks north of West 16th Street and east of Tenth Avenue comprise the northeast corner of the study area. These blocks contain predominantly residential uses, but also include some mixed commercial and industrial buildings. The commercial uses are primarily art galleries and studios, and the residential development is mostly medium and high density buildings with high lot coverage.

The study area is bisected by Section 1 of the High Line Park, an elevated former freight line that was converted into publicly accessible open space in 2009 and is now one of the prominent features of the study area. Approximately half of this linear park is included in the study area, running from its southern terminus at the corner of Gansevoort and Washington Streets to the portion that crosses West 21st Street just west of and parallel to Tenth Avenue. Ground-level access points for the High Line within the study area are located at Washington and Gansevoort Streets and just west of Tenth Avenue at West 14th, 16th, 18th, and 20th Streets. The High Line contains landscaped grasses, shrubs, and trees along concrete pathways at an elevation of approximately 25 feet.

The center portion of the study area, on the block bounded by Ninth and Tenth Avenues on the east and west and West 16th and 15th Street on the north and south, is occupied by Chelsea Market. The Chelsea Market building contains approximately 1 million square feet of commercial and retail space, including bakeries, delis, various eateries, and retail clothing. The building also houses television studios and office space.

South of Chelsea Market the study area consists of primarily low-rise former industrial buildings that have been converted to high-end commercial and retail uses. West 14th Street separates the Chelsea neighborhood to the north from the West Village neighborhood to the south. This boundary also separates the large, rectangular street grid in Chelsea from the smaller, irregular blocks of the West Village. The street grid in Chelsea is defined by north-south Ninth and Tenth Avenues, both of which terminate around the border with the West Village.

The portion of the West Village included in the study area encompasses a group of blocks known as the Meatpacking District. Named for the concentration of slaughterhouses and packing plants that once dominated the area, the Meatpacking District has experienced conversion of industrial space to high-end commercial and residential uses. This change is especially evident in the boutique and luxury hotels that have recently opened in the area. The Soho House, a 24-room boutique hotel and private members' club, occupies a former warehouse on the northwest corner of Ninth Avenue and West 13th Street. To the west, on the southwest corner of Washington and West 13th Streets is the Standard Hotel, an 18-story tower elevated across the High Line Park that includes a restaurant below the Park. The block south of the Standard Hotel, bounded by Washington Street and 10th Avenue to the east and west and Little West 12th and

Gansevoort Streets to the north and south, houses the few remaining meat production and wholesale companies in the area.

North of the hotel, the block bounded by West 14th and 13th Streets and Washington Street and Tenth Avenues is occupied by a few commercial structures and an industrial building, but is primarily comprised of vacant land, vacant buildings, and lots under construction.

The southern portion of the study area is occupied by the Gansevoort Peninsula, which extends from Gansevoort to Little West 12th Streets. This area is an approximately six-acre site that is currently occupied by the New York City Department of Sanitation (DSNY) and the New York Fire Department (FDNY) Marine Company One. DSNY uses the majority of the site for truck parking and salt storage, and FDNY Marine One facility, which uses Pier 53 (located at the northwest corner of the peninsula) as a marine firehouse and docking facility.

ZONING

PROJECT SITE

The project site is located in a M2-3 zoning district that covers most of the Hudson River piers on the west side of Manhattan from Harrison Street to West 59th Street (see **Figure 2-2**). M2-3 manufacturing districts are found mainly in the City's older industrial areas along the waterfront, and allow for activities that fall between light and heavy industry. M2-3 districts allow heavier manufacturing and industrial uses than are permitted in M1 districts, and are subject to less stringent performance standards regarding smoke, noise, and vibration. Most retail uses are also permitted in M2-3 zoning districts. Community facilities are not permitted in M2-3 zoning districts. The maximum floor area ratio (FAR) in M2-3 districts is 2.0 for commercial or manufacturing uses and the maximum base height before setback is 60 feet.

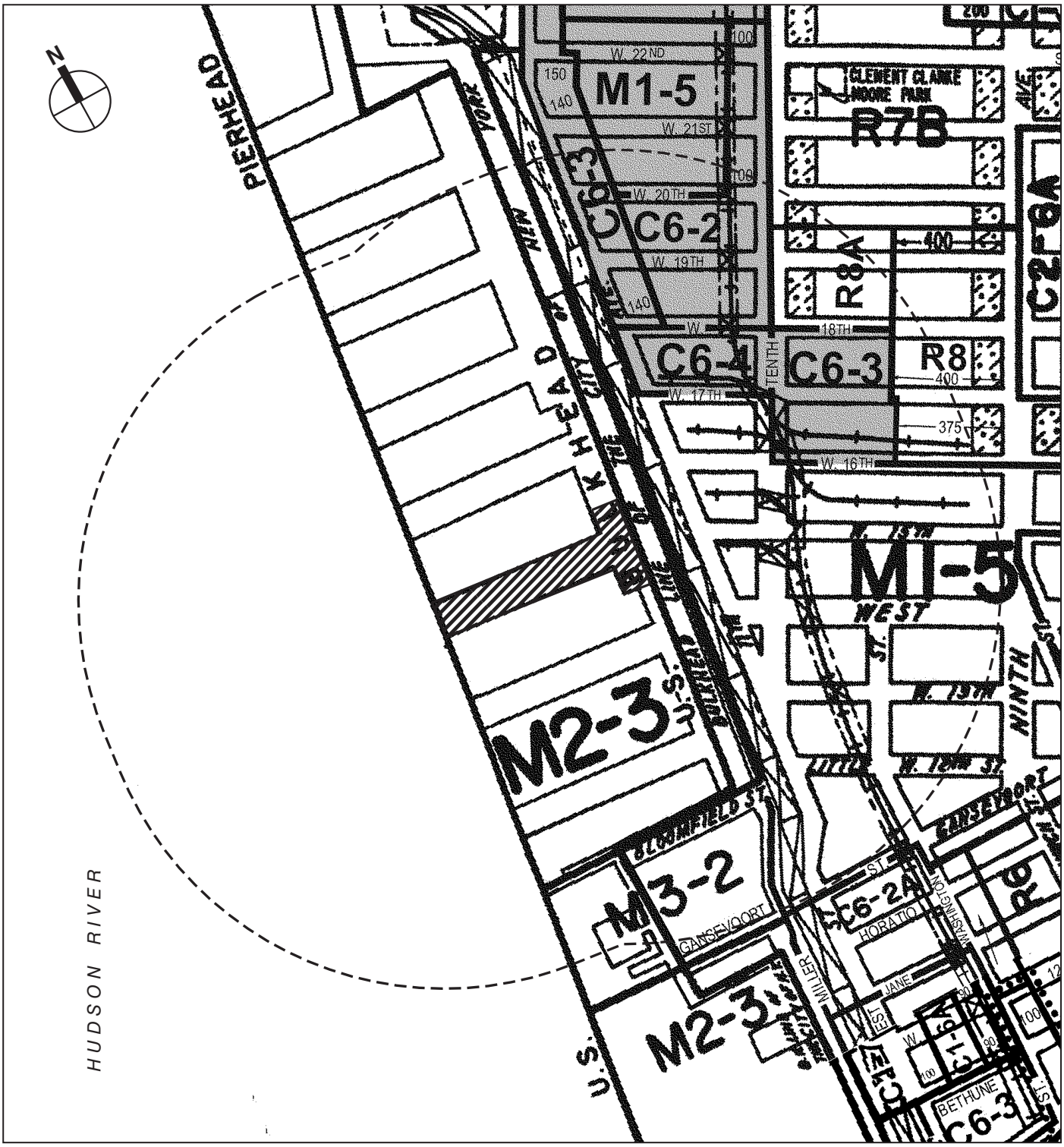
A zoning text amendment was approved in October 1998 that allowed parkland as a permitted use in the M2 and M3 zoning districts within the waterfront area in Manhattan Community Districts 1, 2 and 4. These areas include the M2 and M3 zoning districts south of 59th Street that cover Hudson River Park.

STUDY AREA

The study area includes the M2-3 zoning district as well as an M1-5 manufacturing district to the east of the project site, an M3-2 manufacturing district south of the project site, various C-6 commercial districts, contextual R7B and R8A districts, and an R8 residential district (see **Table 2-1**).

R8 districts are high density residential districts that can range from mid-rise to taller buildings depending on the height factor, which can increase building height with smaller lot coverage, or optional Quality Housing regulations, which result in lower buildings set close to or at the street line. They allow an FAR range of 0.94 to 6.02 depending on the regulations governing the development. Within the study area, an R8 zoning district is located east of the project site midblock between Ninth and Tenth Avenues, bordered by West 16th Street and the south side of West 19th Street. The northern portion of this district is bordered by an R8A contextual district on the west, which has an allowable FAR of 6.02. Quality Housing bulk regulations are mandatory in these districts, which ensure higher lot coverage and new development that is compatible with existing buildings. The study area also contains a portion of an R7B contextual residential district in the northeast. These districts allow an FAR of 3.0 as part of the mandatory Quality Housing regulations, which results in six- to seven-story apartment buildings.

8.5.11



Project Site

Study Area Boundary (1/4-Mile Perimeter)

Zoning District Boundary

Special Purpose District

C2-5 Overlay

Zoning
Figure 2-2

Table 2-1
Study Area Zoning Districts

Zone	Allowable Floor Area Ratio (FAR)	Use
R7B	3.0 Residential	Medium density contextual residential district
R8	0.94-6.02 Residential; 6.5 Community Facility	Higher density general residential district
R8A	6.0 Residential[1]	Higher density contextual residential district
C6-2	6.0 Commercial[2]; 0.94-6.02 Residential[1,3]; 6.5 Community Facility[2]	General commercial district outside central business district
C6-3	6.0 Commercial[2]; 0.99-7.52 Residential[1]; 10.0 Community Facility[2]	General commercial district outside central business district
C6-4	10.0 Commercial[2]; 10.0 Residential[2,1]; 10.0 Community Facility	High bulk commercial district
M1-5	5.0 Commercial; 5.0 Manufacturing; 6.5 Community Facility	Light manufacturing, high performance standards
M2-3	2.0 Commercial; 2.0 Manufacturing	Medium manufacturing; medium performance standards
M3-2	2.0 Commercial; 2.0 Manufacturing	Heavy manufacturing; low performance standards

Notes:
1. Can be increased with Inclusionary Housing bonus.
2. Can be increased with 20% public plaza bonus
3. 7.2 FAR on wide streets outside the Manhattan Core under Quality Housing Program.

Sources: New York City Zoning Resolution

In the northern portion of the study area, C6 commercial districts are located along the east side of Tenth Avenue between West 16th and West 18th Streets and between Tenth and Eleventh Avenues north of West 17th Street. C6 districts accommodate a wide range of high bulk commercial uses. These uses include corporate headquarters, large hotels, and a wide range of retail such as department stores and entertainment facilities in high-rise mixed-use buildings. A C6-2 district is located along the west side of Tenth Avenue from West 18th Street to West 22nd Street. There are two C6-3 districts in the study area; one located east of Tenth Avenue between West 16th and West 18th Streets, and the other along the east side of Route 9A north of West 18th Street. C6-2 and C6-3 districts have a commercial FAR of 6.0 and residential district equivalents of R8 and R9, respectively. These are typically found outside of major business districts in the city. There is also a C6-4 zoning district in the study area, bounded by Tenth and Eleventh Avenues, West 17th and West 18th Streets. C6-4 districts are typically mapped in the major business districts and have an allowable commercial FAR of 10.0.

The southeastern portion of the study area is located in an M1-5 zoning district. M1 districts usually serve as buffers between heavier industrial districts and residential or commercial districts. M1-5 districts allow an FAR of 5.0 and are governed by strict performance standards. M1 districts allow light industrial uses such as woodworking shops, repair shops, and wholesale service and storage facilities. Offices, hotel, most retail, and certain community facility uses are also permitted.

The Gansevoort Peninsula is located in an M3-2 zoning district to accommodate the New York City Department of Sanitation and Fire Department uses on the site. M3-2 districts are designated areas for heavy industries that generate noise, traffic, or pollutants and are subject to minimum performance standards. Found only in Manhattan, M3-2 districts allow an FAR of 2.0 and are exempt from parking requirements. Most retail uses are also permitted in M3-2 zoning districts.

Special West Chelsea District

The northeastern portion of the study area is located within the Special West Chelsea District. The district encompasses approximately 13 whole blocks and two partial blocks between West 16th Street and West 30th Street, and Tenth and Eleventh Avenues. The City adopted the Special West Chelsea District Zoning Text Amendment in 2005. The general goals of this district include encouraging the mixed use character of West Chelsea, through residential and arts-related development. The district also supports the restoration of the High Line as an accessible, public open space through special regulations and bonuses, while ensuring that new development enhances neighborhood character and the High Line open space. Finally, the district seeks to provide a transition to the lower-scale Chelsea Historic District to the east and the Hudson Yards area to the north.

The Special West Chelsea District specifies bulk and use controls that restrict development in order to reflect the area's early 20th century loft buildings and the character of the adjacent Chelsea Historic District. Along with the Zoning Text Amendment, the City rezoned portions of West Chelsea from light manufacturing to mixed commercial and residential uses. The amendments allow residential and commercial development along Tenth and Eleventh Avenues and on some of the midblocks, while preserving some of the existing M1-5 zones. The M1-5 zones permit museums as-of-right in keeping with the concentration of galleries in the neighborhood. The Special Mixed Use (MX-3) District was eliminated in the rezoning process.

The City also approved the acquisition and site selection of the High Line, which allowed its conversion to publicly accessible open space. As described above, the Special West Chelsea District contains provisions that support the development of and around the High Line by offering floor area bonuses for improvements to the park coupled with controlling bulk on adjacent development sites.

PUBLIC POLICY

PROJECT SITE

Hudson River Park Plan

The project site is located within Hudson River Park, which stretches five miles along the Hudson River from Battery Place to West 59th Street, where it connects to Riverside Park South. Hudson River Park is the result of long-term efforts by the City and the State to transform the dilapidated, industrial Hudson River waterfront into a network of open space connected by a pedestrian walkway and the Route 9A bike path. The park also includes approximately 400 acres of lands under water. The Hudson River Park Plan seeks to reclaim the waterfront for public use on a combination of piers and upland areas, and provides for revenue-generating uses within the park to finance the costs of developing and maintaining the Park.

As part of Hudson River Park, the project site is governed by the Hudson River Park Act of 1998, which identified the boundaries of Hudson River Park, established the water areas as an estuarine sanctuary, and created the Hudson River Park Trust as a public benefit corporation with the mandate to design, construct and maintain the Park. The Hudson River Park Act regulates land use within the park, prohibiting residential, commercial office buildings, hotels, manufacturing, warehousing, casino gambling, and certain municipal uses throughout the 37 piers, upland property and water area included in the Park. The Park is now approximately 65

percent complete and the Hudson River Park Trust continues to plan, implement construction, manage, and operate the Park.

Waterfront Revitalization Program

The project site is located in the Coastal Zone designated by New York State and City, and is therefore subject to the Coastal Zone management policies of both the City and the State (see **Figure 2-3**). The New York City Waterfront Revitalization Program (WRP) is the City's primary coastal zone management tool. The WRP is comprised of 10 major policies focusing on the goals of improving public access to the waterfront; reducing damage from flooding and other water-related disasters; protecting water quality, sensitive habitats like wetlands and the aquatic ecosystem; reusing abandoned waterfront structures; and promoting development with appropriate land uses. An assessment of the proposed project's consistency with the New York City Waterfront Revitalization Program is provided below, in Section F.

STUDY AREA

PlaNYC 2030

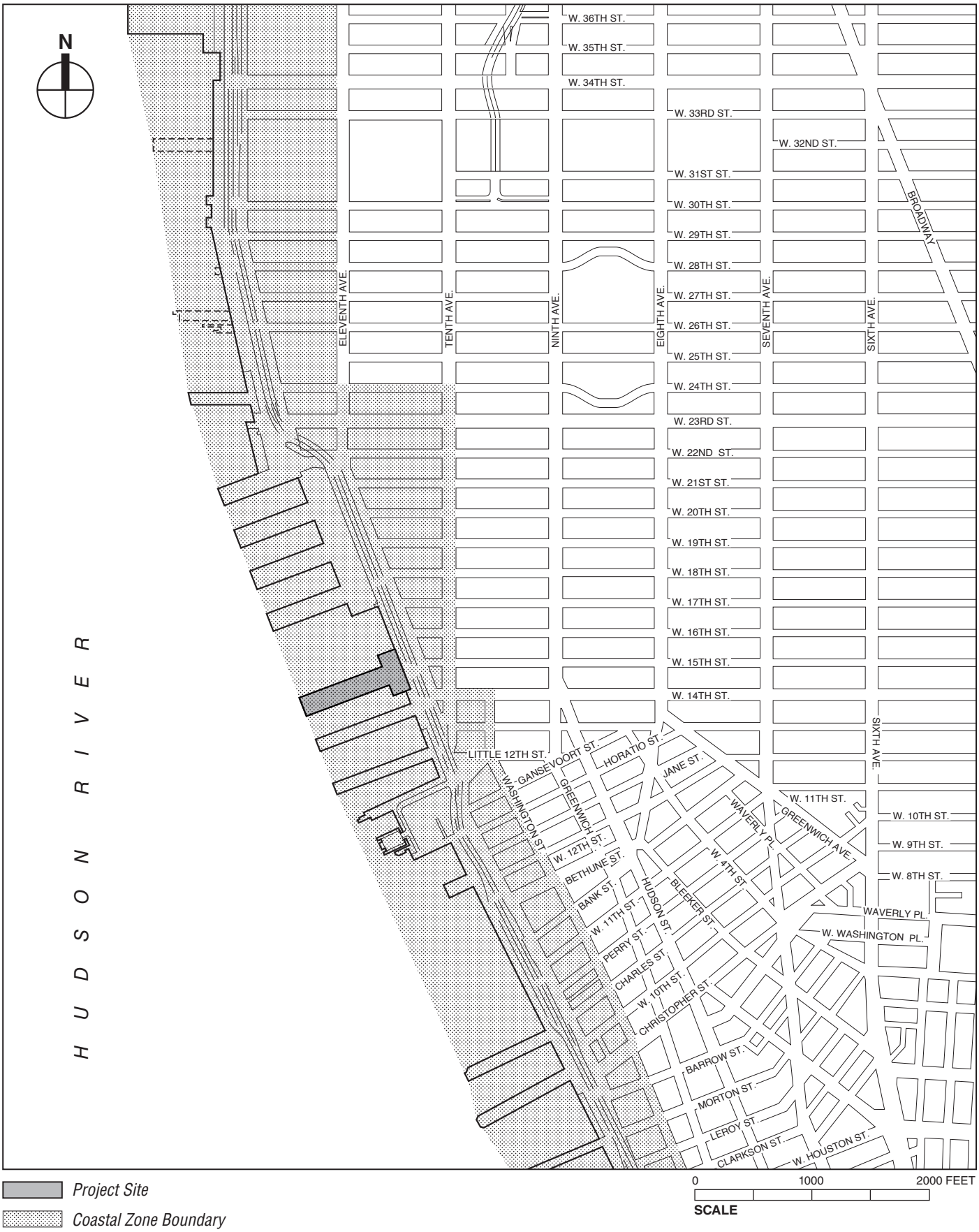
In April 2007, the Mayor's Office of Long Term Planning and Sustainability released *PlaNYC: A Greener, Greater New York*. The plan was updated in April 2011 with new goals and strategies to address challenges that the City will face over the next 20 years. *PlaNYC* policies focus on issues surrounding population growth, aging infrastructure, economic competitiveness, air and water quality, and global climate change. The initiatives in the plan that are relevant to the proposed project include:

- Open underutilized spaces as playgrounds or part-time public spaces;
- Create and upgrade flagship parks;
- Increase opportunities for water-based recreation;
- Promote walkable destinations for retail and other services;
- Activate the streetscape;
- Incorporate sustainability through the design and maintenance of all public space;
- Create a network of green corridors; and
- Support ecological connectivity.

Comprehensive Waterfront Plan

In March 2011, the NYC Department of City Planning released *Vision 2020: New York City Comprehensive Waterfront Plan*, a framework that aims to reinforce the connection between New Yorkers and the waterfront by increasing water transport, public access to the waterfront and economic development. The plan outlines eight goals for the 520 miles of New York City shoreline:

- Expand public access to the waterfront and waterways on public and private property for all New Yorkers and visitors.
- Enliven the waterfront with a range of uses integrated with adjacent uses in the upland communities.
- Support economic development on the working waterfront.
- Improve water quality through measures benefiting natural habitats, support public recreation, and enhance waterfront and upland communities.



Coastal Zone Boundary
Figure 2-3

- Restore degraded natural waterfront areas and protect wetlands and shorefront habitats.
- Enhance the public experience of the waterways that surround New York.
- Improve governmental regulation, coordination, and oversight of the waterfront and waterways.
- Identify and pursue strategies to increase the City's resilience to climate change and sea level rise.

The proposed Pier 57 project is identified in the *Comprehensive Waterfront Plan* as part of the strategy for the Lower West Side of Manhattan. The strategy seeks to advance plans created by Hudson River Park Trust and a private partner for the development of a multi-use pier, including a public market, art gallery, rooftop park, and marina. The *Comprehensive Waterfront Plan* is also reinforced by the New York City Waterfront Action Agenda, a three year implementation component that includes high-priority projects specifically designed to catalyze investment on the waterfront.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

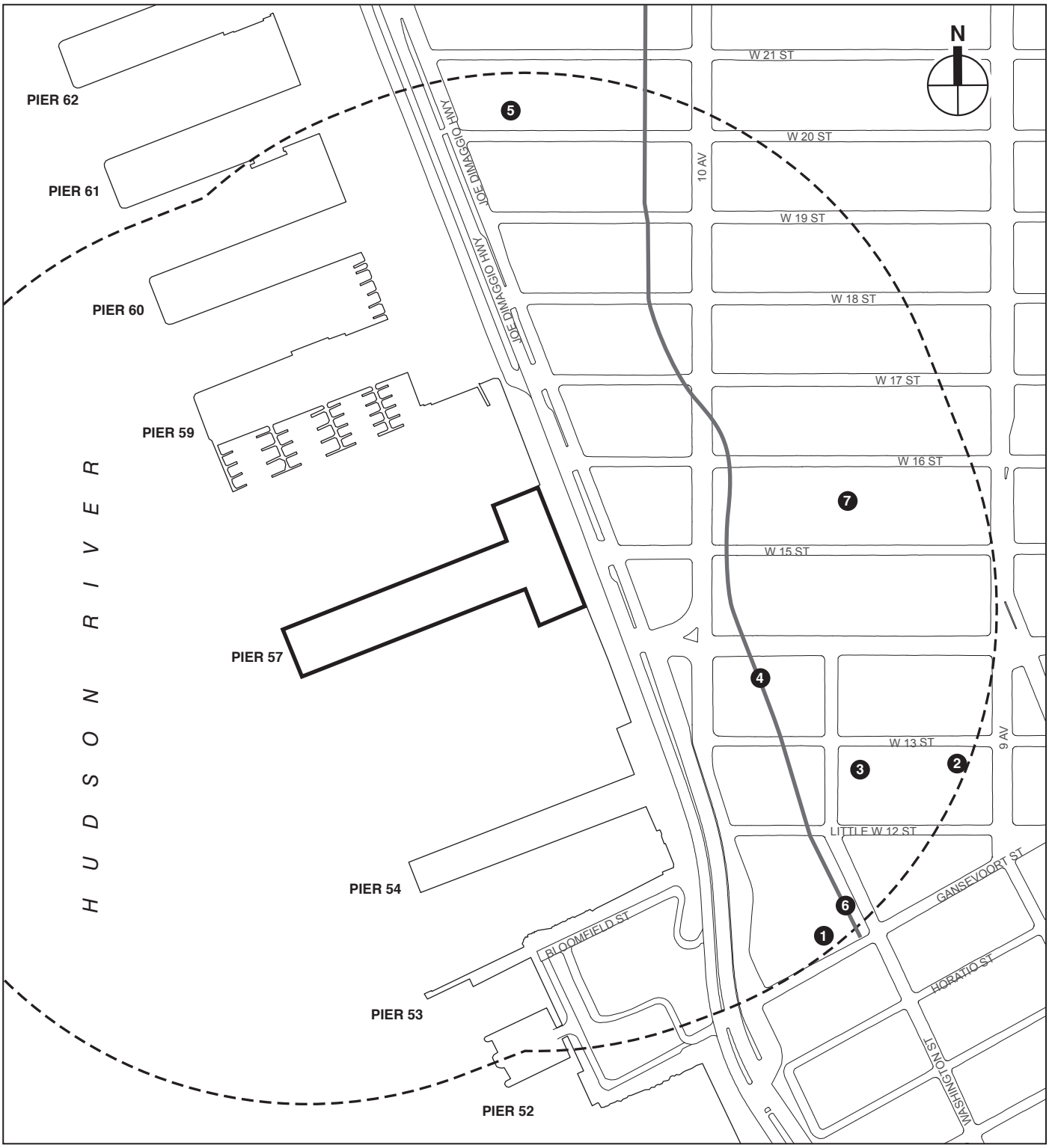
PROJECT SITE

In the future without the proposed project, or No Action condition, Pier 57 is expected to remain vacant. The project site would remain an underutilized component of Hudson River Park, and no new commercial, educational or cultural uses or publicly accessible open space would be created.

STUDY AREA

Current land use and development trends are expected to continue, resulting in further commercial and residential conversions of older industrial buildings in the area. As shown in **Table 2-2** and **Figure 2-4**, several developments under construction or planned in the study area are expected to be completed by 2015, the proposed project's build year (No Action condition projects).

- The Whitney Museum will add 200,000 sf of space to house its collection at a new building on Gansevoort Street between West Street and the southern terminus of the High Line. The project will include 50,000 sf of indoor galleries as well as 13,000 sf of outdoor exhibition space on a series of rooftop surfaces. This project will replace wholesale meatpacking space and a vacant lot.
- A new five-story building under construction at 402 West 13th Street will include 19,525 sf of office and retail space.
- The planned renovation and expansion of 837 Washington Street will include a five-story addition to the existing two-story warehouse and office space; the project will include 51,625 sf of retail and office space.
- The planned High Line Building at 450 West 14th Street will include 11,950 sf of retail space and over 51,300 sf of office space on 10 floors that will be added to an existing five-story building. This project will span the High Line and include an entrance to that park.
- A new five-story building under construction at 537 West 20th Street will include 24,289 sf of commercial space.



No Build Projects
Figure 2-4

Table 2-2
Development Projects Planned for Study Area by 2015

Map No.	Project Name	Location	Future Use	Status
1	Whitney Gansevoort	Washington St and Gansevoort St	New Whitney Museum space; 241,017 sf	Completion 2015
2	402 West 13th Street	402 West 13th Street between Ninth Avenue and Washington Street	New 5-story building; 2,400 sf of retail and 12,950 sf of office space.	Under Construction
3	837 Washington Street	837 Washington Street	4-story addition to and renovation of existing 2-story industrial building; 51,625 sf of commercial space; ground floor retail and office space above.	Planned
4	High Line Building	450 W 14th Street between Tenth Avenue and Washington Street	10-story addition to and renovation of existing 5-story building; 11,950 sf of retail and over 51,300 sf of office space.	Under Construction
5	537 West 20th Street	537 West 20th Street	5-story, 24,289 sf new building; first floor gallery space with offices above	Under Construction
6	M&O Building	820 Washington Street	4-story 23,899 sf maintenance and operations building for the High Line; 12,000 sf of storage, 11,899 sf of commercial space.	Completion 2015
7	Chelsea Market Expansion	75 Ninth Avenue	250,000 sf of office space, 90,000 sf hotel space addition to existing building	Completion 2015

Sources: New York City Department of Buildings; New York City Department of City Planning; media coverage; Whitney Museum of American Art—Gansevoort Facility EAS (CEQR No. 07SBS021M); AKRF, Inc. field visits July 2011.

- The M&O Building at 820 Washington Street is planned to be converted into a four-story 26,000 sf maintenance and operations building for the High Line Park.
- The proposed Chelsea Market expansion will add 250,000 sf of office space and 90,000 sf of hotel space to the existing 1.1 million-sf historic retail/office building.

ZONING AND PUBLIC POLICY

There are no notable changes to zoning or public policy anticipated on the project site or elsewhere in the study area under the No Action condition.

In the No Action condition, the goals of the public policies relating to the project site would not be met. The goals of Hudson River Park Plan would not be realized in this section of the park should the site remain vacant. Similarly, other waterfront and general development policies of the City including PlaNYC, the *Comprehensive Waterfront Plan*, the waterfront action agenda, etc., would not be supported by the site remaining in an underutilized condition.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

The proposed project would rehabilitate and redevelop the vacant Pier 57 site with a major new rooftop open space and a perimeter walkway, and provide new retail, restaurant and other

commercial uses, as well as educational, cultural, boating and public open space uses, and parking. The primary retail use would be designed as a public marketplace, consisting of separate "work/sell" stores and showrooms intended for independent designers and food vendors. The food retail would be complemented by restaurant space, a test kitchen, and educational space in the form of a cooking school. The Tribeca Film Festival would add a prominent cultural use to the project, utilizing the rooftop space for public programming.

The mix of commercial and cultural uses included in the proposed project would be compatible with and complementary to existing study area land uses. The proposed project would be consistent with recent trends in the study area of new residential and commercial development—including art galleries, restaurants, retail, and hotels, which are attracting visitors to the area—and would serve the neighborhood's growing population of residents and office workers, including through the addition of new public open space. The arts and cultural uses would complement nearby art galleries and studios in the area. In addition, the public marketplace concept draws specific inspiration from uses in West Chelsea and the Meatpacking District, and would be supportive of nearby retail uses. Unlike the nearby Chelsea Market, which contains both retail and wholesale businesses, the proposed project would contain only retail and no wholesale uses. The proposed educational uses would further enliven the project site and would also be compatible with surrounding land uses. The visitors generated by the proposed new facility would support commercial uses in the neighborhood, including hotels, bars, restaurants, and shops, and would further improve the streetscape and pedestrian environment of Hudson River Park and Route 9A.

The rehabilitated pier would improve the visual and programming links between the Hudson River Park and inland communities, transforming the vacant pier into a handsome new component of Hudson River Park.

Overall, the proposed project would have a positive effect on land use by enlivening the underutilized pier structure with new uses, creating new publicly accessible open space, and supporting existing uses in the surrounding area. Therefore, the proposed project would not result in any significant adverse impacts to land use.

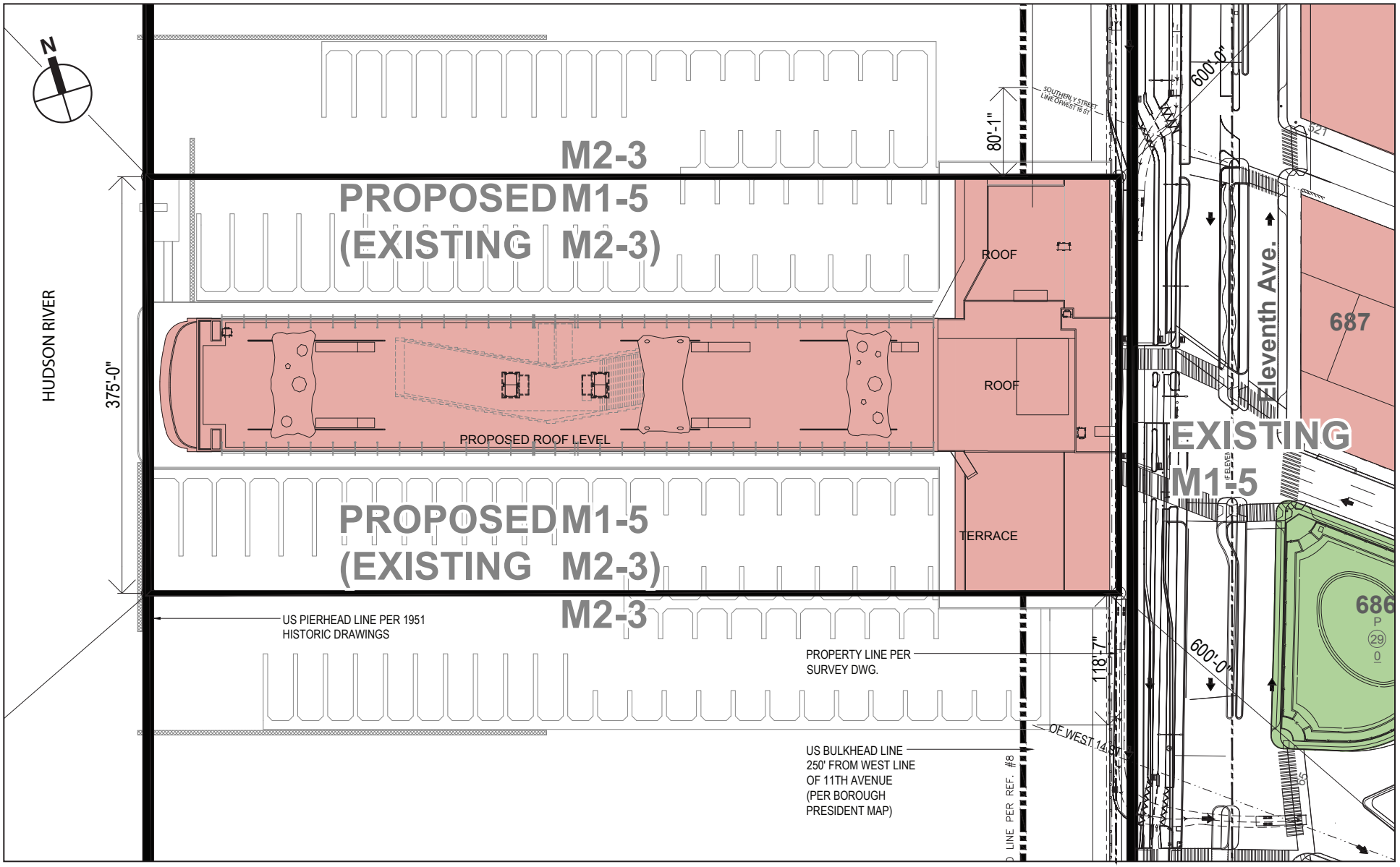
ZONING

The proposed project would require a change in the zoning map from M2-3 to M1-5, as well as several other discretionary actions, including:

- Relief from various Waterfront Zoning Regulations related to bulk, height and setback, yard, public access and visual corridors, and design requirements.
- Special permit to allow certain retail and other uses over 20,000 square feet of floor area on existing piers.
- Special permit for retail in excess of 10,000 sf.
- Special permit to allow the proposed accessory parking garage.
- Certification that the project complies with the applicable waterfront public access and visual corridor requirements, as modified by the requested approvals.

Rezoning the project site to M1-5 would allow the proposed floor area and uses on the project site. It should be noted that the proposed rezoning would apply to the pier structure and portions of the proposed marina; other portions of the project site containing marina uses and associated street frontage area would remain in their current zoning (see **Figure 2-5**). As noted above, M1

10.10.12



- ZONING LOT LINE
- R - RESIDENTIAL
- C - COMMERCIAL
- O - OPEN SPACE

662 - BLOCK NUMBER
(3) - LOT NUMBER
1 - STORIES
600 - ADDRESS

HUDSON RIVER PARK PIER 57

Proposed Zoning
Figure 2-5

districts allow most retail, and certain community facility uses, and are governed by strict performance standards. The proposed rezoning would be specific to the site and would not affect any other lots in the study area. The proposed zoning and the on-site uses it would allow would be compatible with nearby manufacturing and commercial zoning districts in the areas directly east of the project site.

In order to facilitate the proposed retail programming, the proposed project would also require special permits to allow retail in excess of 10,000 square feet to locate at the project site and to allow certain retail and other uses over 20,000 square feet of floor area on existing piers. Due to the unique nature of the proposed project, these special permits are required in order to provide the project flexibility and allow the proposed project to provide visitors with the multi-faceted cultural, educational and food programming experience. Nevertheless, under the terms of the Trust's proposed lease with the applicant, "big box" retail would be prohibited and this special permit would apply only to the project site. The proposed project would also seek a special permit to allow the proposed accessory parking garage. The proposed project would also require relief from waterfront zoning regulations related to bulk, height and setback, yards, public access and visual corridors, and design requirements, in order to preserve the historic Pier 57 structure. These waivers would only apply to the project site.

Overall, the proposed project would not result in any significant adverse impacts to zoning.

PUBLIC POLICY

By providing for productive use of the site and reactivating a portion of the waterfront, the plan would support the goals and objectives of the Hudson River Park Act, *PlaNYC 2030*, and the *Comprehensive Waterfront Plan*. The proposed project would not include any changes to public policy on the project site or in the study area, and would be consistent with the public policies that currently govern the site and the surrounding area.

The proposed project would be consistent with the Hudson River Park Act in that it involves the reuse of the historic pier for public uses, including access to the waterfront, open space and cultural space. In addition, the project would generate funds to contribute to the operation and maintenance of the park. The Act specifies that the Park's operations and maintenance should be paid for by revenues generated within Hudson River Park to the extent practicable. The uses introduced by the proposed project would be consistent with and permitted under the Hudson River Park Act.

As previously described, the proposed project is specifically identified in the *Comprehensive Waterfront Plan* as part of the strategy for the Lower West Side of Manhattan. The *Comprehensive Waterfront Plan* calls for multiple uses at Pier 57, including a public market, art gallery, and rooftop park—all of which are included in the proposed project. The proposed project would directly support the Plan's goal of expanding public access to the waterfront, by creating new public waterfront open space and connecting to the existing network of waterfront space. Therefore, the proposed project would be consistent with the *Comprehensive Waterfront Plan*.

The proposed project would be consistent with the applicable goals of *PlaNYC 2030*, as analyzed below.

- **Open underutilized spaces as playgrounds or part-time public spaces.** The proposed project would create public open space on the site of an underutilized vacant building.

- **Create and upgrade flagship parks.** The proposed project would result in a new, approximately 2.5-acre open space addition to Hudson River Park, a flagship park in New York City.
- **Increase opportunities for water-based recreation.** The proposed project would include a non-motorized boat launch and marina, connecting users directly to the water and providing space for water-based recreation.
- **Promote walkable destinations for retail and other services.** The proposed project would introduce new retail and cultural amenities to an underutilized building in an already walkable neighborhood and park. The project would provide retail options for the growing residential and worker populations in the area, and would encourage pedestrian traffic by connecting to existing walkways including those within Hudson River Park itself.
- **Activate the streetscape.** The proposed project would further activate the Route 9A and Hudson River Greenway streetscape by enlivening a vacant and underutilized building within a heavily visited park.
- **Incorporate sustainability through the design and maintenance of all public space.** The proposed project would incorporate sustainability through the design of the building. In particular, the proposed project would reuse the existing structure, maximize interior daylighting, and utilize passive heating and cooling. The proposed project would also include partially vegetated areas on the rooftop.
- **Create a network of green corridors.** The proposed project would connect to the existing Hudson River Park Greenway and connect the greenway to the waterfront with the pier's renovated perimeter walkway.
- **Support ecological connectivity.** The proposed project would add 2.5 acres of partially vegetated open space on the roof, and would provide enhanced visual and physical connection to the waterfront.

A consistency assessment of the New York City Waterfront Revitalization Program is provided below, in Section F.

Overall, the proposed project would not result in any significant adverse impacts to public policy.

F. WATERFRONT REVITALIZATION PROGRAM

Pier 57 is located within the City's designated Coastal Zone Boundary. Therefore, in accordance with the guidelines of the 2012 CEQR Technical Manual, a preliminary evaluation of the proposed project's consistency with WRP policies was undertaken (see **Appendix D** for the WRP Coastal Assessment Form [CAF]).

As determined by the CAF, the proposed project requires detailed assessment for several WRP policies, including policies 1, 1.1, 2, 2.3, 3, 3.1, 3.2, 3.3, 4, 4.1, 4.3, 5.1, 5.3, 6, 6.3, 7.2, 8, 8.4, 8.5, 9, 9.1, 10. The consistency assessment is provided below for all questions that were answered "yes" in the CAF.

CONSISTENCY OF PROPOSED PROJECT WITH THE WATERFRONT REVITALIZATION PROGRAM POLICIES

New York City's WRP includes 10 principal policies designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront,

while minimizing the conflicts among those objectives. For each policy and sub-policy question that was answered "yes" in the CAF, this analysis includes a discussion of the policy's applicability to the proposed project and the proposed project's consistency with the respective policy.

Policy 1: Support and facilitate commercial and residential development in areas well-suited to such development.

The proposed project would introduce a variety of new uses, including commercial uses, to a site that has been vacant and underutilized in recent years. These uses would generate funds for the operation and maintenance of Hudson River Park and would be compatible with the surrounding mixed-use neighborhood. Moreover, these uses would be compatible with other trends in the area that include new residential, cultural, retail, and commercial development in place of former industrial and manufacturing uses. Because the Hudson River Park Act prohibits residential use, the park is not an appropriate area for residential redevelopment, but the proposed project would provide services that support neighboring residential areas. Therefore, the proposed project would be consistent with this policy.

Policy 1.1: Encourage commercial and residential redevelopment in appropriate coastal zone areas.

See response to Policy 1, above.

Policy 2: Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.

The proposed project would not involve industrial uses, but would introduce water-dependent uses to the project site. Specifically, the proposed project would include a marina of up to 141 slips located on the north and south sides of Pier 57. It would also include slips for one or more historic vessels, a non-motorized boat launch, and potentially a water taxi landing. Therefore, the proposed project would be consistent with this policy.

Policy 2.3: Provide infrastructure improvements necessary to support working waterfront uses.

The project site does not currently house a working waterfront use, such as manufacturing or warehousing, nor would it under the proposed project, because such uses are prohibited by the Hudson River Park Act. Therefore, this policy does not apply.

However, the proposed project would include a marina on the north and south sides of the project site. The marina and potential water taxi landing would introduce water-dependent uses to the site and would activate the waterfront in this portion of Hudson River Park. The proposed project would also upgrade vehicular and pedestrian access points to the pier to accommodate the proposed uses.

Policy 3: Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.

See responses to Policies 3.1, 3.2, and 3.3, below.

Policy 3.1: Support and encourage recreational and commercial boating in New York City's maritime centers.

The proposed project is located on the Hudson River, a historic commercial and recreational maritime center, and would increase recreational boating opportunities in the Hudson River

by constructing a 141 slip marina, non-motorized boat launch, water-taxi landing, and up to two slips for historic vessels. These additions would further the goal of the Sanctuary Plan to "continue to provide and expand safe access to the river by creating additional boating and docking opportunities," and would be consistent with the Hudson River Park Trust (HRPT) boating management rules and regulations (HRPT 2002). There are currently multiple active recreational and commercial marinas and terminals within Hudson River Park. Because the project would be redeveloping an existing pier, no new navigation hazards would result from this project. Therefore, the project is consistent with this policy.

Policy 3.2 Minimize conflicts between recreational, commercial, and oceangoing freight vessels.

The proposed project is located within a historically high use area, with a mix of recreational, commercial, and transportation vessels. There are multiple active marinas within Hudson River Park, and the addition of a new access point would not result in added conflicts between recreational, commercial, and oceangoing freight vessels.

The proposed project seeks a vibrant mix of motorized and non-motorized boats and historic vessels in the proposed marina. Marina operations would be overseen by a dockmaster and the boating activities would conform to appropriate safety measures. The marina element of the proposed project would include wave screens to protect recreational boats and non-motorized boats from heavy wave or wake action, as well as strong currents. The proposed project is therefore consistent with this policy.

Policy 3.3: Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.

The operation of the marina, including the proposed sanitary/pumpout station, would not be expected to result in significant adverse impacts to water quality. The sanitary/pumpout station would be similar to the existing station at Pier 25, which was designed in accordance with criteria set forth in the New York State Department of Environmental Conservation (NYSDEC) permit for Hudson River Park and the Sanctuary Plan (HRPT 2002). There would be no refueling or repair of motorized boats within the marina. Implementation of best management practices to minimize environmental impacts of marinas, presented in the 2003 NYSDEC publication Environmental Compliance, Pollution Prevention, and Self-Assessment Guide for the Marina Industry, would minimize water quality impacts that have been attributed to marina operation resulting from accidental discharge of sewage from boats or during operation of pumpout stations, or the release of oil from boats (McMahon 1989 in USEPA 1993; NCDEM 1990; Alzieu 1986; Cleary and Stebbing 1987; Espourteille 1988; Young et al. 1979 in Milliken and Lee 1990).

The wakes of vessels using the marina and water taxi landing facility are not expected to be more energetic than the normal wind waves or the wake of channel traffic already affecting the area; regardless, the nearby shoreline is armored to prevent erosion or other shoreward impacts. The drafts of water taxis currently operating in the New York Harbor range from 5.5 feet to 7 feet. Water depths in the vicinity of the water taxi platform are at least 19 feet at MLW. Depths where boats would be moored within the marina would not be less than 6 feet at MLW. Water depths at the water taxi platform and within the marina would be sufficient to allow a clearance of at least 2 to 3 feet between the propeller of a vessel and the bottom during low waters identified as necessary to prevent increased turbidity associated with boat operations (NOAA 1976 in USACE 1993). Therefore, boat operations would not be

expected to result in increased suspended sediment within the project area, and the project is consistent with this policy.

Policy 4: Protect and restore the quality and function of ecological systems within the New York City coastal area.

As discussed in Chapter 9, "Natural Resources," the proposed project would not result in any significant adverse impacts to natural resources due to the construction or operation of the proposed project. Therefore, the proposed project would be consistent with this policy.

Policy 4.1: Protect and restore the ecological quality and component habitats and resources within the Special Waterfront Areas, Recognized Ecological Complexes, and Significant Coastal Fish and Wildlife Habitats.

A small amount of benthic habitat would be permanently lost within the footprint of piles for the proposed marina and wave screens. The permanent loss of benthic macroinvertebrates within the pile footprints would be minimal and would not significantly impact the food supply for fish foraging in the area. The new piles would provide additional attachment sites for algae and sessile invertebrates and piles may provide suitable refuge to fish. Placement of riprap along the bottom of the westernmost caisson would disturb approximately 0.01 acres, but encrusting organisms and benthic macroinvertebrates would be expected to quickly colonize the newly placed riprap. In-water structures such as riprap have rough surfaces with many interstitial spaces and a high surface area to volume ratio (USACE 1993) that provide more surface area than soft bottom sediment for invertebrates that attach to surfaces (fouling community), and habitat (foraging and refuge) for fish (Heiser and Finn 1970 in Chmura and Ross 1978). Therefore, the minimal bottom disturbance associated with the placement of riprap would not be expected to result in any adverse impacts to benthic habitat or benthic organisms.

The construction of the proposed utility, stairway and elevator pit enclosures would result in minimal loss of shaded water column habitat under the existing pier deck, as discussed in Chapter 9, "Natural Resources." The loss of this aquatic habitat under the existing pier would not result in any significant adverse impacts to aquatic resources.

Noise associated with pile driving would result in temporary adverse impacts to fish and macroinvertebrates, though, on the basis of the results from previous studies (see Chapter 9, "Natural Resources"), pile driving would not be expected to result in significant adverse impacts to aquatic biota in the vicinity of the project site. Additionally, should underwater noise from pile driving result in avoidance of portions of the Hudson River in the vicinity of the project site, the extent of the area that would be affected at any one time is likely to be small, when compared to the suitable habitat that would still be available within the lower Hudson River. To further reduce the likelihood of impacts to the fish community, pile driving would be restricted to the six-month period from May through October. Restricting pile driving to this seasonal window would minimize the potential for adverse ecological effects, specifically during the November to April period when winter flounder and striped bass, are found in higher densities within the New York Harbor than other months. This timing restriction for in-water activities is consistent with the resource protection objective of the Hudson River Park Sanctuary Plan to protect the seasonal use of the Sanctuary by key species (HRPT 2002). In addition, it is expected that the proposed project would predominantly utilize vibratory pile driving, which has lower associated sound pressure levels, although in some cases impact pile driving may be necessary.

While some adverse impacts would result from construction of the proposed project, these impacts would be minimized by design and protective construction techniques. The area of potential habitat lost as a result of the project is very small by design. In summary, during construction of the in-water project elements, temporary and localized increases in suspended sediment, noise generated by pile driving, and alterations to bottom habitat, water column habitat, and benthic macroinvertebrates would not result in significant adverse impacts to aquatic biota of the Hudson River. Therefore, the proposed project is consistent with this policy.

Policy 4.3: Protect vulnerable plant, fish, and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.

The New York Natural Heritage Program (NYNHP) identified peregrine falcon (Falco peregrinus) (state endangered), and shortnose sturgeon (Acipenser brevirostrum) (state/federal endangered) as having the potential to occur within the vicinity of the project site (NYNHP 2012). The recently federally listed endangered Atlantic sturgeon (Acipenser oxyrinchus oxyrinchus) (NOAA 2012a and b) also has the potential to occur within the vicinity of the project site. In addition, four state and federally listed species of marine turtles—loggerhead (Caretta caretta), green (Chelonia mydas), Kemp's ridley (Lepidochelys kempii), and leatherback (Dermochelys coriacea) (NYSDEC 2010b; USFWS 2010), have the potential to occur as occasional transients within the vicinity of the project site. In addition, seals are known to be seasonally present in the Hudson River. Aquatic threatened or endangered species or species of concern that are known to occur in the vicinity of Pier 57, shortnose sturgeon and Atlantic sturgeon, would only occur in the area as occasional transient individuals and would prefer the deeper water habitat of the navigation channel, which would not be affected by the proposed project. The prohibition of pile driving from November through April to protect overwintering striped bass would minimize potential impacts to striped bass and other fish overwintering within the vicinity of Pier 57. Seals and the four species of threatened or endangered sea turtles that may be present in the Harbor Estuary would only be expected to be present in the vicinity of Pier 57 as occasional transient individuals and would likewise not be significantly impacted by construction activities. Through consultation and coordination between HRPT and the NYSDEC, the proposed project would not result in significant adverse impacts to the NYSDEC listed endangered peregrine falcon pair that has at times been nesting on the pier since 2009. Coordination activities may include attempting to relocate the nest, staging construction to avoid sensitive periods, or use of monitoring cameras.

Overall, the proposed project would not result in any significant adverse impacts to threatened or endangered species, or species of special concern. Therefore, the proposed project is consistent with this policy.

Policy 5: Protect and improve water quality in the New York City coastal area.

Policy 5.1: Manage direct or indirect discharges to waterbodies.

The proposed project is not expected to result in an artificial input of freshwater or effluent discharge to the Hudson River. Because Pier 57 is an existing structure, stormwater runoff from impervious surfaces already exists, and would not be increased by the proposed project. Additionally, the development of a small landscaped area on the rooftop open space

would help to slow the rate of stormwater discharge. Therefore, the proposed project is consistent with this policy.

Policy 5.3: Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.

There would be no dredging or other disturbance of bottom habitat or open water habitat other than the driving of the piles for the marina floats and wave screens, driving of fender piles, and the minimal (0.01-acre) placement of riprap along the caissons.

All in-water and shoreline construction work would be done using a barge-based crew with float stages, scaffolding, and a barge-mounted crane. Consistent with the NYSDEC and USACE permits for in-water work within Hudson River Park, floating debris screens would be in place throughout demolition and construction activities to capture floating debris. Sediment disturbance associated with the pile driving and placement of riprap has the potential to result in minor, short-term increases in suspended sediment, as well as resuspension and re-deposition of contaminants. As evaluated in the 1998 *Hudson River Park Final Environmental Impact Statement*, increases in suspended sediment due to pile driving would be temporary and localized, confined to the immediate vicinity of construction activities (AKRF, Inc. et al. 1998). The average tidal current in the Hudson River is 1.4 knots (Geyer and Chant 2006). Therefore, any sediment resuspended during pile driving would move away from the area of in-water construction and would be expected to dissipate shortly after the completion of pile driving activity. In addition, the temporary localized increases in suspended sediment during pile driving would be intermittent, occurring during the several hours anticipated for the driving of each new pile followed by a period of no sediment disturbing activity while the next pile is being prepared for installation. Turbidity curtains would be used during pile driving activities to further reduce the potential for increases in suspended sediment within the study area. Therefore, in-water construction activities due to the proposed project would not result in significant adverse impacts to water quality. Similarly, any contaminants released to the water column as a result of sediment disturbance would be expected to dissipate rapidly and would not result in significant long-term impacts to water quality or aquatic habitats and biota. Therefore, the project is consistent with this policy.

Policy 6: Minimize loss of life, structures, and natural resources caused by flooding and erosion.

As discussed in Chapter 9, "Natural Resources," the pier structure is located above the 100-year flood elevation. The three caissons supporting the pier structure are, by their nature as pier substructure, below the 100-year flood elevations. The proposed project (i.e., rehabilitation of the caissons for historic Pier 57, modifications to the paved upland area east of the façade, operation of the redeveloped pier, and the construction and operation of the marina) would not have the potential to result in significant adverse impacts to the 100-year floodplain or 500-year floodplain or result in additional flooding adjacent to the pier.

Because the proposed project involves the rehabilitation and reuse of an existing historic structure, the opportunities to incorporate measures to address potential flooding and erosion issues are limited. In particular, the proposed project cannot change the elevation of the pier structure, and alterations must preserve the building's historic integrity. Nonetheless, flood protection measures for the historic structure would be implemented, accounting for the projected effects of climate change. Specifically, the proposed project would include provisions for installing 4 to 5 foot high flood barriers around the perimeter of the pier on an as needed

basis (i.e. before predicted storm events). Therefore, the proposed project would be consistent with this policy.

Policy 6.3: Protect and preserve non-renewable sources of sand for beach nourishment.

No dredging of sand would occur during the proposed project, and there are no beaches in the vicinity of the proposed project. Therefore, this policy does not apply.

Policy 7: Minimize environmental degradation from solid waste and hazardous substances.

Policy 7.2: Prevent and remediate discharge of petroleum products.

Based on the findings of the Phase I ESA and Phase II Subsurface Investigation for the project site, petroleum-contaminated soil could be encountered, especially in the vicinity of a known historical spill near the northeast corner of the pier. If remediation of this spill has not been completed to the satisfaction of NYSDEC (i.e., the spill still has an "open" status) when the subsurface disturbance occurs, coordination with New York City Transit (NYCT) and NYSDEC would be performed to ensure that construction for the proposed project would not exacerbate the spill or prevent it from being properly addressed during or following construction. Remediation of this spill would continue in accordance with NYSDEC requirements, and a copy of the spill closure report would be submitted to the New York City Department of Environmental Protection (NYCDEP) upon the completion of remedial activities. Petroleum-contaminated groundwater is not expected to be encountered, as construction is not expected to extend to the water table.

Renovation and rehabilitation or the project site would be conducted in accordance with applicable federal, state and local regulatory requirements. Excavation work would be performed in accordance with a NYCDEP-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) and all excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur either during or following construction at the site. Therefore, the proposed project is consistent with this policy.

Policy 8: Provide public access to and along New York City's coastal waters.

Policy 8.4: Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.

The proposed project is specifically intended to accommodate waterfront open space and recreation through the creation of new publicly accessible open space. Pier 57, located within the 550-acre Hudson River Park, is an ideal location for improvements to waterfront open space and recreation. The proposed project would add approximately 2.5 acres of waterfront open space to the Hudson River Park in perimeter walkways, bulkhead walkway extensions, and rooftop open space. The marina would provide recreation opportunities in the form of slips for historical ships, 141 public slips for small motorized boats, a boat launch for non-motorized vessels, and possible introduction of water-taxi services. Therefore, the proposed project would help to develop waterfront open space and recreation on publicly owned land, and is consistent with this policy.

Policy 8.5: Preserve the public interest in and use of lands and waters held in public trust by the state and city.

HRPT is a partnership between New York State and City charged with the design, construction and operation of the five-mile Hudson River Park. HRPT and Hudson River Park are governed by the Hudson River Park Act, a 1998 law that established both the park and its requirements. The proposed project would result in public open space improvements and would generate funds for the maintenance and operation of Hudson River Park, consistent with the intent of the Hudson River Park Act. Therefore, the proposed project would preserve the public interest of the lands and waters of the project site and is consistent with this policy.

Policy 9: Protect scenic resources that contribute to the visual quality of the New York City coastal area.

The proposed project would not partially or totally block a view corridor and would not change any urban design features such that the context of natural or built visual resources is substantially altered. The proposed project would reactivate Pier 57 and make alterations to the historic structure that would be appropriate and preserve the building's historic integrity and improve its appearance. Rooftop additions to the pier would be no taller than the existing elevator bulkheads, and thus would not present a notable change in views to the building for pedestrians and other park users. The proposed project would also provide opportunities for new views for pedestrians from the proposed rooftop open space and perimeter walkways. In addition, the proposed project would restore the water-side (foothouse) façade to its original appearance, which would improve views of the site from the Hudson River. Significant adverse effects to visual resources would not occur as a result of the proposed project, and in some cases the project would be beneficial to visual resources. Therefore, the proposed project is consistent with this policy.

Policy 9.1: Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.

See response to Policy 9, above, and Policy 10, below.

Policy 10: Protect, preserve and enhance resources significant to the historical, archaeological, and cultural legacy of New York City coastal areas.

In the future with the proposed project, the historic Pier 57 would be rehabilitated and redeveloped and new, publicly accessible open space would be created. The design of the proposed project is intended to respect the pier's history, preserve and make accessible the structure's existing fabric, and introduce new, innovative architectural components to enliven the historic resource. The pier's headhouse would be restored, to become an improved entrance into Hudson River Park from the Chelsea and Meatpacking District neighborhoods. The water-side (foothouse) façade also would be restored to its original appearance. Specifically, windows on the headhouse and foothouse façades that had been obscured or closed up would be restored and re-opened, bringing more light and air to the interior spaces. The façade cladding materials would be repaired and cleaned, and lighting and other non-original elements currently attached to the façade would be removed. Elements of the pier shed's modular vertical doors that had been removed would over time be replaced in kind to match the original, remaining features.

The proposed project would not result in physical destruction, demolition, damage, or neglect of the historic Pier 57 structure. While the pier would undergo some alterations as noted above, these changes would not adversely affect the characteristics that make the pier eligible for listing on the State and National Registers of Historic Places, nor would they cause it to become a different visual entity. The pier structure would remain in its existing location and the head

house and foothouse would be restored to their original design. The proposed project would not isolate the pier structure from, or significantly alter, its setting or visual relationship with the streetscape. It would remain as a visual resource in surrounding view. The proposed rooftop additions would not change the resource's visual prominence such that it would no longer conform to the streetscape in terms of height, footprint or setback. The proposed project also would not introduce incompatible visual, audible, or atmospheric elements to the setting of the pier or the architectural resources in the surrounding area. Lastly, the proposed project would not introduce significant new shadows, or significantly lengthen the duration of existing shadows over a historic landscape or on a historic structure with sunlight-dependent features. In summary, the proposed project would not result in any significant adverse impacts to the historic Pier 57 structure, and therefore is consistent with this policy.

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Chapter 3: Socioeconomic Conditions

A. INTRODUCTION

This chapter assesses whether the proposed project would result in significant adverse impacts to the socioeconomic character of the area surrounding the project site. The proposed project would result in the redevelopment of a vacant historic pier with public open space; retail, restaurant and other commercial space; institutional and cultural uses; parking; and a marina.

According to the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, socioeconomic changes may occur when a project directly or indirectly affects the population, housing, or economic activities in an area. Although socioeconomic changes may not result in impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of an area. In accordance with *CEQR Technical Manual* guidelines, this analysis considers six specific elements that can result in significant adverse socioeconomic impacts: (1) direct displacement of residential population on a project site; (2) direct displacement of existing businesses on a project site; (3) indirect displacement of residential population in a study area; (4) indirect displacement of businesses in a study area due to increased rents; (5) indirect displacement of businesses in a trade area due to retail market saturation; and (6) adverse effects on specific industries.

PRINCIPAL CONCLUSIONS

This analysis finds that the proposed project would not result in any significant adverse impacts as measured by the six socioeconomic areas of concern prescribed in the *CEQR Technical Manual* (numbered above). The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to direct residential displacement. The proposed project would redevelop a vacant building, and therefore would not directly displace any residents.

DIRECT BUSINESS DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to direct business displacement. The proposed project would redevelop a vacant building, and therefore would not directly displace any businesses.

INDIRECT RESIDENTIAL DISPLACEMENT

A preliminary screening assessment finds that the proposed project would not result in significant adverse impacts due to indirect residential displacement. The proposed project would

not include any residential development, and therefore falls below the *CEQR Technical Manual's* 200-unit threshold warranting assessment.

INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS

A preliminary assessment finds that the proposed project would not result in significant adverse indirect business displacement impacts due to increased rents. The proposed project would introduce a variety of specialty retail goods, food retail, and eating and drinking establishments to the study area. This type of retail is already common in the ¼-mile study area, and there is an existing trend of increased commercial development in the area. The proposed project would contribute to this existing trend, rather than alter existing economic patterns. Industrial uses in the ¼-mile study area—including, but not limited to wholesalers, warehouses, and auto repair shops—are currently vulnerable to indirect displacement due to increased rents, and will continue to be vulnerable in the future without the proposed project.

INDIRECT BUSINESS DISPLACEMENT DUE TO RETAIL MARKET SATURATION

A detailed analysis finds that the proposed project would not result in significant adverse indirect business displacement impacts due to retail market saturation (i.e. competition). The preliminary analysis found that capture rates for each broad retail category (shoppers' goods, convenience goods, and eating and drinking establishments) are over 100 percent in the 2-Mile Primary Trade Area in existing conditions and would continue to exceed 100 percent in the future with or without the proposed project.[1] Therefore, a detailed analysis was conducted, focusing on retail concentrations in a ¼-Mile Local Trade Area.

The ¼-Mile Local Trade Area includes distinct concentrations of shoppers' goods stores, including concentrations of art galleries in Chelsea and high-end boutiques in the Meatpacking District. There would be some overlap between products offered at existing and proposed project shoppers' goods stores. However, the proposed project would not include a department store or other traditional anchor store that would draw a significant number of repeat local shoppers. A traditional anchor for a shopping center of similar size to the proposed project, such as a discount department store, would be broadly merchandised and could be potentially competitive with a wide variety of nearby existing stores. In contrast, the larger retail tenants in the proposed project, such as a sports-related store, would not have the potential to draw frequent, repeat local shoppers away from existing stores because of their limited footprint and narrowly-focused merchandise selection, which would have limited competitive overlap with nearby stores.

The specialty shoppers' goods retailers included in the proposed project are expected to be a curated selection intended to appeal to a design-conscious consumer and would therefore be expected to draw less comparison shopping than traditional shoppers' goods stores. In addition, the proposed project would be separated from most existing retail and pedestrian traffic by Route 9A, and would not be expected to draw large numbers of pedestrian shoppers from surrounding retail. It is expected that the economic viability of the specialized concentrations of shoppers' goods stores currently located in the ¼-Mile Local Trade Area would not be affected

[1] Shoppers' goods are usually higher value goods—such as clothing, electronics, or furniture—for which consumers compare quality and price at more than one store before making a purchase. Convenience goods are usually lower value goods and food that are purchased frequently and immediately, often near the home or workplace, with little or no comparison shopping. The eating and drinking establishment category includes restaurants, bars, and other special food services, such as caterers.

by new retail introduced as part of the proposed project. Instead, the proposed project would contain retail that would complement the surrounding retail by drawing specific inspiration from existing businesses in West Chelsea and the Meatpacking District that offer products related to fashion, design, and art and food, and would provide a new amenity for the surrounding neighborhoods.

The proposed project would contain convenience goods stores comprised primarily of specialty foods. The specialty food offerings included in the proposed project would likely overlap to some degree with Chelsea Market and to a lesser extent with the Western Beef grocery store in the ¼-Mile Local Trade area. Western Beef is a traditional grocery store specializing in low-cost groceries and bulk meats, and Chelsea Market is primarily a destination for food-related retail that features wholesalers with retail operations. In contrast, the proposed project would include a broader mix of curated shoppers' goods stores, restaurants, and food-related retail, and would not contain a wholesale component. Therefore, the overlap between the products at these businesses and the proposed project would be limited. In addition, Western Beef and Chelsea Market each have an established customer base, with Chelsea Market drawing local residential and worker population in addition to customers from all over Manhattan, and Western Beef drawing customers from the surrounding concentration of residential development. For these reasons, as well as the lack of a traditional anchor grocery store as part of the proposed project, the proposed project is not expected to substantially affect the sales of either of these existing businesses.

The eating and drinking establishments included in the proposed project would be part of the overall food-related retail experience offered by the proposed project. While eating and drinking establishments in the proposed project would overlap with existing restaurants in the study area, these restaurants would be expected to continue to attract customers. For example, existing restaurants in Chelsea Market would be expected to continue to draw customers with the overall destination appeal of the market, and patrons would continue to dine at restaurants in the Meatpacking District because of its concentration of restaurants and nearby nightclubs. Therefore, the proposed project would not be expected to affect the economic viability of existing eating and drinking establishments.

Overall, the proposed project is not expected to decrease shopper traffic to commercial concentrations such that retail vacancies rise and retail businesses in the study area are no longer economically viable. While the possibility of some limited indirect business displacement due to competition cannot be ruled out, any displacement that might occur is expected to be limited and would not jeopardize the viability of any local retail strips.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

A preliminary assessment finds that the proposed project would not have a significant adverse impact on any specific industry. The proposed project would not directly displace any businesses, and any indirect business displacement would be limited and would not affect conditions within a specific industry or category of business.

B. METHODOLOGY

The *CEQR Technical Manual* defines the socioeconomic character of an area by its population and housing characteristics, and economic activity in that area. An assessment of socioeconomic conditions and impacts distinguishes between the residents and the businesses in an area and

considers impacts on both due to direct or indirect displacement caused by the altering of underlying socioeconomic forces. Therefore, this analysis examines the socioeconomic conditions of both residents and businesses in terms of direct and indirect impacts.

Direct displacement is defined as the involuntary displacement of residents, businesses, or institutions from the actual site or sites of a proposed project. Examples include the redevelopment of a currently occupied site for new uses or easements that would render portions of an occupied parcel unfit for its current use. In the case of direct displacement, the occupants affected are known and the extent of the displacement can be quantified in terms of number of residents or businesses.

Indirect displacement is the involuntary displacement of residents, businesses, or employees in an area near to the project site that results from changes in socioeconomic conditions created by the proposed project. For example, indirect displacement of low-income residents can result when a project introduces higher-income housing that causes rents to rise. In the context of commercial use, higher-paying commercial and office users may eventually displace industrial tenants or force retailers to close due to market saturation. Indirect displacement is usually quantified in terms of the size and type of groups of residents, businesses, or employees affected. In some cases, it may be necessary to also assess the economic impacts of a project on a major industry or commercial operation in the city.

DETERMINING WHETHER A SOCIOECONOMIC ASSESSMENT IS APPROPRIATE

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if a project is expected to create socioeconomic changes in the area affected by the project that would not be expected to occur absent the project. The following circumstances would typically necessitate a socioeconomic assessment:

- The project would directly displace 500 or more residents or 100 or more employees.
- The project would directly displace a business whose products or services are dependent on its location, is the subject of policies or plans aimed at its preservation, or serves a population dependent on its services in its present location.
- The project would result in new development of 200 residential units or more or 200,000 square feet or more of commercial use that is markedly different from existing uses, development, and activities in the neighborhood. This type of development may lead to indirect displacement.
- The project would add to or create a total of 200,000 square feet or more of retail on a single development site, thus creating the potential to draw a substantial amount of sales from existing businesses within the study area. This type of development may lead to indirect business displacement due to market saturation.
- The project would be expected to affect conditions within a specific industry, which could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods or services provided by the affected businesses, or if it would result in the loss or substantial diminishment of a particularly important product or service within the City.

If a project would exceed any of these initial thresholds, an assessment of socioeconomic conditions is generally warranted. The proposed project would not result in any direct displacement, and therefore, assessments of direct residential and business displacement are not warranted. With respect to indirect displacement, the proposed project would not introduce any

residential uses warranting assessment of potential indirect residential displacement. However, because the proposed project would result in over 200,000 square feet of retail on a currently vacant site, an analysis of the potential for indirect business displacement is warranted. In addition, due to the potential for indirect business displacement, an assessment of adverse effects on specific industries is warranted.

ASSESSMENT METHODS

Following *CEQR Technical Manual* guidelines, the socioeconomic analysis begins with a preliminary assessment. The purpose of the preliminary assessment is to learn enough about the potential effects of the proposed project in order to either rule out the possibility of significant adverse impacts or determine that a more detailed analysis is required to resolve the issue. A detailed analysis, when required, is framed in the context of existing conditions and evaluations of the future without the proposed project and the future with the proposed project by the project build year. In conjunction with the land use task, specific development projects that occur in the area in the future without the proposed project are identified, and the possible changes in socioeconomic conditions that would result—such as potential increases in population, changes in the income characteristics of the study area, new residential developments, possible changes in rents or sales prices of residential units, new commercial or industrial uses, or changes in employment or retail sales—are analyzed. Those conditions are then compared with the future with the proposed project to determine the potential for significant adverse impacts.

For direct residential displacement, direct business displacement, indirect residential displacement, indirect business displacement due to increased rents, and adverse impacts on specific industries, a screening-level assessment or a preliminary assessment was sufficient to conclude that the proposed project would not result in any significant adverse socioeconomic impacts. For indirect business displacement due to retail market saturation, a detailed assessment was required to fully understand potential impacts.

STUDY AREA DEFINITION

Under CEQR, business displacement could result in impacts if it affects the character of the neighborhood. Therefore, the socioeconomic analysis considers business changes that could be generated by the proposed project within a larger study area surrounding the project site. As recommended by the *CEQR Technical Manual*, the study area used for the analysis of indirect business displacement due to increased rents mirrors the study area for the land use analysis and includes the area within a ¼-mile perimeter of the project site. Because the socioeconomic assessment seeks to measure change in socioeconomic character relative to study area demographics, the boundaries of the study area were modified to include all census tracts that fall within the study area. The resulting study area for this analysis is defined as Census Tracts 79, 83, 89, and 99 (see **Figure 3-1**). Although some of the areas within these census tracts fall outside of the ¼-mile perimeter, they were included in the study area to account for all adjacent areas where the project would have the potential to affect socioeconomic conditions.

The assessment of indirect business displacement due to retail market saturation uses two "trade areas" surrounding the project site: a Primary Trade Area and a Local Trade Area. The preliminary assessment uses a "Primary Trade Area" that approximates a two-mile radius around the project site. **Figure 3-2** shows the boundaries of this 2-Mile Primary Trade Area. As defined by the Urban Land Institute's Shopping Center Development Handbook, trade areas for shopping centers similar to the proposed project in size and potential tenant mix would generally

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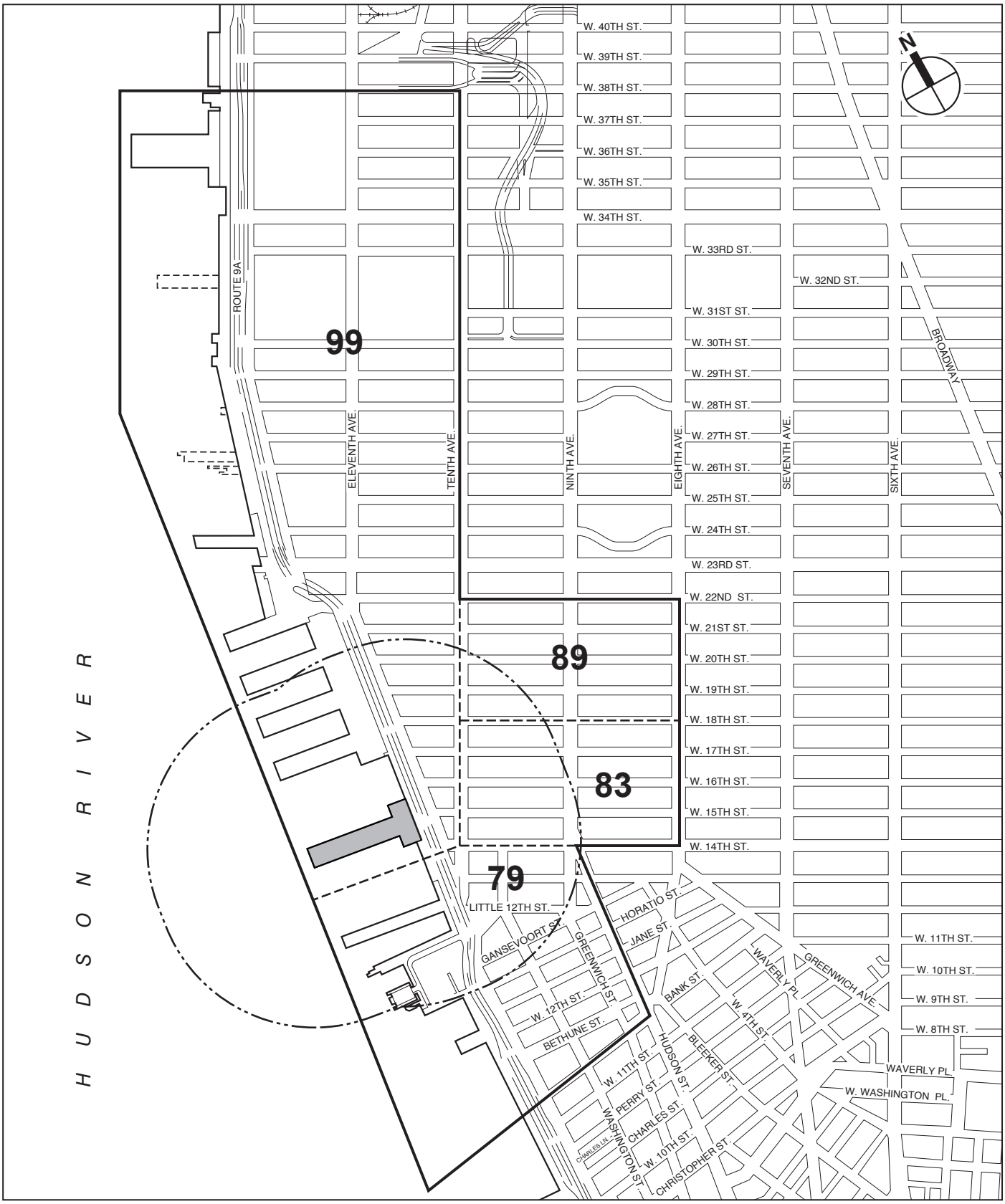

Project Site

1/4-Mile Perimeter

1/4-Mile Socioeconomic Study Area Boundary

Census Tract Boundary

79 *Census Tract Number*

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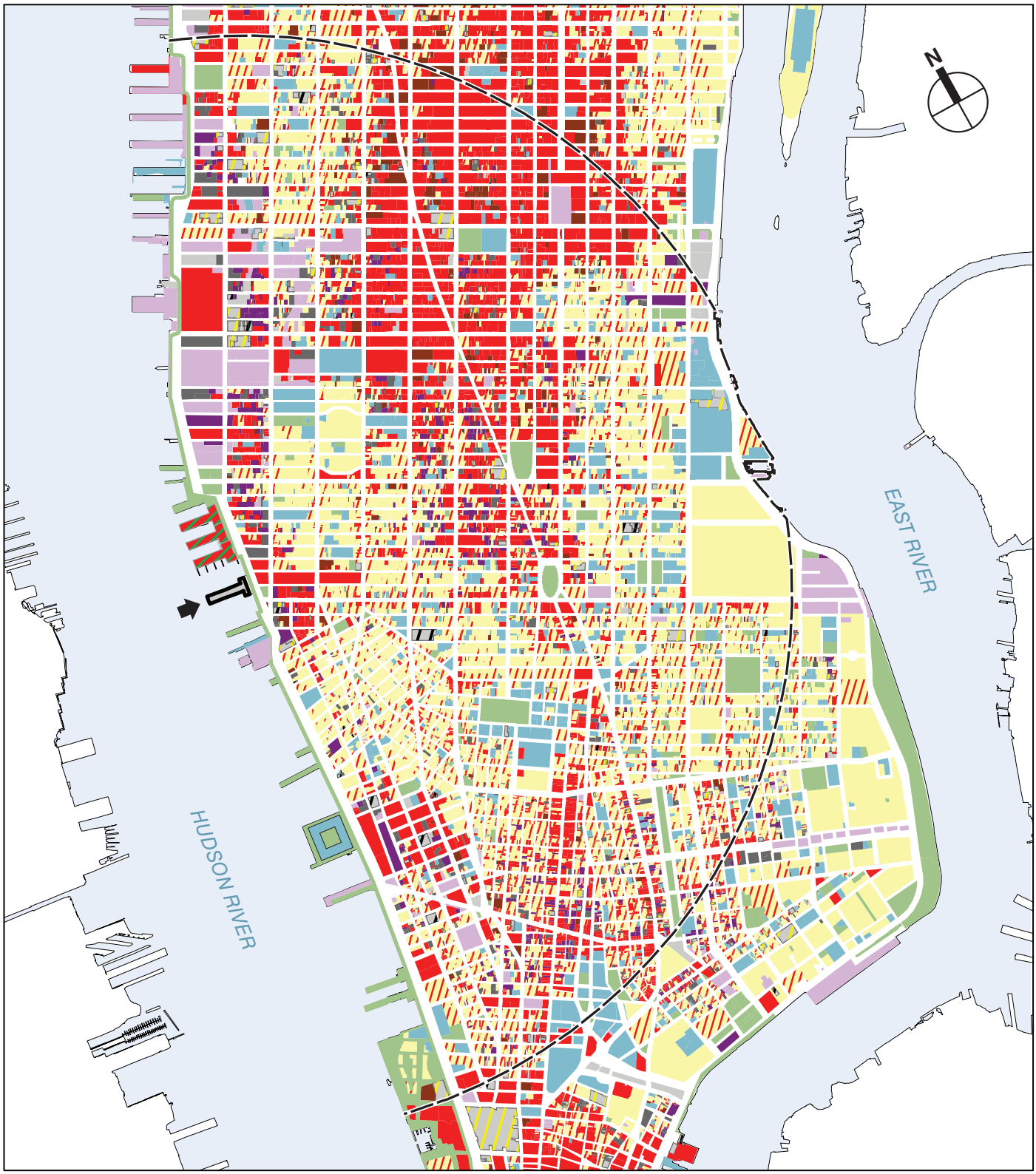
Socioeconomic Study Area

Figure 3-1

4.11.12



Project Site

Two-Mile Primary Trade Area Boundary

0 2000 4000 FEET

SCALE

Residential
Residential with Commercial Below
Hotels
Commercial
Industrial and Manufacturing
Transportation and Utility
Public Facilities and Institutions
Open Space and Outdoor Recreation
Commercial Recreational Facilities
Parking Facilities
Vacant Land
Vacant Building
Under Construction

HUDSON RIVER PARK PIER 57

Two-Mile Primary Trade Area

Figure 3-2

extend three to five miles from the site, and typically can be reached within a 10- to 20-minute drive. However, because trade areas for retail projects in New York City are typically smaller than this standard, a 2-Mile Primary Trade Area is used for the preliminary assessment of indirect business displacement due to retail market saturation. The rationale for the use of a 2-Mile Primary Trade Area is described further in the preliminary assessment.

The detailed analysis of indirect business displacement due to retail market saturation focuses on the ¼-Mile Local Trade Area (see **Figure 3-3**). This study area is consistent with the land use study area as well as the analysis of indirect business displacement due to increased rents. Because the proposed project does not contain local-serving retail but instead will draw business from visitors throughout the metropolitan area, it would not be directly competitive with nearby local-serving retail outside of the ¼-mile area. For example, the grocery stores, local services, and convenience goods along Eighth Avenue are close to subway stops and residential populations, making them a more likely destination for local shoppers than the proposed project. Therefore, the detailed analysis of indirect business displacement due to retail market saturation focuses on the ¼-Mile Local Trade Area, which contains retail that would overlap with the retail offerings in the proposed project and draw customers from the same local area.

DATA SOURCES

Information used in this socioeconomic analysis includes data from the U.S. Census Bureau's ZIP Code Business Statistics and the New York City Department of Finance's Real Property Assessment Data (RPAD). Employment, retail sales, and retail demand data were obtained from ESRI, Inc., a commercial data provider. Estimates of retail sales for the proposed project were based on data from the Urban Land Institute's 2008 *Dollars and Cents of Shopping Centers*. In addition, data was supplemented by field visits to the study area made in December 2011.

C. PRELIMINARY ASSESSMENT

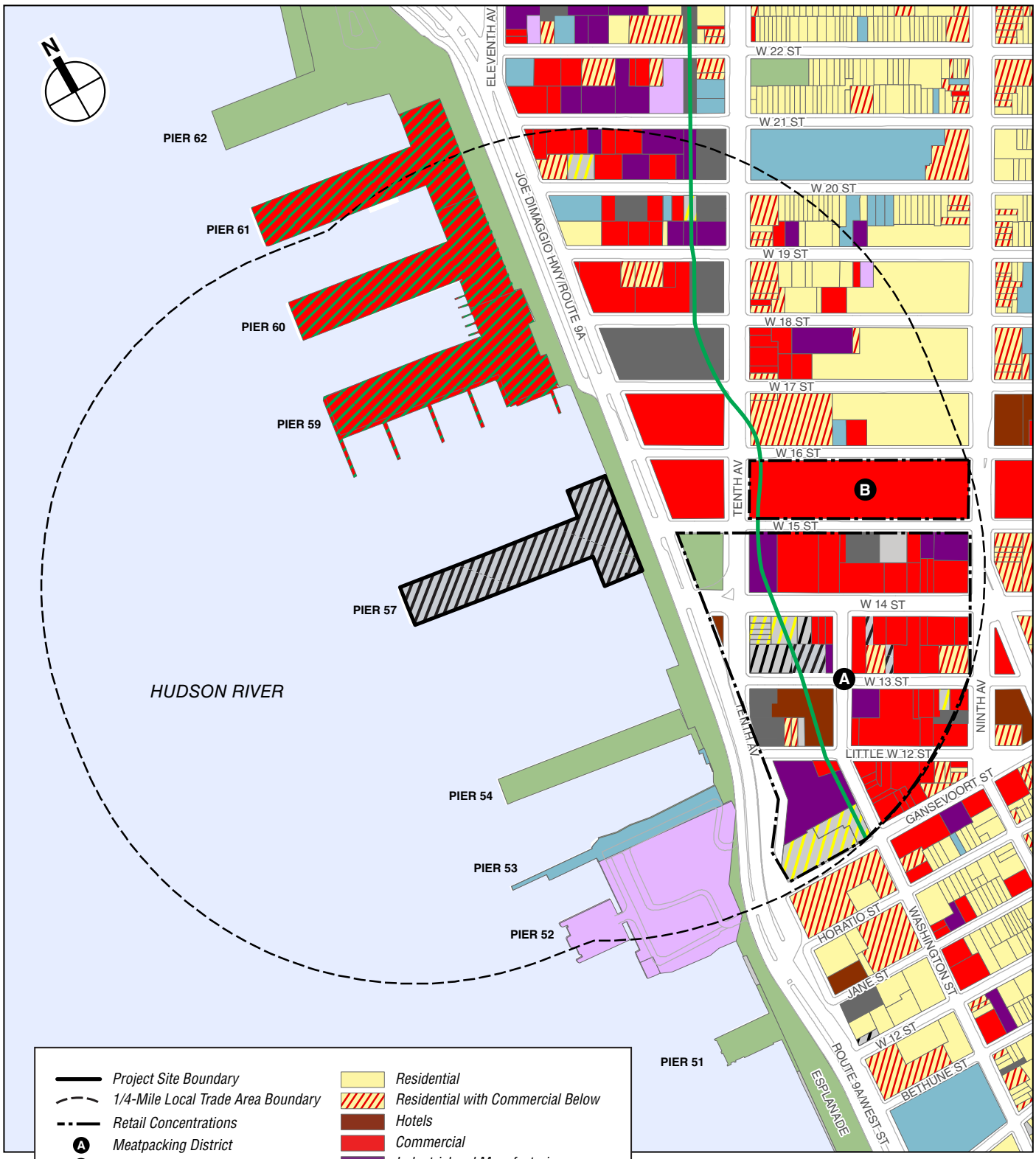
This section presents the preliminary socioeconomic assessment for the six areas of socioeconomic concern warranting assessment. For five of the six issue areas—direct residential displacement, direct business displacement, indirect residential displacement, indirect business displacement due to increased rents, and adverse impacts on specific industries—a screening-level assessment or a preliminary assessment was sufficient to rule out the possibility that the proposed project would have any significant adverse impacts on the study area. For indirect business displacement due to retail market saturation, the preliminary assessment was not sufficient to rule out the possibility of significant adverse impacts, and a detailed assessment was conducted. The detailed analysis can be found in Section D of this chapter.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed project would not directly displace any residents from the project site. Therefore, the proposed project would not result in any significant adverse impacts due to direct residential displacement, and an assessment of this area of concern is not warranted for the proposed project.

DIRECT BUSINESS DISPLACEMENT

The proposed project would directly displace any businesses from the project site. Therefore, there would be no significant adverse impacts due to direct business and institutional



Quarter-Mile Local Trade Area

Figure 3-3

displacement, and an assessment of this area of concern is not warranted for the proposed project.

INDIRECT RESIDENTIAL DISPLACEMENT

The proposed project would not include any residential uses. Because *CEQR Technical Manual* guidelines only require assessments of indirect residential displacement for projects that would add a new residential population to an area, an assessment of this area of concern is not warranted for the proposed project.

INDIRECT BUSINESS DISPLACEMENT DUE TO INCREASED RENTS

According to the *CEQR Technical Manual*, the objective of the preliminary analysis of indirect business displacement is to determine whether the proposed project could increase commercial property values and rents within a study area so that it would become difficult for some categories of businesses to remain in the area. In this preliminary assessment the potential to introduce such a trend is addressed by considering the italicized questions below.

1. Would the proposed project introduce enough of a new economic activity or add to the concentration of a particular sector of the local economy enough to introduce trends that would alter existing economic patterns?

The proposed project would redevelop a vacant site with new retail, restaurant and other commercial uses; public open space; educational and cultural uses, parking and a marina. While the proposed project represents a substantial change of use on the project site, it would not introduce new economic activity that would alter existing economic patterns in the ¼-mile study area.

The project would create approximately 261,900 gross square feet (gsf) of retail uses on the project site—an amount comparable to the approximately 225,000 square feet of retail housed in nearby Chelsea Market. Though specific tenants have not yet been determined, the proposed project is expected to include a work/sell marketplace for independent designers and small food-related businesses, full-service and limited-service restaurants, food retail, and space for general retail.

When compared to the approximately 2.06 million total square feet of retail space currently in the study area, this additional space would represent a 12 percent increase in total retail square footage in the study area. This amount of new retail space would not represent a new use or a new economic trend in the area. As described in detail in Chapter 2, "Land Use, Zoning, and Public Policy," commercial uses have become more prevalent in the area and will continue to increase due to the 2005 Special West Chelsea District Zoning Text Amendment. The Zoning Text Amendment allows residential and commercial development along Tenth and Eleventh Avenues and on some of the midblocks. In 2010, approximately 17 percent of all workers in the study area were employed in retail, which represents the second highest employment concentration in the study area for that year after accommodation and food services (See **Table 3-1**). This percentage was higher than that in both Manhattan and New York City, where in 2010 retail accounted for approximately 9.1 percent and 10 percent of employment, respectively.

In this sense, the proposed project represents the continuation of an existing trend in the study area. The concern for this assessment is whether the retail introduced by the proposed project would alter economic patterns in a way that would make existing commercial uses vulnerable to indirect displacement due to increased rents. The study area has already become a destination for visitors

due to the presence of Chelsea Market, the High Line, and Hudson River Park. These attractions increase foot traffic in the area and support the increasing commercial development. The proposed project would not introduce a new trend to the study area, but would instead extend the commercial uses to the waterfront, activating an underutilized portion of the study area.

Table 3-1
2010 Employment by Industry Sector

Industry by Sector	¼-Mile Study Area		Manhattan		New York City	
	Total Employed	% of Total Employed	Total Employed	% of Total Employed	Total Employed	% of Total Employed
Agriculture, Forestry, Fishing and Hunting	0	0.0%	326	0.0%	1,051	0.0%
Mining	0	0.0%	255	0.0%	329	0.0%
Utilities	0	0.0%	5,124	0.2%	8,394	0.2%
Construction	1,032	2.7%	28,325	1.3%	86,719	2.5%
Manufacturing	906	2.4%	78,671	3.6%	146,253	4.2%
Wholesale Trade	1,159	3.1%	54,122	2.5%	118,766	3.4%
Retail Trade	6,475	17.1%	200,933	9.1%	353,729	10.0%
Transportation and Warehousing	320	0.8%	23,873	1.1%	88,067	2.5%
Information	3,922	10.4%	201,410	9.1%	229,203	6.5%
Finance and Insurance	409	1.1%	375,694	17.0%	411,979	11.7%
Real Estate and Rental and Leasing	2,760	7.3%	80,810	3.7%	130,118	3.7%
Professional, Scientific, and Technical Services	4,576	12.1%	348,970	15.8%	399,869	11.4%
Management of Companies and Enterprises	7	0.0%	26,779	1.2%	27,385	0.8%
Administrative and Support and Waste Management and Remediation Services	553	1.5%	84,937	3.9%	118,552	3.4%
Educational Services	740	2.0%	82,970	3.8%	266,100	7.6%
Health Care and Social Assistance	1,268	3.3%	187,260	8.5%	447,317	12.7%
Arts, Entertainment, and Recreation	724	1.9%	64,474	2.9%	77,433	2.2%
Accommodation and Food Services	9,205	24.3%	159,300	7.2%	233,089	6.6%
Other Services (except Public Administration)	1,139	3.0%	114,591	5.2%	212,209	6.0%
Public Administration	2,517	6.6%	67,439	3.1%	141,846	4.0%
Unclassified Establishments	166	0.4%	18,199	0.8%	22,731	0.6%
Totals	**37,878**	**100.0%**	**2,204,462**	**100.0%**	**3,521,139**	**100.0%**

Source: ESRI Business Analyst, Inc, Business Summary Report

Retail stores most vulnerable to displacement would be those that are not able to capture sales from increased foot traffic generated by the proposed project but that would nonetheless experience upward rent pressure as a result of the proposed project. However, for many businesses located in the ¼-mile study area, spending from new visitors would increase sales. By increasing sales, these businesses could afford increases in commercial rents, thereby avoiding displacement.

The proposed project would result in 11,000 gsf of new cultural use on the project site, potentially a theater. Cultural and art uses have become more prevalent in the study area, specifically in the form of art galleries and studios. In addition, as discussed in Chapter 2, "Land Use, Zoning, and Public Policy," this type of use has been allowed through the Special West Chelsea District Zoning Text Amendment of 2005. According to US Census data for Zip Code Business Patterns, in the three zip codes that are included in the study area, the number of establishments in arts, entertainment, and recreation increased 23 percent from 2004 to 2009.

The cultural use included in the proposed project is not of a size that would alter existing economic patterns, and would instead mirror existing trends in the study area. The proposed project would also include 32,700 square feet for a technical arts school, which is anticipated to complement the design- and food-related retail and events. Though a school use may also be considered a new use in the ¼-mile study area, the Fashion Institute of Technology in Chelsea and Parsons The New School for Design in Greenwich Village are both located just outside of the study area. Due to the proximity of large arts-related institutions and the size of the proposed technical arts school, the technical arts school included in the proposed project would not be expected to alter existing economic patterns in the study area.

Industrial businesses could also be vulnerable to indirect displacement in the study area as they tend not to benefit from economic trends that create upward rent pressures. For example, if a neighborhood is a more desirable place to live, businesses like neighborhood services, convenience goods stores, and eating and drinking establishments tend to benefit from increased business activity due to the influx of residents. Because industrial businesses do not benefit from an increased residential population and are less compatible with residential uses, they are less able to afford increases in rent due to increases in property values. Therefore, industrial uses in the study area could be considered potentially vulnerable to indirect displacement, as a property owner could decide to convert an existing industrial property to a retail use.

As described in Chapter 2, "Land Use, Zoning, and Public Policy," while the ¼-mile study area was once characterized by industrial uses, markets and meatpacking businesses, these uses have been replaced by residential and commercial development, and many former industrial and market-related loft buildings have been converted to retail, restaurants, galleries, bars, and clubs. However, there are a few remaining industrial buildings in the northern portion of the study area, and there are two remaining meatpacking businesses in the southern portion. These industrial uses in the ¼-mile study area could be considered potentially vulnerable to indirect displacement, as a property owner could decide to convert an existing industrial property to a retail use. However, these pressures are already present within the study area and are expected to increase in the future irrespective of the proposed project. Because industrial uses are rare in the area, any indirect displacement of industrial uses resulting from the proposed project would be minimal and would not alter the economic character of the neighborhood.

2. Would the proposed project directly displace uses of any type that directly support businesses in the area or bring people to the area that form a customer base for local businesses?

The project site is currently vacant and therefore the proposed project would not directly displace any use from the project site. By redeveloping an underutilized site, the project would serve to bring more visitors to the study area. In this way, the proposed project has the potential to increase, not displace, the customer base for local businesses.

3. Would the proposed project directly or indirectly displace residents, workers, or visitors who form the customer base of existing businesses in the study area?

The proposed project would not directly displace any residents or workers in the study area, and is not expected to result in significant indirect business displacement. The proposed project would introduce new workers and visitors to the study area. Because the project would introduce new workers and visitors without directly or indirectly displacing existing residents, workers, or visitors, the incremental increase due to the proposed project could add to the potential customer and visitor base of some existing study area retail businesses and attractions.

CONCLUSION

Based on the preliminary assessment presented above, the proposed project would not result in significant adverse indirect business displacement impacts due to increased rents. Therefore, a detailed assessment is not warranted.

INDIRECT BUSINESS DISPLACEMENT DUE TO MARKET SATURATION

As described in the *CEQR Technical Manual,* development activity such as shopping facilities may draw sales from existing stores. While these competitive socioeconomic impacts do not necessarily generate environmental concerns, they can become an environmental concern if they have the potential to impact neighborhood character by affecting the viability of neighborhood shopping areas. The purpose of this preliminary assessment is to determine whether the proposed project may capture retail sales from existing businesses to the extent that vacancies and disinvestment on neighborhood commercial streets would occur, thereby affecting land use patterns and the economic viability of the neighborhood.

As stated in the *CEQR Technical Manual*, indirect displacement due to market saturation is rare in New York City, where population density, population growth, and purchasing power are often high enough to sustain increases in retail supply. The neighborhoods surrounding the project site contain distinct retail offerings and in some cases have become destinations for the type of retail they offer. For example, the Meatpacking District, in the southern portion of the study area, has become a destination for high-end clothing boutiques, restaurants, and nightclubs. Chelsea Market, located two blocks east of the project site, contains a concentration of specialty food wholesalers and retailers, and restaurants. Due to the unique location and format of Chelsea Market, it contains a concentration of wholesalers who use the market as a production facility and have established retail storefronts to complement their wholesale business and showcase their food products. This has created a diverse mix of restaurants, specialty food wholesalers and retail tenants, and clothing retailers in the Market. In Chelsea, in the north part of the study area, many former industrial buildings have been converted to commercial use, primarily art galleries. The buildings provide spaces suited to art studios and showrooms, and the galleries benefit from the co-location of similar uses and the increased foot traffic that it produces. The destination character and distinct offerings of most of the retail businesses in this area make any substantial displacement due to new development and market saturation unlikely.

The *CEQR Technical Manual* provides a step-by-step preliminary assessment that can be described as a "capture rate analysis." Capture rates are measures of business activity in a trade area, indicating the percentage of consumer expenditures for retail goods that are being captured by retailers in the trade area.

STEP ONE:

The first step in a retail capture rate analysis is to determine whether the categories of goods to be sold at the proposed development are similar to the categories of goods sold in stores found on neighborhood retail streets within the study area.

As currently contemplated, the proposed project would result in the development of 261,900 gsf of new retail uses, including shoppers' goods, convenience goods, and eating and drinking establishments. Though specific tenants for the proposed project have not yet been determined, the proposed project is expected to include a public retail market, full- and limited-service restaurants, and other food-related and general retail. The specialty shoppers' goods retailers

included in the proposed project are expected to be a curated selection intended to appeal to a design-conscious consumer. The public marketplace is expected to be constructed from repurposed shipping containers, creating multiple "work/sell" retail stores and showrooms expected to range in size between approximately 160 square feet and 640 square feet. These retail uses would be oriented primarily toward a collection of independent designers and food purveyors. The tenant mix is expected to be similar to that found at open-air markets and "flea markets" throughout NYC, including the Dekalb Market (which utilizes shipping containers for its retail stores), Brooklyn Flea, and the Grand Central and Union Square holiday markets. The work/sell marketplace is anticipated to be operated by Urban Space Management, which operated the Dekalb Market and still operates the Grand Central and Union Square holiday markets, as well as year-round markets in the UK. As at these other markets, it is expected that the work/sell market would function as an incubator for new retail businesses, designers, and food-related businesses. Larger retail tenants, such as a sports-related store, would be located in the headhouse (the eastern portion of the pier structure that is parallel to Route 9A). There would also be retail tenants in the larger spaces alongside the container marketplace in the finger building, or pier shed (the portion of the pier that is perpendicular to Route 9A and extends into the water). Aside from a sports-related store, other possible tenants for the larger retail spaces are expected to include a themed market selling prepared food from small vendors and specialty food purveyors. Restaurants are expected to include both full-service restaurants and limited-service restaurants and would complement the food purveyors and prepared foods in other retail spaces on the pier. Under the terms of the lease agreement, at least one publicly accessible sit-down restaurant must be located at the western end of the pier shed. In addition to a sit-down restaurant, the western end of the pier shed would also include open, public "piazza" spaces to be used for occasional entertainment or small-format displays, and would be designed to also accommodate rotating food markets and "bazaars," with the idea of providing lively surroundings for resident and visiting chefs and food purveyors to exhibit and promote their food products.

The ¼-mile Local Trade Area includes retail stores varied in both size and product offerings. Certain retail concentrations in the area include retail stores that specialize in highly unique specialty goods unlikely to be sold at project site stores. For example, the Chelsea neighborhood in the northern portion of the study area includes a concentration of art dealers and galleries in converted industrial buildings. Although the proposed project may include an art gallery in the caissons, art galleries tend to feature one-of-a-kind products and Chelsea art gallery customers would be likely to shop at those galleries for their specific art collections with or without the proposed project. Instead, as discussed above, the proposed project draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District that offer products related to fashion, design, and art and food, and therefore is expected to complement the concentration of art galleries in the Chelsea neighborhood.

Chelsea Piers Sports and Entertainment Complex—a sports facility and event center that occupies Piers 59, 60, and 61 just north of the project site—is the closest commercial use to the proposed project. The complex includes sporting goods shops for golf and skating, a spa, a bowling alley with full-service restaurant, two additional full-service restaurants and a limited-service restaurant, and film and TV studios. The eating and drinking facilities and sports-related retail and events at Chelsea Piers may overlap with similar offerings in the proposed project. In addition, the proximity of Chelsea Piers to the proposed project may result in some competitive overlap. However, the core components of Chelsea Piers—its film and TV studios, sports facilities and banquet spaces—would not be included in the proposed project. In fact, the

proposed project's lease would specifically prohibit tenancies and uses that are primarily trade shows, event or ballroom spaces. The proposed project's retail would collectively become a destination, while the retail at Chelsea Piers would continue to draw customers from users of its private recreation center and other athletic facilities. Therefore, the proposed project would not substantially overlap with commercial uses at Chelsea Piers.

However, with up to 261,900 square feet of retail, assumed for analysis purposes to include approximately 99,660 square feet of shoppers' goods; approximately 78,560 square feet of convenience goods, most of which would be food retail; and approximately 83,680 square feet of eating and drinking establishments; it is assumed that the proposed project could include retailers whose product offerings would overlap with the offerings at some study area retail stores. For example, Chelsea Market, located two blocks east of the project site, contains specialty food vendors, eateries, and full-service restaurants. The southern portion of the study area contains a concentration of high-end boutiques, restaurants, and night clubs that make up the Meatpacking District. Some retailers in these areas may experience overlap with products offered at stores in the proposed project.

STEP TWO:

Step Two in a retail capture rate analysis is to determine a Primary Trade Area for the proposed "anchor" stores – the largest stores in the proposed development that are expected to yield the largest proportion of retail sales.

As described in the *CEQR Technical Manual,* an analysis of the potential effects of competition should encompass a primary trade area from which the bulk of new stores' sales are likely to be derived. Anticipated retail footprints range from approximately 160 square feet to approximately 35,000 square feet. These footprints could accommodate a range of retail uses, including specialty retailers that would draw customers from outside of the immediate neighborhood. Within the work/sell marketplace, tenants would be expected to occupy between 1 and 4 shipping containers, totaling between 160 to 640 square feet each. The marketplace is anticipated to contain both shoppers' goods and convenience goods. The co-location of similar retailers in the unique retail format planned for the proposed project combined with the waterfront location would create a shopping destination with substantial draw.

As defined by Urban Land Institute's Shopping Center Development Handbook, trade areas for shopping concentrations similar to the proposed project in size and potential tenant mix would generally extend three to five miles from the site, and typically can be reached within a ten- to twenty-minute drive. Trade areas for retail projects in New York City are typically smaller than the national standards cited in the Shopping Center Development Handbook, due primarily to the density of development in the New York metropolitan area. A five-mile radius from the proposed project site includes much of Hudson County and even parts of Bergen County in New Jersey, as well as portions of Brooklyn and Queens, and extends north in Manhattan to 115th Street. This would not be an appropriate trade area for the proposed project because many of those traveling from the more distant reaches of a five-mile trade area would be traveling past retail concentrations of equal or greater size to reach the project site. For example, residents of Hudson County are more likely to regularly visit closer retail destinations such as Newport Centre Mall in Jersey City and a number of neighborhood shopping centers and residents in most areas of Brooklyn would pass destination retail in Downtown Brooklyn as well as concentrations of retail in other areas of Lower Manhattan before reaching the project site.

In addition, the individual store footprints planned for the proposed project are smaller than those for shopping concentrations of similar size identified in the Shopping Center Development Handbook. Traditional shopping concentrations similar in overall size to the proposed project typically contain an "anchor" or multiple anchor stores. According to the Shopping Center Development Handbook, the anchor stores for similar shopping concentrations are typically discount department stores (e.g., Target, Kmart), or "category killers" such as home improvement or office supply stores (e.g., Home Depot, Office Max). The footprints planned for the proposed project would not typically accommodate these types of traditional anchor stores. In fact, under the terms of the Trust's proposed lease with the applicant, "big box" retail—which often serves as a retail anchor—would be prohibited in the proposed project, furthering limiting the possible footprints. Though the public marketplace as a whole would be the primary retail component, accounting for a total of up to 100,000 square feet, it would consist of individual vendors in shipping containers with footprints ranging from 160 to 640 square feet each.[1] Larger retail tenants, such as a sports-related store, would be located in the headhouse and in the larger spaces in the finger building. However, these tenants would also not fit the description of a typical anchor store for shopping centers of similar size to the proposed project because of their limited footprint (up to 35,000 square feet) and narrowly-focused merchandise selection, which would not draw frequent, repeat customers from as large an area as a more broadly merchandised discount department store. In addition, the specialty shoppers' goods retailers included in the proposed project are not expected to attract the type of comparison shopping found in traditional shoppers' goods anchor stores. In the absence of a more traditional, large anchor tenant, and due to the presence of many other retail concentrations within a three to five mile radius of the project and consumer shopping patterns unique to Manhattan, the trade area was reduced to better reflect the likely area from which the proposed project would draw repeat customers. As shown in **Figure 3-2**, the Primary Trade Area for the proposed project is a two-mile perimeter around the project site, limited to Manhattan (hereafter referred to as the 2-Mile Primary Trade Area).

STEP THREE:

Step Three in the preliminary assessment is to estimate sales volumes for relevant retail stores within the Primary Trade Area, i.e., stores that sell categories of goods similar to those expected to be offered by stores introduced by the proposed project.

As described above, the proposed project as currently contemplated would include retail stores in three major retail categories: shoppers' goods; convenience goods; and eating and drinking establishments. Shoppers' goods are usually higher value goods—such as clothing, electronics, or furniture—for which consumers compare quality and price at more than one store before making a purchase. Unlike the traditional retail offerings in this category, the shoppers' goods included in the proposed project include a variety of specialty goods, notably in the work/sell marketplace, which is expected to consist of a collection of independent designers and food purveyors. The specialty shoppers' goods retailers included in the proposed project are expected to be a curated selection intended to appeal to a design-conscious consumer. Therefore, the

[1] For the purposes of this analysis, the public marketplace was assumed to be 49,200 square feet. However, a portion of the Food Market and Restaurants space could also be accommodated in this format, which would increase the size to up to approximately 100,000 square feet. This would not result in any change to the proposed project's overall retail program or square footage.

proposed project's shoppers' goods would be expected to draw less comparison shopping than traditional shoppers' goods. Convenience goods are usually lower value goods and food that are purchased frequently and immediately, often near the home or workplace, with little or no comparison shopping. The convenience goods sold by proposed project retailers would differ somewhat from the traditional convenience goods in that they would be expected to include higher value, primarily specialty food products. In addition, due to the physical separation from residences and commercial uses on the east side of Route 9A, the proposed project would not be expected to draw as much repeat business as traditional convenience goods stores. The eating and drinking establishment category includes restaurants, bars, and other special food services, such as caterers.

Data for grocery stores are included in the overall convenience goods category but are not specifically examined in this capture rate analysis. While the proposed project would include a number of specialty food vendors offering products that overlap with typical grocery store offerings, the proposed project as currently contemplated does not include a typical grocery store. As described in Section D of this chapter, competition between local grocery stores and supermarkets and proposed project food retailers is expected to be limited because of differences in the character and scope of their offerings.

According to ESRI, a national provider of geographic planning and business data, retail sales at stores in the 2-Mile Primary Trade Area totaled approximately $23.6 billion in 2010 for the retail categories analyzed (see **Table 3-2**). Approximately 54 percent of these sales were at shoppers' goods stores ($12.7 billion), 20 percent at convenience goods stores ($4.3 billion), and 31 percent at eating and drinking establishments ($6.6 billion).

Table 3-2
Estimated Retail Sales in the 2-Mile Primary Trade Area

Retail Category	Total Sales (Millions of 2011 Dollars)
Shoppers' Goods[1]	$12,693.80
Convenience Goods[2]	$4,284.45
Eating and Drinking Establishments	$6,591.91
Total[3]	**$23,570.17**

Notes: 1. Shoppers' Goods include: furniture and home furnishings stores; electronics and appliance stores; clothing and clothing accessories stores; sporting goods, hobby, book, and music stores; general merchandise stores; office supply, stationary, and gift stores; and used merchandise stores.

2. Convenience Goods include: food and beverage stores; health and personal care stores; florists; grocery stores; and other miscellaneous store retailers.

3. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses and non-store retailers.

Sources: ESRI, Inc.; AKRF, Inc.

STEP FOUR:

Step Four in the preliminary assessment is to estimate the expenditure potential, or retail demand, for relevant retail goods of shoppers within the Primary Trade Area.

Retail demand for any retail concentration can originate from a variety of sources, including local households and workers, businesses, tourists, and online sales. Data sources that report on both retail demand and sales tend to focus on demand from households in a defined geography and do not always address demand from workers, businesses, or tourists, which can be more

difficult to pinpoint and relate directly to retail sales. (The U.S. Census Bureau compiles data on household expenditures by retail category but does not have a corresponding data set for spending by workers or tourists for defined geographies, and many data providers rely heavily on information from the U.S. Census Bureau.) The 2-Mile Primary Trade Area encompasses employment concentrations in Midtown Manhattan, the Civic Center neighborhood and the Financial District, as well as prime tourist destinations such as Chinatown, Times Square, Union Square, several museums, Hudson River Park, and a portion of Central Park. A high concentration of workers and visitors indicates that the 2-Mile Primary Trade Area draws retail sales from a base much wider than its own residential population. However, the data sets available for this analysis provide retail demand estimates only for 2-Mile Primary Trade Area households, not for workers, tourists, or other visitors who live outside of the 2-Mile Primary Trade Area, and therefore do not capture the true magnitude of expenditure potential within the trade area.

According to ESRI, households in the 2-Mile Primary Trade Area spent an estimated $6.3 billion on retail goods in 2010 (see **Table 3-3**). Approximately 37 percent was spent on shoppers' goods, 36 percent on convenience goods, and 26 percent on eating and drinking establishments. On a per household basis, Primary Trade Area residents spent roughly $10,099 annually on shoppers' goods, $9,881 annually on convenience goods, and $7,125 on eating and drinking establishments.

Table 3-3
Estimated Household Retail Demand in the 2-Mile Primary Trade Area

	Total Demand[1] (Millions of 2011 Dollars)	Demand per Household (2011 Dollars)
Shoppers' Goods[2]	$2,329.24	$10,098
Convenience Goods[3]	$2,279.02	$9,881
Eating and Drinking Establishments	$1,643.42	$7,125
Total[4]	**$6,251.68**	**$27,104**

Notes: 1. Demand (retail expenditure potential) estimates the expected amount spent by consumers at retail establishments.

2. Shoppers' Goods include: furniture and home furnishings stores; clothing and clothing accessories stores; electronics and appliance stores; sporting goods, hobby, book, and music stores; general merchandise stores; office supply, stationary, and gift stores; and used merchandise stores.

3. Convenience Goods include: food and beverage stores; health and personal care stores; florists; grocery stores; and other miscellaneous store retailers.

4. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses, home improvement stores, and non-store retailers.

Sources: ESRI, Inc.; AKRF, Inc.

STEP FIVE:

Step Five in the preliminary assessment is to compare retail sales (Step Three) with retail demand (Step Four) to develop a "capture rate," which can help determine whether the Primary Trade Area is currently saturated with retail uses or whether there is likely to be an outflow of sales from the area.

Capture rates are measures of business activity in a trade area, indicating the percentage of consumer expenditures for retail goods that are being captured by retailers in the trade area. If the total sales in the trade area are much lower than the area's expenditure potential, then

residents are likely spending a large portion of their available dollars outside of the trade area, and the capture rate is low. If sales are closer in value to expenditure potential, then area residents are likely spending a higher proportion of their available resources within the trade area, and the capture rate is high.

Capture rates are also affected by money flowing into an area from people who do not live in that area. Some of the sales in the 2-Mile Primary Trade Area, for example, are from people living in other areas of Manhattan, other New York City boroughs, Nassau County, and Westchester County, NY, Hudson County, NJ and elsewhere, shopping at stores in the Primary Trade Area. However, it is not possible to know whether data on estimated sales reflect spending by residents or nonresidents in an area. Therefore, a high capture rate may be indicative of an area with a high proportion of destination retail, i.e., retail that will attract customers from greater distances in order to compare price, quality, and the selection of merchandise. A high capture rate may also reflect spending by a large population of workers or tourists. This is the case for New York City as a whole, where the retail capture rate is approximately 114 percent and the capture rate for shoppers' goods is 143 percent (See **Table 3-6**). Despite these uncertainties about the origin of sales in any particular trade area, comparing expenditure and sales data can provide an indication of how much of a trade area's household expenditure potential is being captured by trade area retailers.

Tables 3-4 through **3-6** show the capture rates for the 2-Mile Primary Trade Area, Manhattan, and New York City as a whole. As shown in **Table 3-4**, capture rates in the 2-Mile Primary Trade Area exceed 100 percent for all retail categories analyzed. Capture rates in Manhattan are also well over 100 percent for all retail categories (see **Table 3-5**). As shown in **Table 3-6**, retail capture rates for New York City as a whole are approximately 143 percent for shoppers' goods, 87 percent for convenience goods, and 122 percent for eating and drinking establishments. These data show that the capture rates for the Primary Study Area, while high, are not unusual in the context of New York City. The 2-Mile Primary Trade Area has a high concentration of employment and tourist destinations and therefore draws retail sales from a base much wider than its own residential population.

Table 3-4

Household Retail Expenditures and Total Retail Sales, 2-Mile Primary Trade Area, 2010

	Retail Sales[1]	Household Retail Demand[1]	Amount Not Being Captured[1]	Capture Rate
Shoppers' Goods	$12,693.80	$2,329.24	($10,364.56)	545%
Convenience Goods	$4,284.45	$2,279.02	($2,005.44)	188%
Eating and Drinking Establishments	$6,591.91	$1,643.42	($4,948.49)	401%
Total[2]	**$23,570.17**	**$6,251.68**	**($17,318.48)**	**377%**

Notes: 1. All values are in millions of 2011 dollars.
2. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses and non-store retailers.

Sources: ESRI, Inc; AKRF, Inc.

Table 3-5
Household Retail Expenditures and Total Retail Sales, Manhattan, 2010

	Retail Sales[1]	Household Retail Demand[1]	Amount Not Being Captured[1]	Capture Rate
Shoppers' Goods	$17,944.13	$7,266.91	($10,677.22)	247%
Convenience Goods	$9,982.59	$7,142.18	($2,840.42)	140%
Eating and Drinking Establishments	$11,129.60	$5,109.18	($6,020.42)	218%
Total[2]	**$39.056.32**	**$19,518.26**	**($19,538.06)**	**200%**

Notes: 1. All values are in millions of 2011 dollars.
2. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses and non-store retailers.
Sources: ESRI, Inc; AKRF, Inc.

Table 3-6
Household Retail Expenditures and Total Retail Sales, New York City, 2010

	Retail Sales [1]	Household Retail Demand[1]	Amount Not Being Captured[1]	Capture Rate
Shoppers' Goods	$24,215.63	$16,939.41	($7,276.21)	143%
Convenience Goods	$19,377.03	$22,216.61	$2,839.58	87%
Eating and Drinking Establishments	$16,418.24	$13,409.59	($3,008.65)	122%
Total[2]	**$60,010.90**	**$52,565.62**	**($7,445.28)**	**114%**

Notes: 1. All values are in millions of 2011 dollars.
2. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses and non-store retailers.
Sources: ESRI, Inc; AKRF, Inc.

The retail in the ¼-Mile Local Trade Area contributes to the high capture rates in the 2-Mile Primary Trade Area due to the concentration of specialty and high-end retail in the area which creates pockets of retail that serve as shopping destinations for these types of retail. For example, the high capture rate for eating and drinking establishments in the 2-Mile Primary Trade Area is attributable in part to the presence of high-end restaurants and nightlife in the Meatpacking district, which draw patrons from all over the City, the metropolitan area, and in fact from all over the world. In the ¼-Mile Local Trade Area, the high concentration of tourists drawn to the High Line contributes further to the high capture rates. Similarly, the high capture rate for shoppers' goods is attributable in part to the concentration of clothing boutiques in the Meatpacking District and art galleries in Chelsea, most of which sell high value products and draw a customer base from a wide geographic area. The presence of Chelsea Market, which contains a concentration of specialty food retailers and draws visitors from throughout the City, contributes to the high capture rate for convenience goods in the 2-Mile Primary Trade Area. Because the Meatpacking District, the Chelsea art galleries, and Chelsea Market have become destinations due to their concentration of specific types of retail, the area attracts sales from residents throughout the metropolitan region and beyond.

STEP SIX:

Step Six in the preliminary assessment is to assess factors that will affect conditions in the Primary Trade Area in the build year even absent the proposed project. Such factors typically include population changes, which could increase expenditure potential and generate additional demand for retail goods, and new retail projects, which would expand the retail inventory.

Capture rate analyses sometimes use information on known residential and retail projects to quantify new retail sales and household demand in a Primary Trade Area. These changes are layered onto the existing conditions to determine changes in capture rates between the existing conditions and the future without the proposed project. Sales and household demand from the proposed project are then added to estimate capture rates in the future with the proposed project. This more nuanced quantified approach towards capture rates in the No Action condition can be appropriate when capture rates are below 100 percent or when there are large residential or retail projects planned for the Primary Trade Area—projects that could substantially affect retail capture rates.

Retail capture rates in the 2-Mile Primary Trade Area are already well over 100 percent (see Step Five) and residential or retail projects planned for the 2-Mile Primary Trade Area would not result in capture rates below 100 percent. Therefore, a quantified approach to the No Action capture rate analysis is not essential to this analysis. Further, as described below under Step Eight, the *CEQR Technical Manual* indicates that a detailed analysis of the potential for indirect business displacement due to competition is warranted when retail capture rates in relevant categories are over 100 percent in the future with the proposed project. Retail capture rates for shoppers' goods, convenience goods, and eating and drinking establishments are already well over 100 percent for the 2-Mile Primary Trade Area and will remain so in the future with the proposed project. Therefore, a detailed analysis is required and the exercise of quantifying No Action capture rates is not necessary.

STEP SEVEN:

Step Seven is to project the sales volume for the proposed project's retail uses.

As described above under Step One, the proposed project would introduce approximately 261,900 gsf of retail including destination shoppers' goods, convenience goods, and eating and drinking establishments. **Table 3-7** shows the breakdown of retail assumed under this analysis.

Table 3-7
Estimated Sales at Stores Introduced Under the Proposed Plan

	Square Feet	Estimated Sales (Millions of 2011 Dollars)
Shoppers' Goods	99,660	$49.97
Convenience Goods	78,560	$43.00
Eating and Drinking Establishments	83,680	$51.50
Total	**261,900**	**$144.47**

Sources: Sales were estimated based on data from the Urban Land Institute's *2008 Dollars and Cents of Shopping Centers*.

As shown in **Table 3-7**, retail sales resulting from the proposed project are projected to be approximately $144.47 million annually, generated by approximately 99,660 square feet of

shoppers' goods space, 78,560 square feet of convenience goods space, and 83,680 square feet of eating and drinking establishments. Annual sales for shoppers' goods are estimated at $49.97 million, annual sales for convenience goods are estimated to be $43.00 million, and annual sales for eating and drinking establishments are estimated to be $51.50 million.

The proposed project would not introduce any residential uses, and therefore the residential expenditure potential in the 2-Mile Trade Area would not change as a result of the proposed project.

STEP EIGHT:

Step Eight is to develop a capture rate for the Primary Trade Area in the future with the proposed project. According to the CEQR Technical Manual, if the capture rate for relevant categories of goods would exceed 100 percent, it may have the potential to saturate the market for particular retail goods and a detailed assessment is warranted.

As described above under Step Seven, the proposed project would increase retail sales in the 2-Mile Primary Trade Area by an estimated $144.47 million annually, and would not change household retail expenditure potential. **Table 3-8** compares Primary Trade Area retail sales, demand, and capture rates for existing conditions and in the future with the proposed project.

Table 3-8
Comparison of Estimated Retail Capture Rates in Primary Trade Area: Existing Conditions and Future With the Proposed Project

	Retail Sales in Primary Trade Area[1]	Retail Demand from Primary Trade Area Households[1]	Primary Trade Area Capture Rate
Existing Conditions			
Shoppers' Goods	$12,694	$2,329	545%
Convenience Goods	$4,284	$2,279	188%
Eating and Drinking	$6,592	$1,643	401%
Total[2]	**$23,570**	**$6,252**	**377%**
2015 With the Proposed Project			
Shoppers' Goods	$12,744	$2,329	547%
Convenience Goods	$4,327	$2,279	190%
Eating and Drinking	$6,643	$1,643	404%
Total[2]	**$23,715**	**$6,252**	**379%**

Notes: 1. All dollar values are in millions of 2011 dollars.

2. Total does not reflect total for all retail—only those retail categories included in Shoppers' Goods, Convenience Goods, and Eating and Drinking Establishments. Retail establishments not included in this total are: auto-related businesses and non-store retailers.

Sources: Urban Land Institute's *2008 Dollars and Cents of Shopping Centers*; ESRI, Inc; AKRF, Inc.

As shown in the table, the overall retail capture rate would increase to 379 percent in the future with the proposed project. This capture rate is approximately 2 percentage points higher than in the existing condition. This increase would be largely consistent across all the retail types, with the capture rate for eating and drinking establishments experiencing a slightly greater increase, from 401 percent to 404 percent.

In the future with the proposed project, capture rates for each of the broad retail categories analyzed would exceed 100 percent. As described above, capture rates are not an exact measure

of retail sales and expenditure potential in any area, and this analysis has focused by necessity on the household expenditure potential component of retail demand, not quantifying additional demand from other sources such as workers, tourists and other visitors, or internet sales. Despite these uncertainties, and although capture rates in all of the retail categories analyzed are already over 100 percent in the existing conditions, the potential for significant adverse impacts due to retail market saturation cannot be ruled out with this preliminary assessment, and, therefore, a detailed analysis is warranted. The detailed analysis is presented in Section D.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

According to the *CEQR Technical Manual*, a significant adverse impact may occur if an action would measurably diminish the viability of a specific industry that has substantial economic value to the city's economy. An example as cited in the *CEQR Technical Manual* would be new regulations that prohibit or restrict the use of certain processes that are critical to certain industries. Following *CEQR Technical Manual* guidelines, the analysis of effects on specific industries considers to the following issues (numbered in italics below) to determine the potential for significant adverse impacts.

1. Would the proposed project significantly affect business conditions in any industry or any category of business within or outside the study area?

The proposed project would not significantly affect business conditions in any industry or any category of business within or outside the study area. The proposed project would not directly displace any businesses, and the potential for indirect business displacement is limited. As described above, population density, population growth, and purchasing power in New York City are often high enough to sustain increases in retail supply. As described below in detail, there are several retail concentrations within the ¼-mile study area that remain viable despite similar business types nearby. The proposed project would not introduce enough of a concentration of retail to significantly affect any specific industry.

2. Would the proposed project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?

As described above, the proposed project would not result in significant indirect business displacement. While the possibility of limited indirect business displacement due to competition cannot be ruled out, any displacement that might occur would not jeopardize the viability of any local retail concentrations. Therefore, the proposed project would not substantially reduce employment in any industry or category of business.

CONCLUSION

Based on this preliminary assessment, the proposed project would not have the potential to have a significant adverse impact on specific industries within the study area.

D. DETAILED ANALYSIS: INDIRECT BUSINESS DISPLACEMENT DUE TO RETAIL MARKET SATURATION

According to the *CEQR Technical Manual*, if the capture rate analysis developed as part of the preliminary assessment of indirect business displacement due to competition shows that the retail capture rate for relevant types of retail goods would exceed 100 percent in the future with the proposed project, then a more detailed analysis is necessary. While competitive

socioeconomic impacts do not necessarily generate environmental concerns, they can become an environmental concern if they have the potential to affect neighborhood character by affecting the viability of neighborhood shopping areas.

The preliminary assessment revealed capture rates in the 2-Mile Primary Trade Area of over 100 percent in the future with the proposed project. Therefore, this section evaluates whether potential indirect displacement from competition could result in significant adverse impacts.

While the preliminary assessment analyzed a 2-Mile Primary Trade Area, this detailed analysis focuses on a ¼-Mile Local Trade Area. Because the proposed project includes mostly specialty retail that would draw residents from throughout the metropolitan region as well as tourists, it would not be directly competitive with retail corridors in the 2-Mile Primary Trade Area that contain local retail, such as the restaurants, delis, small stores, grocery stores, and local services along Eighth Avenue and Ninth Avenue. These corridors are closer to local subway stations and to residential concentrations in the area and are unlikely to experience competitive pressure from the proposed project's retail, which would depend more on occasional, rather than frequent, repeat customers. In contrast, the ¼-Mile Local Trade Area does contain some retail that would overlap with the retail offerings in the proposed project. Chelsea Market contains food retail and both limited- and full-service restaurants that may be similar to those in the proposed project, and some of the shoppers' goods boutiques in the Meatpacking District may also overlap with proposed project retail offerings. Even within the ¼-Mile Local Trade Area, it is important to note that the proposed project would be located west of Route 9A and would be farther from public transportation relative to retail concentrations in Chelsea Market and the Meatpacking District, and thus would not be expected to draw large numbers of pedestrian shoppers from surrounding retail.

Nevertheless, the proposed project could draw some customers from similar retail concentrations in the ¼-Mile Local Trade Area. This analysis examines the potential effects of the proposed project on existing shoppers' goods, convenience goods, and eating and drinking establishments in the ¼-Mile Local Trade Area.

EXISTING CONDITIONS

The ¼-Mile Local Trade Area includes portions of Chelsea and the West Village/Meatpacking District, and each provides a range of shopping options and distinct retail types. This section describes major retail concentrations within the ¼-Mile Local Trade Area, focusing on types of retail and services and storefront vacancy rates for each area. The quantitative and qualitative analyses are based on field surveys conducted in December 2011. Detailed retail inventories are provided in **Appendix A**.

SUMMARY OF RETAIL CONCENTRATIONS IN THE ¼-MILE LOCAL TRADE AREA

Collectively, approximately 186 storefronts were surveyed in the ¼-Mile Local Trade Area (see **Table 3-9**). Overall, the ¼-Mile Local Trade Area is characterized by specialty retail and eating and drinking establishments, which tend to cluster together in the study area. Approximately 39.2 percent of all the storefronts surveyed offer shopping goods, which include clothing and accessories, home furnishings, electronics, sporting goods, miscellaneous goods such as used merchandise and art dealers, and others. Approximately 30.1 percent of the storefronts are occupied by eating and drinking establishments, which include both full- and limited-service

restaurants and bars.[1] Convenience goods, which include grocery stores and other food stores, delis, pharmacies, and newsstands, account for approximately 9.7 percent of retail in the ¼-Mile Local Trade Area. The overall vacancy rate for the ¼-Mile Local Trade Area is approximately 11.3 percent. Two major retail concentrations within the ¼-Mile Local Trade Area—the Meatpacking District and Chelsea Market—are described in detail below.

Table 3-9
Retail in the ¼-Mile Local Trade Area

Retail Category	Storefronts	Percent of Total
Shopping Goods	73	39.2%
Building Materials and Garden Supply	2	1.1%
Convenience Goods	18	9.7%
Neighborhood Services	12	6.5%
Eating and Drinking Places	56	30.1%
Auto-Related Trade	4	2.2%
Vacant Storefronts	21	11.3%
Total Storefronts	**186**	100%

Notes: Detailed retail survey data are provided in Appendix A.
Sources: AKRF, Inc. field surveys conducted in December 2011.

THE MEATPACKING DISTRICT

Within the ¼-Mile Local Trade Area, the Meatpacking District is roughly bounded by West 15th Street and Gansevoort Street to the north and south, and Ninth Avenue and Route 9A to the east and west. As described in Chapter 2, "Land Use, Zoning, and Public Policy," the neighborhood was named for the historic concentration of slaughterhouses and packing plants that still largely define the building stock in this area. In recent years, the Meatpacking District has experienced a conversion of industrial space to commercial and residential uses that define the nature of its retail. Shoppers' goods stores account for the largest percentage of storefronts in the Meatpacking District (47.2 percent), the majority of which are women's clothing boutiques and boutiques selling clothing for men and women. A total of 21 eating and drinking establishments comprise 23.6 percent of the storefronts. Of these, 14 are full-service restaurants, and seven are bars. These establishments also make up the thriving nightlife scene in the neighborhood, including many of the full-service restaurants that double as nightclubs and lounges after dinner hours.

The neighborhood services and convenience goods storefronts in the Meatpacking District—which together account for 9.0 percent of storefronts—are exclusively salons and high-end beauty supply retailers, with the exception of a parking lot on West 15th Street. This lot is located in the northern end of the Meatpacking District, where a gas station and an auto repair business remain in contrast to the high-end shopping in the rest of the area. In addition to these uses, the block bounded by Washington Street, 10th Avenue, Little West 12th Street, and Gansevoort Street contains the two remaining meat production and wholesale companies in the area. There is one parking garage and limited on street parking is available. The retail vacancy

[1] Limited-service restaurants are those where patrons generally order or select items and pay before eating.

rate is 16.9 percent, which is higher than the 11.3 percent vacancy rate in the ¼-Mile Local Trade Area.

CHELSEA MARKET

Chelsea Market, located at 401 West 15th Street, occupies the block bounded by West 16th Street and West 15th Street to the north and south, and Ninth Avenue and Tenth Avenue to the east and west. The original factory building that houses the market was converted in 1997 to an office building with ground floor space available for wholesalers to locate their operations as well as the retail component of their businesses. Chelsea Market played a part in the transformation of the industrial neighborhood to a high-end commercial and residential area. The increased worker and residential populations in turn support the specialty food retail businesses in the market. In addition to the local shoppers, Chelsea Market has become a destination for tourists due to its unique format and retail offerings.

The building currently houses 35 retail storefronts, several of which include wholesale components. Several of the storefronts are accessible from the street, but most are only accessible from within the Market building. Limited- and full-service restaurants currently account for 51.4 percent of storefronts in the market. Convenience goods make up 37.1 percent of retail, including seven specialty food stores. The Market has a high occupancy rate, with two spaces reserved for temporary events such as clothing sample sales, and one known vacant storefront with a new tenant specified. At the time of the survey, Chelsea Market appeared to be 100 percent occupied.

THE FUTURE WITHOUT THE PROPOSED PROJECT

The two primary factors that would affect retail conditions in the ¼-Mile Local Trade Area in the future without the proposed project, or No Action condition include population growth, which could increase expenditure potential and generate additional demand for retail goods, and new retail projects, which would expand the retail inventory. As described in Chapter 2, "Land Use, Zoning, and Public Policy," known projects under construction or planned for the ¼-mile land use study area will introduce approximately 57,348 gsf of retail to the area by 2015. There are no planned residential developments in the area expected to be completed by 2015.

As stated in the *CEQR Technical Manual*, New York City's commercial streets are dynamic and are continually affected by changes in consumer spending, shopping trends, demographics, and population growth. Overall, in the future without the proposed project, it is expected that the retail landscape in the ¼-Mile Local Trade Area will continue to evolve consistent with current trends, with natural turnover and growth in retail uses and growing household retail demand.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

In the With Action condition, the proposed project would introduce approximately 261,900 square feet of destination retail to the area, including a work/sell marketplace, food market and restaurants, and general retail space.

As described in the *CEQR Technical Manual*, there may be potential for a significant adverse impact on retail businesses if a project would decrease shopper traffic on commercial streets such that retail vacancies rise and retail businesses in the study area are no longer economically viable. This should be considered likely if the following conditions are met:

- The proposed anchor stores have potential to affect the ability of existing stores selling similar categories of goods to capture the sales volume necessary to remain in business;
- These existing stores draw a substantial share of shopper traffic to the neighborhood commercial strips on which they are located, or the street contains a concentration of businesses that sell the relevant categories of retail goods; and
- No new demand for retail tenants is expected.

No new residential development is known to be planned for the study area by 2015, the proposed project's build year. However, this does not mean that no new demand for retail tenants is expected or that the retail introduced by the proposed project would saturate the market such that retail businesses in the study area are no longer economically viable. The proposed project would draw shoppers from throughout the City and tourists from beyond the metropolitan region who are seeking specialty goods. As indicated in the capture rate analysis presented earlier in this chapter, the ¼-Mile Local Trade Area already draws significant sales from sources other than local residents, and the proposed project would increase this draw.

This analysis therefore focuses on the first two issues: whether the proposed anchor stores could affect the ability of existing stores to remain in business and whether these stores anchor the commercial strips on which they are located or are part of a larger concentration of stores, all selling relevant categories of retail goods. The discussion is divided into potential impacts on shoppers' goods, followed by convenience goods and eating and drinking establishments.

POTENTIAL IMPACTS ON LOCAL SHOPPERS' GOODS STORES

As explained above, the ¼-Mile Local Trade Area contains distinct concentrations of specialized destination shoppers' goods, notably in the Meatpacking District and to some degree in Chelsea. The proposed project would also contain a concentration of specialized shoppers' goods retailers, including sports- and food-related stores, and specialty items produced by independent designers in the work/sell marketplace. Though the proposed project would include a substantial amount of shoppers' goods retail (assumed for analysis purposes to be approximately 99,660 square feet), it would not include a department store or any other traditional anchor store that would have the potential to draw a significant amount of repeat local shoppers away from existing stores. A traditional anchor, such as a discount department store, would be broadly merchandised and could be potentially competitive with a wide variety of nearby existing stores. In contrast, the larger retail tenants in the proposed project, such as a sports-related store, would not have the potential to draw frequent, repeat local shoppers away from existing stores because of their limited footprint and narrowly-focused merchandise selection, which would have limited competitive overlap with nearby stores. The ¼-Mile Local Trade Area also does not include a department store or other traditional shoppers' goods anchor store, and therefore does not rely on one large shoppers' goods anchor store to support its overall viability.

Because most of the existing shoppers' goods stores in the ¼-Mile Local Trade Area offer specialty items, customers are not likely to stop shopping at these stores as a result of new retail introduced by the proposed project. For example, Chelsea art gallery customers would be likely to shop at those galleries for their specific art collections with or without the proposed project. Similarly, clothing boutiques in the Meatpacking District draw customers because of the specific characteristics of the designers they highlight. Customers shop at these stores for both the high-end merchandise and the overall shopping experience (attractive storefronts, nearby cafes and restaurants, etc.), and the area would retain its unique character with or without the addition of retail at the proposed project site.

In addition, as described above, Route 9A separates existing concentrations of shoppers' goods in the ¼-Mile Local Trade Area and the proposed project. Visitors to the proposed project would travel there for the collective shopping, eating, open space, and cultural destination experiences, as well as the unique waterfront location. As a result, the proposed project is not expected to draw large numbers of pedestrian shoppers from surrounding retail.

Overall, although there would be some overlap between products offered at existing and proposed project shoppers' goods stores, concentrations of shoppers' goods stores currently located in the ¼-Mile Local Trade Area are distinguished by different types of specialty goods (e.g., clothing boutiques in the Meatpacking District and art galleries in Chelsea) and would not be significantly affected by the new retail introduced as part of the proposed project. The proposed project would contain retail that complements the surrounding offerings and would draw customers from throughout Manhattan, the outer boroughs, and the region as a whole. The project draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District that offer products related to fashion, design, and art and food, and would provide a new amenity to the surrounding neighborhood that would complement the existing concentrations of specialized shoppers' goods.

POTENTIAL IMPACTS ON LOCAL CONVENIENCE GOODS STORES

As described above, convenience goods are usually lower value goods and food that are purchased frequently and immediately, often near the home or workplace, with little or no comparison shopping. These include grocery stores, delis, pharmacies, and florists.

Grocery stores are often considered in detailed analyses of indirect displacement due to retail market saturation because they often anchor existing retail concentrations and if a proposed project includes a grocery store, existing grocery stores and the retail concentrations they anchor may face pressures due to retail market saturation. The convenience goods stores included in the proposed project would include primarily specialty food shops, rather than more typical convenience goods stores such as grocery stores and drug stores. Nonetheless, the proposed project would include a substantial amount of food retail and therefore it is appropriate to consider the project's potential effects on grocery stores in the ¼-Mile Local Trade Area. In addition, this analysis considers the potential effects of the proposed project on Chelsea Market, which includes retail offerings that overlap more substantially with the retail contemplated as part of proposed project. However, as explained below, due to the destination nature and unique format of Chelsea Market and the location of the Western Beef supermarket, the amount of competitive business displacement of grocery stores would be minimal and is not expected to jeopardize the viability of any neighborhood retail strips or concentration of stores offering similar products.

The Western Beef supermarket is located at 431 West 16th Street, between Ninth Avenue and Tenth Avenue. Based on RPAD data, the building is approximately 15,200 square feet, including 6,900 square feet of retail space. Overall, the proposed project's specialty food retail offerings would not substantially overlap with the broad offerings at Western Beef, which include low-cost groceries and a large selection of bulk meats. In addition, Western Beef is located adjacent to the concentration of residential uses in the northeastern portion of the study area, notably the Robert Fulton Houses, an 11-building, 944-unit development located on Ninth Avenue between West 16th Street and West 20th Street. Western Beef is also located near the A/C/E subway stop at 14th Street and the L subway stop at Eighth Avenue. Despite this location, the store does not anchor any retail concentration, and so would not adversely alter neighborhood character even if

it was to be negatively affected by competition. The proposed project is not located close to any subway stops and is further separated from pedestrian traffic by Route 9A. In general, shoppers are more likely to shop at supermarkets closest to their homes and to public transportation in places like Lower Manhattan where most people travel and shop by foot and public transit rather than by car. Because the supermarket is located near a residential concentration close to public transportation and the food retail offered there would not directly compete with that of the proposed project, local area residents who shop at Western Beef would likely continue to shop at Western Beef for everyday groceries with or without the proposed project.

The proposed project's food retail would be more likely to overlap with offerings at Chelsea Market. Located at 401 West 15th Street, Chelsea Market occupies the block bounded by West 16th Street and West 15th Street to the north and south, and Ninth Avenue and Tenth Avenue to the east and west. The Chelsea Market building is approximately 1,100,533 square feet, of which 113,671 square feet is retail space. The retail space in Chelsea Market is occupied by 35 separate businesses organized around an interior arcade on the ground floor. Several businesses also have entrances fronting the street. Thirteen of the businesses offer convenience goods, most of which are food-related. Since its conversion in 1997 to an office building with space for wholesale and retail businesses, the retail component has become more prominent. Driven by the increased foot traffic and sales from repeat shoppers, visitors, and office workers in the building, many wholesalers have chosen to expand their retail businesses, making Chelsea Market a destination for food retail as well as a location for wholesaling operations.[1]

Though the proposed project's food retail would likely overlap with offerings at Chelsea Market, it is not expected to affect the ability of existing stores in Chelsea Market selling similar categories of goods to capture the sales volume necessary to remain in business. Chelsea Market is a self-contained destination for specialty food retail, and the individual businesses within the market benefit from its unique format, the availability of production space, its location, and built-in worker population. Due to the lack of a traditional anchor store and the variety of other shoppers' goods and non-food related retail included in the proposed project, the food retail introduced by the proposed project would not have the potential to affect the overall economic viability of existing stores in Chelsea Market. The food retail included in the proposed project would complement the choices offered at Chelsea Market and provide shoppers access to a wider variety of products, and would add to the area's attraction as a destination for specialty foods. Though the largest component of the proposed project would be the work/sell marketplace, the 160- to 640-square-foot footprints for each individual vendor would not allow for production on the scale of Chelsea Market.

Due to the specialty nature of food offerings included in the proposed project, the lack of a traditional anchor grocery store as part of the proposed project, and the established customer base of both Chelsea Market and Western Beef, the proposed project is not expected to substantially affect the sales of either of these existing retail venues.

POTENTIAL IMPACTS ON LOCAL EATING AND DRINKING ESTABLISHMENTS

Eating and drinking establishments do not typically anchor larger retail concentrations, and are therefore not considered vital to the survival of nearby businesses. However, since the ¼-Mile Local Trade Area includes 56 eating and drinking establishments, 33 of which are full-service

[1] "At Last, Chelsea Market Plans Come True." *New York Times* website. Accessed January 12, 2012.

restaurants, and the proposed project would include at least one full-service restaurant in addition to a wide range of uses oriented towards food, including a potential cooking school, test kitchen and ancillary facilities, as well as additional restaurants and rotating food markets and sales spaces, the project's potential to affect nearby eating and drinking establishments is considered in this analysis.

Over half of the eating and drinking establishments in the ¼-Mile Local Trade Area are located in Chelsea Market and in the Meatpacking District. The restaurants in Chelsea Market are unique in their format, and largely draw customers who are shopping in the market itself. The restaurants in the Meatpacking District offer high-end dining experiences with high price points, and often include night clubs and lounges that serve as an additional draw for their restaurant customers.

The proposed project's restaurants would include both full-service restaurants and limited-service restaurants and would complement the food purveyors and prepared foods in other retail spaces in the pier. There would also be areas designed to host rotating food markets and "bazaars," with the idea of providing lively surroundings for chefs and food purveyors to exhibit and promote their food centered on a common theme. Culinary educational programs would include intermittent merchant and chef-sponsored classes as well as the potential for more formal programs. Customers of the proposed project's restaurants would likely be drawn to the overall food-related experience offered by the many food retailers, restaurants, and food-related displays included in the proposed project. Both Chelsea Market and the Meatpacking District would maintain their respective, unique dining experiences with or without the proposed project, and customers of the restaurants in Chelsea Market and the Meatpacking District would be likely to continue patronizing those restaurants with or without the proposed project.

More generally, the restaurants in Chelsea Market and the restaurants and night clubs in the Meatpacking District all benefit from the high volumes of foot traffic spurred by the co-location of stores offering similar goods and services. In effect, this concentration of similar offerings creates more positive synergy than negative competition among similar stores. Therefore, the proposed project is not expected to adversely affect the economic viability of local eating and drinking establishments. ✷

Chapter 4: Community Facilities and Services

A. INTRODUCTION

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* defines community facilities as public or publicly funded facilities, including schools, health care, day care, libraries, and fire and police protection services. Direct effects may occur when a proposed project physically alters or displaces a community facility. Indirect effects may result from increases in population that place additional demands on community facility service delivery.

The proposed project would not introduce any residents to the project site, and therefore would not warrant analyses of public schools, child care, health care, or library facilities. In addition, because the proposed project would not directly cause the displacement of a police or fire facility, nor would it introduce a sizeable new neighborhood, no detailed assessment of such services is required. However, this chapter will provide a screening-level analysis of police and fire protection facilities.

PRINCIPAL CONCLUSIONS

Overall, the proposed project would not result in significant adverse impacts on community facilities as the project would not result in a direct effect on any community facility, nor would it contain a residential component that would place additional demands on the service delivery of any community facility.

B. POLICE AND FIRE PROTECTION SERVICES

According to the *CEQR Technical Manual*, the ability of the police and fire departments to provide public safety for a new project typically does not warrant a detailed assessment under CEQR. The *CEQR Technical Manual* recommends detailed analyses of impacts on police and fire service in cases where a proposed project would affect the physical operations of, or direct access to and from, a precinct house or fire station, or where a proposed project would create a sizeable new neighborhood where none existed before. The proposed project would not result in direct effects on either police or fire services, nor would it create a sizeable new neighborhood. As noted in the *CEQR Technical Manual*, the Fire Department does not allocate resources based on proposed or projected development, but regularly evaluates the need for changes in personnel, equipment, or locations of fire stations and makes any adjustments necessary. Furthermore, the Police Department independently reviews its staffing levels against a precinct's population, area coverage, crime levels, and other local factors. Therefore, the proposed project would not result in any significant adverse impacts to police and fire protection services, and a detailed analysis is not warranted.

The existing police and fire facilities serving the project site are described below for informational purposes.

POLICE SERVICES

As shown in **Figure 4-1** and **Table 4-1**, the project site is located within the New York City Police Department's 10th Precinct. The 10th Precinct's precinct house is located at 230 West 20th Street. The 10th Precinct services Manhattan's residential communities of Chelsea and Clinton and covers an area of about 0.93 square miles. There are three additional police facilities located within 1½-miles of the project site, including the 6th Precinct, the 13th Precinct, and the 14th Precinct.

Table 4-1
Police and Fire Protection Services

Map No.	Facility	Address	Facility Type
Police Protection Facilities			
P1	14th Precinct Midtown South	357 West 35 St	NYC Police Station
P2	10th Precinct	230 West 20 St	NYC Police Station
P3	13th Precinct	230 East 21 St	NYC Police Station
P4	6th Precinct	233 West 10 St	NYC Police Station
Fire Protection Facilities			
F1	Rescue Company 1	530 West 43 St	NYC Firehouse
F2	Engine 34 Ladder 21	440 West 38 St	NYC Firehouse
F3	Engine 26	220 West 37 St	NYC Firehouse
F4	Engine 1 Ladder 24 D.O. 3	142 West 31 St	NYC Firehouse
F5	Engine 3 Ladder 12 Hi-Rise Battalion 7	146 West 19 St	NYC Firehouse
F6	Engine 14	14 East 18 St	NYC Firehouse
F7	Ladder 3 Battalion 6	108 East 13 St	NYC Firehouse
F8	Engine 18	132 West 10 St	NYC Firehouse
F9	Engine 33 Ladder 9	42 Great Jones St	NYC Firehouse
F10	Engine 24 Ladder 5	227 Sixth Ave	NYC Firehouse

Note: Refer to **Figure 4-1** for facility locations.
Source: New York City Department of City Planning; Selected Facilities and Program Sites geodatabase.

FIRE PROTECTION SERVICES

At structural fires citywide, New York City Fire Department (FDNY) engine companies perform fire suppression efforts, while ladder companies provide search, rescue, and building ventilation functions. Rescue and squad companies specifically respond to fires or emergencies in support of the other units and perform specialized tasks or functions as necessary. In addition, FDNY operates the City's EMS system.

As shown in Table 4-1, 10 FDNY facilities are located within 1½-miles of the project site. Engine 3 Ladder 12 Hi-Rise Battalion 7 is located east of the development site at 146 West 19th Street. Engine 18, which is located at 132 West 10th Street, is the next closest facility to the development site.

Units responding to a fire are not limited to ones closest to it. Normally, a total of three engine companies and two ladder companies respond to each call. Each FDNY squad company is capable of operating as an engine, ladder, or technical rescue company, making them versatile for incident commanders. Each squad is also part of the FDNY HazMat Response Group and has HazMat Tech Unit capabilities. FDNY can call on units in other parts of the City as needed, as it has 198 engine companies and 143 ladder companies citywide. ✷

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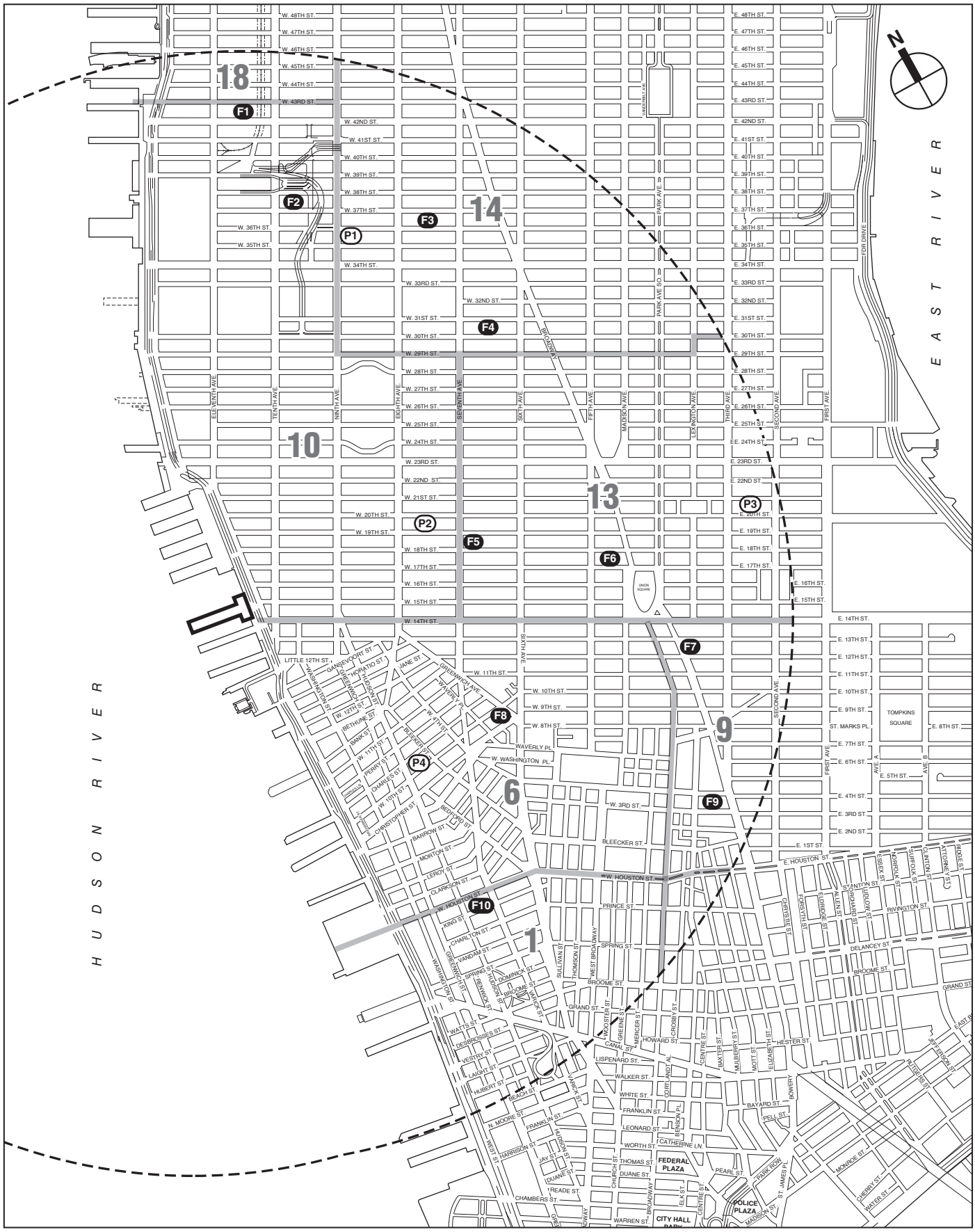

Project Site

Study Area Boundary (1 1/2-Mile Perimeter)

P1 Police Precinct Boundary

F1 Police Station

0 1000 2000 FEET

SCALE

Police and Fire Facilities Serving the Project Site

Figure 4-1

Chapter 5: Open Space

A. INTRODUCTION

The proposed project would enliven a vacant historic pier in Hudson River Park and introduce approximately 2.5 acres of new publicly accessible open space. The proposed project would also introduce new commercial, educational, and cultural uses to the project site, creating new demands for open space in the area. Because the proposed project would add a new worker and visitor population to the area, this chapter examines the proposed project's potential significant adverse impacts on open space in the area in accordance with the 2012 *City Environmental Quality Review (CEQR) Technical Manual*. This chapter examines potential direct effects of the proposed project on nearby publicly accessible open spaces as well as indirect effects created by changes in demand for and use of the area's open spaces. The proposed project would not introduce any new residents, and the analysis therefore focuses on the potential impacts of the project's worker population on study area open spaces.

PRINCIPAL CONCLUSIONS

Based on the methodology of the *CEQR Technical Manual*, a preliminary analysis of the proposed projects' indirect effects on open space was conducted to determine the need for a detailed analysis. The preliminary analysis concluded that the proposed projects would not result in a significant adverse impact on open space and that a detailed analysis was not necessary.

Table 5-1 provides a summary of the open space analysis including a comparison of conditions with and without the proposed project. As shown in the table, the proposed project would result in an increase in the passive open space ratio for workers in the study area. The open space ratio for workers in the study area would remain well over the City's recommended guideline ratio, and the open space conditions in the area would be greatly improved with the addition of new open space on the waterfront and the enlivening of a vacant and underutilized portion of Hudson River Park. By creating 2.5 acres of public open space in the area, and improving an underutilized portion of Hudson River Park, the proposed project would improve open space conditions. Furthermore, the proposed project would not result in any significant adverse direct impacts to open space related to shadows, air quality, or odors. In addition, although noise levels in the proposed open space would be above the 55 dBA $L_{10(1)}$ guideline noise level, this noise level would not constitute a significant adverse direct impact on the proposed open space because it would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. Therefore, the proposed project would not result in significant adverse impacts on open space in the study area.

Table 5-1
Open Space Ratios Summary

Ratio	City Guideline Ratio	Open Space Ratios (Acres/1,000 Workers)			Incremental Change Future Without to Future With the Proposed Project
		Existing Conditions	Future Without the Proposed Project	Future With the Proposed Project	
Passive Acreage Per 1,000 Workers	0.15	0.44	0.40	0.42	5.5%

B. METHODOLOGY

DIRECT EFFECTS ANALYSIS

According to the *CEQR Technical Manual*, a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. This chapter uses information from Chapter 6, "Shadows," Chapter 15, "Air Quality," and Chapter 17, "Noise," to determine whether the proposed project would directly affect any open spaces near the project site. A proposed project can also directly affect an open space by enhancing its design or increasing its accessibility to the public. The direct effects analysis is included in the "Probable Impacts of the Proposed Projects" portion of Section C, "Preliminary Assessment."

INDIRECT EFFECTS ANALYSIS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either residents or non-residents to noticeably diminish the capacity of open space in an area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce 200 or more residents or 500 or more workers to an area; however, the thresholds for assessment are slightly different for areas of the city that have been identified as either underserved or well-served by open space. Because the project site is not located within an area that has been identified as either underserved or well-served, the 200 resident and 500 worker thresholds were applied in this analysis.

The proposed project would not introduce any new residents into the study area. As such, an analysis of potential impacts on residential users of open space is not warranted.

Because the proposed project would introduce approximately 800 full-time equivalent (FTE) workers to the project site, it would exceed the *CEQR Technical Manual*'s threshold for employees. Therefore a quantitative assessment was conducted to determine the potential of the proposed project to have indirect effects on open space in the area. Following the *CEQR Technical Manual*'s methodology, a preliminary assessment was first conducted to determine whether a more detailed analysis was appropriate.

Using the methodology described in the *CEQR Technical Manual*, the adequacy of open space in the study area was assessed by comparing the ratio of existing publicly accessible open space acreage to population—the open space ratio—to that recommended by the City. This comparison is also applied to open space conditions in the future with and without the proposed

project in order to determine the proposed project's potential incremental impact on open space resources in the study area. A qualitative assessment is also used to supplement this quantitative analysis in order to fully examine the effects of the proposed project.

STUDY AREA

The *CEQR Technical Manual* recommends first establishing and mapping a study area for an open space analysis. Residential and commercial projects require different open space study areas, each defined by the reasonable walking distance that residents and workers would travel to reach local open space or recreation areas. Workers tend to use passive open spaces within ¼-mile, or a typical walking distance, from their workplaces. Therefore, projects that would add a substantial worker population require an analysis of their effects on passive open spaces within approximately ¼-mile of the project site. Because the proposed project would not introduce a residential population, this open space analysis is limited to the impacts on passive open space resources in the commercial study area. Therefore the study area for the proposed project was defined as the area within a ¼-mile radius of the project site.

The *CEQR Technical Manual* explains that this ¼-mile study area should be modified to include all census tracts with at least 50 percent of their area within the study area. As shown in **Figure 5-1**, the study area for this analysis has been defined as census tracts 79, 83, 89, and 99. The project site is located in census tract 99, which extends from West 14th Street north to West 38th Street. Although much of this census tract is located more than ¼-mile from the project site, it was included in the study area because the project site is located within this tract. Although none of the other three study area census tracts have at least 50 percent of their areas in the ¼-mile area, they were included in the study area to account for adjacent areas where the project would be likely to affect open space conditions.

USER POPULATIONS

Existing Conditions

The worker population in the study area was estimated using 2010 employment data from ESRI, Inc., a commercial data provider.

The Future Without the Proposed Project

As described in Chapter 1, "Project Description," the proposed project's build year is 2015. The analysis of the future without the proposed project, or No Action condition, assumes that none of the proposed discretionary actions are approved at that time and the proposed project is not developed at the site. As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," there are several new developments in the area that are expected to be constructed by 2015 in the ¼-mile study area. To estimate the worker population expected to be generated in the study area, standard employment density ratios were applied to the expected square footage for each of the uses generated by projects to be completed by the 2015 build year.

Probable Impacts of the Proposed Project

The worker population introduced by the proposed project was estimated and added to the worker population expected in the No Action condition to determine the total passive open space user population in 2015 with the proposed project, or With Action condition.

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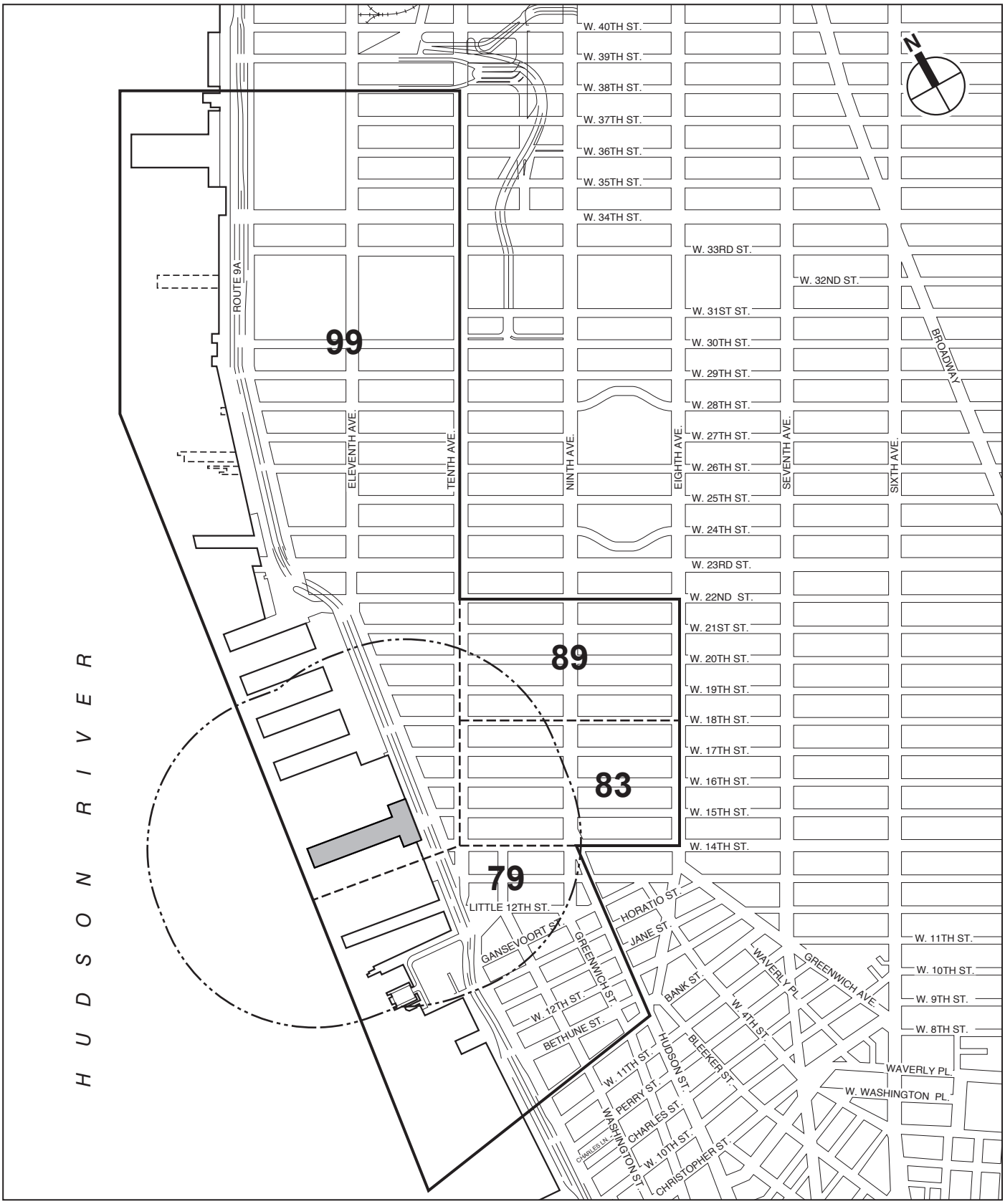

Project Site

Study Area Boundary (1/4-Mile Perimeter)

Open Space Study Area

Census Tract Boundary

79 *Census Tract Number*

HUDSON RIVER PARK PIER 57

Open Space Study Area

Figure 5-1

INVENTORY OF OPEN SPACE RESOURCES

The *CEQR Technical Manual* defines public open space as open space that is regularly open to the public during designated daily periods. Open spaces that do not fit this definition because they are not available to the public on a regular basis or are available to a limited set of users are considered private open space and are not included in the quantitative open space analysis. A private, fee-charging health club or roof deck for residents of a particular building are examples of a private open space.

All publicly accessible open spaces and recreational facilities within the study area were identified. The inventory of open spaces was assembled based on field visits conducted in July 2011 and information from the New York City DCP and the Hudson River Park Trust (HRPT). Published environmental impact statements (EISs) for recent projects in or near the study area were also consulted.

During the July 2011 field visits, the size, character, condition, and use of the public open spaces within the commercial study area were recorded. Each space was further examined in terms of the amount of active and passive space and amenities included. Active open space is intended for sports, exercise, or active play. Active facilities include playgrounds, sports fields and courts, pools, greenways, and golf courses. Passive open space is intended for relaxation and invites sitting, strolling, picnicking, and dog walking. Passive spaces include walking paths, gardens, and yards with sitting areas. Spaces such as lawns and esplanades can accommodate both active and passive uses.

In addition to the open spaces located in the commercial study area, open spaces falling outside of the study area were considered in the qualitative analysis as they may be used by the worker population.

ADEQUACY OF OPEN SPACE RESOURCES

Comparison to City Guidelines

Using the methodology of the *CEQR Technical Manual*, the adequacy of the open space in the study area was quantitatively assessed by comparing the ratio of useable open space acreage to the study area population (or the "open space ratio") to guidelines established by DCP. For non-residential or worker populations, 0.15 acres of passive open space per 1,000 workers is considered an adequate ratio.

Impact Assessment

Impacts of the proposed project were assessed based on how the project would change the open space ratios in the study area. According to the *CEQR Technical Manual*, if a proposed project would result in a decrease approaching or exceeding five percent, it is considered to substantially change open space conditions and a detailed analysis may be warranted. However, in areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, depending on the area of the City. Furthermore, in areas that are well-served by open space, a greater change in the open space ratio may be tolerated.

The *CEQR Technical Manual* recommends that the quantitative open space analysis described above be supplemented by an examination of qualitative factors. These factors include the proximity to "destination" resources and the nature of any open space added by the proposed project.

C. PRELIMINARY ASSESSMENT

A preliminary assessment of open space consists of calculating total population, tallying the open space acreage within the area, and comparing the open space ratios for existing conditions and the No Action and With Action conditions.

EXISTING CONDITIONS

OPEN SPACE USER POPULATION

According to 2010 data, the study area has a non-residential worker population of 37,878 (see **Table 5-2**).

Table 5-2
Existing Worker Population in the Study Area – 2011 Estimate

Tract	Worker Population
79	9,622
83	11,950
89	3,227
99	13,079
TOTAL	**37,878**

Source: ESRI Business Analyst, Inc, Business Summary Report

OPEN SPACE INVENTORY

The study area contains a total of 7 publicly accessible open spaces, including several portions of Hudson River Park, which contain a total of 30.89 acres of public open space, of which 16.79 acres are passive open space and 14.10 acres are active open space (see **Table 5-3** and **Figure 5-2**). As previously described, the proposed project would generate workers and no additional residents. The total open space in the study area is presented below for information purposes, but only the passive space is examined in the analysis that follows. Notable passive open spaces in the study area are described below.

Approximately 21.27 acres—over two thirds of the total open space in the study area—fall within Hudson River Park. The site of the proposed project at Pier 57 is one of a few areas of the park currently in the development process. Once all of the segments are complete, Hudson River Park will stretch for five contiguous miles from Battery Place West to West 59th Street, where it will connect to Riverside Park South. It will include 550 acres in and along the Hudson River. Passive open space accounts for approximately 8.22 acres of the portions of Hudson River Park included in the study area. Hudson River Park is in excellent condition and is heavily used throughout the study area.

The portions of the Hudson River Park included in the study area are divided into distinct components. The study area includes approximately 1.7 miles of the Hudson River Greenway, a pedestrian and adjacent bike path that extends along the entire length of the park. In the southern portion of the study area, the Greenway runs along the Greenwich Village Esplanade, which also includes grass lawns and seating areas. The study area includes four of the Hudson River Park renovated piers and adjacent upland areas. Piers 62, 63, 64, and 66 contain various active open space features, as well as a network of paths and seating areas. 14th Street Park is separated from

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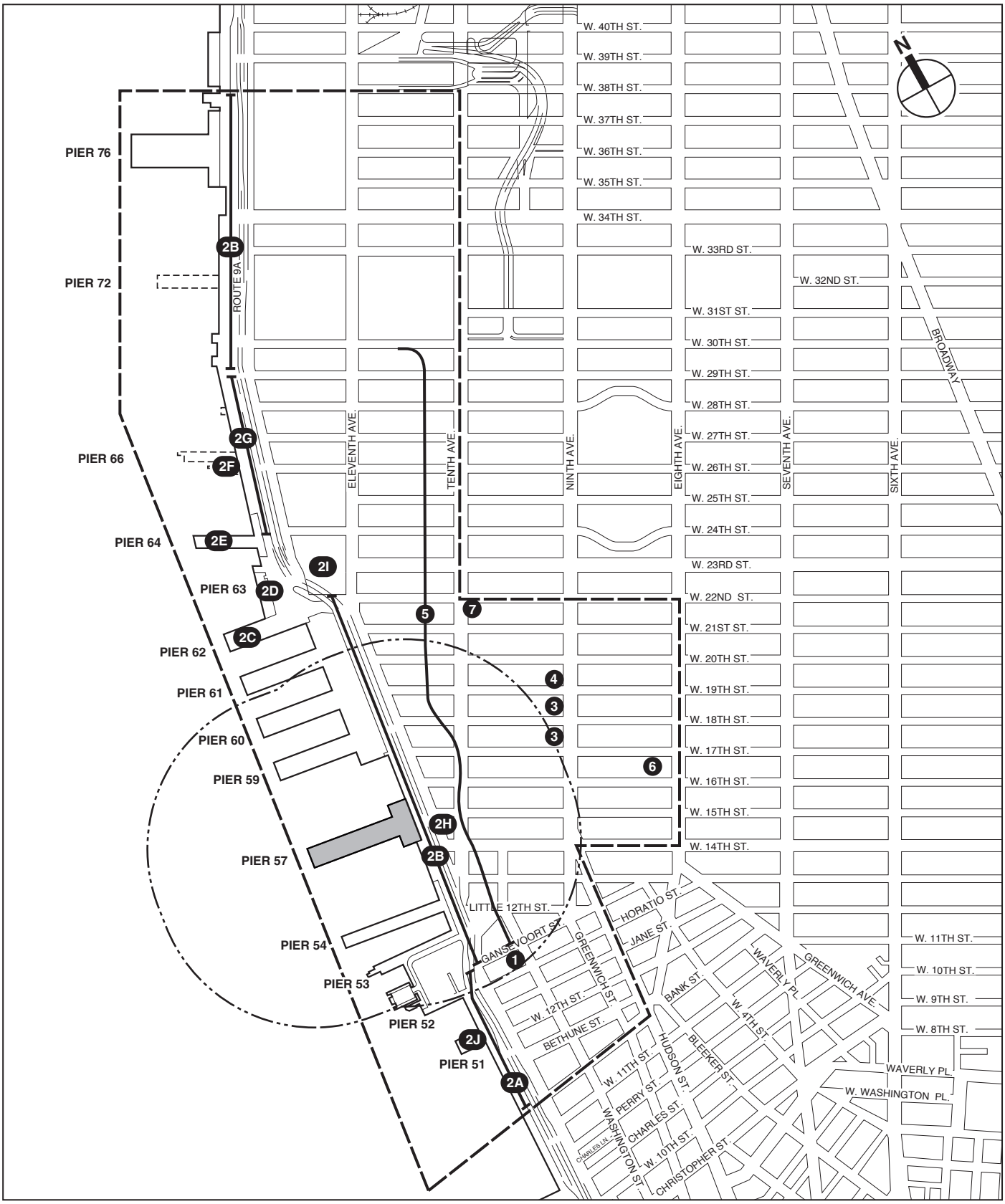


Project Site

Study Area Boundary (1/4-Mile Perimeter)

1 *Open Space Resource*

Open Space Study Area Boundary

Open Space Resources

Figure 5-2

the Greenway and piers by Route 9A but is part of in Hudson River Park and serves to connect the waterfront to the surrounding commercial and residential uses. The park is entirely comprised of passive open space in the form of a grass oval surrounded by seating. Similarly, Chelsea Waterside Park is a stand-alone component of Hudson River Park at 23rd Street, and includes many active open space resources, connected by passive paths and seating.

Table 5-3
Study Area Open Space Inventory

	Name and Location	Owner	Features	Size (Acres)			Condition/ Utilization
				Passive Space	Active Space	Total Space	
1	99 Jane Street	Rockrose Dvlpmt Corp.	Water feature, seating, trees, planters	0.23	0	0.23	Excellent/Moderate
2	**Hudson River Park[2]**						
2A	*Greenwich Village Esplanade (from Bank to Gansevoort Streets)*	*HRPT*	*Running and biking paths, benches, grass lawn, children's playground*	*1.09*	*1.09*	*2.18*	*Excellent/High*
2B	*Route 9A Bikeway (from Gansevoort Street to W 22nd Street and W 29th Street to W 38th Street)*	*NYSDOT*	*Running and biking paths*	*0*	*2.49*	*2.49*	*Excellent/High*
2C	*Pier 62 and upland area*	*HRPT*	*Skate Park, carousel, garden, seating*	*1.13*	*1.12*	*2.25*	*Excellent/High*
2D	*Pier 63 and upland area*	*HRPT*	*Esplanade, seating, grass lawn, garden*	*2.25*	*2.25*	*4.50*	*Excellent/High*
2E	*Pier 64 and upland area*	*HRPT*	*Grass lawn, seating*	*1.13*	*1.12*	*2.25*	*Excellent/High*
2F	*Pier 66 and upland area*	*HRPT*	*Boathouse and docks*	*0.15*	*0.15*	*0.30*	*Excellent/High*
2G	*Route 9A Bikeway and Hudson River Park upland (from W 24th Street to W 29th Street)*	*HRPT/ NYSDOT*	*Running and biking paths, benches, grass lawn*	*1.15*	*2.68*	*3.83*	*Excellent/High*
2H	*14th Street Park*	*HRPT*	*Grass lawn, tables, benches, and chairs, trees, and flowers*	*0.60*	*0.00*	*0.60*	*Excellent/Moderate*
2I	*Chelsea Waterside Park*	*HRPT*	*Sports field, basketball court, dog run, children's playground with water features*	*0.63*	*1.87*	*2.50*	*Excellent/High*
2J	*Pier 51*	*HRPT*	*Children's playground with water and sand features, seating*	*0.09*	*0.28*	*0.37*	*Excellent/High*
3	Fulton Houses Open Space	NYCHA	Basketball courts, benches	1.37	0.20	1.57	Moderate/Low
4	Fulton Houses Playground	NYCHA	Children's playground, benches	0.03	0.04	0.07	Moderate/Low
5	The High Line	DPR	Paths, landscaping, seating	6.73	0.00	6.73	Excellent/High
6	Dr. Gertrude B Kelly Playground	DPR	Play equipment, basketball courts, handball courts, benches	0.11	0.42	0.53	Good/High
7	Clement Clarke Moore Park	DPR	Swings, play equipment, sprinkler, benches, picnic tables	0.10	0.39	0.49	Good/High
			Study Area Total	**16.79**	**14.10**	**30.89**	

Notes: 1. See **Figure 5-2** for open space locations.

2. The portion of Hudson River Park in the study area is comprised of open spaces 2A through 2I, which are presented separately for clarity and because of location and active/passive features.

HRPT = Hudson River Park Trust; DPR = New York City Department of Parks and Recreation; NYCHA = New York City Housing Authority

Although a portion of Hudson River Park Pier 54 is currently open to the public as a learn-to-bike area, large sections of the pier have been closed because of deteriorated structural piles. Therefore, it is conservatively excluded from this analysis.

Sources: New York City Department of Parks and Recreation open space database; Hudson River Park Trust; AKRF, Inc. field surveys July 2011; NYCHA open space acreage calculated using GIS data.

The High Line is also located in the study area. The park was reconstructed from an elevated former freight line stretching from Gansevoort and West 30th Streets. The first section of the High Line from Gansevoort Street to West 20th Street opened to the public in June 2009. The second section opened two years later in June 2011, doubling the park's length to one mile by

extending it to West 30th Street. The park includes 6.73 acres of landscaped grasses, shrubs, and trees along concrete pathways at an elevation of approximately 25 feet. The High Line provides passive open space only.

ADEQUACY OF OPEN SPACES

As described above, the analysis focuses on passive open spaces because these are the open spaces that workers introduced by the proposed project would be most likely to use. **Table 5-4** compares the ratio of existing passive open space per 1,000 workers in the study area with the City guidelines. The study area has a passive open space ratio of 0.44 acres per 1,000 workers, which is far above the City's guideline of 0.15 acres of passive open space per 1,000 workers.

Table 5-4
Existing Conditions: Adequacy of Open Space Resources

Worker Population	Guideline Ratios (Acres/1,000 Workers)	Passive Acres Needed to Meet Guidelines	Passive Acres Present	Actual Ratio
37,878	0.15	5.7	16.79	0.44

Qualitative Analysis

As shown in **Table 5-2**, the open space resources in the study area are mostly in good or excellent condition and are moderately or highly used. Overall the area is well-served by passive open space resources.

As noted above, Hudson River Park, which is a major destination open space in the City, extends beyond the study area boundaries both to the north and south. Workers within the study area are also served by the portions of Hudson River Park located just outside the study area.

In addition, there are several other open spaces that provide passive recreation resources located just outside the study area. These include Chelsea Park, on the south side of West 28th Street running from Ninth Avenue to Tenth Avenue; Corporal John A. Seravalli Playground, on Hudson Street between Gansevoort and Horatio Streets; Bleecker Playground on Bleecker Street between Bank and West 11th Streets; and Jackson Square and Abingdon Square, two small passive open spaces on Eighth Avenue at West 13th Street and West 12th Street, respectively. These nearby spaces add a total of 2.04 acres of public open space, of which approximately 0.77 acres are passive.

THE FUTURE WITHOUT THE PROPOSED PROJECT

OPEN SPACE USER POPULATION

In the No Action condition, the project site will remain vacant with no employees on site. As described in Chapter 2, "Land Use, Zoning, and Public Policy," several new developments in the study area are planned or under construction and are expected to be completed by 2015. These

developments will introduce approximately 4,489 new workers and visitors to the study area.[1] The total worker population in the study area will increase to approximately 42,367 workers.

OPEN SPACE INVENTORY

The Whitney Gansevoort Museum, described in Chapter 2, "Land Use, Zoning, and Public Policy," will add 0.2 acres of publicly accessible passive open space in the form of an outdoor plaza or "largo." Section 3 of the High Line, from West 30th Street to West 34th Street, is expected to be developed in the future, but there are currently no plans for this project. None of the other developments expected to be completed by 2015 would add any open space to the study area. With the completion of the outdoor plaza at the Whitney Gansevoort Museum, the total passive open space in the study area will increase to 16.99 acres.

ADEQUACY OF OPEN SPACES

Quantitative analysis

Though the development projects expected to be completed in the study area in the No Action condition would generate a substantial number of workers and therefore place more demand on the open spaces in the study area, the area would remain well-served by open space resources. The ratio of passive open space per 1,000 workers would be 0.40 acres, still well above the City's guideline ratio of 0.15 acres per 1,000 workers (see **Table 5-5**).

Table 5-5
No Action Condition: Adequacy of Open Space Resources

Worker Population	Guideline Ratios (Acres/1,000 Workers)	Passive Acres Needed to Meet Guidelines	Passive Acres Present	Actual Ratio
42,367	0.15	6.36	16.99	0.40

Qualitative analysis

In the No Action condition, as in existing conditions, the workers in the study area will continue to be served by the parks located just outside of the study area. In addition, in the longer-term future it is expected that a large new portion of Hudson River Park will open on the Gansevoort Peninsula (near Piers 52 and 53) once the City of New York Department of Sanitation uses are relocated and HRPT secures funding for construction. This open space will provide additional recreational resources for the study area population.

[1] Employment density ratios were applied to the expected square footage for each use to estimate future employment. The ratios used assume one worker each per: 400 square feet of retail space; 200 square feet of restaurant space; three hotel rooms (600 square feet per hotel room); 250 square feet of office space; 800 square feet of community facility space; 1,000 square feet of industrial space; and 50 parking spaces. For the proposed project, additional standards of 11 FTE workers per theater and 6 FTE workers per each 100-slip marina were used.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

DIRECT EFFECTS

The With Action condition would have a positive direct effect on open space by creating a publicly accessible open space on the project site and enlivening a vacant pier structure within Hudson River Park. Approximately 2.5 acres of publicly accessible open space would be developed on the project site, both at grade through the addition of a perimeter walkway, and on the rooftop. The proposed project would not have any adverse impacts on open space in terms of air quality, odors, or shadows.

Noise levels in the new project-created open space areas would be above the 55 dBA $L_{10(1)}$ guideline noise level prescribed by CEQR criteria due to a combination of high existing noise levels generated by traffic on Route 9A, amplified sound from events at the proposed project, and operation of the proposed project's marina and water taxi landing, and would therefore constitute a significant adverse noise impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the proposed open space areas. However, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. The 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet; however, due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) this relatively low noise level is often not achieved. Therefore, the significant adverse noise impact would not affect the usefulness of the proposed open space, and thus would not result in a significant adverse direct impact on the proposed open space.

See Chapter 6, "Shadows," Chapter 15 "Air Quality," and Chapter 17, "Noise" for additional information.

INDIRECT EFFECTS

Open Space User Population

The proposed project would result in the development of new retail, restaurant and other commercial uses, educational and cultural uses, public open space, parking and a marina. The proposed project is estimated to introduce approximately 800 FTE workers. In addition, the number of visitors to the project site would be expected to reach approximately 2,920 during a peak hour on weekends during non-event conditions, resulting in a maximum of 3,720 new workers and visitors in the study area. Therefore, the proposed project is expected to increase the study area's worker and non-residential population to 46,087.

It is expected that visitors to the proposed project would utilize the open space on the rooftop of the headhouse or areas of Hudson River Park immediately adjacent to the project site, although they may also use other nearby open spaces, including the High Line. Therefore, the analysis that follows conservatively includes this peak-hour visitor population in the assessment of the potential impacts of the proposed project.

Open Space Inventory

As previously described, the proposed project would create approximately 2.5 acres of publicly accessible open space on the project site. In the With Action condition, the study area's total passive open space acreage would increase to 19.49 acres. This new open space would consist of walkways and a landscaped roof on the renovated headhouse of the pier. The existing perimeter walkway around the pier would be repaired and extended to connect with the existing Hudson River Park waterfront esplanade. New public walkways would also be constructed parallel to the existing bulkhead to widen the public park space adjacent to a busy circulation area. These new walkways would extend north and south just east of the headhouse. The majority of the open space added by the proposed project would be built on the rooftop of the pier shed, and would be designed to accommodate up to 2,500 people for some programmed events. This open space would consist of open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western portions of the rooftop would provide flexible space for seating, relaxation, and views of the river. These areas could include some wooden decking, hardscape, paving, and small lawn areas. The center of the rooftop would contain a pavilion with a public deck on the roof, and wide stairs on the east that would function as seating areas during some events.

All of these open space components would be considered passive, though some occasional temporary installations associated with rooftop programming could include active recreational facilities. This is not considered in the quantitative analysis because it does not represent permanent active open space. In addition, it should be noted that the rooftop space, while primarily public, would periodically be used by the Tribeca Film Festival for film screenings, art or other cultural and sports-related installations. These events would be free to the public but capacity may be limited by ticketing.

Adequacy of Open Spaces

Quantitative Analysis

In the With Action condition, the ratio of passive open space acreage per 1,000 workers would increase from 0.40 in the future without the proposed project to 0.42, an increase of 5.5 percent (see **Table 5-6**). The passive open space ratio would remain well above the City's guideline of 0.15 acres per 1,000 workers.

Table 5-6
With Action Condition: Adequacy of Open Space Resources

Worker and Visitor Population	Guideline Ratios (Acres/1,000 Workers)	Passive Acres Needed to Meet Guidelines	Passive Acres Present	Actual Ratio
46,087	0.15	6.91	19.59	0.42

Qualitative Analysis

By creating 2.5 acres of new public open space and activating an underutilized section of the waterfront, the proposed project represents a substantial improvement to open space resources in the area. The open space at Pier 57 will be easily accessible from the Hudson River Greenway, and would open a new portion of the waterfront to public access. In addition, as mentioned above, it is expected that a large new portion of Hudson River Park would open on the Gansevoort Peninsula (near Piers 52 and 53) in the longer term future. This open space would provide additional recreational resources for the study area population.

D. CONCLUSIONS

As discussed above, the proposed project would increase the passive open space ratio in the study area by 5.5 percent over the No Action condition. The open space ratio for workers in the study area would remain well over the City's recommended guideline ratio, and the open space conditions in the area would be greatly improved with the addition of new open space on the waterfront and the enlivening of a vacant and underutilized portion of Hudson River Park. Furthermore, the proposed project would not result in any adverse direct effects to open space related to shadows, air quality, or odors. In addition, although noise levels in the proposed open space would be above the 55 dBA $L_{10(1)}$ guideline noise level, this noise level would not constitute a significant adverse direct impact on the proposed open space, as described above. Therefore, the proposed project would not result in any significant adverse impacts on open space in the study area, and a more detailed analysis is not warranted. ✷

Chapter 6: Shadows

A. INTRODUCTION

This chapter examines whether the proposed project would cast new shadows on any sunlight-sensitive resources and assesses the possible effects of any such new shadows. Public open spaces, historic, cultural, and natural resources are all potentially sunlight-sensitive resources, and, therefore, this chapter is linked to the information presented in other sections of this environmental impact statement (EIS), particularly Chapter 5, "Open Space," Chapter 7, "Historic Resources," and Chapter 9, "Natural Resources."

According to the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a shadows assessment is required if a proposed project would result in structures (or additions to existing structures) of 50 feet or more, or be located adjacent to, or across the street from, a sunlight-sensitive resource. As described in Chapter 1, "Project Description," the project would include the construction of rooftop additions, both on the pier's headhouse and on the finger building, or pier shed. On the north side of the lower headhouse rooftop, a new enclosure would be built to provide additional space for retail. This new enclosure would be lower than the east headhouse façade along Eleventh Avenue, but higher than the north façade. Another enclosure would be built in the center of the upper headhouse rooftop. This enclosure would be lower than the east headhouse façade along Eleventh Avenue, but would be higher than the north and south façades of the headhouse. On the pier shed roof, a new pavilion and three shade structures would be constructed. In addition, the proposed project would include a marina, which would result in new shadows on the Hudson River.

None of the new additions would reach 50 feet in height. However, the project site is adjacent to the Hudson River, an important natural resource, as well as the Hudson River Park waterfront esplanade and the Route 9A bikeway, located adjacent to Hudson River Park. Therefore, a shadows assessment is warranted.

PRINCIPAL CONCLUSIONS

New shadows from the proposed rooftop structures and marina would fall on the Hudson River in all seasons, and on small areas within Hudson River Park adjacent to Pier 57 in the fall, winter, and early spring. The new shadows would be limited in extent and duration and would not cause significant adverse impacts to these resources.

B. DEFINITIONS AND METHODOLOGY

DEFINITIONS

Incremental shadow is the additional, or new, shadow that a structure resulting from a proposed project would cast on a sunlight-sensitive resource.

Sunlight-sensitive resources are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Such resources generally include:

- *Public open space* (e.g., parks, beaches, playgrounds, plazas, schoolyards, greenways, landscaped medians with seating). Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural historic resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered, as opposed to the entire resource. Such sunlight-sensitive features might include: design elements that depend on the contrast between light and dark (e.g., recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.
- *Natural resources where the introduction of shadows could alter the resource's condition or microclimate*. Such resources could include surface water bodies, wetlands, or designated resources such as coastal fish and wildlife habitats.

Non-sunlight-sensitive resources, for the purposes of CEQR, include:

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space);
- *Project-generated open space.* Project-generated open space cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, a qualitative discussion of shadows on a project-generated open space should be included in an analysis.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether shadow from the proposed rooftop additions could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the proposed additions that represents the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.

If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by project-generated shadow by looking at specific representative days of the year and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration

of the incremental shadow resulting from the project, taking into account existing buildings and their shadows. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

C. PRELIMINARY SCREENING ASSESSMENT

A base map was developed using Geographic Information Systems (GIS)[1] showing the proposed project and the surrounding river and street layout. In coordination with the information regarding open space, historic, and natural resources presented in other sections of this EIS, potentially sunlight-sensitive resources were identified and shown on the map.

TIER 1 SCREENING ASSESSMENT

According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.27 times the height of the structure.

Using the longest shadow distance as a radius, a perimeter was drawn around the rooftop structures. The assessment concluded that project-generated shadow would be long enough to reach portions of the Hudson River, the Hudson River Park waterfront esplanade, and the Route 9A bikeway. No other sunlight-sensitive resources could be affected by project-generated shadow.

TIER 2 SCREENING ASSESSMENT

Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. The complementing area to the east, north and west represents the remaining area that could potentially experience new project-generated shadow. Since portions of the Hudson River, the Hudson River Park waterfront esplanade, and the Route 9A bikeway were located within the remaining shadow study area to the northeast and northwest, additional assessment was required.

TIER 3 SCREENING ASSESSMENT

A Tier 3 assessment is typically conducted to further refine the area that could be reached by project-generated shadow, by using three-dimensional (3D) computer software to model specific representative days of the year and determining the maximum extent of shadow from the proposed structures over the course of each representative day.

The Tier 3 assessment indicated that shadow from the proposed rooftop structures could, absent existing structures such as the pier shed and the headhouse, fall on the river in all seasons and on the Hudson River Park waterfront esplanade and Route 9A bikeway in the fall, winter and early spring. Consequently, a detailed analysis was necessary to determine the extent and duration of project-generated shadows, given the existing structures and the shadows they already cast.

[1] Software: Esri ArcGIS 10; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies

D. DETAILED SHADOW ANALYSIS

The direction and length of shadows vary throughout the course of the day and also differ depending on the season. In order to determine when shadow from the proposed rooftop additions could fall on the river, Hudson River Park waterfront esplanade and Route 9A bikeway, 3D computer mapping software is used to calculate and display the proposed project's shadows on individual representative days of the year.[1]

Shadows on the summer solstice (June 21), winter solstice (December 21) and spring and fall equinoxes (March 21 and September 21, which are approximately the same in terms of shadow patterns) are modeled, to represent the range of shadows over the course of the year. An additional representative day during the growing season is also modeled, generally the day halfway between the summer solstice and the equinoxes, i.e., May 6 or August 6, which have approximately the same shadow patterns.

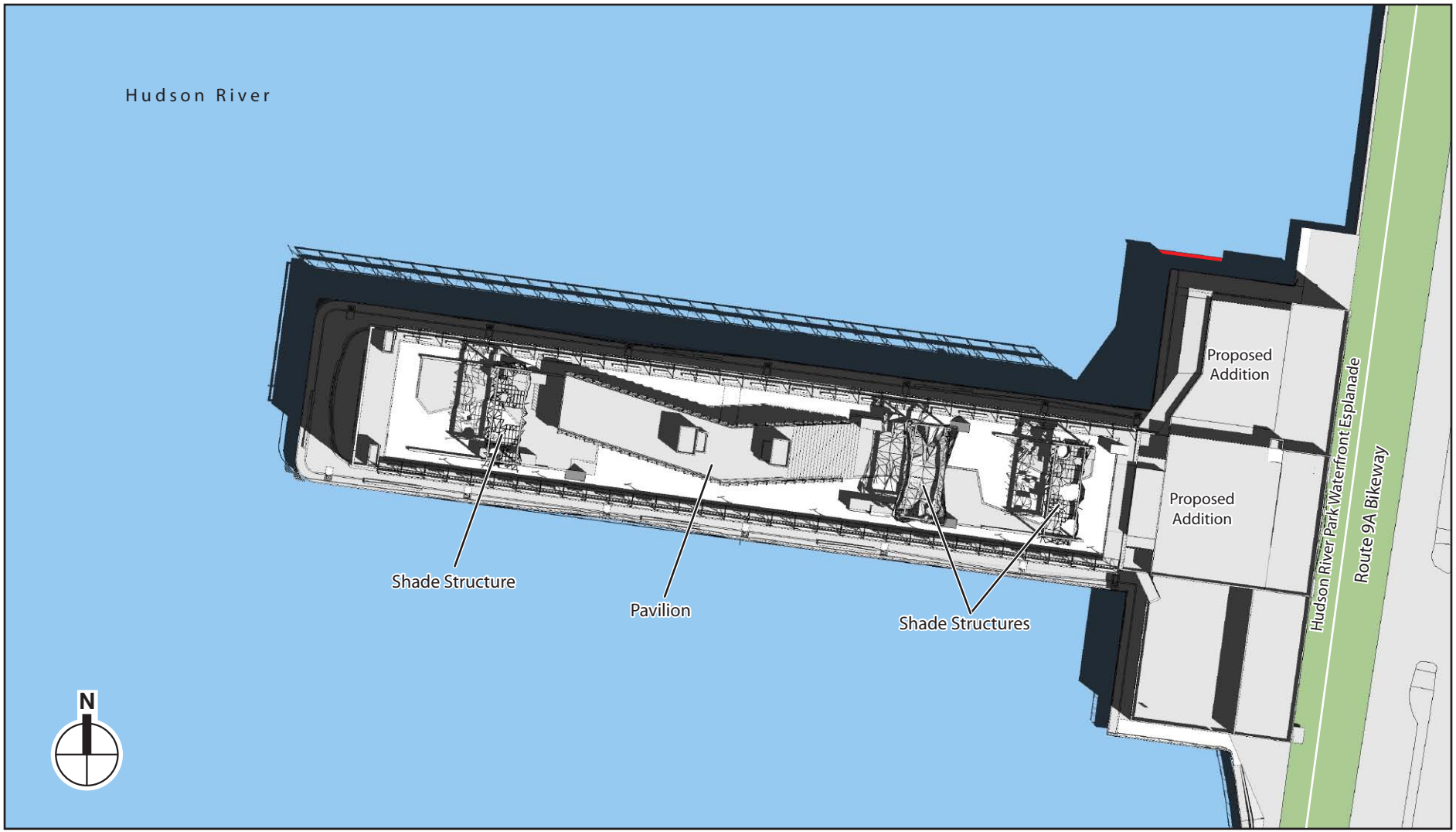
The shadow assessment considers shadows occurring between one and a half hours after sunrise and one and a half hours before sunset. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at tangential angles, diminishing the amount of solar energy and producing shadows that are long, move fast, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring outside the timeframe of analysis are not considered significant under CEQR, and their assessment is not required.

The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project, and to assess their effects. The detailed analysis establishes a baseline condition (the future without the proposed project, or No Action condition) that is compared with the future with the proposed project (With Action condition) to illustrate the additional (incremental) shadow cast by the project. Because existing structures may already cast shadows on a sun-sensitive resource, the proposed project may not result in additional, or incremental, shadows upon that resource.

The analysis results are described below for each analysis day. **Table 6-1** summarizes the results of the detailed analysis. It shows the entry and exit times and total duration of project-generated incremental shadow on each affected resource. **Figures 6-1** through **6-11** document the results of the analysis by providing graphic representations or "snapshots" of times when incremental shadow would fall on a sun-sensitive resource. The figures illustrate the extent of additional, incremental shadow at that moment in time, highlighted in red, and also show existing shadow and remaining areas of sunlight. The proposed rooftop additions on the headhouse, pavilion, and shade structures are indicated on these figures.

The section of Hudson River Park adjacent to Pier 57 consists of the Hudson River Park waterfront esplanade. The Route 9A bikeway is located adjacent to Hudson River Park to the east. Narrow landscaped areas are located in the area between the Hudson River Park waterfront esplanade and the Route 9A bikeway, and the Route 9A bikeway and the Route 9A roadway. For this assessment, the entire width of the Hudson River Park waterfront esplanade and the Route 9A bikeway containing these elements is shown as sunlight-sensitive, due to the vegetation as well as the active and passive recreational uses.

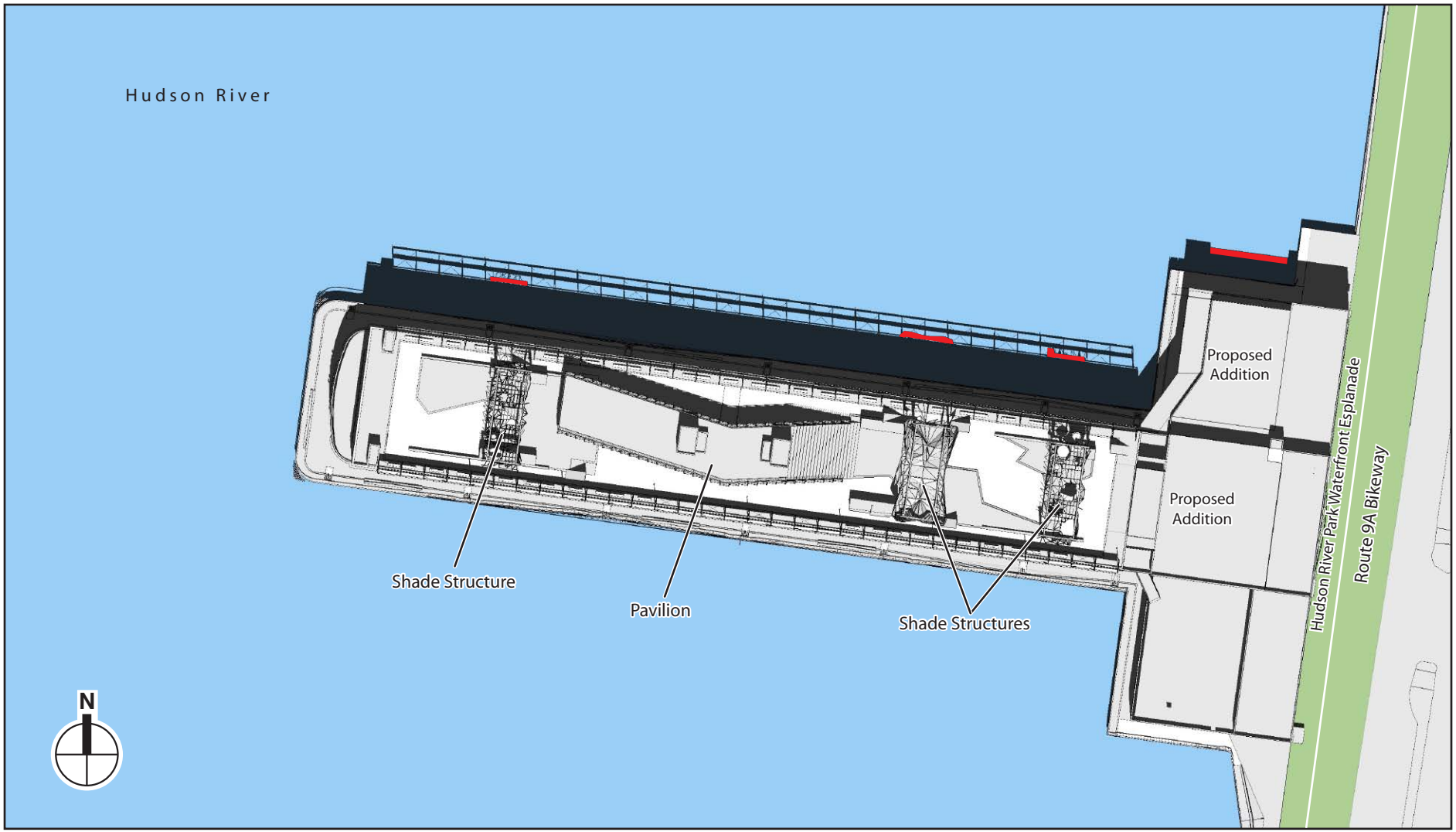
[1] Software: MicroStation V8i



Incremental Shadow on Sunlight-Sensitive Resource

March 21/Sept. 21 - 9:30 AM EST

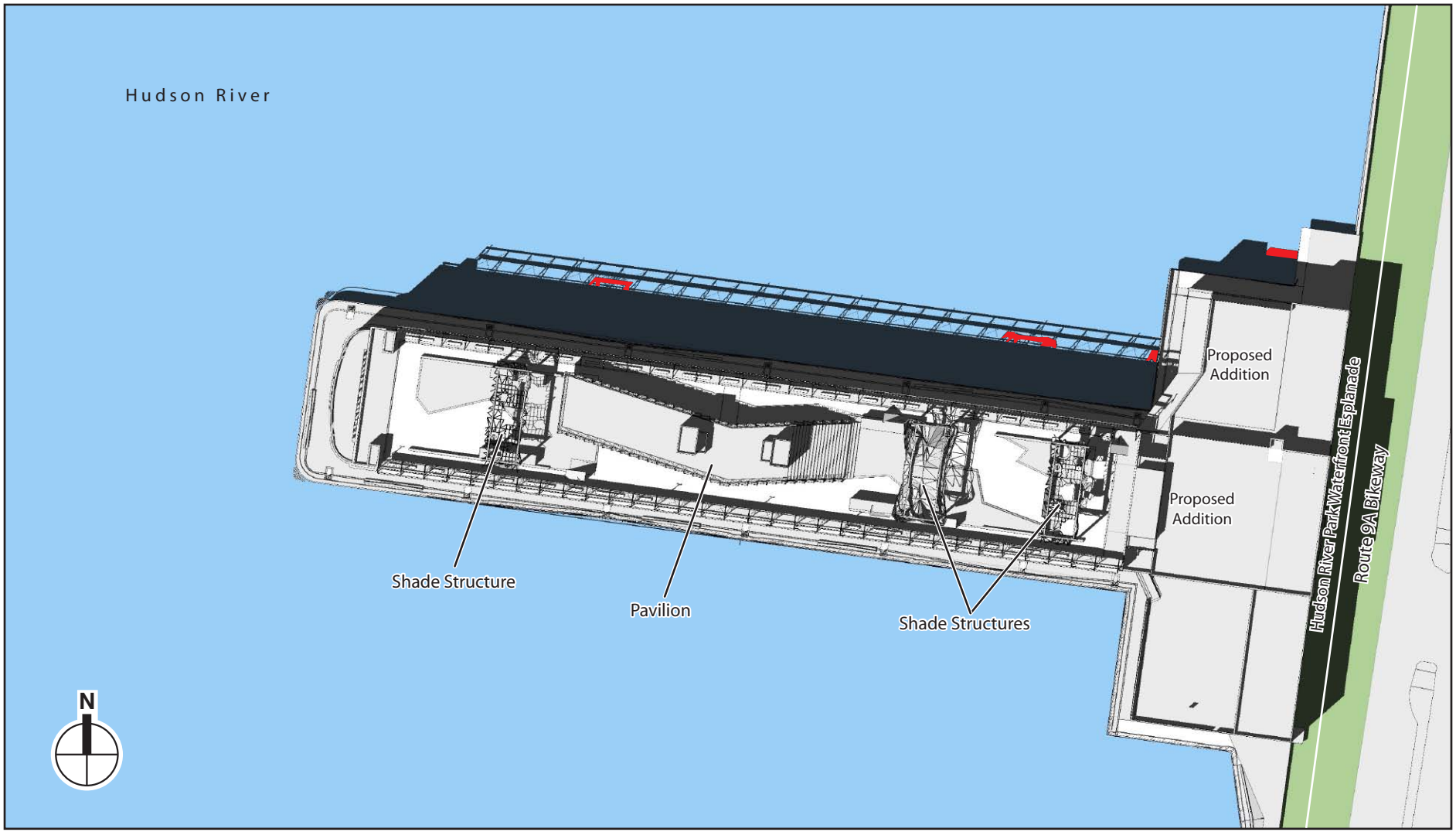
Figure 6-1



Incremental Shadow on Sunlight-Sensitive Resource

March 21/Sept. 21 - 12:00 PM EST

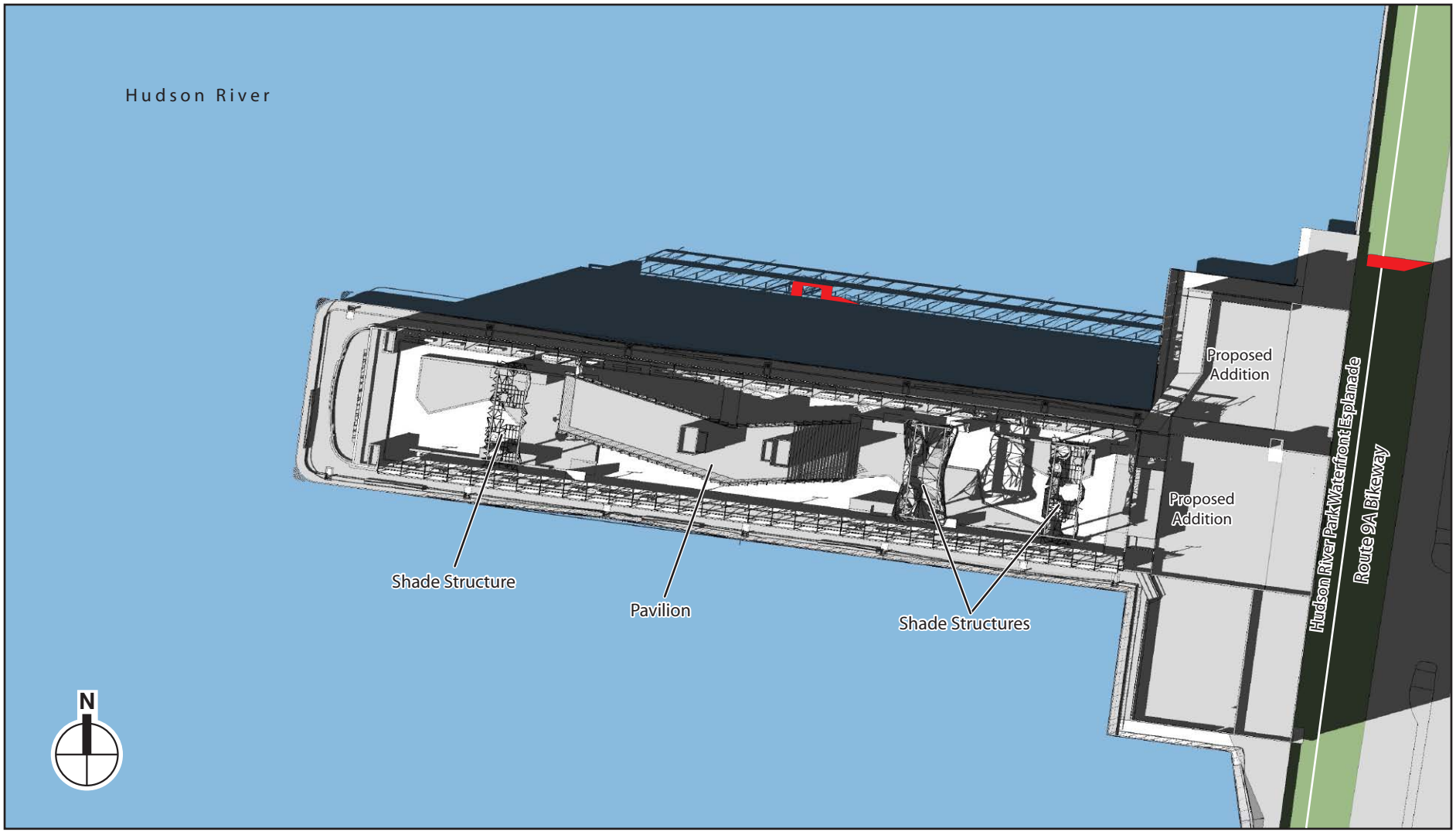
Figure 6-2



Incremental Shadow on Sunlight-Sensitive Resource

March 21/Sept. 21 - 2:30 PM EST

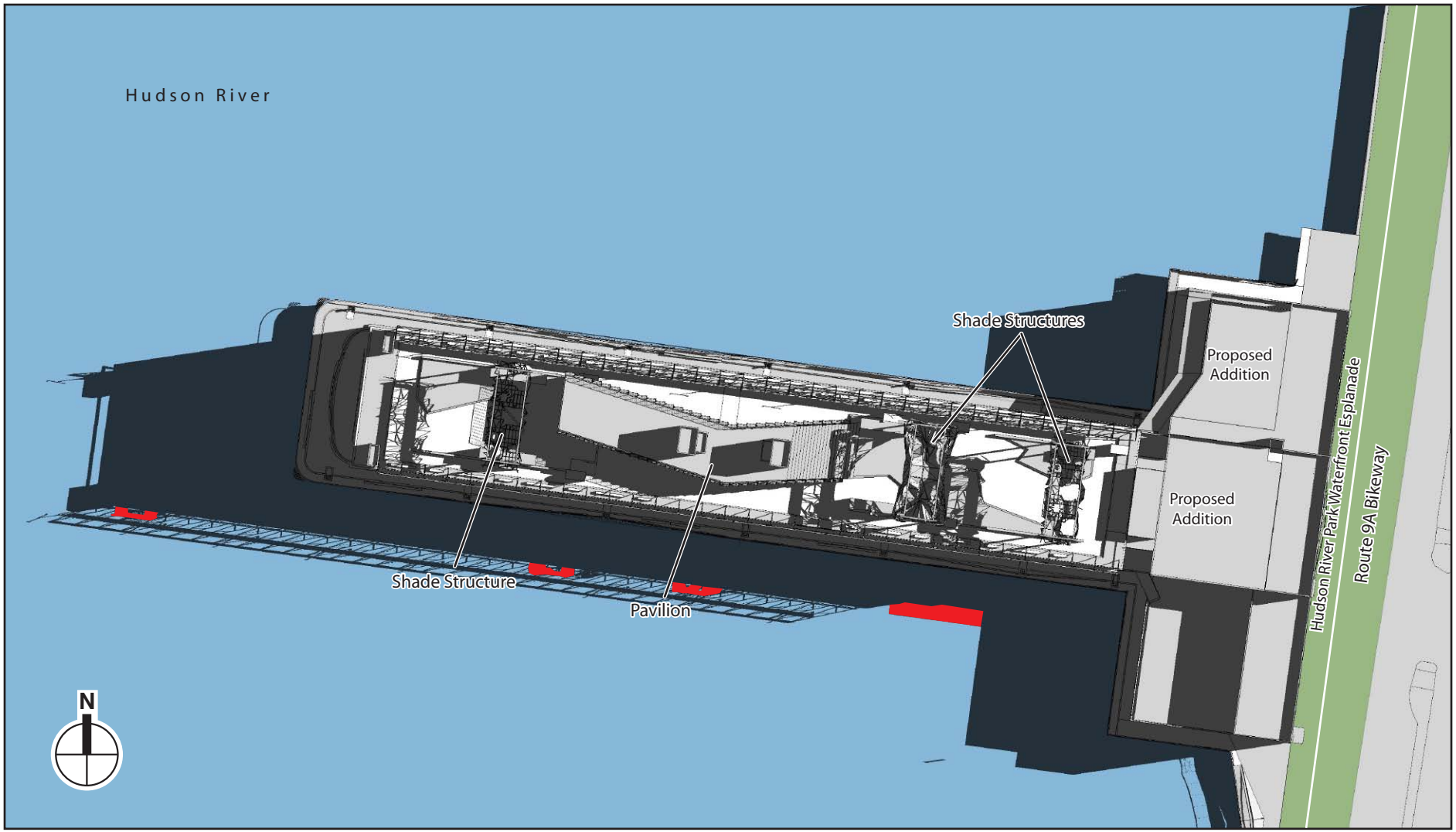
Figure 6-3



Incremental Shadow on Sunlight-Sensitive Resource

March 21/Sept. 21 - 4:29 PM EST

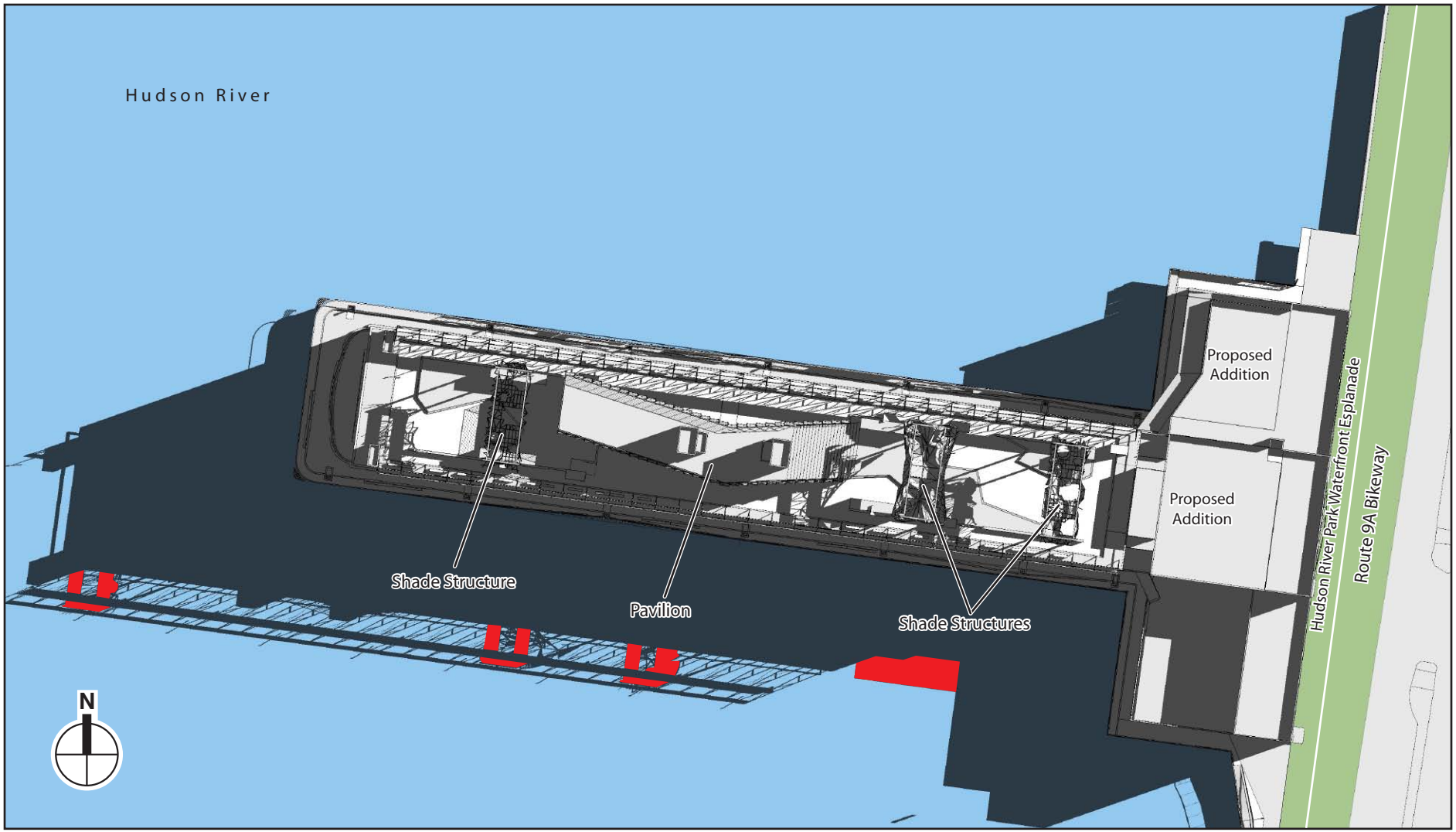
Figure 6-4



Incremental Shadow on Sunlight-Sensitive Resource

May 6/August 6 - 6:27 AM EST

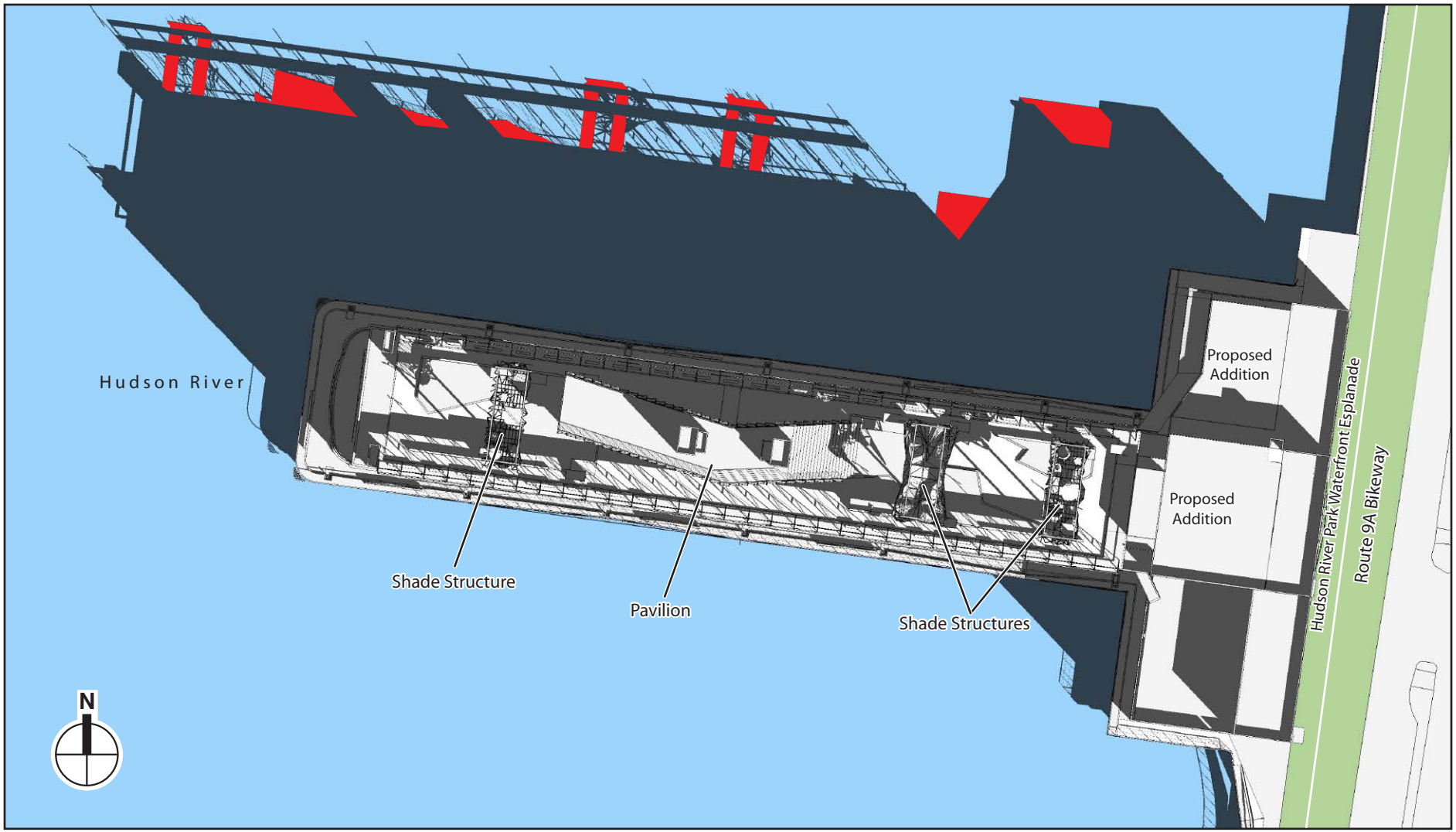
Figure 6-5



Incremental Shadow on Sunlight-Sensitive Resource

June 21 - 5:57 AM EST

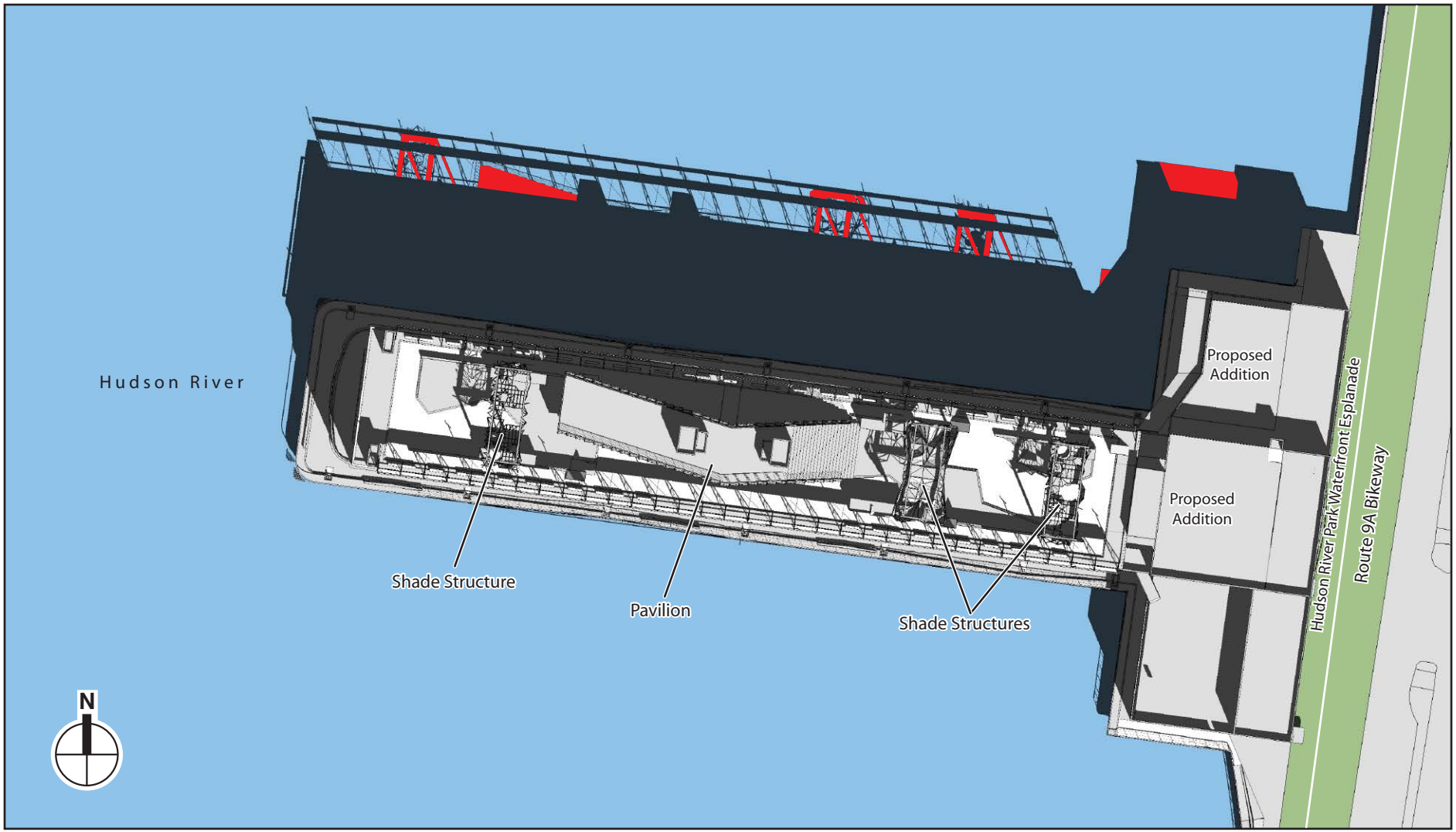
Figure 6-6



Incremental Shadow on Sunlight-Sensitive Resource

December 21 - 8:51 AM EST

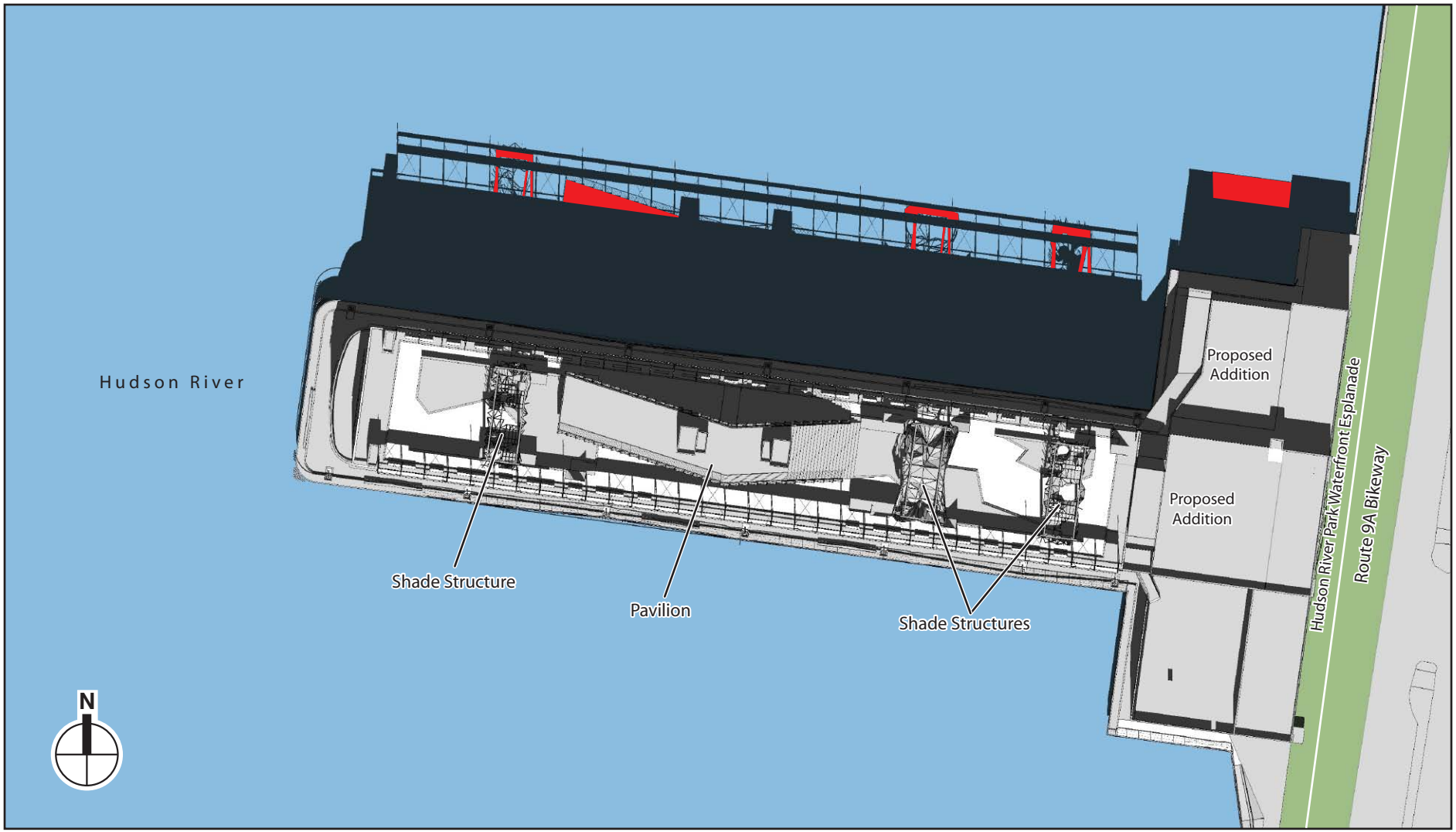
Figure 6-7



Incremental Shadow on Sunlight-Sensitive Resource

December 21 - 10:30 AM EST

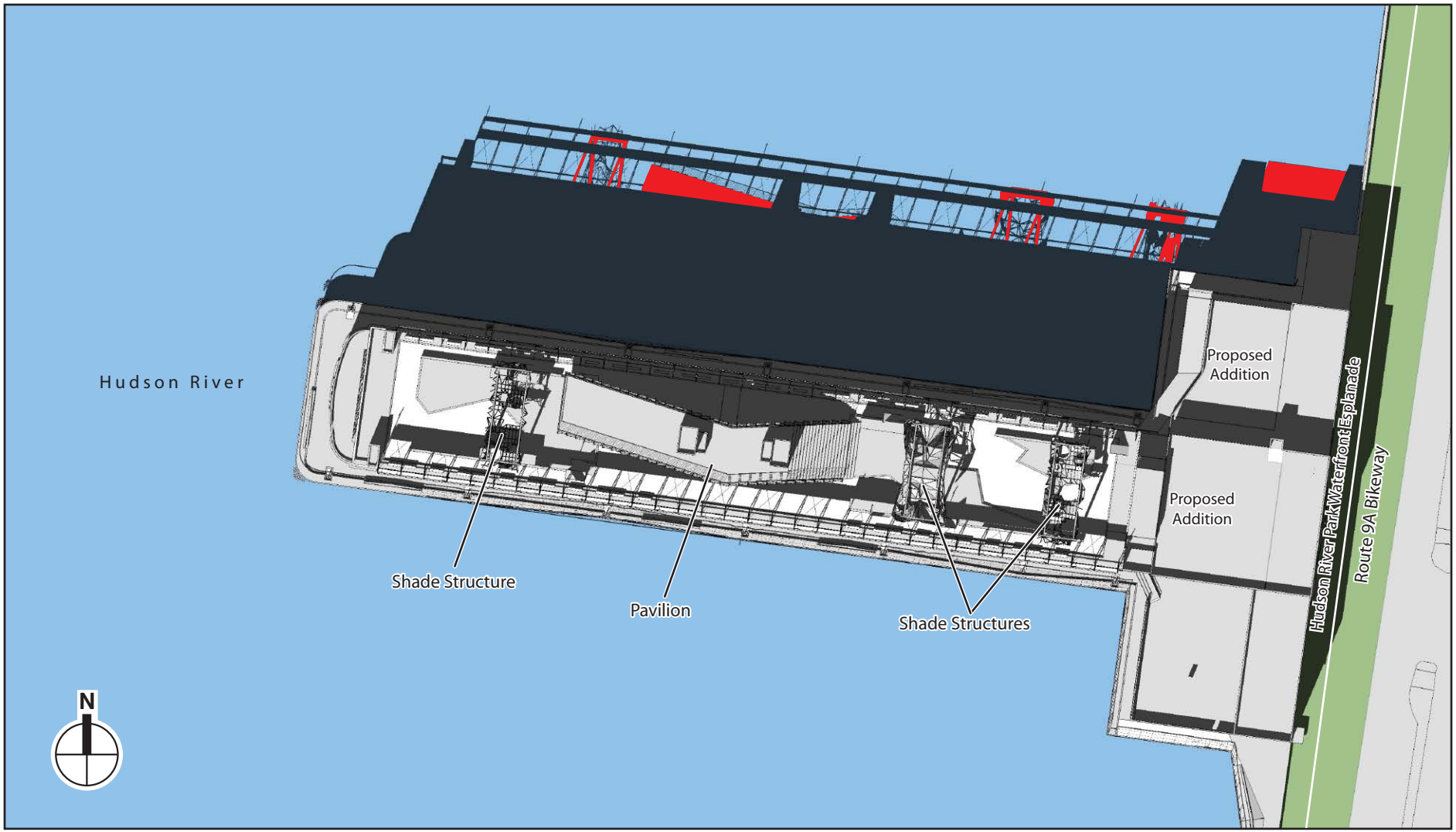
Figure 6-8



Incremental Shadow on Sunlight-Sensitive Resource

December 21 - 12:00 PM EST

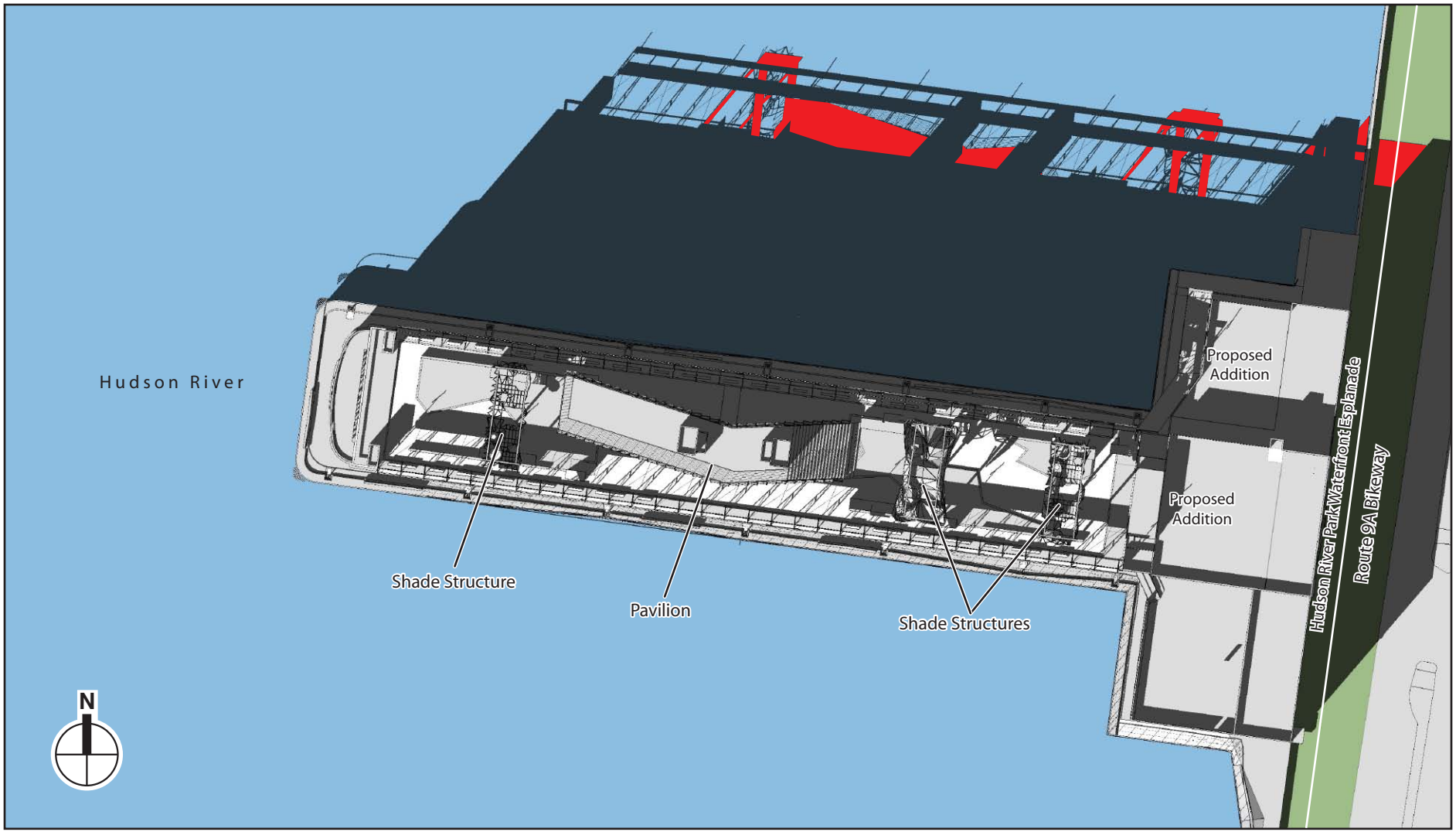
Figure 6-9



Incremental Shadow on Sunlight-Sensitive Resource

December 21 - 1:30 PM EST

Figure 6-10



Incremental Shadow on Sunlight-Sensitive Resource

December 21 - 2:53 PM EST

Figure 6-11

Table 6-1
Incremental Shadow Durations from Pier 57 Modifications

Sun-sensitive resources	March 21 / Sept. 21 7:36 AM-4:29 PM	May 6 / August 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM	December 21 8:51 AM-2:53 PM
Hudson River	8:30 AM–4:29 PM Total: 7 hr 59 min	6:27 AM–7:00 AM Total: 33 min	5:57 AM–7:30 AM Total: 1 hr 33 min	8:51 AM–2:53 PM Total: 6 hr 2 min
Hudson River Park / Route 9A Bikeway	3:30 PM–4:29 PM Total: 59 min	—	—	2:30 PM–2:53 PM Total: 23 min

Notes: Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource. Daylight saving time is not used.

The proposed marina surrounding the pier would consist of slips and walkways on or just above the surface of the Hudson River, and piles under it. It may also include a water taxi landing. The walkways and water taxi landing would cast shadow directly onto the surface of the water. It is therefore not necessary to analyze them further to determine where their shadows would fall. The proposed marina and the shadows it would cast on the water are not shown in the figures, in order to clarify the shadows from the rooftop structures, but are discussed in the section "Probable Impacts of the Proposed Project" below.

MARCH 21/SEPTEMBER 21

On March 21 and September 21, shadows are of moderate length, and shadows from the proposed rooftop additions would reach past the edges of the existing pier shed or headhouse to fall on very small portions of the river for most of the day, and the bikeway and esplanade for about the final hour of the analysis day (see Figures 6-1 to 6-4). Specifically, the proposed enclosure on the north side of the headhouse would cast a small area of shadow north onto a section of the river beginning at 8:30 AM; this area of shadow would move eastward over the course of the day until about 3:15 PM when it would move off the river completely. From 3:30 PM until 4:29 PM this shadow would fall on a small area of the bikeway. Beginning at about 10:30 AM, shadows from the tops of the shade structures on the pier shed roof would fall on portions of the river, moving eastward across the surface of the water until the end of the analysis day at 4:29 PM.

MAY 6/AUGUST 6

On this late spring and summer analysis day, shadows are shorter but fall further south at the start and end of the day. Shadows from the shade structures would briefly fall on the river to the southwest in the first several minutes of the analysis day (see Figure 6-5), but after that they would be too short to fall beyond the shed roof onto the river at any point for the rest of the day. The proposed new enclosure on the center portion of the headhouse roof would cast a new shadow on the river during the first half hour of the analysis day.

JUNE 21

Shadows are shortest on this day, and similar to May 6 and August 6, small incremental shadows would fall briefly on the river early in the morning, for a total of about an hour and a half (see Figure 6-6).

DECEMBER 21

On December 21, shadows are longest. Incremental shadow from the upper parts of the shade structures, pavilion, and headhouse addition would move across portions of the river north of the

pier all day (see Figures 6-7 to 6-11). Incremental shadow would also fall on a small section of the bikeway and esplanade for the final 23 minutes of the analysis day.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

HUDSON RIVER

The portions of the Hudson River that are adjacent to the project site are part of the Hudson River Park Estuarine Sanctuary. On the March 21/September 21 and December 21 analysis days, small areas of incremental shadow would move across portions of the river for long durations. On the late spring and summer analysis days, the duration of new shadow would be limited to an hour and a half or less, and would be small for most of the affected period.

The areas of new shadow would move over the course of the day, not falling on one particular area for long. The current flows swiftly in the Hudson River and would move phytoplankton and other natural elements quickly through the shaded areas. The areas of the river that would receive the longest durations of new shadows would continue to receive ample sunlight in the midday and afternoon, because there are no intervening structures to the west. Therefore, given their limited duration and extent, incremental shadows generated by the proposed project would not have significant adverse impacts on primary productivity within the Hudson River.

As noted above, the proposed marina's walkways and the proposed water taxi landing would cast shadow onto the river. The proposed marina walkways are anticipated to be approximately 8 feet wide and its fingerfloats 4 feet wide. The proposed water taxi landing would be approximately 30-feet by 60-feet. The total maximum new overwater coverage resulting from the marina and water taxi landing would be about 1.1 acres. Although the proposed project would result in increase in overwater coverage within Hudson River Park, the increase in shading of aquatic habitat would be minimal due to the narrow width of the fingerfloats and walkways. The narrowness of the walkways and the gaps between them would permit some light to reach the water and mudline under them. The New York State Department of Environmental Conservation (NYSDEC) generally considers aquatic habitat under an overwater structure to be shade-impacted after the first 15 feet from the structure's edge. Therefore, as discussed in the natural resources analysis presented in Chapter 9, it was determined that these walkways associated with the marina would be expected to not result in significant adverse impacts to the habitat from shading and would not adversely affect the Hudson River Park Estuarine Sanctuary.

HUDSON RIVER PARK WATERFRONT ESPLANADE AND ROUTE 9A BIKEWAY

Incremental shadow from the proposed rooftop additions would be very small on the Hudson River Park waterfront esplanade and adjacent Route 9A bikeway, would have duration of less than an hour, and would only occur in some months (the fall, winter and early spring). This limited extent and duration of new shadows would not cause a significant adverse impact.

PROJECT-GENERATED OPEN SPACE

The new open spaces that would be developed within the proposed project include rooftop open spaces on the pier shed roof and a perimeter walkway at grade level.

The proposed rooftop open spaces would be mostly in sun throughout all four analysis days, with the exception of small areas adjacent to the proposed pavilion and shade structures on their north sides.

The north side of the proposed perimeter walkway would be in shadow for much of the day in all seasons, except for during early mornings and late afternoons in the late spring and summer. The shorter west section of the walkway would be shaded in the mornings and in sun during the afternoons. The south side of the walkway would be in sun for most of the day in all seasons. As discussed above, these shadows would not constitute a significant adverse impact because without the project the open space would not exist. ✷

Chapter 7: Historic and Cultural Resources

A. INTRODUCTION

This chapter considers the potential of the proposed project to affect architectural and archaeological resources on the project site and in the surrounding area. The proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 in Hudson River Park—a vacant building listed on the State/National Registers of Historic Places—with new public open space, retail, restaurant and other commercial uses, as well as educational and cultural uses, parking and a marina. To develop the proposed project, various discretionary actions would be required, including a zoning map amendment.

PRINCIPAL CONCLUSIONS

As described in detail below, this analysis finds that the proposed project would not have any significant adverse physical, contextual, or visual impacts on the architectural resources on the project site or within the study area, and would not have any significant adverse impacts on archaeological resources.

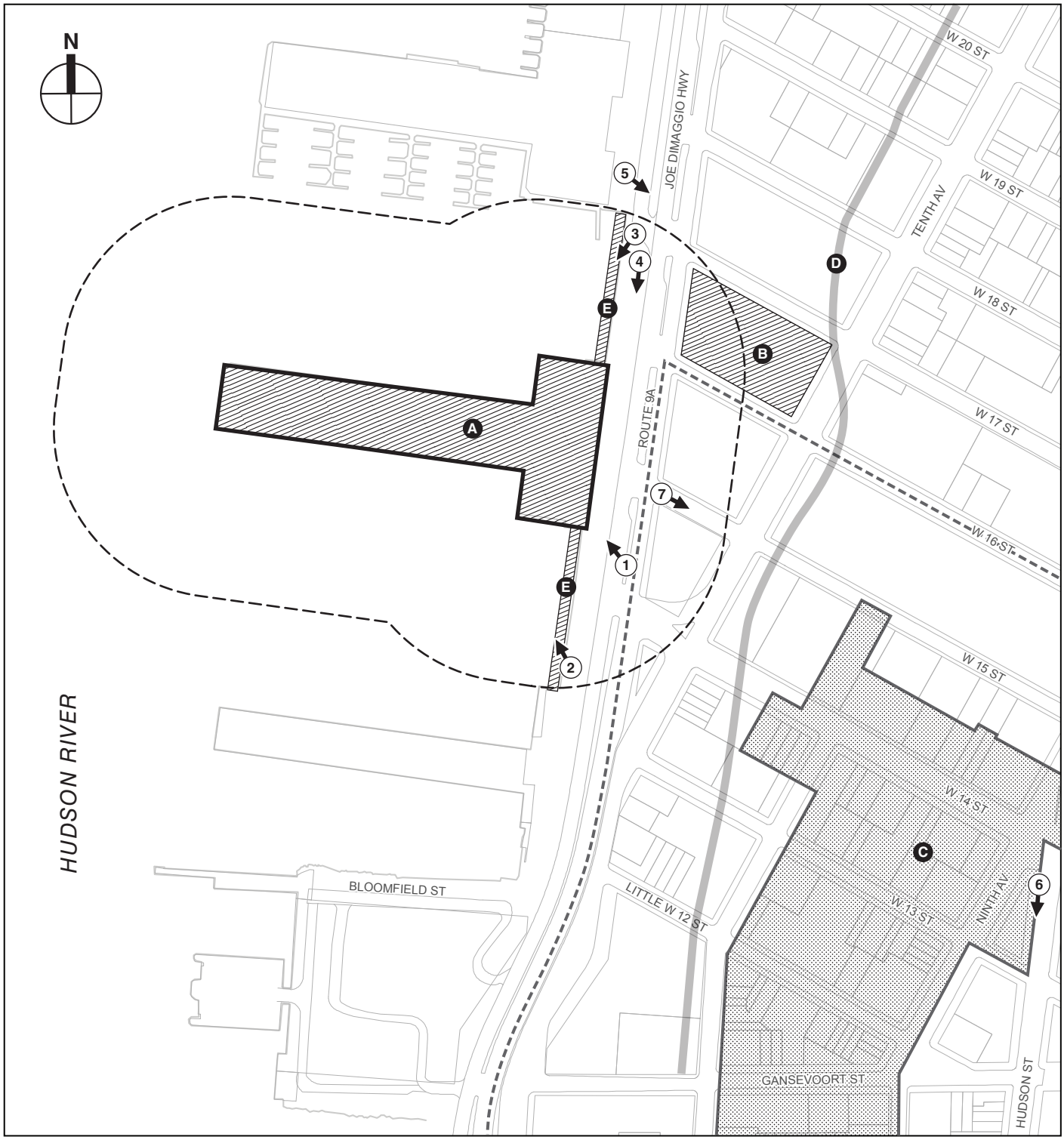
B. METHODOLOGY

This analysis has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA), the New York State Historic Preservation Act of 1980 (SHPA), and Section 106 of the National Historic Preservation Act of 1966 (NHPA). These laws and regulations require that city, state, and federal agencies, respectively, consider the effects of their actions on historic properties. This analysis also follows the guidelines of the 2012 *City Environmental Quality Review (CEQR) Technical Manual*.

ARCHITECTURAL RESOURCES

Study areas for architectural resources are determined based on an area of potential effect for construction-period impacts, such as ground-borne vibrations, and on the area of potential effect for visual or contextual effects, which is usually a larger area. The study area for visual or contextual effects of the proposed project has been defined as the project block and the area within 400 feet of the project block's boundaries (see **Figure 7-1**); views from the Hudson River are also considered. This study area encompasses the area of potential effect for construction-period impacts, which as described in more detail below is defined as the area within 90 feet of construction activities. This study area is consistent with *CEQR Technical Manual* methodology in developing study areas to assess an action's potential impacts on architectural resources, which sets forth that the size of the study area should be directly related to the anticipated extent of the action's impacts.

To assess the potential impacts of the proposed project, an inventory of architectural resources in the study area was compiled. In accordance with CEQR guidelines, the inventory includes all officially recognized architectural resources. These resources ("known architectural resources") are defined as National Historic Landmarks (NHLs); properties or districts listed on the State



Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

Gansevoort Market Historic District (S/NR)

Gansevoort Market Historic District (NYCL)

1 *Photograph View Direction and Reference Number*

A *Resource*

Known Architectural Resources

A *Pier 57 (S/NR-Listed)*

B *Merchants Refrigerating Company Warehouse (S/NR-Listed)*

C *Gansevoort Market Historic District (NYCL, S/NR-Listed)*

D *The High Line (S/NR-Eligible)*

E *Hudson River Bulkhead (S/NR-Eligible)*

0 200 500 FEET

SCALE

Architectural Resources

Figure 7-1

and National Registers of Historic Places (S/NR), or determined to be eligible for such listing; New York City Landmarks (NYCLs) and Historic Districts (NYCHDs); and properties that have been considered for designation ("heard") by the New York City Landmarks Preservation Commission (LPC) at a public hearing, calendared for consideration at such a hearing ("pending" NYCLs), or found by LPC to appear eligible for designation.

In addition to identifying known architectural resources, an evaluation of the study area was undertaken to identify any "potential architectural resources;" that is, other structures in the study area that could warrant recognition as architectural resources (properties that could be eligible for S/NR listing or NYCL designation). Properties were evaluated based on a site visit by an architectural historian, as well as a review of surveys conducted as part of the 1998 *Hudson River Park FEIS*. Identification of potential architectural resources was based on criteria for listing on the National Register as found in the Code of Federal Regulations, Title 36, part 60, and the LPC criteria for NYCL/NYCHD designation.

Once the architectural resources in the study area were identified, the proposed project was assessed for its potential to have direct, physical impacts and/or indirect visual or contextual impacts on architectural resources. Direct impacts include demolition of a resource, and alterations to a resource that cause it to become a different visual entity. A resource could also be physically damaged from adjacent construction, either from vibration (i.e., from construction blasting or pile driving), or from falling objects, subsidence, collapse, or damage from construction machinery. Adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource, as defined in the New York City Department of Building's (DOB) *Technical Policy and Procedure Notice (TPPN) #10/88*.[1]

Indirect impacts are contextual or visual impacts that could result from project construction or operation. As described in the *CEQR Technical Manual*, indirect impacts could result from blocking significant public views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a resource's setting; or introducing shadows over a historic landscape or an architectural resource with sun-sensitive features that contribute to that resource's significance (e.g., a church with stained-glass windows).

The setting of each architectural resource, including its visual prominence and significance in publicly accessible views, whether it has sun-sensitive features, and its visual and architectural relationship to other architectural resources, was taken into consideration for this analysis.

ARCHAEOLOGICAL RESOURCES

The study area for archaeological resources is defined as the area where subsurface disturbance would occur, the project site itself. As part of the environmental review undertaken for the Hudson River Park project, archaeological studies were prepared which concluded that there was no potential for significant pre-contact or historic-period archaeological resources to be located at Pier 57. Furthermore, in a comment letter dated May 6, 2011, LPC determined that the project site does not have archaeological significance (see **Appendix B**). Therefore, this assessment focuses on architectural resources only.

[1] TPPN #10/88 was issued by DOB on June 6, 1988, to supplement Building Code regulations with regard to historic structures. TPPN #10/88 outlines procedures for the avoidance of damage to historic structures resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

C. EXISTING CONDITIONS

PROJECT SITE

The project site consists of Pier 57 (Block 662, Lot 3), adjacent lands underwater, and associated frontage area. Pier 57 is listed on the State and National Registers of Historic Places. It was constructed as an ocean liner pier in 1950-1954 and, at the time, was the largest dock construction project ever undertaken by the City of New York. Following completion, Pier 57 was operated by Grace Lines, which used the pier for its cargo and passenger services between New York and the Caribbean. Pier 57 remained in its original use until the late 1960s when Grace Lines relocated to New Jersey. It then became a bus depot for the Metropolitan Transit Authority. The 300,000 square foot pier has been vacant since 2004 when the bus depot left.

As noted in its National Register Registration Form, Pier 57 is significant under National Register criterion C for its importance in engineering history. Unlike conventional methods of pier construction, 90 percent of the dead weight of Pier 57 is supported by the buoyancy of three hollow concrete boxes (caissons): two forming the substructure of the pier proper and one, at right angle to the other two, supporting the headhouse. Designed by the prominent civil engineer Emil H. Praeger of the firm Madigan-Hyland, this innovative structural solution was inspired by Praeger's World War II design for floating concrete breakwaters, which were constructed in England and floated across the English Channel to form a protected harbor for the invasion of Normandy. The structural system also was a response to the limited load-bearing capacity of the silt at the Hudson River bottom and the timber piles which remained after the destruction by fire of an earlier pier on this site. Pier 57 was widely publicized in engineering journals at the time for this unusual construction, and continues to be seen by the profession as a significant innovation in the design of underwater foundations. Its structural system is unique within New York City and has never been repeated in the city for a shipping pier.

Each of the two caissons supporting the pier is 360 feet long, 82 feet wide, and 33 feet high and has a total weight of 27,000 tons (see **Figure 7-2**). The caisson supporting the headhouse is 367 feet long, 87 feet wide, and 28 feet high and weighs 19,000 tons. The caissons were constructed in an abandoned clay pit in Haverstraw, New York. After the caissons were formed, the construction pit was flooded and the caissons were floated 30 miles down the Hudson River for transfer to the pier site. There they were sunk onto a dredged-out site, where a sand and gravel mat—which supports the rest of the pier's dead load—had been prepared to receive them. The caisson system allowed passenger traffic to drive down into the pier's basement alongside the bulkhead, unload, and be taken by elevator to a waiting hall on the second level. The structure's design allowed trucks carrying freight to travel from the ground floor directly to the second level via large ramps, without encountering passengers. The two caissons supporting the pier were used for deliveries and freight storage, and the structure's giant elevators carried freight to and from the caisson storage areas.

The pier's rectangular-plan, flat-roofed headhouse (also known as the bulkhead shed) faces onto Eleventh Avenue and is steel frame with a brick façade (see View 1 of **Figure 7-3**). The east elevation of the headhouse is clad in brick with stone trim at the window openings. The first floor has regularly spaced door openings with rolling metal shutters. The central section of the headhouse is notable for its bank of tall window openings. The building name Marine & Aviation Pier 57 appears in stainless steel lettering above this opening. Wings extend to the north and south of the central section; these feature horizontal bands of windows at the upper floors. The north and south-facing elevations of these wings were historically attached to the

View of Caisson Interior

Figure 7-2

Pier 57 Head House, view northwest from Route 9A **1**

Pier 57 pier shed, south facade **2**

Photographs of Project Site

Figure 7-3

headhouses of adjacent piers along the Hudson River, which have since been demolished. Therefore, these un-designed elevations, presently finished in cement plaster/stucco, were never intended to be seen.

The long, flat-roofed pier shed is two stories tall above a basement. The pier shed is of steel frame construction clad in metal (see Views 2 and 3 of **Figures 7-3** and **7-4**). The pier shed is 32 bays long on its north and south sides. Each bay along the pier shed has vertical lift doors on both the first and second floors, which allowed trucks to drive from the pier to load and unload freight from the ships (see **Figure 7-5**). The bays on the north and south facades also feature regularly spaced steel sash. Attached along the roof edge on the north and south façades are metal frameworks originally used for cargo handling, referred to as "burtons." The roof was designed for the transfer and storage of bulky cargo, parking for cars, and landing space for helicopters. Currently, the roof is paved and includes two central stair and elevator bulkheads and two smaller stair bulkheads.

An approximately 14-foot-wide walkway extends around most of the pier shed's perimeter, but does not continue along the north and south ends of the headhouse's wings, and thus does not connect to adjacent portions of Hudson River Park. The west end of the pier has rounded, streamlined corners clad in steel. The name Pier 57 appears in large stainless steel letters on the upper band (see **Figure 7-6**).

While portions of the headhouse, and foot house have been altered over time—including the closure or obscuring of windows and visible, exterior changes to infrastructure systems—the pier shed and foundation remain largely unchanged from their original construction. The pier finger extending into the river is 725 feet long and 150 feet wide; the portion along the shore is 375 feet long and also 150 feet wide.

STUDY AREA

There are four known architectural resources within and just outside of the 400-foot study area. No additional potential architectural resources were identified within this area.

HUDSON RIVER BULKHEAD (S/NR-ELIGIBLE)

The Hudson River bulkhead between Battery Place and West 59th Street has been determined eligible for listing on the Registers. New York City created a Department of Docks in 1870, and the subsequent efforts of this department resulted in the construction of a solid block and granite bulkhead wall around the southern half of Manhattan over the next 60 years. The extant bulkhead wall is typically one of four basic types; three of these types are faced with granite block, while the fourth is faced with smooth concrete. In the project's study area, the bulkhead was constructed circa 1899-1915 and is of granite wall on wider concrete blocks with piles and buried timber relieving platforms (see View 4 of **Figure 7-4**). Throughout its history, the Hudson River bulkhead has been built and reconstructed in segments in response to changing needs, and since the end of World War II, a variety of repairs have been made to the bulkhead walls, often without any attempt to create a uniform appearance.

MERCHANTS REFRIGERATING COMPANY WAREHOUSE, S/NR-LISTED

The Merchants Refrigerating Company Warehouse is an 11-story industrial building that fills the trapezoidal block bounded by 16th and 17th Streets and Tenth and Eleventh Avenues (see View 5 of **Figure 7-7**). The reinforced concrete building was designed in 1916-1918 in a simplified Renaissance Revival style and incorporated technological advancements in the emerging cold storage industry of that period. The building's exterior—buff-colored brick with terra cotta,

Pier 57 pier shed, north facade **3**

Hudson River Bulkhead, view from West 17th Street **4**

Photographs of Project Site and Study Area

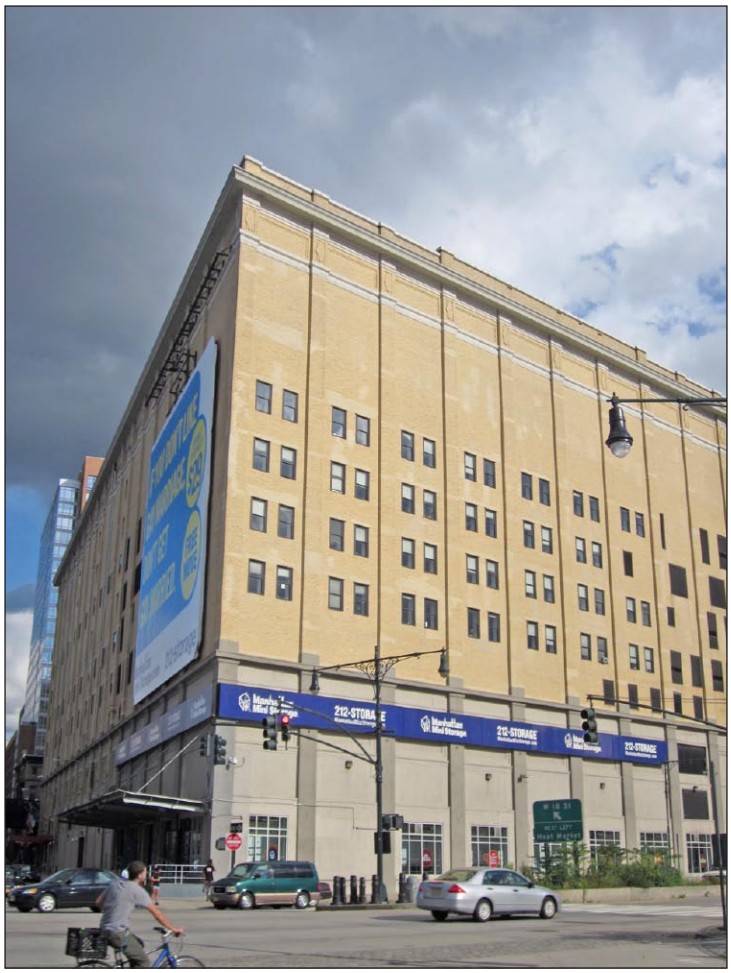
Figure 7-4

View of Vertical Lift Doors

Figure 7-5

View of Pier 57 from Hudson River

Figure 7-6



Merchants Refrigerating Company Warehouse, view from Route 9A Walkway/Bikeway **5**

Gansevoort Market Historic District, view south from Ninth Avenue and West 14th Street **6**

Photographs of Resources in Study Area

Figure 7-7

granite, and cast stone—originally had minimal fenestration and uninterrupted vertical expanses. The lack of windows minimized heat and moisture penetration to the cold storage envelope, while the large flat vertical surfaces allowed faster water runoff, preventing water migration to the interior walls. Subsequent renovations have cut windows into the facades, including the west façade facing the park. When it was constructed, the Merchants Refrigerating Company Warehouse was the state of the art in cold storage. The warehouse represents a distinct period in America's history when the nation shifted from an agrarian to an industrial system of food production. The emerging system utilized mechanical refrigeration to provide an improved diet to the urban population, including fresh foods at all times of the year. Centralized cold storage facilities, such as this structure, were located near the railroads (the active Hudson River freight shipping lines) and inexpensive and abundant water supplies (the Hudson River). The need for cold storage facilities declined after World War II with the introduction of frozen foods, refrigerated tractor trailers, local supermarkets, and improved methods of home refrigeration.

GANSEVOORT MARKET HISTORIC DISTRICT (NYCHD, S/NR-LISTED)

The Gansevoort Market Historic District consists of all or portions of approximately 19 blocks in the northwest corner of the West Village and the southwest corner of Chelsea. The S/NR historic district is roughly bounded by West 16th Street, Ninth and Hudson Avenues, Horatio and Gansevoort Streets, and West Street and Eleventh Avenue. A smaller NYCHD Gansevoort Market Historic District is located within the boundaries of the S/NR historic district.

Architecturally, the historic districts are characterized by a unique mix of buildings constructed between the 1840s and 1940s (see View 6 of **Figure 7-7**). Although the districts consist of a range of building types and sizes from different historical periods that represent the area's changing uses, certain common features create an architectural cohesion. These features include the use of brick, a general low-rise character, metal ground-floor canopies, multiple buildings designed by the same architects in historical revival styles, and Belgian block paving. Other architectural and streetscape details that contribute to the district's significance include connections between buildings provided by aerial pedestrian bridges and the High Line viaduct, view corridors to the Hudson River, and wide intersections and open city views.

The earliest buildings in the historic districts tend to be residential structures, many of which were later converted to commercial uses, but a few extant industrial structures date to the pre-Civil War era. After the Civil War, new buildings tended to be manufacturing and warehouse structures. In the late 19th century, the creation of two markets spurred new development, particularly of wholesale businesses that catered to the markets. Buildings constructed in the late 19th and early 20th centuries include market buildings, stables, warehouses, and loft buildings, as well as residential structures. Today, as many of the buildings are occupied by restaurants, boutiques, furniture stores, and nightclubs, many ground-level facades have been altered with large plate glass windows and modern façade treatments that clearly signal the new land uses in the area. The area's street plan—which transitions between the typical Manhattan street grid and the older West Village street plan—is a contributing element to both historic districts.

THE HIGH LINE (S/NR-ELIGIBLE)

The entire High Line viaduct as it now stands between Gansevoort and West 34th Streets has been determined S/NR-eligible, and it is also a contributing feature of the S/NR Gansevoort Market Historic District. The High Line is an unused railroad viaduct on the West Side of Manhattan that was completed in 1934 to carry freight on the New York Central Lines. It was built between Clarkson and West 34th Streets as part of the West Side Improvement Project,

which removed the New York Central freight railroad from the bed of West Street and Tenth Avenue and placed it on a new railroad viaduct to minimize traffic conflicts at grade. In several locations, the High Line passed through buildings where loading platforms facilitated the transfer of goods. Operation of the High Line ended in the 1980s, when the southern section between Gansevoort and Clarkson Streets was demolished, leaving a jagged edge to the structure above the project site where the trestle over Gansevoort Street was removed. The High Line has been converted into an elevated public open space operated by the New York City Department of Parks and Recreation. In the project area, the High Line crosses Little West 12th Street, then diagonally traverses the blocks between Little West 12th and West 14th Streets, from which point it runs north along the east side of Tenth Avenue through the former Nabisco Company bakery buildings. Where the High Line crosses over streets, the steel trestles have a decorative appearance (see View 7 of **Figure 7-8**). Above the trestle structure, there are parapets ornamented with recessed panels and decorative riveting. Railings on the parapets contain panels with raised diamond and square patterns. The railings are also ornamented with decorative riveting. As the High Line passes over blocks, it is supported on steel stanchions and has a more utilitarian appearance, with concrete parapets and simple tubular steel railings.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT SITE

In the future without the proposed action, or the No Action condition, Pier 57 is expected to remain vacant. The project site would remain an underutilized component of Hudson River Park, and no new publicly accessible open space would be created. The historic Pier 57 structure and overwater platform would remain in their current condition, with some level of deterioration over time, and would require repairs to preserve the historic structure.

STUDY AREA

None of the developments under construction or planned in the land use study area are within the 400-foot study area for this analysis.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

In the future with the proposed project, or the With Action condition, the historic Pier 57 would be rehabilitated and redeveloped and new, publicly accessible open space would be created. The design of the proposed project is intended to respect the pier's history, preserve and make accessible the structure's existing fabric, and introduce new, innovative architectural components to enliven the historic resource. The pier's headhouse would be restored, to become an improved entrance into Hudson River Park from the Chelsea and Meatpacking District neighborhoods. The water-side (foot house) façade also would be restored to its original appearance. Specifically, windows on the headhouse and foot house façades that had been obscured or closed up would be restored and re-opened, bringing more light and air to the interior spaces. The façade cladding materials would be repaired and cleaned, and lighting and other non-original elements currently attached to the façade would be removed. Elements of the pier shed's modular vertical doors that had been removed over time would be replaced in kind to match the original, remaining features.

In the With Action condition, the existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the existing Hudson River Park waterfront esplanade to the east of the pier. The walkway would have a continuous width of 15 feet and

High Line, view from West 15th Street and Tenth Avenue **7**

Photograph of Resources in Study Area

Figure 7-8

would include seating opportunities. New public walkways also would be constructed parallel to the existing bulkhead to widen the public park space adjacent to a busy circulation area. These new walkways would extend north and south just east of the headhouse. While designed as part of the pier's rehabilitation and referential to its historic character, these walkways and their associated railings and seating features would be compatible with existing areas bordering the river within Hudson River Park. In total, the repair and extension of the walkways would provide approximately 2,075 linear feet of new, publicly accessible open space.

The proposed project also would provide new uses within the pier shed and headhouse. These are anticipated to include: retail, restaurant, and other commercial uses; a technical arts school (such as a culinary school); galleries; a theater; parking; and a marina located on the north and south sides of the pier. The primary retail use is anticipated to be a public marketplace, and the food retail would be complemented by restaurant space, a test kitchen, and a culinary school. Shipping containers would be repurposed and stacked inside of the structure to create new retail spaces and first and second floor mezzanine levels. The new uses within the pier shed would incorporate a small amount of exterior alterations, including a new sign at the headhouse entrance (the existing sign also would remain). The modular vertical doors spanning the length of the pier shed—which as described above were often open historically to allow goods to be loaded onto adjacent ships—would be restored and once again would be utilized with the proposed project, maintaining the pier's historic ground-floor pattern of openings and use. Some doors would be left open during good weather to allow the pier to be naturally ventilated and to provide views over the river; others would be permanently raised with glass behind, to allow views from outside the pier to the interior; and portions of some would be replaced with louvers for HVAC ventilation. A loading area would be incorporated at the ground floor. As the project's goals and objectives include the preservation of the exterior of the headhouse and significant interior elements of the pier structure—including the ramps leading to the basement and from the ground to second floor—this loading area cannot be developed consistent with existing zoning requirements. Original "gangplanks" on the north and south pier facades at the second level would be lowered into their open, horizontal position and utilized as balconies, where visitors could walk out to experience the view (see **Figure 7-9**).

The rooftop of the pier shed would be redeveloped as approximately 1.8 acres of new publicly accessible open space (see **Figures 7-10** and **7-11**). The open space would consist of open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western portions of the rooftop would provide flexible space for seating, relaxation, and views of the river. These areas could include some wooden decking, hardscape, paving, and small lawn areas. The center of the rooftop would contain a pavilion with a public deck on the roof (see **Figures 7-12** through **7-14**), and wide stairs on the east would function as seating areas during some events. The roof would at times be programmed with film-, art-, or sports-related installations, including for the Tribeca Film Festival. Some shipping containers might be repurposed as seating surrounding the pavilion. The original burtons would be left in place and the railing would be improved to allow safe public access up to the pier edge. Shade structures, minimally attached to the pier structure, would provide light shading for the rooftop open space. The shade structures would be mounted on rails, which could be moved manually in an east-west direction to provide shade where necessary. No new element on the rooftop, including the shade structures, would be taller than the height of the existing elevator bulkheads (see **Figure 7-15**).

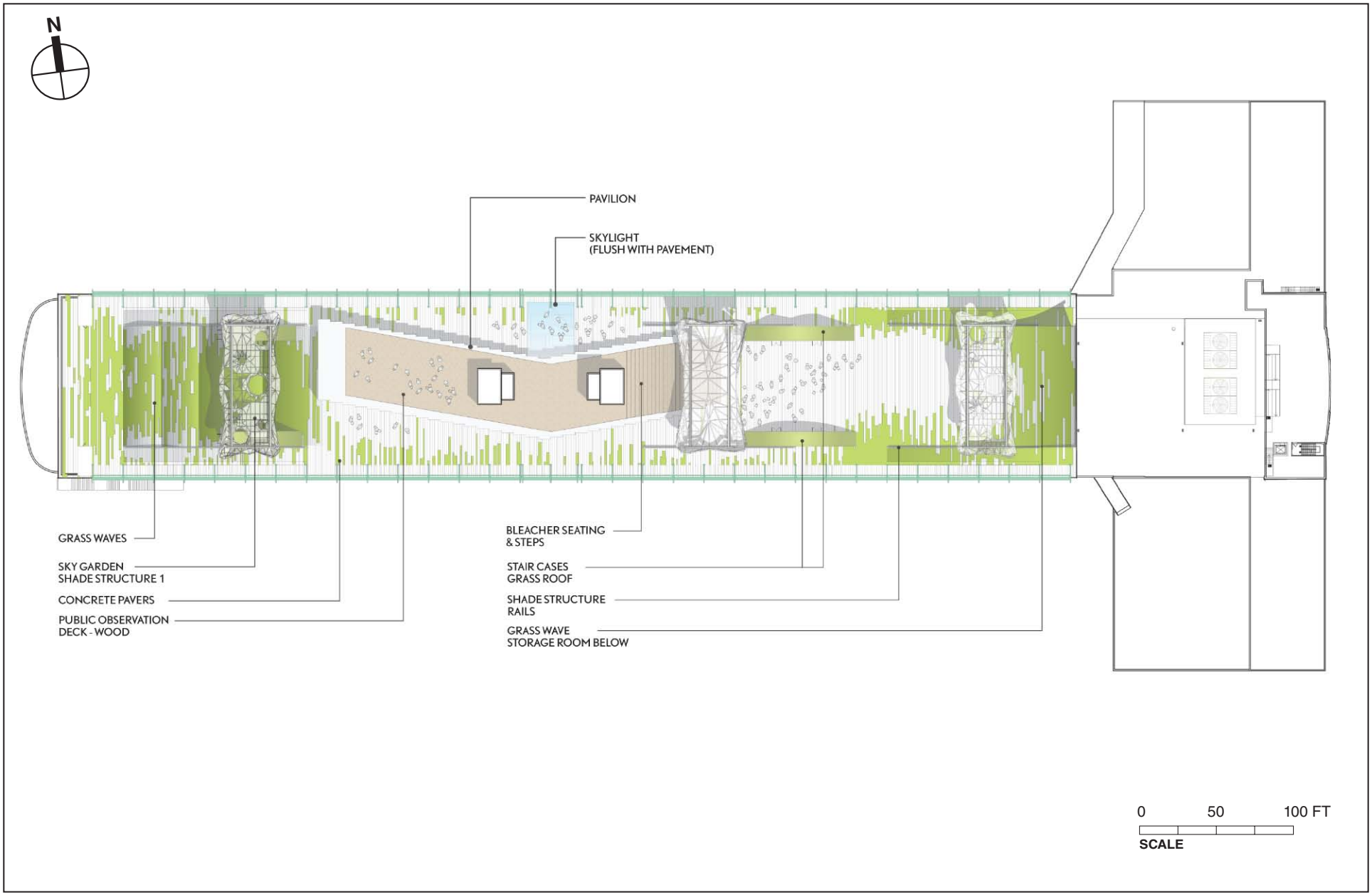
The proposed project would include several rooftop additions (see **Figure 7-16**). On the north side of the lower headhouse rooftop, a new enclosure would be built to provide additional space

View of Gangplanks
Figure 7-9

FOR ILLUSTRATIVE PURPOSES ONLY

Aerial Perspective of Proposed Project

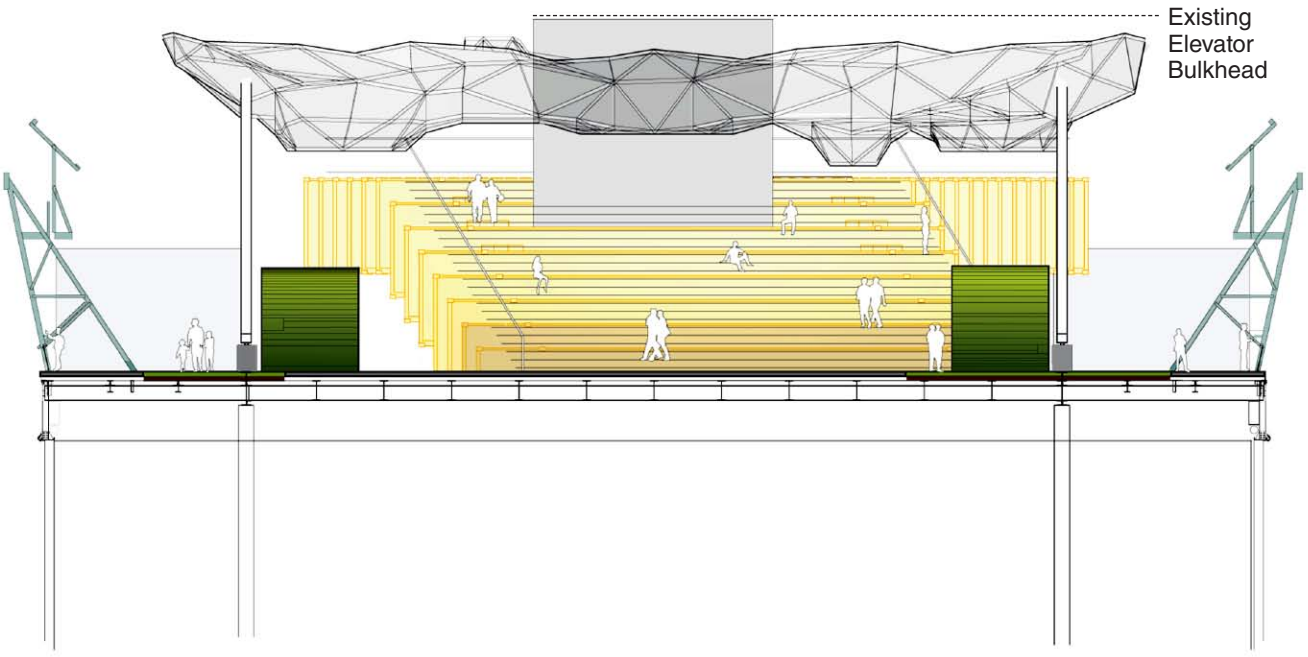
Figure 7-10

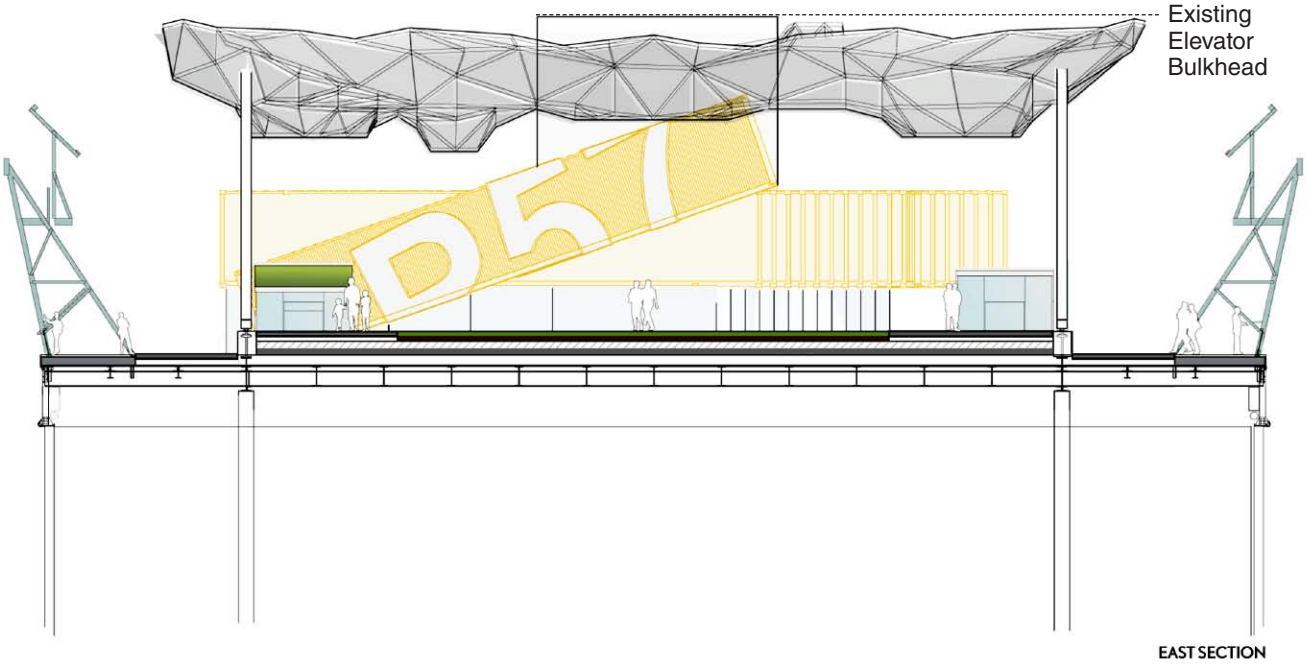


FOR ILLUSTRATIVE PURPOSES ONLY

Proposed Landscape Roof Plan

Figure 7-11

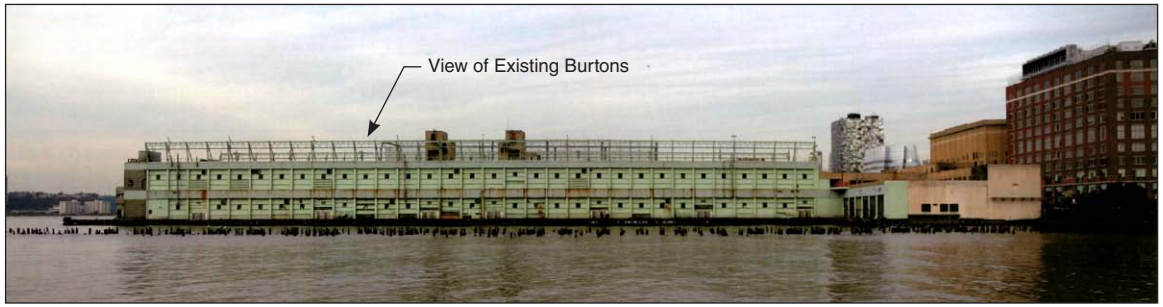




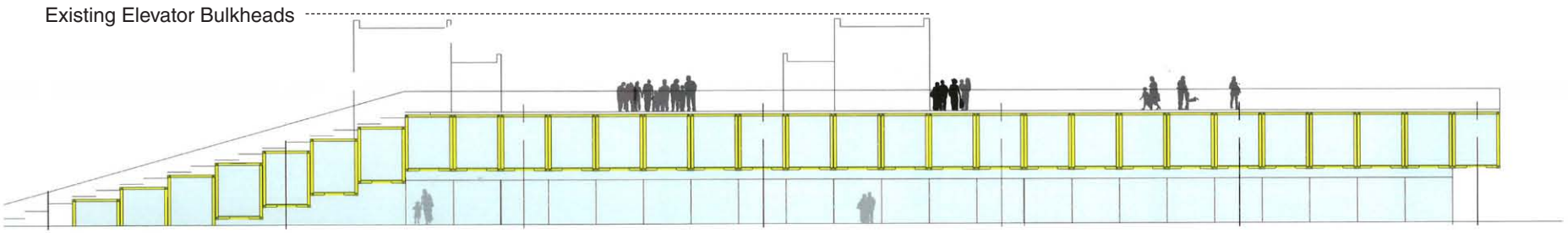
FOR ILLUSTRATIVE PURPOSES ONLY

Proposed East and West
Rooftop Pavilion Elevations

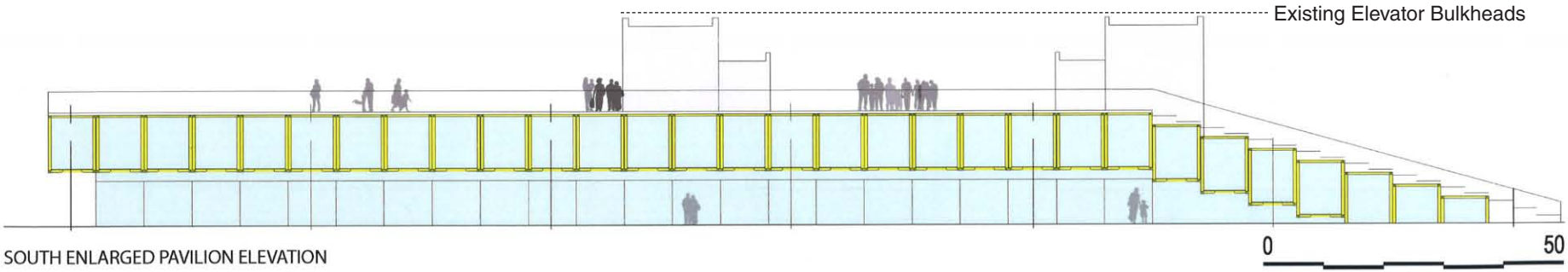
Figure 7-12



Inset: View of existing south facade with burtons visible.



NORTH ENLARGED PAVILION ELEVATION



SOUTH ENLARGED PAVILION ELEVATION

NOTE: Existing burtons to remain. Elevations are presented without burtons for clarity.

Proposed North and South
Rooftop Pavilion Elevations

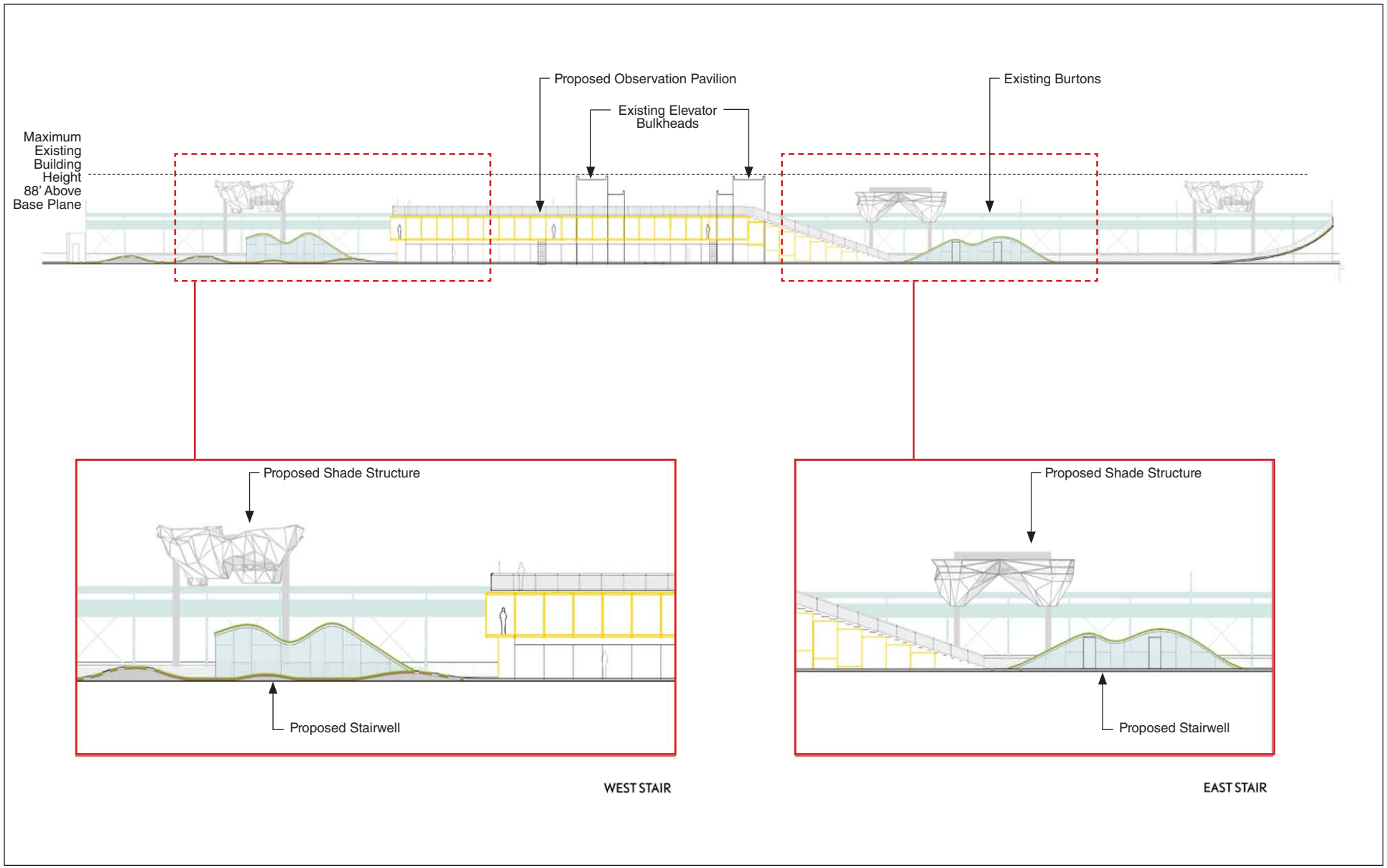
Figure 7-13

View from roof top pavilion facing east

View from west end of piershed to the west

FOR ILLUSTRATIVE PURPOSES ONLY

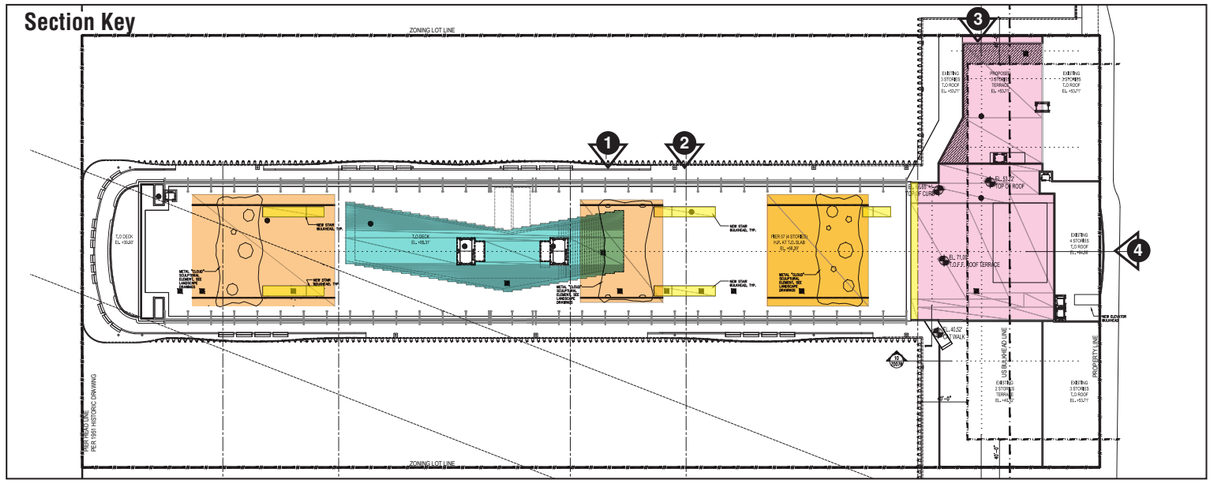
Renderings of Proposed Rooftop Pavilion



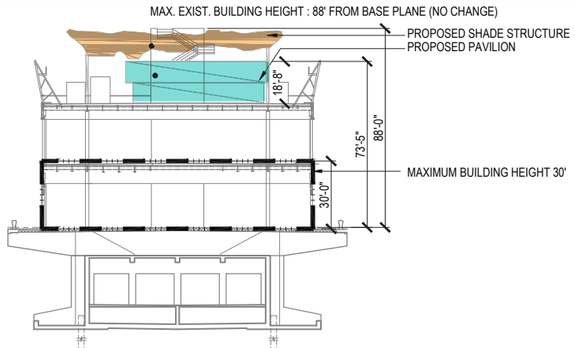
Roof Elevation

Figure 7-15

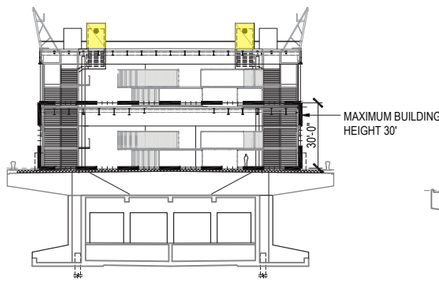
Section Key



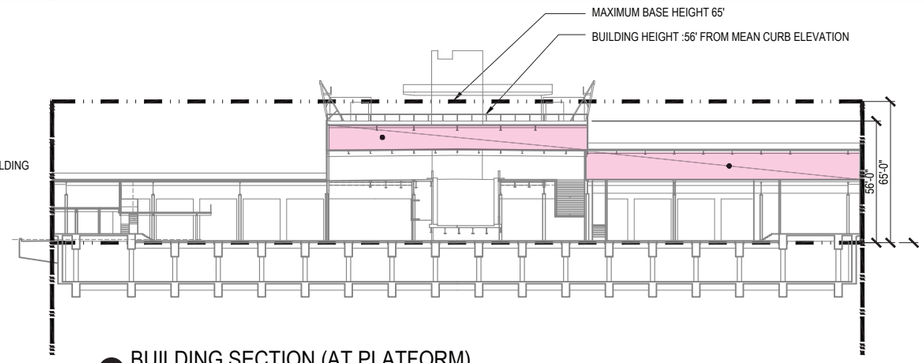
- U.S. PIERHEAD LINE
- U.S. BULKHEAD LINE
- PERMITTED BUILDING ENVELOPE ON PLATFORM
- PERMITTED BUILDING ENVELOPE ON PIER
- PROPOSED ROOFTOP PAVILLION
- PROPOSED STAIRWELLS/ MECHANICAL ADDITIONS
- PROPOSED HEADHOUSE ROOFTOP ADDITION
- PROPOSED SHADE STRUCTURES (FIGURE ILLUSTRATES RANGE OF MOTION ON RAILS)
- SECTION VIEW



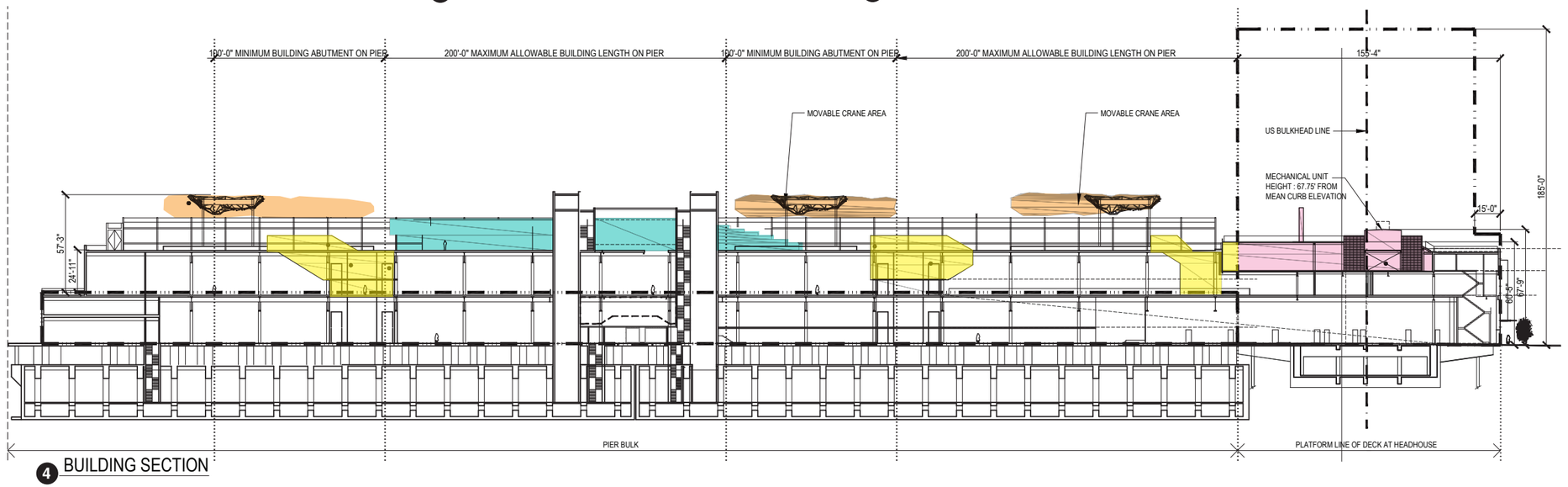
1 BUILDING SECTION (AT PIER)



2 BUILDING SECTION (AT PIER)



3 BUILDING SECTION (AT PLATFORM)



4 BUILDING SECTION

Proposed Project Rooftop Additions
Figure 7-16

for retail. This enclosure would have a slight set back from the parapet and would connect to the second floor of the pier structure. This new enclosure would be lower than the east headhouse façade along Eleventh Avenue, but would be higher than the north façade, and thus would be visible to pedestrians to the north of the project site.

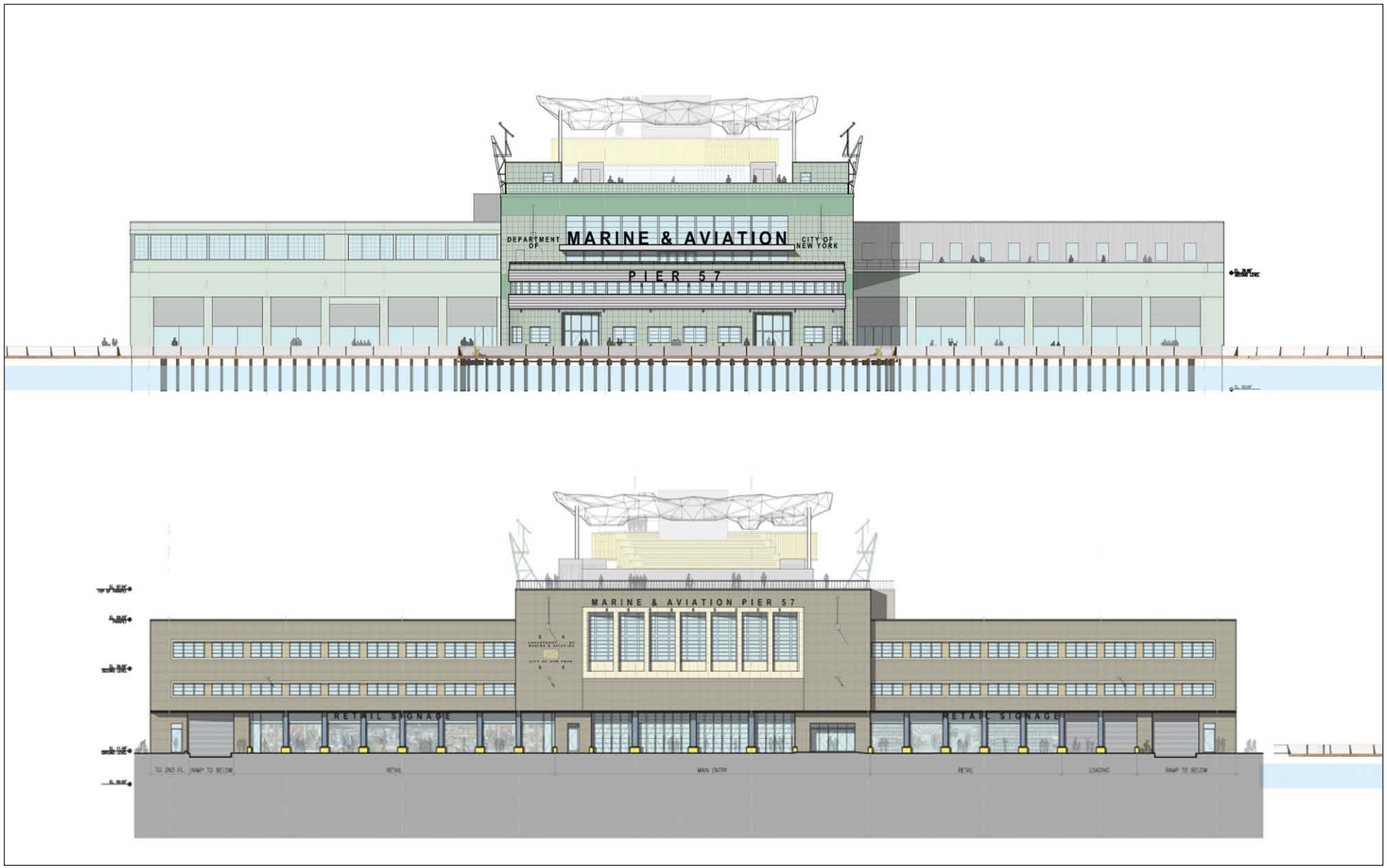
In the center of the upper headhouse rooftop, another enclosure would be built to provide additional retail and mechanical space. This enclosure would connect to the second floor mezzanine level of the pier structure. This new enclosure would be lower than the east headhouse façade along Eleventh Avenue, but would be higher than the north and south façades of the headhouse, and thus would be visible to pedestrians to the north and south of the project site.

At the center of the pier shed roof, as described above, a new pavilion would be developed, to provide a public observation area as well as space for a restaurant, circulation, and mechanical space. This pavilion would be visible to pedestrians to the north and south of the project site. Several code-required stair tower and elevator enclosures would also be added to the roof to allow for egress for roof occupants. These rooftop additions would not be higher than the existing elevator bulkheads (see **Figure 7-15**, above). **Figure 7-17** shows the proposed east and west elevations for the proposed project.

The proposed project also proposes to reuse the easternmost of the pier's three caissons for vehicular circulation, some loading, and accessory parking using triple-height stackers. This caisson was historically used for vehicle parking, loading, and circulation. Ideas for potential reuse of the middle and western caissons include ancillary storage related to uses in the pier, art galleries or large rotating art installations, a wine cellar, or tours by the general public. The caissons would undergo limited infrastructure improvements to support these uses and to continue their core function of supporting the pier.

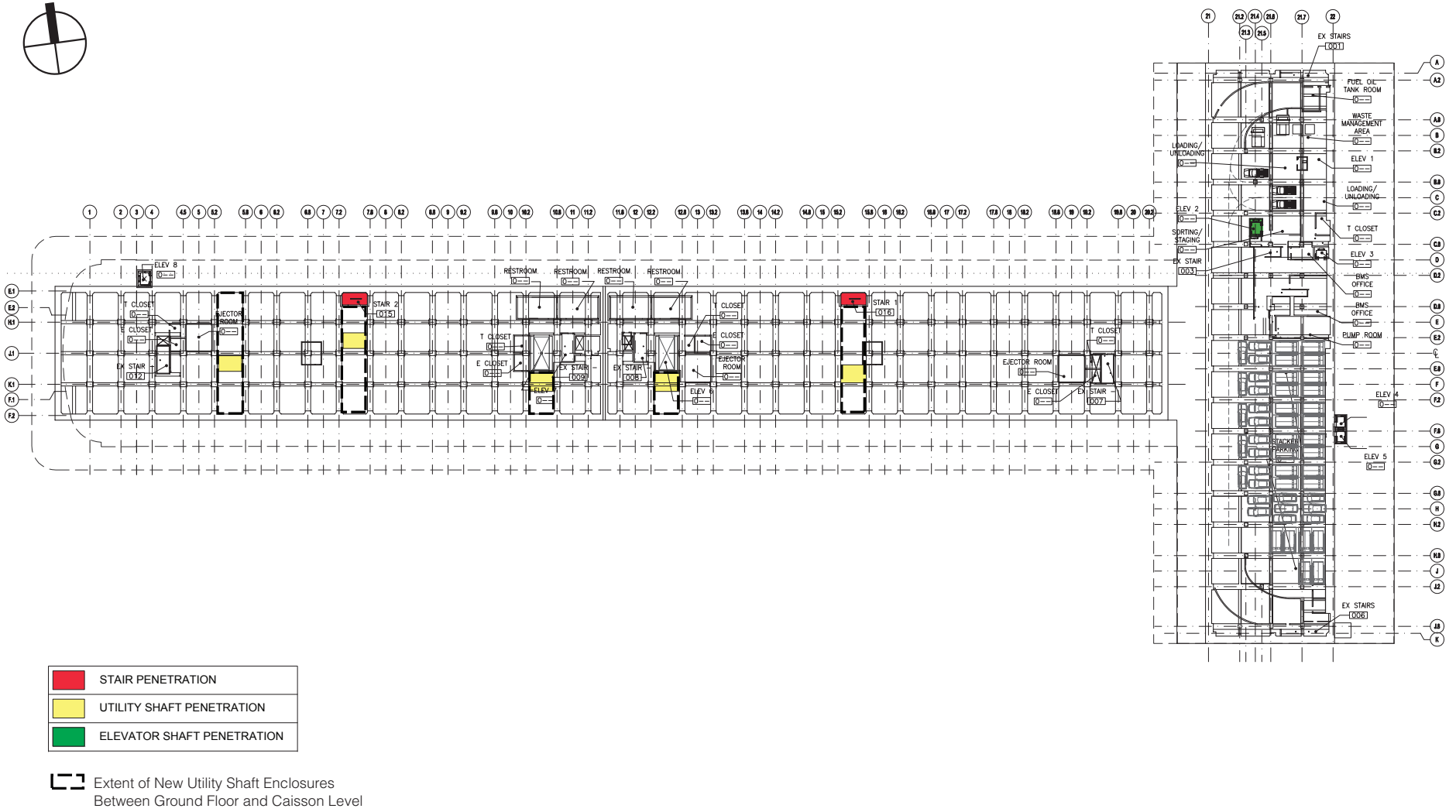
Specifically, the proposed project would include the construction of two new stairways, four new elevator shafts, and five new utility shafts to facilitate access and egress from the caissons, improve accessibility in compliance with the Americans with Disabilities Act (ADA), and provide for the necessary utility space to support the proposed uses on the ground floor. The new stairways, elevators, and utility shafts are described in greater detail in Chapter 1, "Project Description" and identified in Figures 1-4 and 1-5. The stairways would be located in the western and middle caissons and would extend from the bottom of the existing concrete pier deck to the existing concrete caisson roof. Three of the four new elevators would extend below the ground floor adjacent to the caissons but would not penetrate them. Of these three elevators, two would measure roughly 13 feet by 10 feet, and one would measure roughly 12 feet by 10 feet. The fourth elevator shaft would extend from the ground floor to the loading zone in the easternmost caisson; this shaft would penetrate the caisson and would measure approximately 8 feet by 11 feet. The utility shafts would result in new enclosures that would extend below the ground floor and into the caisson roof. Each shaft would be approximately 18 feet by 10 feet.[1] **Figure 7-18** identifies the proposed caisson penetrations.

[1] Larger enclosed utility shafts would be situated in the water between the girders that are positioned above the caissons and below the ground floor. Piping would pass through those shafts and penetrate the caissons in a limited number of locations.



Proposed East and West Elevations

Figure 7-17



Caisson Reflected Ceiling Plan
Identifying Proposed Caisson Penetrations
Figure 7-18

The marina, which would lie in the interpier areas both north and south of Pier 57, is expected to include four wave screens located north and south of the western end of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier.

Within the interior of the headhouse and pier shed, an "interior street" would be developed to organize pedestrian circulation and to accommodate off-hours deliveries to the second floor through the existing ramp. Shipping containers would be stacked and repurposed for the various planned uses on the ground and second floors (see **Figure 7-19**). On the ground floor, some openings would provide a direct link from the structure's interior to the exterior public perimeter walkway. The project may also remove a relatively small portion of the roof slab under the proposed pavilion, to allow daylighting into the interior of the pier shed.

Since the proposed project would result in new construction and renovation activities at Pier 57, the proposed project would comply with LPC's *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in DOB's TPPN #10/88. This includes preparation of a construction protection plan (CPP), to be prepared prior to construction activities and submitted to LPC and OPRHP for review and approval.

As described above, the proposed project would entail alterations to the interior and exterior of the S/NR-listed Pier 57 structure. The exterior changes that would be visible to surrounding motorists, pedestrians, and other park users—as well as boaters, ferry riders, and others using the Hudson River—would be the re-activation of the original vertical lift doors and "gangplanks" on the pier shed; the new rooftop elements, including the cabanas and shade structures; and the observation pavilion at the center of the pier shed's roof and other rooftop additions. The proposed interior changes would be more extensive to convert the building to the various proposed uses.

Because of the federal approvals required for the proposed project, and as set forth in the Programmatic Agreement executed under Section 106 of the National Historic Preservation Act for the Hudson River Park project in 2000 (see Appendix B), modifications to the Pier 57 structure require consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The Trust began informal consultations with OPRHP when it was reviewing initial proposal responses several years ago and has continued that consultation as details about prospective uses and design details have advanced. This consultation has informed the design and preservation approach of the proposed project. In addition, the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Should the project successfully obtain approval for such credits, the project would be required to be built to the Secretary's Standards.

The proposed project would not result in physical destruction, demolition, damage, or neglect of the historic Pier 57 structure. While the pier would undergo some alterations as noted above, including at the caisson level, these changes would not adversely affect the characteristics that make the pier eligible for listing on the Registers, nor would they cause it to become a different visual entity. The pier structure would remain in its existing location and the head house and foot house would be restored to their original design. The proposed penetrations of the caissons would be small in scope, relative to the size of the caissons, and would not affect the caissons' performance or character-defining elements; furthermore, they would be required to allow people to experience these elements and to provide utility space to support the proposed uses. The proposed caisson penetrations and utility shaft enclosures between the ground floor and caisson level would also not be visible from the exterior of the pier. The proposed project would not isolate the pier structure from, or significantly alter, its setting or visual relationship with the streetscape. It would remain as a visual resource in surrounding

Renderings of Proposed Container Market

Figure 7-19

view corridors (see also Chapter 8, "Urban Design and Visual Resources"). The proposed rooftop additions would not change the resource's visual prominence such that it would no longer conform to the streetscape in terms of height, footprint or setback. The proposed project also would not introduce incompatible visual, audible, or atmospheric elements to the setting of the pier or the architectural resources in the surrounding area. Lastly, the proposed project would not introduce significant new shadows, or significantly lengthen the duration of existing shadows over a historic landscape or on a historic structure (see also Chapter 6, "Shadows").

In summary, the proposed project would not result in any significant adverse effects to the historic Pier 57 structure.

STUDY AREA

The proposed project would result in construction activities within 90 feet of the Hudson River bulkhead. Therefore, the CPP to be prepared for the proposed project would include measures to ensure that the bulkhead is not affected by ground-borne construction vibrations or other potential construction-related issues. None of the other architectural resources in the study area are close enough to experience direct, physical impacts from construction of the proposed project. Any bulkhead work required for the proposed project would be relatively minor—such as assuring that coping stones are capable to support railing attachments—and would be undertaken in a manner consistent with bulkhead activities in the rest of Hudson River Park and in conformance with relevant stipulations in the Hudson River Park Programmatic Agreement. Therefore, the proposed project is not anticipated to have any significant adverse impacts to this historic resource.

The construction of the new public walkways parallel to the Hudson River bulkhead, extending north and south just east of the headhouse, would limit the visibility of the bulkhead in these small areas; however, these portions of the bulkhead are not easily viewed in existing conditions. As described above, the treatment of the walkways, while referential to the pier's historic character, also would be compatible with existing designs within Hudson River Park for areas bordering the river. Therefore, the proposed project is not anticipated to have any significant adverse impacts to this historic resource.

The proposed rehabilitation of Pier 57, including the exterior changes noted above, would change the visual relationship of this structure with surrounding architectural resources, including the Gansevoort Market Historic District and the High Line. Views of the pier structure from the elevated High Line and within the district would be of an active use at this site, rather than of closed-up, vacant structure. The re-activated headhouse would serve as a new focal point within Hudson River Park, improving the park's visual links to surrounding areas. While the proposed exterior changes to Pier 57 would change its appearance in surrounding views, this change is not anticipated to be adverse. While the proposed uses would be a change from some of the historic uses of the headhouse and pier shed, they would be in keeping with the developing mixed-use character of the study area.

The proposed project would not isolate any architectural resources from or significantly alter their setting or visual relationship with the streetscape, and would not introduce incompatible visual, audible, or atmospheric elements to the setting of any architectural resource. Furthermore, the proposed exterior changes to the pier would not introduce significant new shadows over a historic landscape or on a historic structure with sunlight-dependent features. In addition, the proposed project would not eliminate or screen publicly accessible views of any architectural resource.

Overall, the proposed project would not result in any significant adverse impacts to historic and cultural resources. ✷

Chapter 8: Urban Design and Visual Resources

A. INTRODUCTION

This chapter considers the effects of the proposed project on urban design and visual resources. The proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 structure in Hudson River Park—a vacant building listed on the State/National Registers of Historic Places—with new public open space, retail, restaurant and other commercial uses, as well as educational and cultural uses, accessory parking, and a marina.

Under the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, urban design is defined as the totality of components that may affect a pedestrian's experience of public space. These components include streets, buildings, visual resources, open spaces, natural resources, wind, and sunlight. An urban design assessment under CEQR must consider whether and how a project may change the experience of a pedestrian in a project area. The *CEQR Technical Manual* guidelines recommend the preparation of a preliminary assessment of urban design and visual resources, followed by a detailed analysis, if warranted based on the conclusions of the preliminary assessment. The analysis provided below addresses urban design characteristics and visual resources for existing conditions and the future without and with the proposed project (the No Action and With Action condition, respectively).

PRINCIPAL CONCLUSIONS

Overall, this analysis concludes that the proposed project would not have any significant adverse impacts related to urban design and visual resources.

B. METHODOLOGY

Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed 'as-of-right' or in the future without the proposed project.

The proposed project would require a rezoning of the project site from M2-3 to M1-5—which would allow for additional floor area to be developed—as well as relief from various waterfront zoning regulations related to bulk, height, setback, yards, public access, visual corridors, and design requirements, and other actions. The project also would require state and federal discretionary actions related to the development of the proposed marina and other in-water work. As a result of these actions, Pier 57 would undergo a physical alteration observable by pedestrians that is not allowed by existing zoning. Therefore, the proposed project meets the threshold for a preliminary assessment of potential impacts to urban design and visual resources.

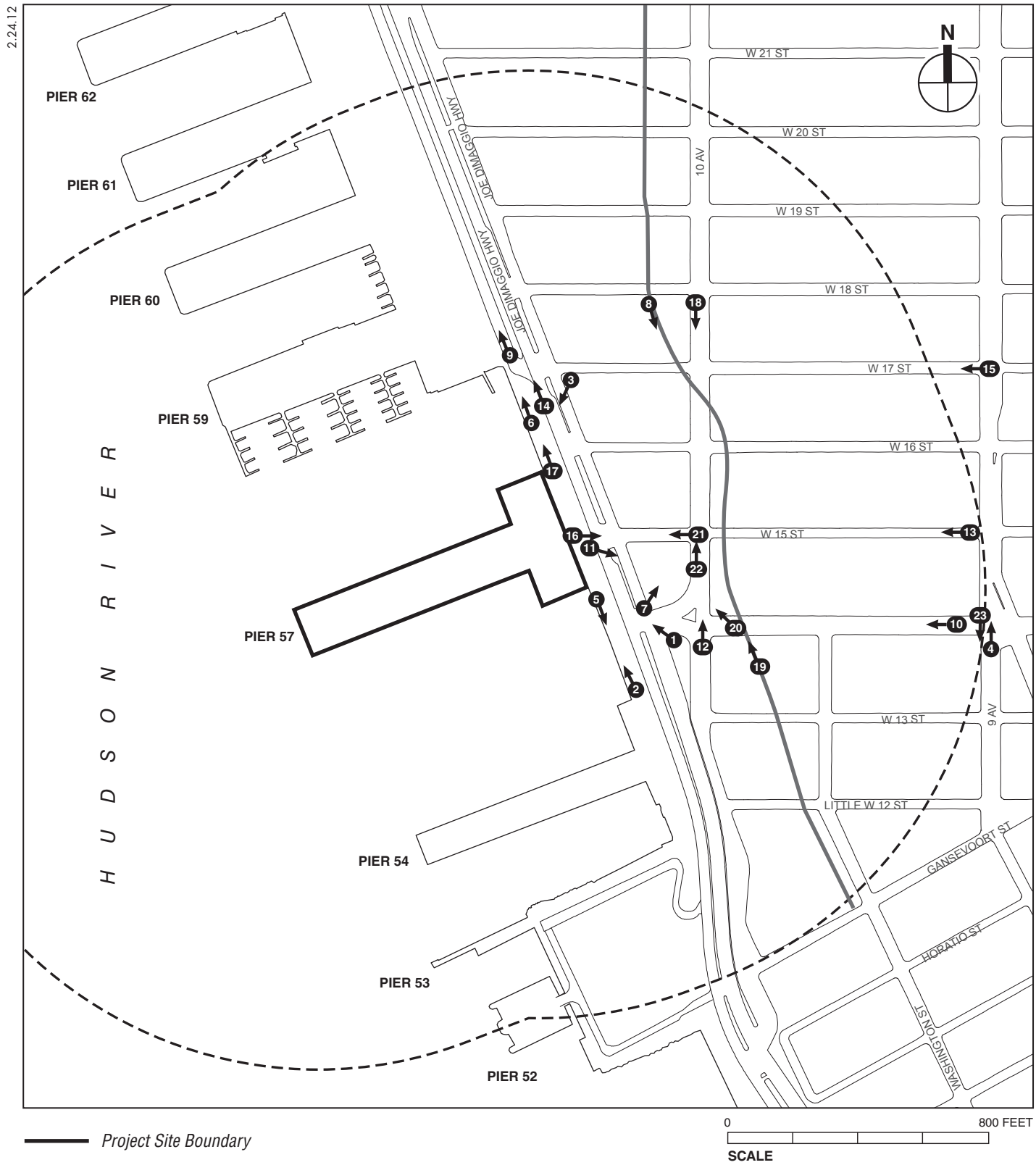
As described above, urban design is the totality of components that may affect a pedestrian's experience of public space. This assessment considers the effects of the proposed project on the experience of a pedestrian in the study area. The assessment focuses on those project elements that have the potential to alter the built environment, or urban design, of the project area, which is collectively formed by the following components:

- Streets—the arrangement and orientation of streets define location, flow of activity, street views, and create blocks on which buildings and open spaces are arranged. Other elements including sidewalks, plantings, street lights, curb cuts, and street furniture also contribute to an area's streetscape.
- Buildings—a building's size, shape, setbacks, pedestrian and vehicular entrances, lot coverage and orientation to the street are important urban design components that define the appearance of the built environment.
- Visual Resources—visual resources include significant natural or built features, including important view corridors, public parks, landmark structures or districts, or otherwise distinct buildings.
- Open Space—open space includes public and private areas that do not include structures, including parks and other landscaped areas, cemeteries, and parking lots.
- Natural Features—natural features include vegetation, and geologic and aquatic features that are natural to the area.

According to the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment, and is generally consistent with that used for the land use analysis. For visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. The land use study area may serve as the initial basis for analysis; however, in cases where significant visual resources exist, it may be appropriate to look beyond the land use study area to encompass views outside of this area, as is often the case with waterfront sites or sites within or near historic districts.

The project site is located on the Hudson River waterfront. Consistent with the analysis of land use, zoning, and public policy, the study area for the urban design and visual resources analysis has been defined as a ¼-mile radius around the project site (see **Figure 8-1**). Longer views from the Hudson River itself are also considered.

The *CEQR Technical Manual* recommends an analysis of pedestrian wind conditions for projects that result in the construction of large buildings at locations that experience high wind conditions (such as along the waterfront, or other location where winds from the waterfront are not attenuated by buildings or natural features), which may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. The proposed project would not involve any substantial new building construction that could affect wind conditions, and thus a pedestrian wind analysis is not warranted.



Urban Design and Visual Resources
Reference Map
Figure 8-1

C. EXISTING CONDITIONS

URBAN DESIGN

PROJECT SITE

The project site consists of Pier 57, adjacent lands underwater, and associated frontage area, all located within Hudson River Park at approximately West 15th Street. The portion of the pier that extends into the river (the pier shed) is 725 feet long and 150 feet wide; the perpendicular portion that fronts along Eleventh Avenue (the head house) is 375 feet long and 150 feet wide. The pier shed is two stories (approximately 67 feet) tall and approximately 300,000 square feet in size. The pier's rectangular-plan, flat-roofed headhouse faces onto Eleventh Avenue and is clad in brick with stone trim around a central bank of tall window openings (see View 1 of **Figure 8-2**). The first floor has regularly spaced door openings with rolling metal shutters. The building name Marine & Aviation Pier 57 appears in stainless steel lettering above the central bank of windows on the headhouse facade. Wings extend to the north and south of the central section; these feature horizontal bands of windows at the upper floors. The portion of the pier shed that extends into the river is clad in metal, with vertical lift doors on both the first and second floors and regularly-spaced, steel-sash fenestration (see View 2 of **Figure 8-2**). Attached along the roof edge on the north and south façades are metal frameworks originally used for cargo handling, referred to as "burtons." Currently, the flat roof is paved and includes two central stair and elevator bulkheads and two smaller stair bulkheads. An approximately 14-foot-wide walkway extends around most of the pier shed's perimeter, but does not continue along the north and south ends of the head house's wings, and thus does not connect to adjacent portions of the Hudson River Park waterfront esplanade. The west end (foot house) of the pier has rounded, streamlined corners clad in steel, and the name Pier 57 appears in large stainless steel letters on the upper band (see **Figure 8-3**). The pier, which is listed on the State and National Registers of Historic Places, has been vacant since 2004. To the east of the pier are a paved apron area and the adjacent Hudson River Park waterfront esplanade and Route 9A bikeway. The pier is currently built to an FAR of approximately 1.8; the allowable FAR of the site's existing zoning is 2.0.

STUDY AREA

The ¼-mile study area is roughly bounded by Pier 61 of Chelsea Piers and West 21st Street to the north, Ninth Avenue to the east, and Gansevoort Street and Pier 52 on the Gansevoort Peninsula to the south. The study area's street pattern differs above and below West 14th Street. Below West 14th Street, the streets follow the irregular pattern found in the West Village, which creates smaller, irregularly-shaped blocks. Above West 14th Street, the street pattern is the more regular grid found throughout much of Manhattan, which creates long, rectangular blocks between Ninth and Tenth Avenues. Eleventh Avenue cuts through the study area parallel with Manhattan's western shoreline, creating irregularly-shaped blocks west of Tenth Avenue. The elevated High Line Park, which is described in greater detail below, also cuts a winding path through the study area west of Ninth Avenue and is a prominent feature in surrounding views. The topography of the study area is generally flat, with a very slight rise from south to north and heading east from the shoreline.

Route 9A, which runs along the Hudson River waterfront east of the project site, is the main vehicular thoroughfare in the study area. Opposing lanes of traffic are separated by a well-

Pier 57 head house, view from Route 9A **1**

Pier 57 pier shed, view from waterfront esplanade **2**

Photographs of Project Site

Figure 8-2

View of Pier 57 from Hudson River

Figure 8-3

landscaped median with trees and bushes (see View 3 of **Figure 8-4**). The medians also provide decorative mast-arm lampposts and queuing areas for pedestrians. Route 9A's crosswalks are also wide and well-painted. Route 9A carries the heaviest traffic volumes in the study area. Ninth and Tenth Avenues also carry a heavy amount of vehicular traffic, as does West 14th Street; other study area streets are less active, and thus quieter. The streets most highly used by pedestrians are Ninth Avenue and West 14th Street. A number of streets in the study area have Belgian block paving, including Little West 12th Street and portions of West 13th, 14th, and 17th Streets and Ninth Avenue. There is a protected bike path on Ninth Avenue north of West 14th Street, and marked bike paths on West 18th between Tenth and Eleventh Avenues, West 20th and 21st Streets east of Tenth Avenue, and Ninth Avenue/Greenwich Street, Washington Street, and Hudson Street south of West 14th Street. In addition, the intersection of Ninth Avenue and West 14th Street was recently redesigned to provide better-defined pedestrian crossings and additional paved plaza areas, which include large blocks of granite, landscaped planters, and tables and chairs shaded by umbrellas (see View 4 of **Figure 8-4**).

Other than retail and restaurant uses, which are described below, much of the pedestrian activity in the study area is oriented toward Hudson River Park and High Line Park. Hudson River Park occupies the land between Route 9A and the waterfront. The majority of the park is linear, expanded by several redeveloped piers, and upon completion will extend continuously from Battery Place to West 59th Street. Hudson River Park includes the waterfront esplanade, a pedestrian path that extends along the entire length of the park, and adjacent to the park is the Route 9A bikeway, a bike path that also extends along the entire length of the park (see View 5 of **Figure 8-5**). Decorative metal lampposts are used within the median separating Route 9A from the pedestrian and bike paths. A portion of Pier 54, just south of the project site, is currently open to the public. The pier is paved and marked by its arched metal entryway along Route 9A. Within the park, just north and south of Pier 57, there are pile fields—remnants of former piers—which are evocative of the City's maritime history (see View 6 of **Figure 8-5**).

The 14th Street Park occupies the full block bounded by West 14th and 15th Streets and Tenth and Eleventh Avenues. It is separated from Hudson River Park by Route 9A, but is part of that park and serves to connect the waterfront to the surrounding commercial and residential uses. The 14th Street Park is composed of a grass oval surrounded by trees and seating and bordered by a low metal fence. Entrances to the park are marked by decorative metal archways (see View 7 of **Figure 8-6**).

The High Line Park is a new park created by the redevelopment of an elevated former freight line stretching from Gansevoort Street to West 30th Street. The park is landscaped with grasses, shrubs, and trees along concrete pathways at an elevation of approximately 25 feet (see View 8 of **Figure 8-6**). Ground-level access points for the High Line within the study area are located at Washington and Gansevoort Streets (the southern terminus of the park and rail line) and just west of Tenth Avenue at West 14th, 16th, 18th, and 20th Streets.

Along the Hudson River, the area south of Pier 54 is occupied by Piers 52 and 53 and the rest of the Gansevoort Peninsula, which extends from Gansevoort Street to Little West 12th Street. This approximately six-acre site is currently occupied by the City's municipal sanitation operation and the New York Fire Department (FDNY) Marine Company One. There is truck parking and salt storage on the site, as well as a large, light-brown, utilitarian brick building surrounded by landscaping at its eastern edge. To the north of Pier 57 and the pile field are Piers 59, 60, and 61, which are part of the Chelsea Piers complex. The Chelsea Piers complex is 28 acres in size and includes a variety of recreational and event uses, as well as a marina. From the surrounding area,

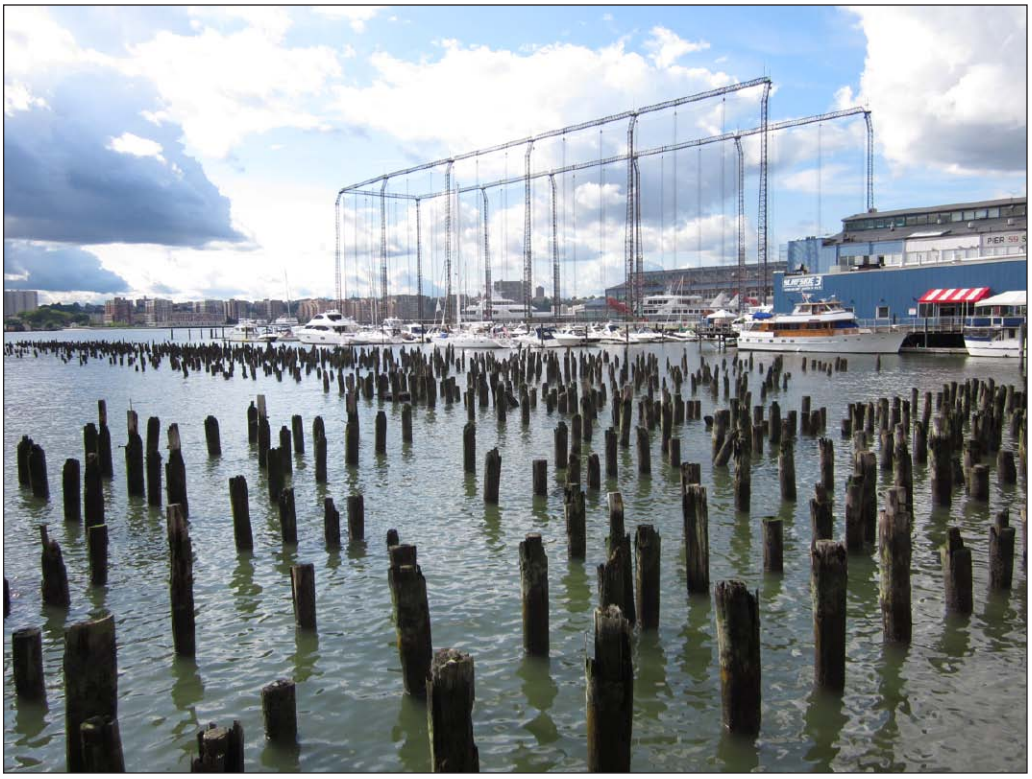
Route 9A, view south towards project site **3**

Intersection of Ninth Avenue and West 14th Street, view north **4**

Photographs of Project Site and Study Area

Figure 8-4

Route 9A bikeway, view south near project site **5**



Pile field north of Pier 57 **6**

Photographs of Study Area

Figure 8-5

14th Street Park entrance **7**

View from High Line Park, looking south through study area **8**

Photographs of Study Area

Figure 8-6

Chelsea Piers is most noticeable for its tall netting enclosing a multi-level golf driving range, and its painted-blue and metal-clad, industrial facade along Route 9A (see View 9 of **Figure 8-7**).

Inland, the visual character of the study area varies and is defined generally by the areas south of West 14th Street, around the High Line north of West 17th Street, and along West 20th and 21st Streets between Ninth and Tenth Avenues. South of West 14th Streets, there are a number of historic, low-scale, brick industrial and warehouse structures formerly used for meatpacking and other similar uses, which are currently in use as retail, restaurants, residences, hotels, art galleries, and studios. Many of these buildings are two and three stories in height, fully occupy their lots, are built to the lot line, and have entrances set above ground level, for ease of loading/unloading trucks. Many of the buildings also have loading docks and roll-down metal shutters covering building entrances; some also have broad metal canopies shielding the ground floor area from sun, rain and snow, to provide cover for workers loading and unloading materials (see View 10 of **Figure 8-7**). Some of the newer buildings in the study area have adopted this building feature. Portions of sidewalks within this area are in use as outdoor dining areas for restaurants.

The low-scale character of this area is occasionally interrupted by new large-scale, glass-clad buildings, usually for hotels and office buildings. These include the Standard Hotel, an 18-story (233-foot-tall) tower elevated across the High Line Park at the southwest corner of Washington and West 13th Streets (see View 11 of **Figure 8-8**). The Standard Hotel is clad in glass, brick and aluminum and has a roughly rectangular, angled floorplate. At ground level, the hotel includes a paved plaza with several types of outdoor seating for restaurants, as well as a 16-foot-tall sculpture by the artist KAWS of a mouse, entitled "Companion (Passing Through)". The block south of the Standard Hotel, bounded by Washington Street and 10th Avenue to the east and west and Little West 12th and Gansevoort Streets to the north and south, houses the few remaining meat production and wholesale companies in the area. Other new structures in this portion of the study area include the 15-story, 192-foot-tall High Line building on West 14th Street near 10th Avenue, which is currently being completed and is projected for retail and office use, and the Hotel Gansevoort, a 14-story, 164-foot-tall, glass- and metal-clad building on the block bounded by Little West 12th, West 13th, and Hudson Streets and Ninth Avenue.

North of West 14th Street to roughly West 17th Street, the study area generally consists of large commercial buildings that fully occupy their lots, are built to the lot line, and are taller than the buildings south of West 14th Street. These include the former National Biscuit Company factory complex, which occupies the blocks bounded by Ninth and Eleventh Avenues and West 15th and 16th Streets. Ornamented metal skybridges over Tenth Avenue and West 15th Street connect several of these large red brick buildings, including the 11-story building directly east of the project site, which currently is in office use (see View 12 of **Figure 8-8** and View 13 of **Figure 8-9**). The Chelsea Market facility is located in the 6- and 8-story red brick National Biscuit Company buildings between Ninth and Tenth Avenues, north of West 15th Street. The trapezoidal block bounded by Tenth and Eleventh Avenues and West 16th and 17th Streets is fully occupied by the historic Merchants Refrigerating Company Warehouse, an 11-story (131-foot-tall) buff-colored brick building designed in a simplified Renaissance Revival style.

North of the Merchants Refrigerating Company Warehouse, the west side of Tenth Avenue is generally lined with surface parking uses as far as West 20th Street. The block bounded by West 17th and 18th Streets and Tenth and Eleventh Avenues is entirely occupied by surface parking, which greatly opens up views to the surrounding area, including the High Line above and the

Chelsea Piers, view to north **9**

West 14th Street, view west from Ninth Avenue **10**

Photographs of Study Area

Figure 8-7

View to Standard Hotel and High Line Building from Hudson River Park **11**

Former National Biscuit Company complex, view north from West 14th Street and Tenth Avenue **12**

Photographs of Study Area

Figure 8-8

Former National Biscuit Company complex and skybridge, view west from Ninth Avenue **13**

View north to IAC Building and 100 Eleventh Avenue, from Hudson River Park **14**

Photographs of Study Area

Figure 8-9

Chelsea Piers complex along the water. Other new buildings that can be seen within this area include the Frank Gehry-designed IAC Building and the Jean Nouvel-designed 100 Eleventh Avenue building to the north, and the Caledonia at 450 West 17th Street to the south. The IAC Building, at 555 West 18th Street, is 10 stories (150 feet) tall and is composed of twisting towers of white-frosted glass (see View 14 of **Figure 8-9**). 100 Eleventh Avenue is 21 stories (250 feet) tall, with a curved façade consisting of a series of "megapanels" of glass, and a 7-story, free-standing street wall of mullioned glass at the intersection of Eleventh Avenue and West 19th Street. The Caledonia is a red brick- and glass-clad, 24-story (250-foot-tall) residential tower directly adjacent to the High Line Park before it crosses Tenth Avenue. The twisted, curved, and angled facades of the Gehry and Nouvel buildings, as well as the new 12-story Chelsea Modern building at 447 West 18th Street, differ from the rectilinear building massings found through most of the study area.

The west side of Ninth Avenue from West 16th Street north to West 19th Street, extending into the midblock, is occupied by the New York City Housing Authority (NYCHA) Fulton development. This complex includes three 25-story buildings set far back from the side streets, and seven six-story buildings set closer to the lot lines (see View 15 of **Figure 8-10**). Surrounding these buildings are paved areas with play equipment, landscaping, surface parking lots, and several smaller structures.

At the northeastern edge of the study area is the General Theological Seminary complex, which occupies most of the block bounded by West 20th and 21st Streets and Ninth and Tenth Avenues. A low brick wall surrounds the seminary complex on West 20th Street, opposite a series of attractive, low-scale residences, including rowhouses with stoops. Along West 21st Street, the neo-Gothic tower of the seminary's Chapel of the Good Shepherd can be seen.

At various locations within the study area, there are buildings with large-scale advertising signage attached; there are also advertising billboards on scaffolding above several buildings at the intersection of West 14th Street and Ninth Avenue. Most of the street trees in the area are around the NYCHA Fulton development and General Theological Seminary complexes, and along Route 9A and Hudson River Park.

VISUAL RESOURCES

Visual resources are an area's unique or important public view corridors, vistas, or natural or built features. These can include historic structures, parks, natural features (such as rivers), or important views.

PROJECT SITE

Pier 57 is considered a visual resource. The long metal-clad sides of the pier shed can be viewed from Route 9A and portions of Hudson River Park to the south and north, as well as from the Hudson River. From nearby portions of West 14th, 15th, and 16th Streets, the pier's head house also can be seen. Views outward from the project site itself include long views north and south along Route 9A and Hudson River Park, the West 15th Street skybridge of the former National Biscuit Company complex, and the High Line Park as it crosses West 15th Street (see Views 16 and 17 of **Figure 8-11**).

View west on West 17th Street, to Fulton Houses and Caledonia **15**

Photographs of Study Area
Figure 8-10

View east from project site **16**

View north from edge of project site **17**

Views to Visual Resources

Figure 8-11

STUDY AREA

As described above, the surface parking uses north of West 17th Street and west of Tenth Avenue provide wide views through this portion of the study area to surrounding buildings and the Hudson River waterfront. Long views are also available along Route 9A and the Hudson River Park waterfront esplanade and the adjacent Route 9A bikeway; views along this view corridor include the High Line, the ornamented metal skybridge above West 15th Street, and the various notable new and historic buildings along Eleventh Avenue that are described above.

Views throughout the study area also include the High Line Park: the ornamented metal viaduct carrying the former rail line, the extensive landscaping that is now planted in the elevated open space, and the people utilizing this resource (see View 18 of **Figure 8-12**). The viaduct carrying the park above the study area's streets also serves to limit some views to other buildings and resources along these streets. Views from High Line Park itself are extensive in each direction, and are from an elevated perspective that is not typically available to pedestrians (see View 19 of **Figure 8-12** as well as View 8 of **Figure 8-6**, above).

In general, westward views throughout the study area include the Hudson River waterfront and New Jersey in the far distance. Views west on West 13th Street include the Standard Hotel rising above and around the High Line. Views west on West 14th Street include the High Line, and Pier 57 also can be viewed through 14th Street Park (see View 20 of **Figure 8-13**). Views west on West 15th Street include the ornamented metal skybridge above that street and the High Line viaduct, as well as the head house of Pier 57 (see View 21 of **Figure 8-13**). Views east within the study area generally extend for long distances, except where the High Line viaduct or skybridges limit these views. On West 20th and 21st Streets, an extensive street tree canopy also limits views when the trees are in leaf. Views east on West 17th Street near Ninth Avenue include the sloping, metal-clad façade and porthole windows of the Maritime Building, and views east on West 21st Street include the chapel tower of General Theological Seminary.

View north on Washington Street ends with the buildings on the north side of West 14th Street because of the change in street pattern noted above. Views north on Tenth Avenue include the National Biscuit Company's decorative metal skybridge, as well as the High Line viaduct (see View 22 of **Figure 8-14**). Views south along the avenue include these elements, as well as the Standard Hotel and the Goldman Sachs office tower in Jersey City in the far distance.

From the intersection of Ninth Avenue and West 14th Street, pedestrians can experience long views up and down the two intersecting view corridors of Ninth Avenue and Hudson Street (View 23 of **Figure 8-15**).

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT SITE

In the No Action condition, Pier 57 is expected to remain vacant. The project site would remain an underutilized component of Hudson River Park, and no new publicly accessible open space or commercial, educational, or cultural uses would be created. The historic Pier 57 structure and overwater platform would remain in their current condition, with some level of deterioration over time.

View to High Line Park, from West 17th Street and Tenth Avenue **18**

View from High Line Park, near West 14th Street **19**

Views to Visual Resources

Figure 8-12

View from High Line Park to Pier 57 **20**

View west on West 15th Street to Pier 57 **21**

Views to Visual Resources

Figure 8-13

View north on Tenth Avenue, from West 15th Street **22**

Views to Visual Resources
Figure 8-14

View south from intersection of Ninth Avenue and West 14th Street **23**

STUDY AREA

There are several developments under construction or planned in the study area that are expected to be completed by 2015. As described in detail in Chapter 2, "Land Use, Zoning and Public Policy," these projects will replace existing industrial buildings and vacant lots with new buildings containing museum, office, and retail uses, as well as renovate and expand older industrial buildings for retail, hotel, and office uses.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

URBAN DESIGN

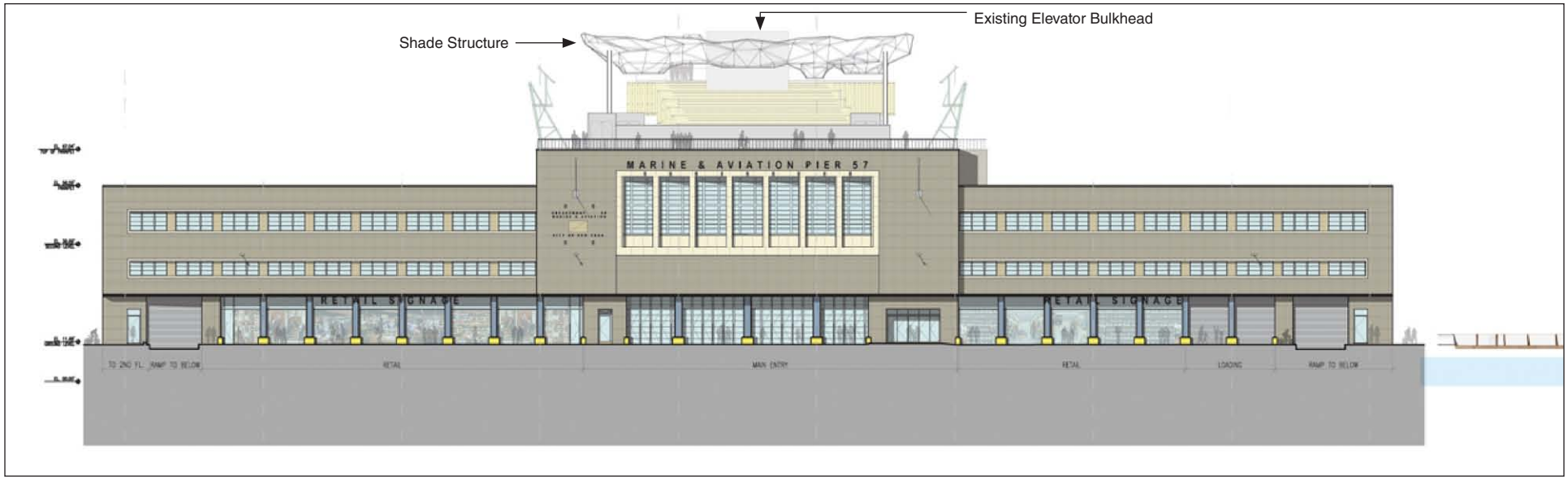
The *CEQR Technical Manual* guidelines state that if the preliminary assessment shows that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed analysis is appropriate. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings. Detailed analyses also are generally appropriate for areawide rezonings that include an increase in permitted floor area or changes in height and setback requirements, general large-scale developments, or projects that would result in substantial changes to the built environment of a historic district or components of a historic building that contribute to the resource's historic significance.

The proposed project would not noticeably change the scale of buildings; would not involve an area-wide rezoning that includes an increase in permitted floor area or changes in height or setback requirements; would not involve a general large-scale development; and would not result in substantial changes to the built environment of a historic district. The proposed project would result in changes to a historic building, but as described below, these changes would not be characterized as substantial or adverse. Rather, the majority of the changes would involve restoring building elements and renovation.

As described in more detail in Chapter 7, "Historic and Cultural Resources," the design of the proposed project is intended to respect the pier's history, preserve and make accessible the structure's existing fabric, as well as introduce a limited number of new, innovative architectural components to enliven the historic resource. The pier's head house would be restored, to become an improved entrance into Hudson River Park from the Chelsea and Meatpacking District neighborhoods (see **Figure 8-16**). The water-side (foot house) façade also would be restored to its original appearance, and the modular vertical doors spanning the length of the pier shed would be restored (see **Figure 8-17**). The new uses within the pier shed would incorporate a small amount of exterior alterations. The exterior changes that would be visible to surrounding motorists, pedestrians, and park users—as well as boaters, ferry riders, and others using the Hudson River—would be the re-activation of the original vertical lift doors and "gangplanks" on the pier shed, a new sign at the head house entrance, and several new rooftop elements, including a pavilion with a public deck and shade structures. The shade structures would be mounted on rails, which could be moved manually in an east-west direction to provide shade where necessary. No new element on the rooftop would be taller than the height of the existing elevator bulkheads, however, and thus these changes would be minimally visible from the surrounding area (see **Figure 8-18**). The proposed project also would introduce two rooftop additions on the head house: one on the north side of the lower head house rooftop, and the other at the center of the upper head house rooftop. Both of the additions would be lower than the head

9.5.12

Existing/No Action Condition



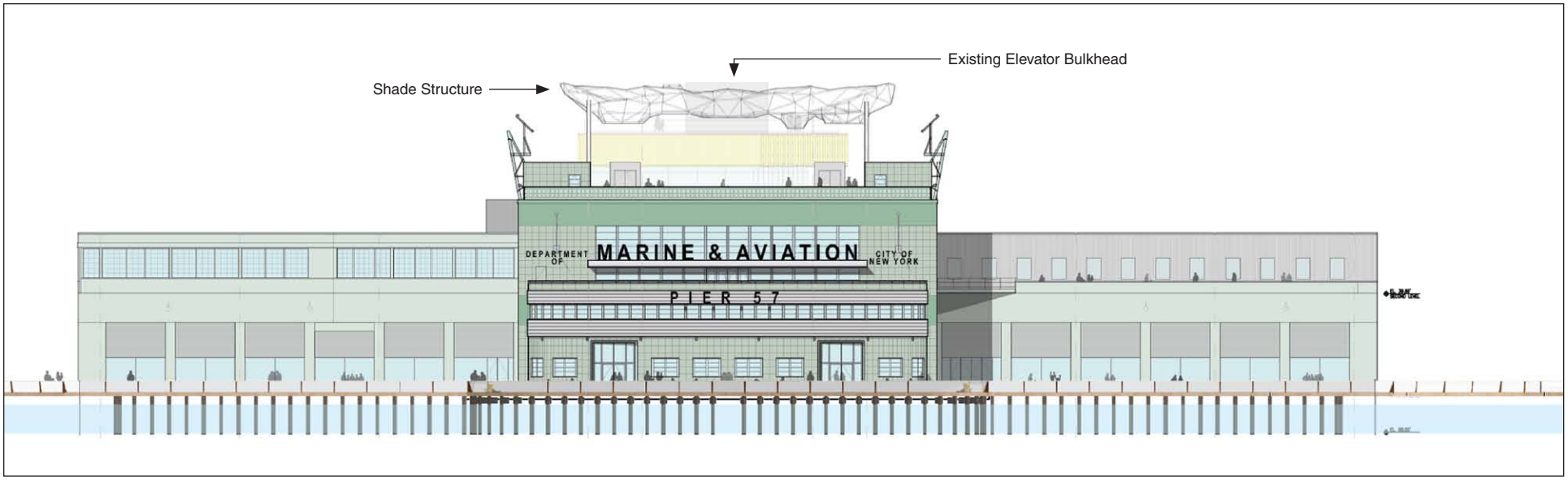
FOR ILLUSTRATIVE PURPOSES ONLY

With Action Condition

Pier Headhouse

Figure 8-16

Existing/No Action Condition

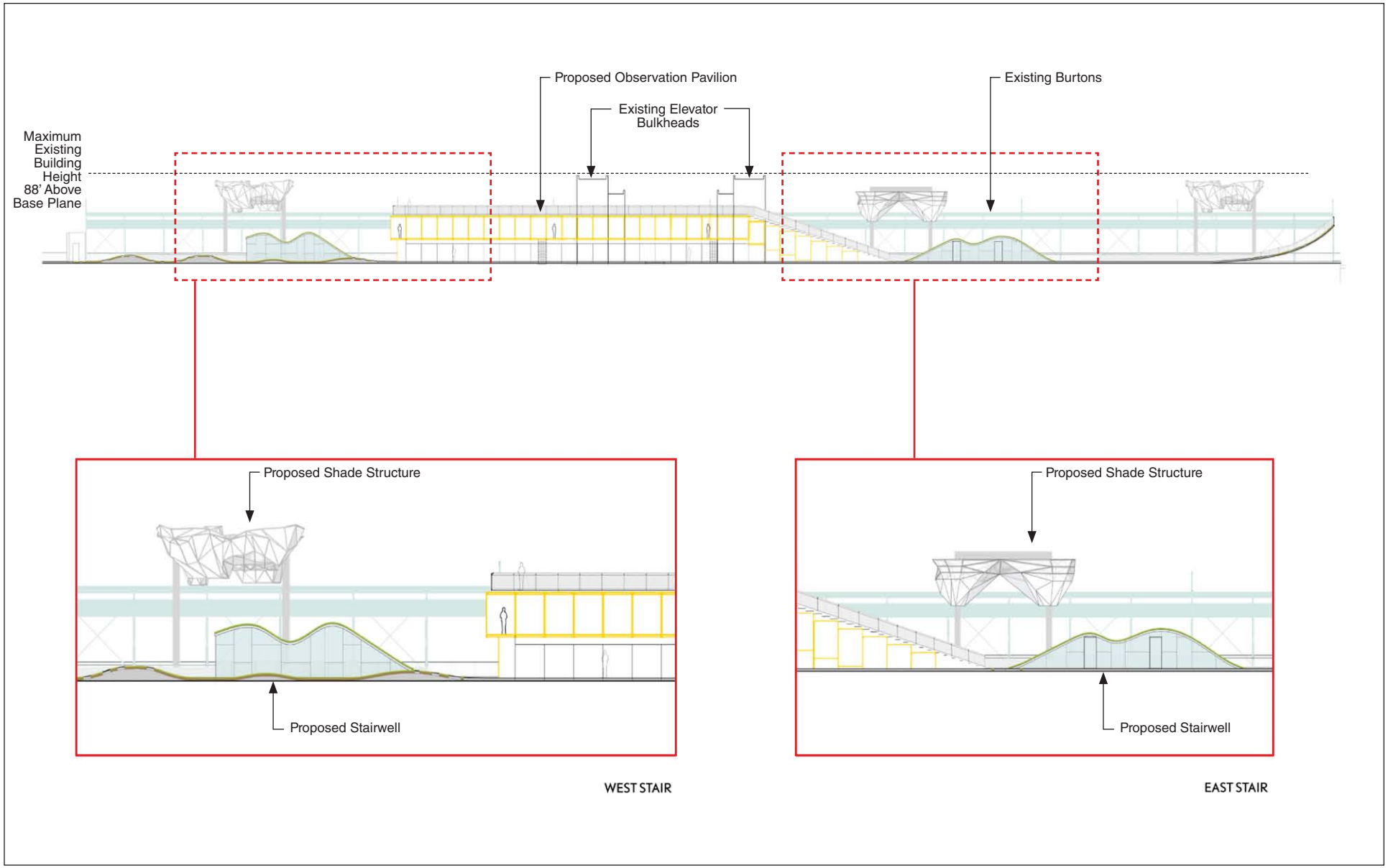


FOR ILLUSTRATIVE PURPOSES ONLY

With Action Condition

Pier Foot House

Figure 8-17



Roof Elevation

Figure 8-18

house façade along Eleventh Avenue, but would be visible to pedestrians and bicyclists in Hudson River Park to the north and south of the project site. The head house additions would not noticeably change the scale of the existing structure, nor would they result in a substantial change to the pedestrian environment in Hudson River Park.

The proposed marina and water taxi landing would not involve any changes to the historic Pier 57 structure. The existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the existing Hudson River Park waterfront esplanade to the east of the pier (see **Figure 8-19**). The walkway would have a continuous width of 15 feet and would include seating opportunities. New public walkways also would be constructed parallel to the existing bulkhead to widen the public park space adjacent to the busy circulation area in front of the project site. These new walkways would extend north and south just east of the head house (see **Figure 8-20**). While designed as part of the pier's rehabilitation and referential to its historic character, these walkways and their associated railings and seating features also would be compatible with existing areas bordering the river within Hudson River Park. The provision of these new walkways, as well as the open spaces on the rooftop of the pier shed, would enhance the existing streetscape and pedestrian environment of Hudson River Park and Route 9A. The rehabilitated pier also would improve the visual and programming links between the Hudson River Park and inland communities, transforming the vacant pier into a handsome new component of Hudson River Park.

Figures 8-16 through **8-22** and Figures 1-4 through 1-16 in Chapter 1, "Project Description" illustrate how the project site and study area would appear in the With Action condition. As shown in these renderings, the restoration elements of the project and the small amount of proposed alterations would not substantially change the character of views to the resource. The proposed project would involve alterations to a historic structure, but would not result in substantial changes to components of the pier structure that contribute to its historic significance.

In summary, the proposed project does not meet any threshold that would merit further analysis of urban design, and would not result in significant adverse effects to urban design.

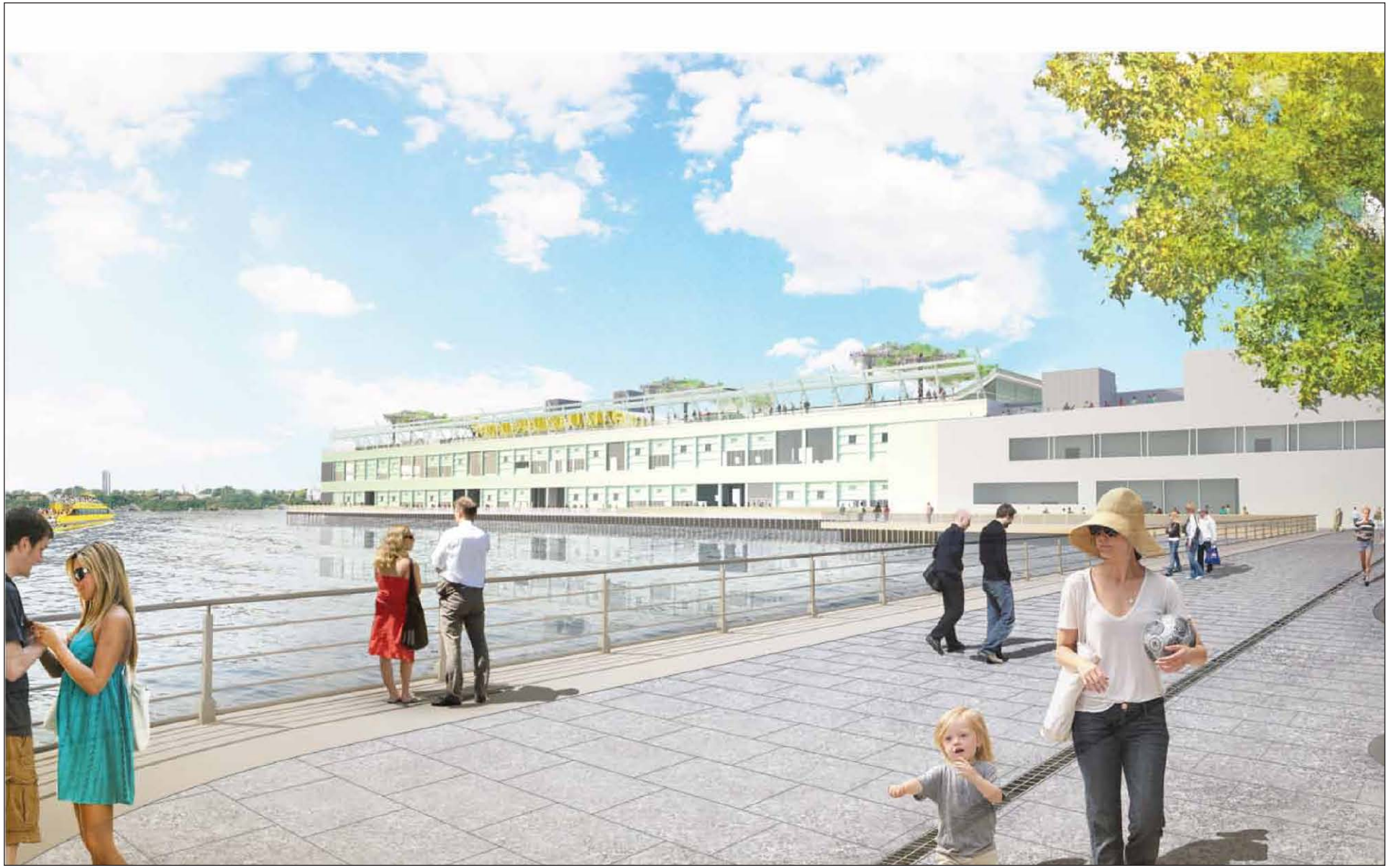
VISUAL RESOURCES

According to the guidance of the *CEQR Technical Manual*, additional visual resources analysis is required if: a project would partially or totally block a view corridor or a natural or built visual resource, and that resource is rare in the area or considered a defining feature of the neighborhood; or, a project would change urban design features so that the context of a natural or built visual resource is altered (for example, if a project alters the street grid so that the approach to the resource changes; if a project changes the scale of surrounding buildings so that the context changes; or if a project removes lawns or other open areas that serve as a setting for the resource). The proposed project would not partially or totally block a view corridor and would not change any urban design features such that the context of natural or built visual resources is substantially altered. The proposed project would reactivate Pier 57 and make alterations to the historic structure that would be appropriate and preserve the building's historic integrity and improve its appearance. The proposed rooftop additions would be no taller than the existing elevator bulkheads, and thus would not present a notable change in views to the building for pedestrians and other park users. The proposed project would also provide opportunities for new views for pedestrians from the proposed rooftop open space and perimeter walkways. Therefore, the proposed project does not merit further analysis of visual resources, and would not result in significant adverse effects to visual resources. ✷

FOR ILLUSTRATIVE PURPOSES ONLY

Illustrative Rendering of Perimeter Walkway

Figure 8-19



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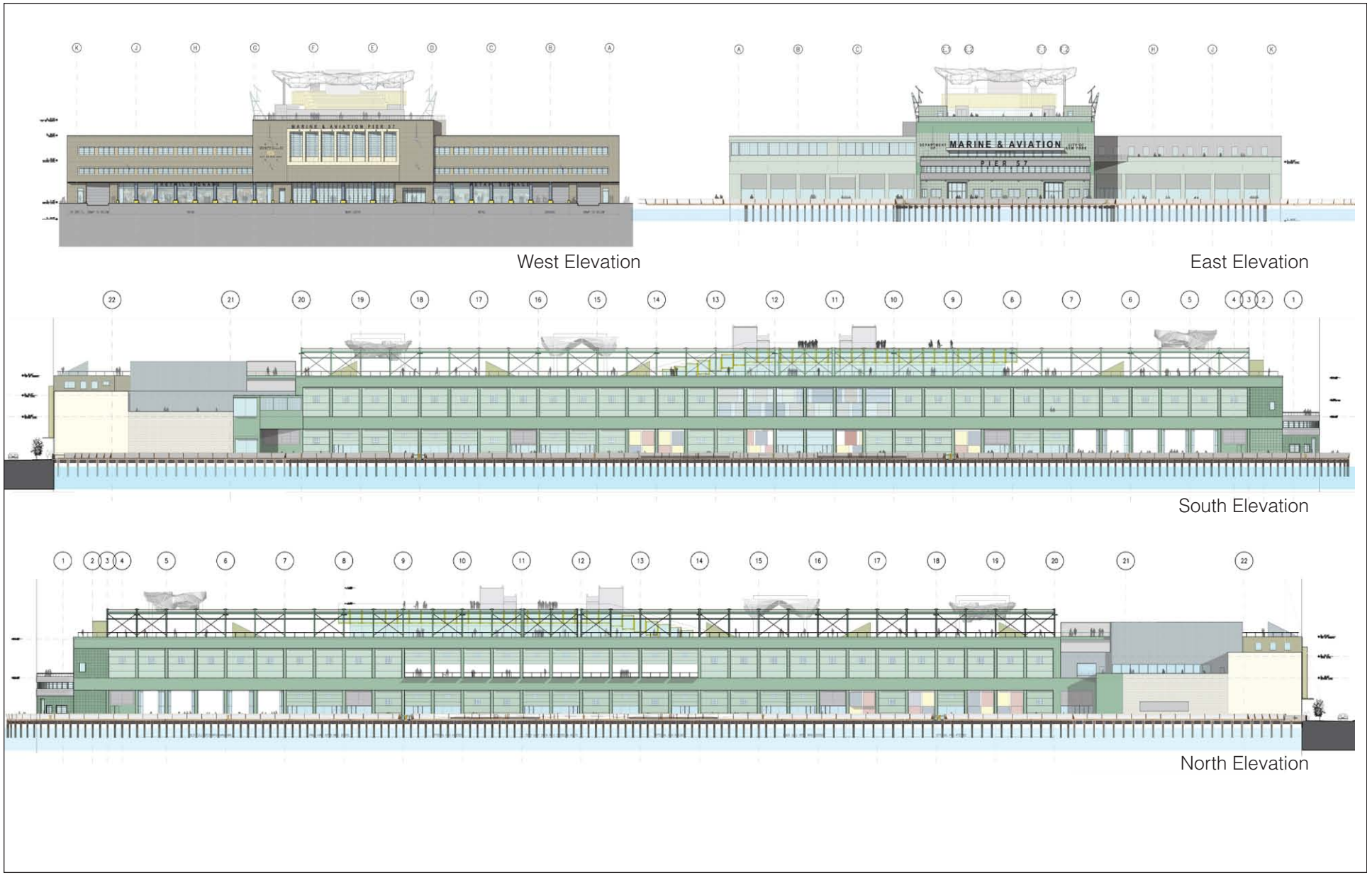
Illustrative Rendering of Perimeter Walkway Extension

Figure 8-20

FOR ILLUSTRATIVE PURPOSES ONLY

Aerial Perspective of Proposed Project

Figure 8-21



FOR ILLUSTRATIVE PURPOSES ONLY

Elevations
Figure 8-22

A. INTRODUCTION

This chapter examines the potential impacts from the proposed project on terrestrial and aquatic natural resources[1] and floodplains near the project site (see Chapter 1, "Project Description"). The project site consists of historic Pier 57 in the Hudson River, in-water areas adjacent to the pier, and associated frontage area, all of which are located within the legislatively created Hudson River Park at approximately West 15th Street (Block 662, Lot 3) (see Figure 1-1 in Chapter 1, "Project Description"). Immediately adjacent to and east of the site on the Manhattan shoreline are other portions of Hudson River Park and the Route 9A Bikeway and roadway (see Figure 1-2 in Chapter 1, "Project Description").

This chapter describes:

- The regulatory programs that protect floodplains, wildlife, threatened or endangered species, aquatic resources, or other natural resources within the project site;
- The current condition of the floodplain and natural resources within the study area, including water and sediment quality, and biological resources, including aquatic biota, terrestrial biota, and threatened or endangered species and species of special concern;
- The floodplain, water quality, and natural resources conditions in the future without the proposed project (the No Action condition); and
- The potential impacts of the proposed project on the floodplain, water quality, and natural resources (the With Action condition).

The proposed project would result in the redevelopment of historic Pier 57—a currently vacant pier within the Hudson River Park most recently used as a bus garage—for primarily open space, retail, cultural, and marina uses, as well as modifications to the paved upland area east of the façade to facilitate access to the site. The project calls for a limited number of activities that have the potential for impacts to the aquatic environment, including repair of the three supporting caissons and pier structure and development and operation of a marina and water taxi landing.

As discussed in Chapter 1, "Project Description," some aspects of the work to be conducted at Pier 57 were previously assessed in the Final Environmental Impact Statement (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to the Hudson River Park Trust (HRPT). U.S. Army Corps of Engineers (USACE, Permit 1998-00290) and New York State Department of Environmental Conservation (NYSDEC, Permit 2-6299-00004/00001) permits issued to HRPT authorize the repair of the existing perimeter walkway and its extension

[1] The 2012 *CEQR Technical Manual* defines natural resources as "(1) the City's biodiversity (plants, wildlife and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability."

to connect with the public esplanade to the east of the pier; the development of new public walkways parallel to the existing bulkhead; and pile jacketing and repair work. This work was evaluated in the FEIS for Hudson River Park and has been permitted. Because the proposed project and the extensions of the perimeter and bulkhead walkways would result in concurrent pile driving activities, additional shading of aquatic habitat, and additional loss of bottom habitat, the cumulative effects of these elements have been considered in this chapter. The proposed project does not include additional pile jacketing or repair work beyond that which has been previously approved; therefore these previously approved activities are not be evaluated in this chapter with respect to cumulative effects.

The proposed project would require work to be undertaken on the pier's three supporting caissons and pier structure, including sealing of cracks in the shells of the three caissons, construction of new stairways, elevator shafts and utility shafts between the ground floor of the pier building and caisson level described in detail in Chapter 1, "Project Description," and placement of riprap along the western base of the westernmost caisson that is currently experiencing severe scour. The project design is expected to include a marina of up to 141 slips located on the north and south sides of Pier 57. As currently envisioned, the marina would include four wave screens—located north and south of the western end of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier—and a vessel pumpout station within the portion of the marina south of Pier 57. Provision would be made in the design of the marina to accommodate mooring of up to two transient or long-term historic vessels and a non-motorized boat launch. A 30-foot by 60-foot water taxi landing may be located on the northwest corner of the pier. The proposed development of a marina would not include dredging of the Hudson River or refueling facilities. Construction of the marina would involve installation of guide piles, walkways, and fingerfloats, and the piles and panels associated with the wave screen structures. In-water construction activities associated with the project would be regulated under a NYSDEC Protection of Waters permit and USACE Section 10 and Section 404 permits.

PRINCIPAL CONCLUSIONS

The construction activities associated with the proposed project would not cause any significant adverse environmental impacts on terrestrial or aquatic resources. Pile driving and placement of riprap along the western base of the outermost of the three caissons supporting historic Pier 57, and other in-water construction activities associated with the redevelopment of the pier and construction of the marina would not result in significant adverse impacts to floodplains, wetlands, water quality or aquatic biota. Increases in suspended sediment resulting from construction activities would be temporary and localized and would be expected to dissipate quickly. Turbidity curtains would be used during pile driving activities to further reduce the potential for increases in suspended sediment within the study area. Aquatic threatened or endangered species or species of concern that are known to occur in the vicinity of Pier 57, shortnose sturgeon and Atlantic sturgeon, would only occur in the area as occasional transient individuals and would prefer the deeper water habitat of the navigation channel, which would not be affected by the proposed project. The prohibition of pile driving from November through April to protect overwintering striped bass would minimize potential impacts to striped bass and other fish overwintering within the vicinity of Pier 57. Seals and the four species of threatened or endangered sea turtles that may be present in the Harbor Estuary would only be expected to be present in the vicinity of Pier 57 as occasional transient individuals and would likewise not be significantly impacted by construction activities. Through consultation and coordination between HRPT and the NYSDEC, the proposed project would not result in significant adverse impacts to the NYSDEC listed endangered peregrine falcon pair that has at times been nesting

on the pier since 2009. Coordination activities may include attempting to relocate the nest, staging construction to avoid sensitive periods, or use of monitoring cameras.

Operation of the proposed project, including the discharge of stormwater from the pier to the Hudson River, and the operation of the marina and water taxi landing, is consistent with the use of this portion of the park for motorized and non-motorized boating, as specified in the Hudson River Park Estuarine Sanctuary Management Plan (Sanctuary Plan), and would not result in significant adverse impacts to floodplains, wetlands, water quality, aquatic habitat, fish or benthic macroinvertebrates, essential fish habitat or a Significant Coastal Fish and Wildlife Habitat. The proposed project would include provisions for installing 4 to 5 foot flood barriers around the pier on an as needed basis (i.e., before predicted storm events). These flood barriers would extend more than 2 feet above the existing 100-year flood elevation and would therefore make the structure resilient to predicted increases in the flood elevation due to sea level rise. Operation of the proposed project would not result in significant adverse impacts to terrestrial resources.

B. METHODOLOGY

OVERVIEW

Because the proposed project would not have the potential to affect terrestrial resources or the floodplain beyond the project site, the study area for these resources is limited to the boundaries of Pier 57 and the upland area immediately adjacent to the pier. An exception was made for the identification of threatened or endangered species, which were evaluated for a distance of at least 0.5 miles from the project site. The study area for water quality and aquatic resources includes the overall aquatic resources within the Lower Hudson River and the Hudson River waterfront portion of the project site. It is anticipated that construction would begin in 2013, with the renovated Pier 57 complete and operational in 2015.

EXISTING CONDITIONS

Existing conditions for floodplain, water quality, and natural resources within the study area were summarized from:

- Existing information identified in literature and obtained from governmental and nongovernmental agencies, such as the New York City Department of Environmental Protection (DEP) Harbor Water Quality Survey (NYCDEP 2010b); NYCDEP City-Wide Long Term CSO Control Planning Project reports; U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory maps and federally listed threatened or endangered species for New York County, New York; studies conducted within the Hudson River Park; New York/New Jersey Harbor Estuary Program; EPA Regional Environmental Monitoring and Assessment Program (R-EMAP); Federal Emergency Management Agency (FEMA) flood insurance rate maps; and USACE studies conducted as part of the New York and New Jersey Harbor Navigation Project.
- Responses to requests for information on rare, threatened, or endangered species in the vicinity of the project site. These requests were submitted to the National Marine Fisheries Service (NMFS) and the NYSDEC Natural Heritage Program (NHP). In addition to the state program, the USFWS maintains information for federally listed threatened or endangered freshwater and terrestrial plants and animals, and the NMFS does the same for federally listed threatened or endangered marine organisms.

THE FUTURE WITHOUT THE PROPOSED PROJECT

FLOODPLAINS AND TERRESTRIAL RESOURCES

In the No Action condition, the project site, which comprises the study area for the floodplains and terrestrial resources assessment, is assumed to remain in its current condition.

WATER QUALITY AND AQUATIC RESOURCES

The assessment of water quality and aquatic resources for the No Action condition considered ongoing and proposed projects in the vicinity of the project site, including:

- Water quality and sediment quality improvements expected to occur as a result of regional and local programs; and
- Habitat enhancement or restoration activities associated with the New York/New Jersey Harbor Estuary Program (HEP) or Hudson-Raritan Estuary Ecosystem Restoration Project (HRE).

Within the project site, the existing overwater platform would remain in its current condition.

THE FUTURE WITH THE PROPOSED PROJECT

In the With Action condition, potential impacts on the floodplain, wetlands, aquatic, and terrestrial resources from the proposed project were assessed by considering the following:

- The existing water quality and natural resources of the Hudson River in the vicinity of the project site.
- The potential for construction of in-water components, such as work on the pier's support structures, and construction of a marina with wave screens, a water taxi platform and extensions of the perimeter walkway and bulkhead walkways, to result in temporary impacts to water quality and aquatic organisms. These potential impacts may include:
  - Temporary increases in suspended sediment and release of contaminants during sediment disturbance; and
  - Temporary loss of fish breeding, nursery, or foraging habitat, or Essential Fish Habitat (EFH) identified by the NMFS, from temporary water quality changes.
- The potential for operation of the proposed project, such as operation of the marina and water taxi, and discharge of stormwater from the pier to adversely affect water quality of the Hudson River.
- The potential for overwater coverage associated with the proposed project to result in significant adverse impacts to aquatic habitat due to shading.
- Projected sea level rise due to climate change.

While the project would require various discretionary actions, some aspects of the work were previously assessed in the FEIS for Hudson River Park, and permits and subsequent renewals were issued to the Hudson River Park Trust by the USACE and NYSDEC. Permits exist for the work needed to repair the existing perimeter walkway and extend it to connect with the esplanade to the east of the pier; for the development of new public walkways parallel to the existing bulkhead; and for the pile jacketing and repair work. Under these previously permitted activities, the existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the Hudson River Park waterfront esplanade to the east of the pier. The perimeter walkway would have a continuous width of 15 feet and would include seating.

New public walkways parallel to the existing bulkhead, also previously approved and permitted, would extend to the north and south, extending the currently limited public circulation space along the bulkhead. Because work associated with these elements, specifically pile driving activities, would be undertaken concurrent with the in-water components of the proposed project (i.e., marina, wave fences, water taxi platform, and pier fender piles) this work and the shading of aquatic habitat that would result from the walkway extensions and the proposed project were considered in the assessment of potential environmental impacts in the With Action condition. The environmental impacts associated with pile jacketing and other pile repairs were evaluated in the FEIS for Hudson River Park (which concluded that these activities would not result in significant adverse environmental impacts to natural resources), and were authorized by the USACE (Permit Number 1998-00290) and NYSDEC (Permit Number 2-6299-00004/00001) and subsequent renewals. The proposed project does not include additional pile jacketing or repair work beyond that which has been previously approved; therefore these previously approved activities are not evaluated in this chapter with respect to cumulative effects. The caisson repair activities under the proposed project would comprise sealing of cracks in the shells of the caissons to prevent water intrusion, and would not include new pile jacketing or repair work.

C. REGULATORY CONTEXT

In-water activities associated with the proposed project—such as work on the pier's support structures, construction of a marina, and activities within the New York State Coastal Zone—must comply with federal and state legislation and regulatory programs that pertain to activities in coastal areas, surface waters, floodplains, wetlands, and the protection of species of special concern. The proposed project would abide by permit conditions established for the development of the Hudson River Park authorized under Section 404 and Section 10 of the Rivers and Harbors Act in USACE Permit Number 1998-00290 and NYSDEC Permit Number 2-6299-00004/0000, and subsequent renewals. Applicable federal and state regulations are discussed below.

FEDERAL REGULATIONS

CLEAN WATER ACT (33 USC §§ 1251 TO 1387)

The objective of the Clean Water Act, also known as the Federal Water Pollution Control Act, is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. It regulates point sources of water pollution, such as discharges of municipal sewage, industrial wastewater, and stormwater; the discharge of dredged or fill material into navigable waters and other waters; and non-point source pollution, such as runoff from streets, agricultural fields, construction sites, and mining that enter water bodies from sources other than the end of a pipe.

Under Section 401 of the Act, any applicant for a federal permit or license for an activity that may result in a discharge to navigable waters must provide to the federal agency issuing a permit a certificate, either from the state where the discharge would occur or from an interstate water pollution control agency, that the discharge would comply with Sections 301, 302, 303, 306, 307, and 316 (b) of the Clean Water Act. Applicants for discharges to navigable waters in New York must obtain a Water Quality Certification from NYSDEC.

Section 404 of the Act requires authorization from the Secretary of the Army, acting through USACE, for the permanent or temporary discharge of dredged or fill material into navigable waters and other waters of the United States. Waters of the United States is defined in 33 CFR 328.3 and includes wetlands, mudflats, and sandflats that meet the specified requirements, in addition to streams and rivers that meet the specified requirements. Activities authorized under Section 404 must comply with Section 401 of the Act.

RIVERS AND HARBORS ACT OF 1899

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through USACE, for the construction of any structure in or over any navigable water of the United States, the excavation from or deposition of material in these waters, or any obstruction or alteration in navigable waters of the United States. The purpose of this Act is to protect navigation and navigable channels. Any structures placed in or over navigable waters, such as pilings, piers, or bridge abutments up to the mean high water line, are regulated pursuant to this Act.

MAGNUSON-STEVENS ACT (16 USC §§ 1801 TO 1883)

Section 305(b)(2)-(4) of the Magnuson-Stevens Act outlines the process for the NMFS and the Regional Fishery Management Councils (in this case, the Mid-Atlantic Fishery Management Council) to comment on activities proposed by federal agencies (issuing permits or funding projects) that may adversely impact areas designated as EFH. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 USC §1802(10)).

Adverse impacts on EFH, as defined in 50 CFR 600.910(A), include any impact that reduces the quality and/or quantity of EFH. Adverse impacts may include:

- Direct impacts, such as physical disruption or the release of contaminants;
- Indirect impacts, such as the loss of prey or reduction in the fecundity (number of offspring produced) of a managed species; and
- Site-specific or habitat-wide impacts that may include individual, cumulative, or synergetic consequences of a federal action.

ENDANGERED SPECIES ACT OF 1973 (16 USC §§ 1531 TO 1544)

The Endangered Species Act of 1973 recognizes that endangered species of wildlife and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the nation and its people. The Act prohibits the importation, exportation, taking, possession, and other activities involving illegally taken species covered under the Act, and interstate or foreign commercial activities. The Act also provides for the protection of critical habitats on which endangered or threatened species depend for survival.

FISH AND WILDLIFE COORDINATION ACT (PL 85-624; 16 USC 661-667D)

The Fish and Wildlife Coordination Act entrusts the Secretary of the Interior with providing assistance to, and cooperation with, federal, state, and public or private agencies and organizations to ensure that wildlife conservation receives equal consideration and coordination with other water-resource development programs. These programs can include the control (such

as a diversion), modification (such as channel deepening), or impoundment (dam) of a body of water.

NEW YORK STATE REGULATIONS

PROTECTION OF WATERS, ARTICLE 15, TITLE 5, ECL, IMPLEMENTING REGULATIONS 6 NYCRR PART 608.

NYSDEC is responsible for administering the Protection of Waters Act and regulations to govern activities on surface waters (rivers, streams, lakes, and ponds). The Protection of Waters Permit Program regulates five different categories of activities: disturbance of stream beds or banks of a protected stream or other watercourse; construction, reconstruction, or repair of dams and other impoundment structures; construction, reconstruction, or expansion of docking and mooring facilities; excavation or placement of fill in navigable waters and their adjacent and contiguous wetlands; and Water Quality Certification for placing fill or other activities that result in a discharge to waters of the United States in accordance with Section 401 of the Clean Water Act.

ENDANGERED AND THREATENED SPECIES OF FISH AND WILDLIFE; SPECIES OF SPECIAL CONCERN (ECL, SECTIONS 11-0535[1]-[2], 11-0536[2], [4], IMPLEMENTING REGULATIONS 6 NYCRR PART 182)

The Endangered and Threatened Species of Fish and Wildlife, Species of Special Concern Regulations prohibit the taking, import, transport, possession, or selling of any endangered or threatened species of fish or wildlife, or any hide, or other part of these species as listed in 6 NYCRR §182.6.

HUDSON RIVER PARK ESTUARINE SANCTUARY MANAGEMENT PLAN

The Sanctuary Management Plan, developed by the HRPT, identifies management policies for the Hudson River Park Estuarine Sanctuary (Sanctuary) with respect to resource protection and preservation, public access and recreation, education, and research activities. The purpose of the Sanctuary Plan is to provide guidance on balancing the needs of these various park uses and identify procedures for monitoring and enforcing Park policies, laws, and regulations to manage and protect the Hudson River and the Sanctuary. The Sanctuary Plan identifies a Technical Advisory Committee (selected in consultation with the Hudson River Park Advisory Council and NYSDEC) to advise and assist the HRPT on the oversight, facilitation, distribution, and maintenance of efforts as they relate to the Sanctuary Plan objectives.

The preservation objectives focus on controlling solid waste and water pollution that may result from activities, while improving water quality, aquatics, wildlife habitat, and promoting native species and sustainable design. Public access and recreational objectives are focus on providing additional opportunities for waterfront access, improving and enhancing in-water safety, and encouraging the use of the waterfront through special events and programs. Educational objectives include expanding learning opportunities within the Sanctuary through special programs and facilities, and developing partnerships with local and regional educational organizations. Research goals focus on analyzing the river habitats and their relationships with biotic and abiotic sources, assessing impacts of development activities, and developing methods for habitat improvement.

D. EXISTING CONDITIONS

Under the 2012 CEQR Technical Manual, a natural resources assessment considers the plant, wildlife and other species in the context of the surrounding environment, habitat or ecosystem and examines a project's potential to impact those resources. Resources such as groundwater, soils and geologic features, natural and human-created habitats, and any areas used by wildlife may be considered in a natural resources analysis. Stormwater runoff may also be considered in a natural resources assessment and evaluated in the context of its impact on local ecosystem functions and on the quality of adjacent waterbodies.

In accordance with the 2012 *CEQR Technical Manual*, this section describes existing natural resource conditions within the terrestrial and water quality and aquatic resources study areas.

FLOODPLAINS AND WETLANDS

Figure 9-1 presents the 100-year (area with a 1 percent probability of flooding each year) floodplain boundary (Zone AE) and the 500-year (area with a 0.2 percent probability of flooding each year) floodplain boundary (Zone X) for the historic Pier 57 project site. The elevation of the main portion of the headhouse structure is about +13 feet NGVD29, with the platforms to the east and west of the headhouse at about +10.03 feet NGVD29. The elevation of the deck under the pier shed is at about elevation 12 feet NGVD29. All of these platform elevations are above the 100-year flood elevation of 10 feet NGVD29, and are outside the 500-year floodplain. The three caissons supporting the pier structure, are by their nature as pier substructure below the 100 and 500-year flood plain elevations.

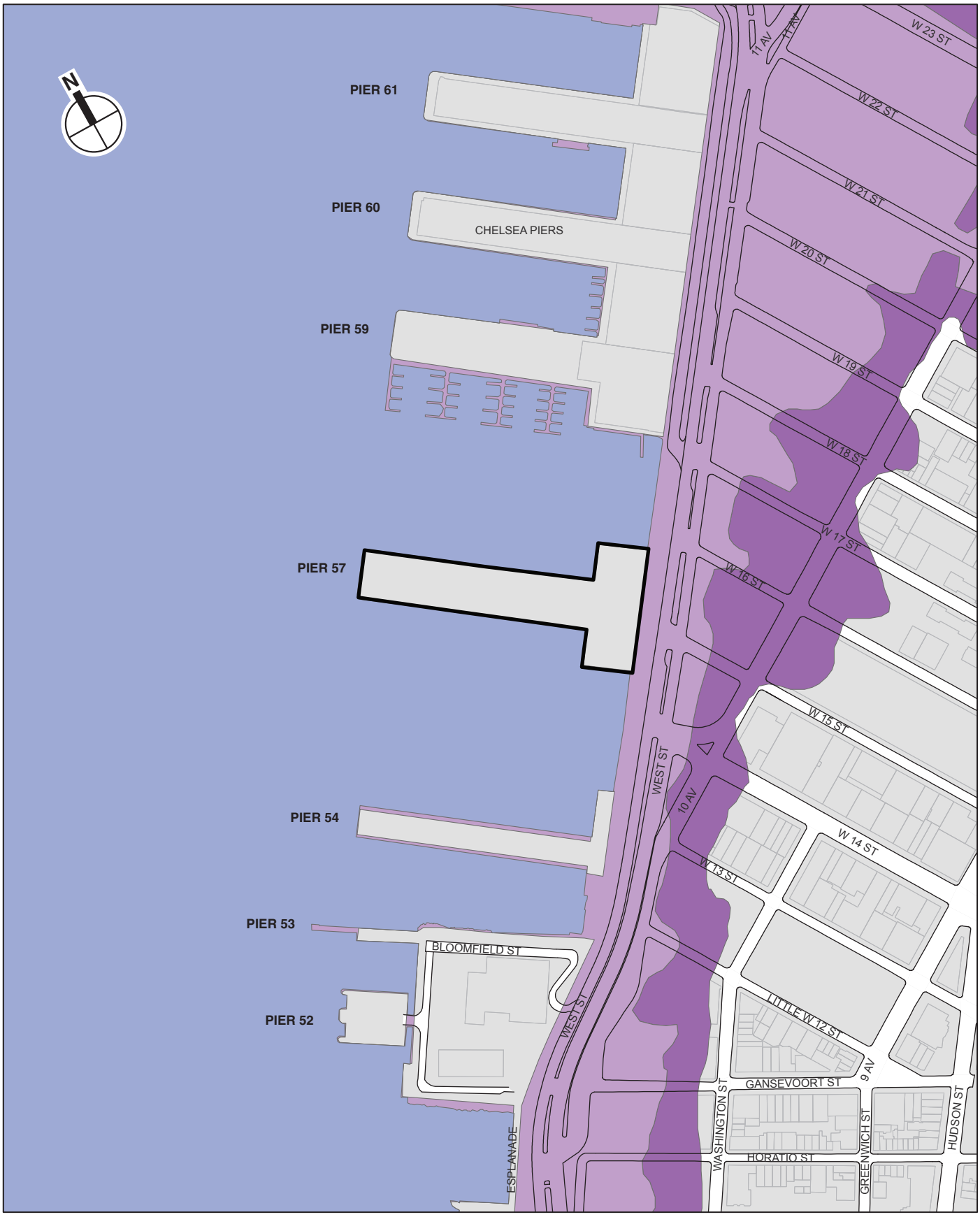
As discussed in Chapter 7, “Historic and Cultural Resources,” the Hudson River bulkhead between Battery Place and West 59th Street has been determined eligible for listing on the State/National Registers of Historic Places. The shoreline in the vicinity of the project site is engineered, consisting of masonry block bulkhead that was constructed between 1899 and 1915, and has since undergone numerous repairs.

The existing overwater platform limits the potential for tidal marsh plants or submerged aquatic vegetation. No vegetated tidal wetlands are present within the project site. The USFWS National Wetland Inventory classifies the interpier areas surrounding historic Pier 57 as E1UBL (estuarine subtidal unconsolidated bottom). Subtidal areas are continuously submerged substrates (below extreme low water). Unconsolidated bottoms have at least 25 percent cover of particles smaller than 2.5 or 2.8 inches, and less than 30 percent vegetative cover. There are no NYSDEC mapped tidal wetlands in the vicinity of Pier 57.

AQUATIC RESOURCES

SURFACE WATER RESOURCES IN THE PROJECT AREA

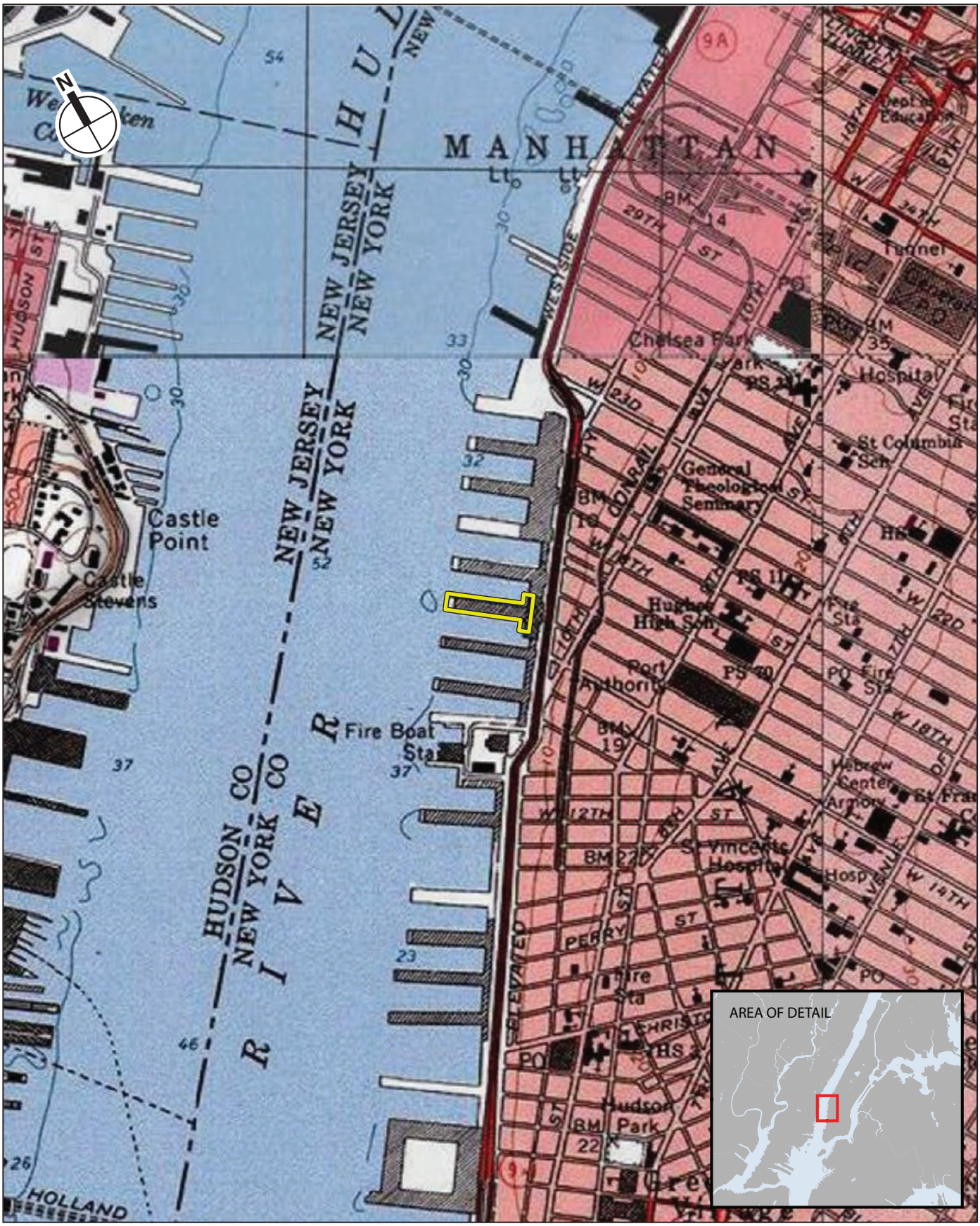
The site is located within the Lower Hudson River Estuary, a tidally influenced portion of the Hudson River that is part of the New York/New Jersey Harbor Estuary, which also includes upper and lower New York Harbor, Arthur Kill, Kill Van Kull, East River, Raritan Bay, and Jamaica Bay (see **Figure 9-2**). Saltwater from Upper New York Bay enters the lower Hudson River Estuary during the flood phase of the tidal cycle and lower salinity water is discharged from the Estuary to the Bay during the ebb phase, resulting in a partially stratified estuary. Tidal flows entering the lower Hudson River from the Upper Harbor during the floor phase are approximately balanced out by the range of fresh water flows (NYCDEP 2007a). Freshwater and higher salinity waters are well



HUDSON RIVER PARK PIER 57

FEMA Floodplain
Figure 9-1

2.2.12



Source: National Geographic Society, 2008

Project Site

Approximate coordinates of Project Site:
40° 44' 35" N, 74° 0' 38" W

0 500 FEET
SCALE

USGS 7.5 Minute Topographic Map - Jersey City Quad

Figure 9-2

mixed during low flow conditions but are stratified under high flow conditions when the freshwater overrides the saltwater layer (Moran and Limburg 1986). Ristich et al. (1977) classified the lower Hudson River Estuary as polyhaline (18 to 30 parts per thousand (ppt)) in late summer and autumn, and mesohaline (5 to 18 ppt) in spring and early summer. The typical tidal range on the Hudson River is approximately 5 feet with average tidal currents of approximately 2 feet per second (Geyer and Chant 2006). Within the project site, water depths at mean low water range from less than 2 feet at the bulkheaded shoreline to over 19 feet near the U.S. Pierhead line. Approximately 165,575 square feet (about 4 acres) of the project site comprises under pier aquatic habitat that includes the three underwater caissons and steel pipe piles, other pier support structures and bottom habitat. Approximately 74,606 square feet (1.7 acres) of the under pier habitat (approximately 55 percent) is available for use by aquatic biota. For the purposes of this analysis the project site also includes open water interpier habitat north and south of Pier 57.

WATER QUALITY

Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 703 includes surface water standards for each use class of New York surface waters. The lower Hudson River is Use Classification I saline surface waters. Best usages for Use Class I waters are secondary contact recreation and fishing. Water quality should be suitable for fish propagation and survival.

The results of recent Harbor Surveys conducted by DEP (NYCDEP 2007b, 2010b, 2011) show that the water quality of New York Harbor, including the Lower Hudson Estuary, has improved significantly since the 1970s as a result of measures undertaken by the City (e.g., infrastructure improvement such as major improvements to WWTP and increased capture of stormwater runoff) and others (NYCDEP 2010b). Recent water quality data (2005 through 2010) from the DEP Harbor Survey station off West 42nd Street (Station N4), the station closest to Pier 57, indicate that the water quality in this part of the lower Hudson River meets the water quality standards for Use Classification I waters (see **Table 9-1**). The lower Hudson River has met the fecal coliform standard (an indicator of untreated sewage discharge) for the last 5 years. Average dissolved oxygen (DO)[1] concentrations also met the Use Classification I standards during this same time period and chlorophyll-a concentrations[2] were not indicative of high nutrient concentrations. Secchi transparency[3] during this 5 year period was indicative of low water clarity, likely due to high suspended solid concentrations of surface waters (NYCDEP 2010b, 2011).

[1] DO in the water column is necessary for respiration by aquatic biota. The bacterial breakdown of high organic loads can deplete DO and result in low DO levels. Persistently low DO can degrade habitat and affect aquatic biota. Consequently, DO is one of the most universal indicators of overall water quality in aquatic systems.

[2] High levels of nutrients can lead to excessive plant growth (a sign of eutrophication) and depletion of DO. Concentrations of the plant pigment chlorophyll-a in water can be used to estimate productivity and the abundance of phytoplankton. Chlorophyll-a concentrations greater than 20 micrograms per liter (µg/L) are considered suggestive of eutrophic conditions (NYCDEP 2010b).

[3] Secchi transparency is a measure of the clarity of surface waters. Transparency greater than 5 feet (1.5 meters) indicates relatively clear water. Decreased clarity can be caused by high suspended solid concentrations or blooms of plankton. Secchi transparencies less than 3 feet (0.9 meters) may be considered indicative of poor water quality conditions. Average Secchi readings in the Inner Harbor area have remained relatively consistent since measurement of this parameter began in 1986, ranging between approximately 3.5 and 5.5 feet (1.1 to 1.8 meters) (NYCDEP 2010b).

Table 9-1
DEP Water Quality Data for the West 42nd Street Sampling Station (2005–2010)

Parameter—[*Use Class I Standard*]	Top Waters			Bottom Waters		
	Low	High	Avg	Low	High	Avg
Temperature (°C) [*No Standard*]	0.2	27.1	19.5	2.3	25	19.5
Salinity (psu) [*No Standard*]	1.2	23.3	13.8	7.1	27.3	22.5
Fecal coliform (colonies per 100mL) [*Monthly geometric mean less than or equal to 2,000 colonies/100 milliliters (mL) from five or more samples*]	1	1100	86	N/M	N/M	N/M
Dissolved oxygen (DO) (mg/L) [*Never less than 4 mg/L*]	4.1	14.7	7	3.6(1)	12.5	5.8
Secchi transparency (ft) [*No Standard*]	0.5	6	2.8	N/A	N/A	N/A
Chlorophyll *a* (µg/L) [*No Standard*]	0.5	49.4	5.7	N/M	N/M	N/M

Notes: N/M = not measured, N/A = not applicable.
(1) Compliance with the DO standard is based on daily averages and not on the basis of the low DO value presented here which is the minimum DO concentration recorded during weekly sampling events.
Source: NYCDEP 2011

Suspended sediments vary with season and weather—near bottom concentrations range between 100 and 200 milligrams per liter (mg/L) in summer, 100 to 400 mg/L during high discharge periods, and greater than 800 mg/L at times of maximum flow. Sedimentation in the lower Hudson River is greatest in the shallows on the west side of the river (Geyer 1995). The mean sedimentation rate for the portion of the estuary just north of Pier 57, at Pier 76 adjacent to 34th Street, has been estimated at 4.1 inches/year, with higher sedimentation rates occurring in the underpier areas than in the interpier areas (EEA 1988). Within the lower Hudson River Estuary, surface and bottom water pH ranges from 7.0 to 8.0 throughout the year (Stubin 1996; Brosnan and O'Shea 1995).

SEDIMENT QUALITY

Complex flow patterns lead to widely variable sediment characteristics throughout the area. The primary constituents of Hudson River sediments are silt and clay (USACE 1999, EEA 1988). Typical of any urban watershed, New York Harbor Estuary sediments are contaminated due to a history of industrial uses in the area. The sediment quality index (based on sediment toxicity, sediment contaminants, and total organic carbon) for the portion of the Hudson River near Pier 57 was rated poor during 2000-2001 sampling (USEPA 2007). The Lower Hudson River Estuary is listed as being impaired for sediments, which are contaminated with PCBs and other toxics (NYSDEC 2010a). Contaminants found throughout the New York Harbor Estuary include pesticides such as chlordane and DDT, metals such as mercury, cadmium, lead, and copper, PCBs and various polycyclic aromatic hydrocarbons (Rohmann and Lilienthal 1987). Biological effects, identified based upon the benthic invertebrate community, were found to be associated with the chemical contamination. While the sediments of the New York Harbor Estuary are contaminated, the levels of most sediment contaminants (e.g., dioxin, DDT, PCBs, and mercury) have decreased on average by an order of magnitude over the past 30 years mainly due to control measures implemented through the Clean Water Act (Steinberg et al. 2004).

As discussed in Chapter 10, "Hazardous Materials," a manufactured gas plant was historically located east of Route 9A between W. 16th and 18th Streets. No signs of manufactured gas plant-related contamination have been found in soil or groundwater samples collected in upland areas

close to the project site. Although deeper contamination in soil or sediment is possible, the proposed project does not involve deep soil disturbance or dredging.

AQUATIC BIOTA

The New York/New Jersey Harbor Estuary, including the lower Hudson River Estuary, supports a diverse and productive aquatic community of over 100 species of finfish, more than 100 invertebrate species, and a variety of phytoplankton and zooplankton. The following sections provide a brief description of the aquatic biota found in the Harbor Estuary, focusing on the lower Hudson River.

Primary Producers

Phytoplankton. Phytoplankton are microscopic plants whose movements within the system are largely governed by prevailing tides and currents. Light penetration, turbidity and nutrient concentrations are important factors in determining phytoplankton productivity and biomass. Diatoms such as *Skeletonema costatum* and *Thalassiosira* spp. generally dominate the phytoplankton community within the project area, with lesser contributions from dinoflagellates and green algae (Brosnan and O'Shea 1995). Phytoplankton sampling in the Lower Hudson River over a ten year period between 1991 and 2000 resulted in the collection of a total of 71 taxa. The most frequently collected taxa were *Nannochloris atomus* (found in 98 percent of the samples) and *Skeletonema costatum* (52 percent) (NYCDEP 2007a). Phytoplankton sampling near Pier 26 on the Hudson River from 1996 through 2003 indicated that the most dominant species were *Asterionella japonica, Chaetoceros subtilis, Coscinodiscus excentricus, Ditylum brightwelli, Eucampia zodiacus,* cf. *Gyrosigma* sp., *Nitzchia reversa,* cf. *Pseudonitzchia seriata, Rhizosolenia setigera,* and *Ebria* tripartite (Levandowsky and Vaccari 2004). While nutrient concentrations in most areas of New York Harbor are very high, low light penetration has often precluded the occurrence of phytoplankton blooms.

Submerged Aquatic Vegetation and Benthic Algae. Limited light penetration also restricts the distribution of submerged aquatic vegetation (SAV) in the vicinity of the project site (Olson et al. 1996). The extensively developed shoreline and swift currents also severely limit inhabitation of this area by SAV. Benthic macroalgae are large multicellular algae that are important primary producers in the aquatic environment. Species of macroalgae that occur in the Harbor Estuary include sea lettuce (*Ulva* spp.), green fleece (*Codium fragile*), and brown algae (*Fucus* spp.) (PBS&J 1998).

Zooplankton

Zooplankton are an integral component of aquatic food webs—they are primary grazers on phytoplankton and detritus material, and are themselves used by organisms of higher trophic levels as food. The higher-level consumers of zooplankton typically include forage fish, such as bay anchovy (*Anchoa mitchilli*), as well as commercially and recreationally important species, such as striped bass (*Morone saxatilis*) and white perch (*Morone americana*) during their early life stages. Zooplankton sampling in the Hudson River over a ten year period between 1991 and 2000 resulted in the collection of a total of 16 taxa. The most frequently collected taxa were *Tintinnopsis* spp (31 percent) and nauplius of copepods (25 percent) (NYCDEP 2007a).

Benthic Invertebrates

The major groups of benthic invertebrates collected in the estuary include aquatic earthworms (oligochaetes), segmented worms (polychaetes), snails (gastropods), bivalves, barnacles, cumaceans, amphipods, isopods, crabs, and shrimp (EEA 1988; EA Engineering Science and Technology 1990; Coastal 1987; PBS&J 1998). Bain et al. (2006) collected a total of 145

benthic invertebrate taxa within Hudson River Park between July 2002 and June 2004. Examples of abundant species include: the polychaetes *Mediomastus* spp., *Streblospio benedicti, Leitoscoloplos* spp., *Heteromastus* sp., *Spio setosa*, and *Tharyx* spp.; the bivalves *Mulinia lateralis* and *Tellina agilis*; oligochaetes; the gastropods *Acteocina canaliculata* and *Rictaxis punctostriatus*; and the crustacean *Leucon americanus*. This invertebrate sampling showed an unusually abundant and diverse invertebrate community at a sampling station just downstream of Pier 57, adjacent to 12th Street (Bain et al. 2006).

Fish

New York City is located at the convergence of several major river systems, all of which connect to the New York Bight portion of the Atlantic Ocean. This convergence has resulted in a mixture of habitats in the Harbor Estuary and lower Hudson River that supports marine fish, estuarine fish, anadromous fish (fish that migrate up rivers from the sea to breed in freshwater), and catadromous fish (fish that live in freshwater but migrate to marine waters to breed). **Table 9-2** lists fish species known to occur within the Harbor Estuary and have the potential to occur in the vicinity of Pier 57. Bain et al. (2006) collected 41 species of fish from within the Hudson River Park Estuarine Sanctuary between June 2002 and June 2004. These species are indicated in Table 9-2. Bay anchovy, Atlantic herring (*Clupea harengus*), striped bass, and blueback herring (*Alosa aestivalis*) were most abundant. All of these species use open waters (Bain et al. 2006). The sampling station just downstream of Pier 57 adjacent to 12th Street had the highest fish abundance of all sites sampled (Bain et al. 2006).

Table 9-2
Finfish Species With the Potential to Occur in the Vicinity of Pier 57

Common Name	Scientific Name
Alewife[(1)]	*Alosa pseudoharengus*
American eel[(1)]	*Anguilla rostrata*
American sand lance	*Ammodytes hexapterus*
American shad[(1)]	*Alosa sapidissima*
Atlantic cod	*Gadus morhua*
Atlantic croaker[(1)]	*Micropogonias undulatus*
Atlantic herring[(1)]	*Clupea harengus*
Atlantic mackerel	*Scomber scombrus*
Atlantic menhaden[(1)]	*Brevoortia tyrannus*
Atlantic moonfish	*Selene setapinnis*
Atlantic needlefish	*Strongylura marina*
Atlantic seasnail	*Liparis atlanticus*
Atlantic silverside[(1)]	*Menidia menidia*
Atlantic sturgeon	*Acipenser oxyrhynchus*
Banded killifish	*Fundulus diaphanous*
Bay anchovy[(1)]	*Anchoa mitchilli*
Black sea bass	*Centropristis striata*
Blackfish	*Tautoga onitis*
Blueback herring[(1)]	*Alosa aestivalis*
Bluefish[(1)]	*Pomatomus saltatrix*
Butterfish[(1)]	*Peprilus triacanthus*
Clearnose skate	*Raja eglanteria*
Conger eel	*Conger oceanicus*
Crevalle jack	*Caranx hippos*
Cunner[(1)]	*Tautogolabrus adspersus*
Fawn cusk eel	*Lepophidium cervinum*
Feather blenny[(1)]	*Hypsoblennius hentzi*
Fourbeard rockling	*Enchelypus cimbrius*

Table 9-2 (cont'd)
Finfish Species With the Potential to Occur in the Vicinity of Pier 57

Common Name	Scientific Name
Foureye butterflyfish	*Chaetodon capistratus*
Four-spot flounder	*Paralichthys oblongus*
Gizzard shad[1]	*Dorosoma cepedianum*
Goosefish[1]	*Lophius americanus*
Grey snapper	*Lutjanus griseus*
Grubby(1)	*Myoxocephalus aenaeus*
Gulf Stream flounder(1)	*Citharichthys arctifrons*
Hickory shad(1)	*Alosa mediocris*
Hogchoker(1)	*Trinectes maculatus*
Inshore lizardfish	*Synodus foetens*
Lined seahorse[1]	*Hippocampus erectus*
Little skate	*Raja erinacea*
Longhorn sculpin	*Myoxocephalus octodecimspinosus*
Lookdown[1]	*Selene vomer*
Mummichog	*Fundulus heteroclitus*
Naked goby	*Gobiosoma bosci*
Northern stargazer[1]	*Astroscopus guttatus*
Northern kingfish[1]	*Menticirrhus saxatilis*
Northern pipefish[1]	*Syngnathus fuscus*
Northern puffer	*Sphoeroides maculatus*
Northern searobin[1]	*Prionotus carolinus*
Orange filefish	*Aluterus schoepfi*
Oyster toadfish	*Opsanus tau*
Planehead filefish	*Monacanthus hispidus*
Pollock	*Pollachius virens*
Rainbow smelt	*Osmerus mordax*
Red hake[1]	*Urophycis chuss*
Rock gunnel	*Pholis gunnellus*
Rock sea bass[1]	*Centropristis philadelphica*
Rough scad	*Trachurus lathami*
Scup[1]	*Stenotomus chrysops*
Seaboard goby[1]	*Gobiosoma ginsburgi*
Sheepshead	*Archosargus probatocephalus*
Short bigeye	*Pristigenys alta*
Silver hake[1]	*Merluccius bilinearis*
Silver perch	*Bairdiella chrysoura*
Smallmouth flounder	*Etropus microstomus*
Spot[1]	*Leiostomus xanthurus*
Spotfin butterflyfish	*Chaetodon ocellatus*
Spotted hake[1]	*Urophycis regia*
Striped anchovy[1]	*Anchoa hepsetus*
Striped bass[1]	*Morone saxatilis*
Striped burrfish	*Chilomycterus schoepfi*
Striped cuskeel	*Ophidion marginatum*
Striped killifish	*Fundulus majalis*
Striped mullet	*Mugil cephalus*
Striped searobin[1]	*Prionotus evolans*
Summer flounder[1]	*Paralichthys dentatus*
Tautog	*Tautoga onitis*
Threespine stickleback	*Gasterosteus aculeatus*
Tomcod[1]	*Microgadus tomcod*
Weakfish[1]	*Cynoscion regalis*
White hake	*Urophycis tenuis*
White mullet	*Mugil curema*
White perch[1]	*Morone americana*
Windowpane[1]	*Scophthalmus aquosus*

Table 9-2 (cont'd)
Finfish Species With the Potential to Occur in the Vicinity of Pier 57

Common Name	Scientific Name
Winter flounder[(1)]	*Pseudopleuronectes americanus*
Yellowtail flounder	*Limanda ferruginea*

Notes: (1) Collected within Hudson River Park by Bain et al. (2006) from June 2002 through June 2004.
Sources: Bain et al. 2006; Woodhead 1990; EEA 1988; EA Engineering, Science & Technology 1990; LMS 1994, 1999, 2002, 2003a, 2003b; Able et al. 1995

ESSENTIAL FISH HABITAT (EFH)

The NMFS designates EFH within 10' x 10' squares identified by latitude and longitude coordinates. Pier 57 is within a portion of the Hudson River estuary EFH that is situated in the NMFS 10' x 10' square with coordinates (North) 40°50.0' N, (East) 74°00.0' W, (South) 40°40.0' N, (West) 74°10.0' W. This square includes the following waters: the Hudson River and Bay from Guttenberg, NJ south to Jersey City, NJ, including the Global Marine Terminal and the Military Ocean Terminal, Bayonne, NJ, Hoboken, NJ, Weehawken, NJ, Union City, NJ, Ellis Island, Liberty Island, Governors Island, the tip of Red Hook Point on the west tip of Brooklyn, NY, and Newark Bay. **Table 9-3** lists the species and life stages of fish identified as having EFH in the portion of the Hudson River near the project site. EFH habitat was identified for smooth dogfish in the immediate vicinity of Pier 57 (NOAA 2010a).

Table 9-3
Essential Fish Habitat Designated Species in the Vicinity of Pier 57

Species	Eggs	Larvae	Juveniles	Adults
Red hake (*Urophycis chuss*)		x	x	x
Winter flounder (*Pseudopleuronectes americanus*)	x	x	x	x
Windowpane flounder (*Scopthalmus aquosus*)	x	x	x	x
Atlantic herring (*Clupea harengus*)		x	x	x
Bluefish (*Pomatomus saltatrix*)			x	x
Atlantic butterfish (*Peprilus triacanthus*)		x	x	x
Atlantic mackerel (*Scomber scombrus*)			x	x
Summer flounder (*Paralicthys dentatus*)		x	x	x
Scup (*Stenotomus chrysops*)	x	x	x	
Black sea bass (*Centropristus striata*)	n/a		x	x
King mackerel (*Scomberomorus cavalla*)	x	x	x	x
Spanish mackerel (*Scomberomorus maculatus*)	x	x	x	x
Cobia (*Rachycentron canadum*)	x	x	x	x
Clearnose skate (*Raja eglanteria*)			x	x
Little skate (*Leucoraja erinacea*)			x	x
Winter skate (*Leucoraja ocellata*)			x	x
Bluefin tuna (*Thunnus thynnus*)	x	x	x	x
Smooth dogfish (*Mustelus canis*)	x	x	x	x
Sand tiger shark (*Odontaspis taurus*)		x[(1)]		
Dusky shark (*Charcharinus obscurus*)		x[(1)]		
Sandbar shark (*Charcharinus plumbeus*)		x[(1)]		x

Notes:
n/a – insufficient data for this lifestage exists and no EFH designation has been made.
[(1)] Neither of these species have a free-swimming larval stage; rather they are live bearers that give birth to fully formed juveniles. For the purposes of this table, "larvae" for sand tiger, dusky, and sandbar sharks refers to neonates and early juveniles.
Source:
National Marine Fisheries Service. "Summary of Essential Fish Habitat (EFH) Designation" posted on the Internet at http://www.nero.noaa.gov/hcd/STATES4/new_jersey/40407400.html and http://www.nero.noaa.gov/hcd/skateefhmaps.htm
National Marine Fisheries Service EFH Mapper accessed online at http://www.habitat.noaa.gov/protection/efh/habitatmapper.html

THREATENED OR ENDANGERED SPECIES, OR SPECIAL CONCERN SPECIES

The New York Natural Heritage Program identified peregrine falcon (*Falco peregrinus*) (state endangered), and shortnose sturgeon (*Acipenser brevirostrum*) (state/federal endangered) as having the potential to occur within the vicinity of the project site (NYNHP 2012). The recently federally listed endangered Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus*) (NOAA 2012a and b) also has the potential to occur within the vicinity of the project site. In addition, four state and federally listed species of marine turtles—loggerhead (*Caretta caretta*), green (*Chelonia mydas*), Kemp's ridley (*Lepidochelys kempii*), and leatherback (*Dermochelys coriacea)* (NYSDEC 2010b; USFWS 2010), have the potential to occur as occasional transients within the vicinity of the project site.

The first pair of nesting falcons was observed at historic Pier 57 in 2009 at various locations on the pier (NYSDEC 2012). Peregrine falcons nest on ledges and small shallow caves on high cliff walls, man-made platforms, or in urban areas on bridges and tall buildings. In the New York City area, courtship and mating activity occurs in February and March, with egg laying in April and May. Peregrine falcons typically return to the same nest every year. Nest site abandonment in urban peregrine falcons is extremely rare when successful nesting has occurred in prior years (Cade et al. 1996). Nesting in an urban environment inherently involves frequent introduction of new and unfamiliar sources of disturbance, and this strong nest site fidelity of peregrine falcons in cities is further testament to their tolerance of noisy and unpredictable conditions.

The federally-listed and state-listed endangered shortnose sturgeon is an anadromous bottom-feeding fish that can be found throughout the Hudson River system. These fish spawn, develop, and overwinter well upriver of Pier 57, and prefer colder, deeper waters for all lifestages. According to Bain (2004), shortnose sturgeon use the lower Hudson River when traveling to or from the upriver spawning, nursery, and overwintering areas. The Hudson River below Tappan Zee is not considered optimal shortnose sturgeon habitat (Bain 2004).

The Hudson River shortnose sturgeon population was estimated to contain approximately 61,000 fish (Peterson and Bain 2002). Although larvae can be found in brackish areas of the river, the juveniles (fish ranging from 2 to 8 years old) are predominately confined to freshwater reaches above the downriver saline area and far upriver from the project site. The primary summer habitat for shortnose sturgeon in the middle section of the Hudson River Estuary (far upriver of Pier 57) is the deep river channel (43 to 138 feet deep) (Peterson and Bain 2002).

Long-term Hudson River monitoring data, collected by the New York Utilities and others since the 1970s, have also indicated that shortnose sturgeon inhabit deep-water habitats and occur in greatest abundance north of the Tappan Zee Bridge. Hoff et al. (1988 in Bain 2007) reported most captures of adult shortnose sturgeon during river monitoring of fish distributions by the Hudson River electric utilities from 1969 to 1980 occurred upriver of the project site, between river mile 23.6 and 76 (river kilometer 38 and 122) (from near the New York/New Jersey border up to near Poughkeepsie). No sturgeon were found in interpier areas of the Hudson River Park, sampled between June 2002 and March 2004 (Bain et al. 2006).

However, during winter sampling in 2003-2004 and 2004-2005, bottom trawls conducted in the Hudson River channel as part of the New York Utilities long-term monitoring program collected shortnose sturgeon south of the George Washington Bridge (river mile 11.8, or river kilometer 19). These are the first two years that shortnose sturgeon have occurred in this portion of the

lower Hudson River during the winter period since the start of this monitoring program in 1985-1986. Out of the 700 to 1,000 tows collected annually during this winter period, a total of 15 and 18 shortnose sturgeon were collected during the 2003-2004 and 2004-2005 periods, respectively, between the Statue of Liberty and the George Washington Bridge. These sturgeon were collected within the channel, not in interpier areas characteristic of the project site. All but two individuals were collected north of Pier 57 (Young 2005; Mattson 2005), suggesting that shortnose sturgeon are still rare in the lower portion of the Hudson River in the vicinity of the project site.

The Atlantic sturgeon is an anadromous species that occurs within the New York Harbor Estuary (Woodhead 1990) and the Hudson River Estuary. In the Hudson River, Atlantic sturgeon are found in the deeper portions and do not occur further upstream than Hudson, New York. Atlantic sturgeon migrate from the ocean upriver to spawn above the salt front from April to early July (Smith 1985; Stegemann 1999). Female sturgeon move out of the river following spawning but the males may remain in the river until October or November. Marine mammals use the waters of the New York Bight, and occasionally come into New York Harbor, but are not commonly observed in the Lower Hudson River Estuary. The most commonly observed marine mammal in the Bight is the harbor seal (*Phoca vitulina*) which winters in the Harbor and hauls out onto islands in Jamaica Bay, Sandy Hook, Staten Island, and the Westchester and Connecticut shorelines of Long Island Sound. Less frequently, but seen in similar locations, is the grey seal (*Halichoerus grypus*). Seals are also known to be seasonally present within the Hudson River (AKRF, Inc. et al. 1998). A harp seal (*Pagophilus groenlandicus*) was observed within the Hudson River Park in the winter of 2005. The occasional sightings of cetaceans (e.g., dolphins and whales) in the Harbor are generally of individuals that are likely to be unhealthy and/or lost. Historic records indicate the harbor porpoise (*Phocoena phocoena*) may have once been a regular visitor to the Harbor (USFWS 1997).

Four species of marine turtles—loggerhead, green, Kemp's ridley, and leatherback—all state and federally listed (NYSDEC 2010b; USFWS 2010), occur seasonally in the Harbor Estuary. Federally endangered juvenile Kemp's ridley, and federally threatened large loggerhead turtles enter the New York Harbor and bays in the warmer months each year. Loggerhead, Kemp's ridley, and green turtles move into harbors and estuarine waters. Leatherback turtles tend to remain along the coast and rarely move into embayments (USACE 2001). In general, however, these four turtle species mostly inhabit Long Island Sound and Peconic and Southern Bays. They neither nest in the New York Harbor Estuary, nor reside there year-round (Morreale and Standora 1993). These turtles generally leave New York waters by mid-October and head southward (USACE 2001). It is unlikely that these turtle species would occur in the lower Hudson River within the vicinity of the project area except as occasional transients.

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT

The NYSDOS has designated 15 Significant Coastal Fish and Wildlife Habitats within New York City, one of which, the Lower Hudson Reach, is within the vicinity of historic Pier 57. The Lower Hudson Reach is the portion of the Hudson River starting from Battery Park at the tip of Manhattan and extending north to Yonkers in the vicinity of Glenwood. This area runs for 19 miles and includes deepwater, shallows, piers, and interpier basins. The Lower Hudson Reach was designated a Significant Coastal Fish and Wildlife Habitat because it provides an important wintering habitat for young-of-the-year, yearling, and older striped bass. Significant numbers of other fish species and waterfowl also use the Lower Hudson Reach (NYSDOS 1992). The USFWS (1997) has also designated the Lower Hudson River Estuary (from the Battery at the

southern tip of Manhattan up to Stony Point at river mile 41) as a Significant Habitat Complex because it is a regionally significant nursery and wintering habitat for a number of anadromous, estuarine, and marine fish species, including striped bass, and is a migratory and feeding area for birds and fish that feed on the abundant fish and benthic invertebrate resources found in this portion of the estuary. Striped bass (*Morone saxatilis*) is an anadromous species that occurs along the Atlantic coast from Canada to northern Florida. Adult striped bass spend much of the year from summer through late winter in the nearshore coastal waters of the Atlantic Ocean. Northward migration of Hudson River fish along the Atlantic coast extends as far north as the Bay of Fundy, Nova Scotia, with older fish tending to travel further north (Waldman et al. 1990). Although most migrate to sea, some striped bass adults remain in the Hudson River year-round, never migrating. During winter, these resident adults (ages 4 and older) are joined by migratory adults returning to the estuary to spawn. Adults aggregate near the mouths of their natal rivers and begin moving upstream to spawn as water temperatures increase in the spring.

The Hudson River supports one of several principal spawning populations, which also include Delaware Bay, Chesapeake Bay, the Roanoke and Chowan rivers and Albemarle Sound, North Carolina, the Santee River in South Carolina and the St. Johns River in northern Florida. In the Hudson River, peak spawning typically occurs between mid-May and mid-June in freshwater areas where currents are moderate to swift, specifically in the river reach from Indian Point (River Mile (RM) 42) upstream to Saugerties (RM 106) (CHGE et al. 1999; ASA 2010). Depending on their age and size, females produce up to several million pelagic eggs, which based on utilities fish surveys from 1998 to 2007, are collected in May and June primarily upstream of Indian Point at RM 46, with peak densities near Cornwall (RM 56-61) and very low densities south of the Tappan Zee region. The spawning area is considerably upriver of Pier 57.

Larval striped bass recruit to the lower salinity areas of the Hudson River well upstream of Pier 57 during summer (May-July) and are abundant throughout the Hudson River but occur in higher numbers from Tappan Zee to Hyde Park than in the lower estuary. As juveniles, striped bass begin to move out of the middle estuary into the broader, shallower nursery habitat of the lower estuary (Tappan Zee through Croton-Haverstraw Bays, RM 24 through RM 38). Juvenile abundances are typically highest during late summer (July and August) and upstream Hyde Park in deeper (>20-ft) bottom habitats. By the end of their first summer, many juvenile striped bass have moved downstream to the lower estuary and into New York Harbor, western Long Island Sound and along the south shore of Long Island where they remain near shore until November or December. (CHGE et al. 1999; Dunning et al. 2009). At this time, some may move to deeper water, although juveniles have been documented to use interpier areas within the Hudson River Park for overwintering habitat from December through March (AKRF, Inc. et al. 1998; Dunning et al. 2009). A significant portion of the juvenile striped bass remains within the lower Hudson Estuary until age two or three. The lower Hudson River, including the area in the vicinity of Pier 57, contains striped bass throughout the year. This portion of the river provides important wintering habitat (mid-November to mid-April) for young-of-the-year, yearling, and older striped bass (Heimbuch et al. 1994, NYSDOS 1992). Striped bass was one of the four most abundant species collected within Hudson River Park from June 2002 through June 2004 (Bain et al. 2006).

At age 2-3, striped bass leave Atlantic coast estuaries and begin the typical seasonal coastal migration, northward during the spring and summer and southward during the fall. Some individuals are thought to mature and remain year round in the upper freshwater portion of the estuary, while others adopt an anadromous life style and, once sexually mature, spend most of their time in coastal saltwater habitats but enter freshwater and brackish habitats in the spring to

spawn (Zlokovitz et al. 2003). Adult striped bass are top predators and are prey to few other animals. Adult striped bass in the Lower Hudson-Raritan Estuary prey upon at least 20 different taxa, dominated by a variety of small-bodied and juvenile fishes and crustaceans (Steimle et al. 2000; Dunning et al. 2009). The most recent stock assessment for striped bass found that the coastal stock is healthy, with spawning stock biomass well above the target level specified in the Interstate Fisheries Management Plan (ASMFC 2009) and stocks at historically high levels (NYSDEC 2010c).

TERRESTRIAL RESOURCES

Historic Pier 57 and the surrounding area are dominated by impervious surfaces. Vegetation is scant and limited to linear rows of street trees along the Hudson River Greenway and in the median of Route 9A, and shade trees surrounding a small patch of manicured lawn in adjacent 14th Street Park. Only the most urban-adapted terrestrial wildlife species are expected to occur near historic Pier 57, including house sparrow (*Passer domesticus*), European starling (*Sternus vulgaris*), rock dove (*Columba livia*), herring gull (*Larus argentatus*), and Norway rat (*Rattus norvegicus*). Even generalist and disturbance-tolerant native species such as gray squirrel (*Sciurus carolinensis*) and American robin (*Turdus migratorius*) are unlikely to be supported by the limited habitat available in and around the project site.

E. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the No Action condition, the existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure. The wildlife habitat and resources currently found within the project area would remain unchanged from the existing condition.

AQUATIC RESOURCES

Elements of the New York/New Jersey Harbor Estuary Program (HEP) and other programs such as the Hudson-Raritan Estuary Ecosystem Restoration Project (HRE) that are specifically directed at improving biological resources and habitats, would be expected to result in improvements to natural resources over time. The HRE has identified the Hudson River Park Estuarine Sanctuary as a restoration site. Restoration opportunities identified for the Sanctuary include creation/restoration/enhancement of shallow water habitat and providing environmental interpretation (USACE and PANYNJ 2009, and Hudson River Park Trust 2002). Restoration opportunities pursued within the Sanctuary as part of the HRE would occur in both the No Action and With Action conditions. Additionally, as required by EPA's CSO Control Policy, New York City DEP initiated the development of the Long-Term Control Plan (LTCP) Project in 2004. The LTCP Project integrates CSO Facility Planning Projects and the Comprehensive City-Wide Floatables Abatement Plan, and incorporates ongoing Use and Standards Attainment Program (USA) Project work. The East River and Open Waters Waterbody/Watershed Facility Plan report (NYCDEP 2007) includes measures for controlling combined sewer overflows to the Hudson River and is the first step in developing the LTCP for the open water areas of the New York Harbor. These efforts will result in future improvement in coliform, DO, and floatables levels in the Harbor Estuary.

In addition, efforts to characterize and understand sediment contamination are likely to lead to improvements in sediment quality over time. The Contamination Assessment and Reduction Project (CARP), sponsored by the Port Authority of New York and New Jersey (PANYNJ),

focused on understanding the fate and transport of contaminants discharged to the estuary, and using this information to develop measures that may be necessary to reduce sediment contamination. The principal chemicals of concern include dioxins/furans, polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), metals (mercury, cadmium, and methyl mercury), and organochlorine pesticides. Continued research and monitoring programs are anticipated to play a role in the development of future management strategies for Harbor sediments (Landeck Miller et al. 2011).

TERRESTRIAL RESOURCES

Terrestrial resources are not expected to change in the No Action condition. Vegetation would continue to be limited to street trees and manicured lawn surrounded by impervious surfaces and heavy levels of human activity. In turn, terrestrial wildlife would remain limited to invasive species that thrive in extremely disturbed, urban areas such as rock dove and Norway rat.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Construction of the proposed project would start in 2013 and is expected to be complete by 2015.

The proposed project would require work to be undertaken on the pier's three supporting caissons and pier structure, including sealing of cracks in the shells of the caissons to prevent water intrusion, construction of new stairways, elevator shafts and utility shafts between the ground floor of the pier building and caisson level described in detail in Chapter 1, "Project Description," and placement of riprap within an approximately 550-square-foot area (0.01 acres) along the western base of the westernmost caisson that is currently experiencing severe scour. Two new stairways would be constructed to provide access from the caisson level to the upper floors and to the perimeter walkway in order to provide a legal means of egress from the caissons and increase the legal occupancy level in the caissons. They would be constructed using a concrete shell that would extend from the bottom of the existing concrete pier deck to the existing concrete caisson roof. The footprint of the stairways would be about 18 feet by 5 feet 4 inches (approximately 97 square feet each). Three of the elevator pits associated with the four new elevator shafts would extend below the pier deck adjacent to a caisson. The pits (two at 12 feet 8 inches by 9 feet 8 inches [122 square feet each] and one at 11 feet 8 inches by 10 feet 2 inches [119 square feet]) would consist of a concrete encased steel frame suspended from the pier deck and would be above the water level with the exception of about 0.5 feet at mean high water spring (MHWS). The elevator pit for the fourth elevator would be within the easternmost caisson and would not result in loss of any water area under the pier deck. Five utility enclosures (three at 80 by 18 feet [1,440 square feet each] and two at 26 by 18 feet [468 square feet each]) would be constructed between the bottom of the pier shed deck and the caisson roof using the existing concrete girders, existing concrete caisson roof and existing pier deck, and two new concrete walls for each enclosure to close off the area between the concrete girders. These elements would be constructed at the same time as the pile driving and other in-water construction activities.

The construction of the 141-slip marina would involve the use of barge-mounted cranes and pile drivers to install guide piles, walkways, and fingerfloats, and the piles and panels associated with the wave screen structures. The project would require a maximum of 504 18-inch diameter steel pipe piles. The previously permitted bulkhead and perimeter walkway extensions would require

a total of 40 24"x24" precast concrete piles (20 for the perimeter walkway and 20 for the bulkhead walkway). Turbidity curtains would be used during pile driving activities.

All pile driving would be completed within 12 weeks and would occur outside the November 1 to April 30 window in which pile driving is prohibited by the USACE and NYSDEC permits issued for Hudson River Park. Installation of piles would use a combination of allowing the piles to sink deep into the sediment under their own self weight, and driving with an impact or vibratory hammer as needed. Pile driving with an impact hammer would be minimized to the greatest extent possible. Placement of riprap is anticipated to be completed within the same period as pile driving. Upon completion of the pile driving, the wave screens would take about 10 weeks to assemble.

Structure rehabilitation and redevelopment of Pier 57 would also use a barge crane to hoist materials to the rooftop. Barges would also be used to deliver prefabricated containers to the project site. The proposed project would include a vessel pumpout station within the portion of the marina south of Pier 57 and would not include vessel refueling facilities or dredging within the Hudson River. Provision would be made in the design of the marina to accommodate mooring of historic vessels and a non-motorized boat launch. A 30-foot by 60-foot water taxi landing may be located on the northwest corner of the pier.

The proposed project would not require an increase in the load bearing capacity of the pier. The current load bearing capacity is more than sufficient for the proposed future uses of the pier.

The following sections discuss the potential for natural resource impacts to occur in the With Action condition during both construction and operation.

FLOODPLAINS AND WETLANDS

As discussed in "Existing Conditions," the existing platform elevations for historic Pier 57 are above the 100-year flood elevation by between 0.03 feet for a small portion of the pier up to 3 feet, and are outside the 500-year floodplain. The three caissons and other components of the pier substructure are below the 100- and 500-year flood elevations. New York City is affected by local (e.g., flooding of inland portions of the city from short-term, high-intensity rain events in areas with poor drainage), fluvial (e.g., rivers and streams overflowing their banks), and coastal flooding (e.g., long and short wave surges that affect the shores of the Atlantic Ocean, bays such as Upper New York Bay, and tidally influenced rivers such as the Hudson River and East River, streams, and inlets [FEMA 2007]). Because the portion of the Hudson River next to historic Pier 57 is tidal, the water level of this portion of the river is controlled by the tidal conditions within the New York Bay and the Atlantic Ocean and is not influenced by freshwater flow from upriver. Within New York City, tidal flooding is the primary cause of flood damage. The floodplain within and adjacent to the study area is affected by coastal flooding and would not be affected by construction or regrading/filling of the floodplain as would occur within a riverine floodplain[1]. Coastal floodplains are influenced by astronomic tide and meteorological forces (e.g., northeasters and hurricanes [FEMA 2007]) and not by fluvial flooding. Therefore, the proposed project (i.e., rehabilitation of the caissons for historic Pier 57, modifications to the paved upland area east of the façade, operation of the redeveloped pier, and the construction and

[1] Filling of a riverine floodplain obstructs flood flows, which can result in flooding upstream and on adjacent properties. It also reduces the ability of the floodplain to store excess water which results in more water being sent downstream and increases the elevation of the floodwater.

operation of the marina) would not have the potential to result in significant adverse impacts to the 100-year floodplain or 500-year floodplain or result in additional flooding adjacent to the pier. Due to the historic status of Pier 57, the pier's elevation cannot be changed. On the ground floor, all electrical outlets, light switches, and other water-sensitive features would be installed above the existing 100-year flood level.

Chapter 16, "Greenhouse Gases and Climate Change," describes the state and city efforts to address potential impacts to the coastal areas and the city's critical infrastructure against rising seas and the sea level rise projections developed by the New York City Panel on Climate Change (NPCC). As discussed in Chapter 16, the NPCC projected sea level rise under median conditions would result in up to an approximately 2-foot increase in the flood elevation associated with the current 100-year storm by the end of the century. This would result in an increase in the flood elevation associated with the current 100-year storm from 10 feet NGVD 29 to about 12 feet NGVD 29. The proposed project would include provisions for installing flood barriers around the perimeter of the pier on an as needed basis (i.e. before predicted storm events). These flood barriers would be approximately 4 to 5 feet high and would make the structure resilient to projected increases in flood elevation due to sea level rise.

There are no wetlands regulated by the USACE or NYSDEC located within the footprint of the proposed marina, wave screens, or under Pier 57. Therefore, the proposed project would not result in adverse impacts to wetlands.

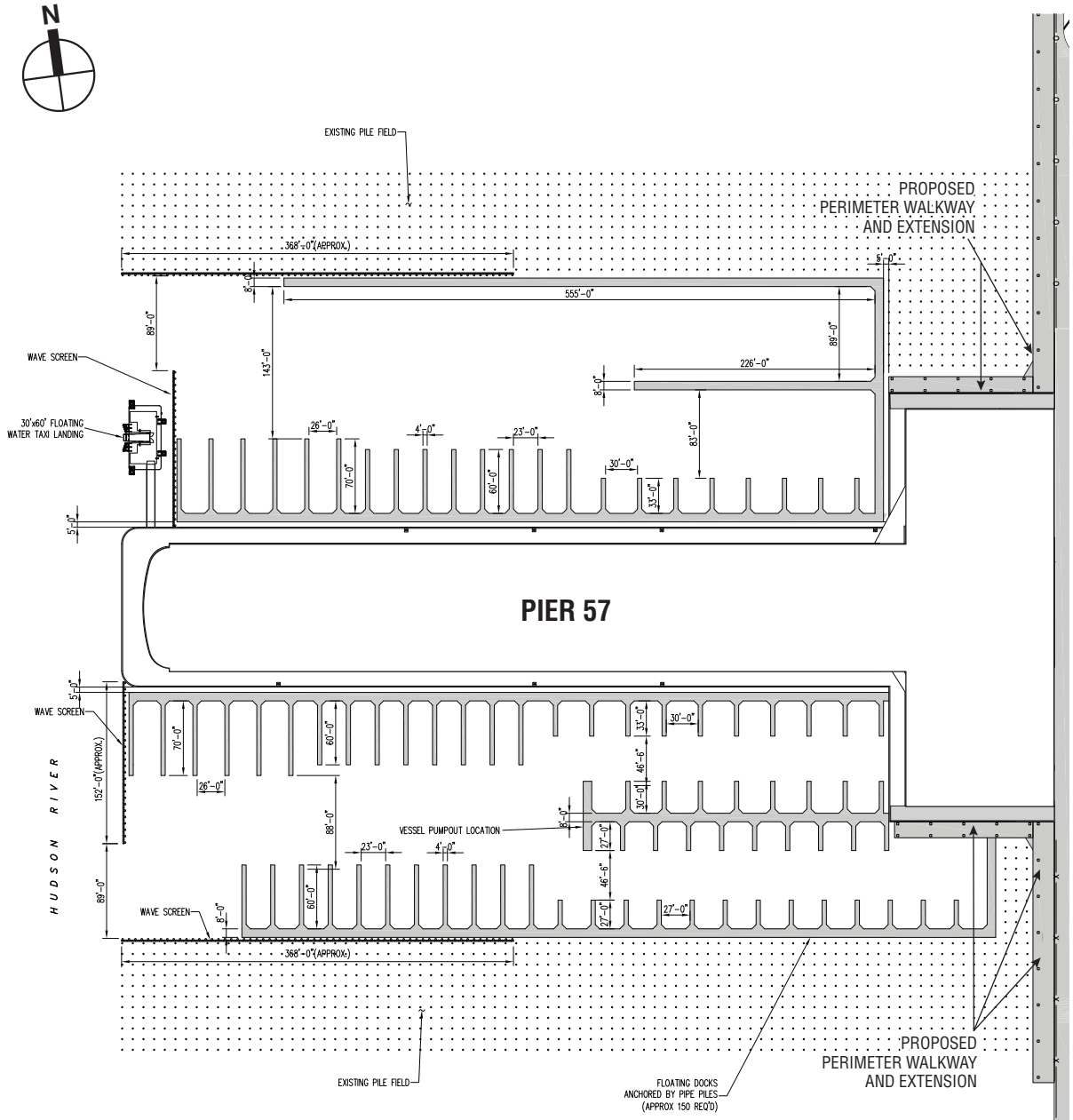
AQUATIC RESOURCES

WATER AND SEDIMENT QUALITY

Construction

In-water construction activities for the proposed project relating to pile driving (i.e., pile driving for marina, wave screen, fendering, and walkway extensions) would occur outside the November 1 to April 30 window in which pile driving is prohibited as a condition in the NYSDEC and USACE permits issued for the development of Hudson River Park. It is anticipated that all in-water construction activities would be completed within one pile driving season. Pile driving is anticipated to be completed in 12 weeks and would be followed by the assembly of the wave screens (i.e., installation of the screen panels on the piles) which is anticipated to be completed within 10 weeks. Installation of the riprap at the base of the outermost caisson and other in-water construction activities (e.g., repair of cracks in the caissons, and construction of the utility, stairway and elevator pit enclosures) are anticipated to be completed within the same pile driving season, but could occur anytime of the year.

Sediment disturbing activities associated with the proposed project include pile driving associated with the construction of four wave screens that would be located north and south of the western edge of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier, pile driving for the marina, pile driving of replacement fender piles along the perimeter of the pier, placement of the riprap along the base of the outermost caisson, pile driving for the previously permitted walkway extensions, (see **Figures 9-3 and 9-4**), and movement of tugs to position the construction barges. In order to minimize resuspension of bottom sediment, tug movement in areas where water depths would not be sufficient to allow a clearance of at least 2 to 3 feet between the propeller(s) and the bottom sediment would be limited to the extent possible. Repair of the fender system would involve removal and

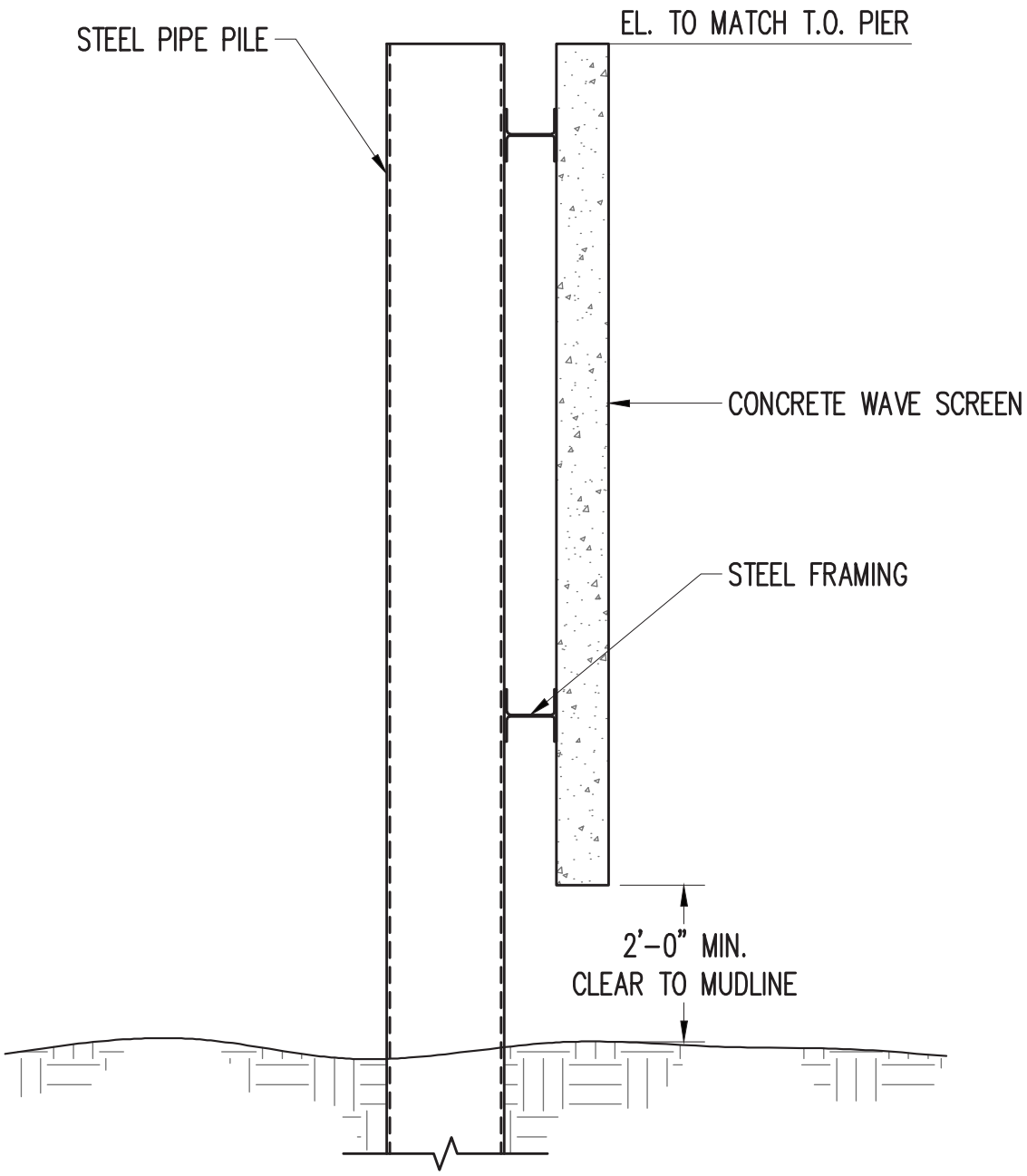


PRELIMINARY SLIP DISTRIBUTION	
VESSEL SIZE	NO. OF SLIPS
160'	2
120'	4
70'	10
60'	26
30'	53
25'	46
TOTAL	141

NOTE: The location of the public launch for non-motorized boats will be determined once the final plan for the marina is established.

0 100 200 FEET
SCALE

Proposed Marina Plan
Figure 9-3



Typical Wave Screen Section

Figure 9-4

replacement of some of the timber fender piles, along with replacement of the timber wales, chocks, and curbing. The pile density for the fender system would remain the same.

All in-water and shoreline construction work would be done using a barge-based crew with float stages, scaffolding, and a barge-mounted crane. Consistent with the NYSDEC and USACE permits for in-water work within Hudson River Park, floating debris screens would be in place throughout demolition and construction activities, including those associated with the construction of the utility, stairway and elevator pit enclosures, to capture floating debris. Sediment disturbance associated with the pile driving and placement of riprap has the potential to result in minor, short-term increases in suspended sediment and resuspension and re-deposition of contaminants. As evaluated in the 1998 *Hudson River Park FEIS*, increases in suspended sediment due to pile driving would be temporary and localized, confined to the immediate vicinity of construction activities (AKRF, Inc.et al. 1998). The average tidal current in the Hudson River is 1.4 knots (Geyer and Chant 2006). Therefore, any sediment resuspended during pile driving would move away from the area of in-water construction and would be expected to dissipate shortly after the completion of pile driving activity. Additionally, the temporary localized increases in suspended sediment during pile driving would be intermittent, occurring during the several hours anticipated for the driving of each new pile followed by a period of no sediment disturbing activity while the next pile is being prepared for installation. Turbidity curtains would be used during pile driving activities to further reduce the potential for increases in suspended sediment within the study area. Therefore, in-water construction activities due to the proposed project would not result in significant adverse impacts to water quality. Similarly, any contaminants released to the water column as a result of sediment disturbance would be expected to dissipate rapidly and would not result in significant long-term impacts to water quality.

As discussed in Chapter 10, "Hazardous Materials," should dewatering be required during the limited upland construction activities of the proposed project, testing would be conducted to ensure that the discharged water would meet applicable NYCDEP sewer discharge and/or NYSDEC SPDES requirements; the water would be pretreated if necessary.

Operation

One of the goals of the Hudson River Park is to allow direct access to the water, for local residents as well as residents of the region as a whole. A wide range of boating facilities were approved for the Hudson River Park, although none specifically at the Pier 57 location. The current project is now proposing the marina, non-motorized boat launch, and slips for historic vessels, which would further the goal of the Sanctuary Plan to "continue to provide and expand safe access to the river by creating additional boating and docking opportunities" and would be consistent with the HRPT boating management rules and regulations (HRPT 2002). Operation of the redeveloped historic Pier 57 would not impair the movement of tidal waters or the designated use of the Hudson River within the project area. The wakes of vessels using the marina and water taxi landing facility are not expected to be more energetic than the normal wind waves or the wake of channel traffic already affecting the area; regardless, the nearby shoreline is armored to prevent erosion or other shoreward impacts.

The operation of the marina, including the sanitary/pumpout station proposed to be located south of the pier near the bulkhead end of the marina dock would not be expected to result in significant adverse impacts to water quality. The sanitary/pumpout station would be similar to the existing station at Pier 25, which was designed in accordance with criteria set forth in the NYSDEC permit for Hudson River Park and the Sanctuary Plan (HRPT 2002). There would be

no refueling or repair of motorized boats within the marina. Implementation of best management practices to minimize environmental impacts of marinas, presented in the 2003 NYSDEC publication *Environmental Compliance, Pollution Prevention, and Self-Assessment Guide for the Marina Industry*, would minimize water quality impacts that have been attributed to marina operation resulting from accidental discharge of sewage from boats or during operation of pumpout stations, or the release of oil from boats (McMahon 1989 in USEPA 1993; NCDEM 1990; Alzieu 1986; Laughlin and Linden 1987; Cleary and Stebbing 1987; Espourteille 1988; Young et al. 1979 in Milliken and Lee 1990).

The drafts of water taxis currently operating in the New York Harbor range from 5.5 feet to 7 feet. Water depths in the vicinity of the water taxi platform are at least 19 feet at MLW. Depths where boats would be moored within the marina would not be less than 6 feet at MLW. Water depths at the water taxi platform and within the marina would be sufficient to allow a clearance of at least 2 to 3 feet between the propeller of a vessel and the bottom during low waters identified as necessary to prevent increased turbidity associated with boat operations (NOAA 1976 in USACE 1993)**.** Therefore, boat operations would not be expected to result in increased suspended sediment within the project area.

As currently envisioned, the wave screens that would be installed to maintain safe operation of vessels within the marina would comprise a wave screen (solid on one side and open to the back) supported on piles. It would be separated from the river bottom by at least two feet to maintain tidal exchange and flushing of the underpier and interpier areas, thus minimizing the potential for operation of the marina to result in significant adverse impacts to water quality (see Figure 9-4). As the project design advances, an analysis would be done to determine the wave screen depth required for safe operation of the marina while at the same time allowing as much separation between the bottom of the screens and the river bottom as possible. Because marinas that are well-flushed do not generally result in water quality impacts (McMahon 1989 in USEPA 1993, UK CEED 2000, and Young et al. 1979 in Milliken and Lee 1990), the operation of the proposed marina would not result in significant adverse impacts in or adjacent to the project area, nor would it result in the failure of this portion of the Hudson River to meet the water quality standards for Use Class I saline waters. The wave screens would be consistent with the objective of the Sanctuary Plan to minimize adverse impacts of waves on recreational activities and special features (HRPT 2002).

As discussed in Chapter 11, "Water and Sewer Infrastructure," the proposed project would not result in an increase in impervious surface beyond that which has already been analyzed and permitted (i.e., the perimeter walkways and walkway extensions) or an increase in the discharge of stormwater runoff from Pier 57 to the Hudson River from the existing condition. Stormwater runoff from the pier would continue to be discharged to the Hudson River and would not have the potential to result in a failure for the portion of the Hudson River in the vicinity of the project site to meet the water quality criterion for Use Class I waters.

AQUATIC BIOTA

Construction

The in-water construction activities described above under "Water Quality," have the potential to result in temporary adverse impacts to fish and macroinvertebrates due to the following:

- Temporary increases in suspended sediment;
- Increased in-water activity due to pile placement and driving;

- Disturbance of benthic habitat within the footprint of riprap placement along caissons;
- Loss of benthic habitat within pile footprints; and
- Loss of water column habitat within the utility, stairway and elevator pit enclosures constructed below the pier deck.

The proposed project would result in the installation of approximately 504 18-inch diameter steel pipe piles. These piles would be distributed among the wave screens, marina and fendering:

- A total of approximately 104 piles for the four wave screens;
- A total of approximately 150 piles for the marina on the north and south side of the pier; and
- Approximately 250 piles installed along the periphery of the pier as fender piles.

In addition, 40 24 by 24 inch precast concrete piles would be installed for the previously permitted bulkhead and perimeter walkway extensions.

In-water pile driving for the proposed project would be conducted using barge-based pile driving equipment positioned at the work site with tug boats. The duration of pile driving would be approximately 12 weeks. Where driving is necessary, it is expected that the proposed project would use vibratory or impact pile driving, minimizing the use of an impact hammer to the extent possible. Pile driving would be followed by an approximately 10-week period in which the wave screen panels would be installed on the piles. The assembly of the wave screens would not result in sediment disturbance.

Temporary Increases in Suspended Sediment

There would be no dredging or other disturbance of bottom habitat or open water habitat other than the driving of the piles for the marina floats and wave screens, driving of fender piles, driving of piles for the walkway extensions, and the minimal (0.01-acre) placement of riprap along the caissons.

The project site is strongly influenced by the tidal currents of Hudson River. As discussed above under "Water Quality," any temporary increase in suspended sediment associated with pile driving, and removal and replacement of fender piles, and placement of riprap would be localized and would dissipate shortly after the completion of the sediment disturbing activity. Therefore, these activities would not result in significant adverse impacts to aquatic biota. Sediments throughout the Harbor Estuary contain contaminants. While Hudson River sediments have been found to contain contaminants at concentrations that may pose a risk to some benthic macroinvertebrates, the tidal currents within the project area should dissipate these sediments such that redeposition within or outside the project area would not adversely affect benthic macroinvertebrates or bottom fish.

Life stages of estuarine-dependent and anadromous fish species, bivalves and other macroinvertebrates generally are tolerant of elevated suspended sediment concentrations and have evolved behavioral and physiological mechanisms for dealing with variable concentrations of suspended sediment (Birtwell et al. 1987, Dunford 1975, Levy and Northcote 1982 and Gregory 1990 in Nightingale and Simenstad 2001, LaSalle et al. 1991). Fish are mobile and generally avoid unsuitable conditions such as increases in suspended sediment and noise (Clarke and Wilber 2000). While the localized increase in suspended sediment resulting from pile driving and riprap placement may cause fish to temporarily avoid the area where bottom disturbing activities are occurring, suitable habitats would be available nearby for use by fish to avoid the area being disturbed. Fish also have the ability to expel materials that may clog their

gills when they return to cleaner, less sediment laden waters. Most shellfish are adapted to naturally turbid estuarine conditions and can tolerate short-term exposures by closing valves or reducing pumping activity. Mobile benthic invertebrates that occur in estuaries have been found to be tolerant of elevated suspended sediment concentrations. In studies of the tolerance of crustaceans exposed to suspended sediments for up to two weeks, nearly all mortality was caused by extremely high suspended sediment concentrations (greater than 10,000 mg/L) (Clarke and Wilber 2000), which would not occur from the in-water work associated with the proposed project. Pile driving is an intermittent activity and would therefore have limited effect on suspended sediment concentrations within any given location during the duration of construction. As discussed in the FEIS for the Hudson River Park, resuspension of bottom sediment during pile driving within the Hudson River Park would be temporary and of short duration (AKRF, Inc.et al. 1998).

Other Potential Impacts Associated with Pile Driving

Piles can be installed into a substrate by dropping them into place with a crane or other construction equipment and then driving them to the depth determined necessary for their design function using an impact hammer or vibratory hammer. Impact hammers consist of a heavy weight that is dropped onto the top of the pile, driving it into the substrate. Vibratory hammers are oscillatory hammers that vibrate the pile, causing the sediment surrounding the pile to liquefy which allows the pile to penetrate into the substrate (CalTrans 2009). Impact hammers can be used to drive piles into most substrates but vibratory hammers are usually limited to softer unconsolidated substrates such as sand, mud, and gravel (Hanson et al. 2003).

Pile driving with impact hammers can generate underwater sound pressure waves that may adversely affect fish (CalTrans 2001, Longmuir and Lively 2001 in NOAA 2008). A vibratory hammer produces underwater sound energy that is more spread out over time than an impact hammer and is generally 10 to 20 decibels (dB) 1ower underwater than that generated by impact pile driving (CalTrans 2009). Additionally, smaller piles, such as the 18-inch diameter piles that would be used for the proposed project, result in less underwater sound as less energy is required to drive them and affect a smaller area (Hanson et al. 2003) because the higher frequency sound from driving smaller piles attenuate over shorter distances than the lower frequency sounds generated by driving larger diameter piles (CalTrans 2009).

As recommended by NOAA (2008) for reducing the potential adverse impacts to marine fisheries habitat and fish due to pile driving, the proposed project would minimize the driving of piles with an impact hammer to the extent possible. Under conditions where an impact hammer is necessary, the piles would be allowed to sink deep into the sediment under its own weight or driven as deep as possible with a vibratory hammer prior to the use of the impact hammer. It is anticipated that when driving with an impact hammer is necessary, it would be intermittent—about 20 minutes of driving followed by an interval of an hour when no driving occurs, followed by tapping down to the final elevation.

Because the proposed project would only require short periods of driving with an impact hammer and would complete all pile driving within a 12-week period, pile driving would not result in significant adverse impacts to fish within the lower Hudson River. Should pile driving or other in-water activities associated with the construction of the proposed project cause fish to avoid portions of the Hudson River in the vicinity of the project site, the extent of the area that would be affected at any one time is likely to be small, when compared to the available suitable habitat that would still be available within the lower Hudson River. To further reduce the likelihood of impacts to the fish community, pile driving would be restricted to the six-month

period from May through October. Restricting pile driving to this seasonal window would minimize the potential for adverse ecological effects, specifically during the November to April period when winter flounder and striped bass, are found in higher densities within the New York Harbor than other months. This timing restriction for pile driving activities is consistent with the resource protection objective of the Hudson River Park Sanctuary Plan to protect the seasonal use of the Sanctuary by key species (HRPT 2002).

Disturbance and Loss of Benthic Habitat

The installation of new piles for the marina and wave screens would result in the permanent loss of approximately 884 square feet (0.02 acres) of benthic habitat and benthic macroinvertebrates located within the footprint of the piles that are unable to move from the area of disturbance. This estimate includes:

- Approximately 150 18-inch diameter steel pipe piles for the development of the marina, resulting in a total loss of approximately 353 square feet of bottom habitat—100 piles each for the north and south marinas resulting in a loss of about 177 square feet within the pile footprints for each marina;
- Approximately to 104 18-inch diameter pipe piles for 4 wave screens, with five piles installed per day; and
- Approximately 9 square feet for the installation of the anchor piles for the water taxi landing.

The installation of the 40 24 by 24 inch concrete piles for the bulkhead and perimeter walkway extensions would result in an additional loss of about 160 square feet (0.004 acres).

The wave screen would likely use steel piles and concrete panels (see Figure 9-4), which allows for longer panel lengths so that a minimum number of piles would be needed. The fender piles would be replaced with the same number of similar sized piles and would not result in increased loss of bottom habitat or benthic macroinvertebrates. The permanent loss of benthic macroinvertebrates within the pile footprints would be minimal and would not significantly impact the food supply for fish foraging in the area. The new piles would provide additional attachment sites for algae and sessile invertebrates and some piles may provide suitable refuge to fish.

Riprap would be placed in a 550-square foot footprint (0.01 acres) along the face of the caissons to prevent further scour. Encrusting organisms and benthic macroinvertebrates would be expected to quickly colonize the newly placed riprap. In-water structures such as riprap have rough surfaces with many interstitial spaces and a high surface area to volume ratio (USACE 1993) that provide more surface area for invertebrates that attach to surfaces (fouling community), and habitat (foraging and refuge) for fish (Heiser and Finn 1970 in Chmura and Ross 1978). Therefore, the minimal bottom disturbance associated with the placement of riprap would not be expected to result in any adverse impacts to benthic habitat or benthic organisms.

Loss of Water Column Habitat

The construction of the utility, stairway and elevator pit enclosures would result in minimal loss of shaded water column habitat under the existing pier deck. These structures would occupy approximately 1,338 cubic yards (CY) below MHWS and about 1,242 CY below MHW. The loss of this aquatic habitat under the existing pier would not result in any significant adverse impacts to aquatic resources.

In summary, during construction of the in-water project elements, temporary and localized increases in suspended sediment, pile driving, and alterations to bottom habitat, benthic macroinvertebrates, and water column habitat would not result in any significant adverse impacts to aquatic biota of the Hudson River.

Operation

As discussed above under "Water Quality," the operation of historic Pier 57 would not result in significant adverse impacts to water quality, and, therefore, would not result in significant adverse impacts to fish or benthic macroinvertebrates. The proposed minimum 2-foot separation between the bottom of the wave screens and the river bottom mud line would not significantly impede the use of the project site by aquatic biota and would maintain tidal exchange and flushing of the underpier and interpier areas, thus minimizing the potential for operation of the marina to result in significant adverse impacts to water quality. Some of the piles that would be installed as part of the proposed project may provide suitable refuge to fish.

The proposed marina walkways are anticipated to be 8 feet wide, and fingerfloats 4 feet wide, resulting in a maximum increase of overwater coverage of 19,503 square feet (0.4 acres) for the marina on the north side of the pier, 26,847 square feet (0.6 acres) for the marina on the south side of the pier and 1,800 square feet (0.04 acres) for the water taxi landing. The total maximum new overwater coverage resulting from the marina and water taxi landing would be about 1 acre. With the approximately 3,600 square feet (0.08 acres) of overwater coverage resulting from the previously permitted walkway extensions, the total overwater coverage that would be added within the project site would be 1.08 acres. Although the proposed project would increase overwater coverage within Hudson River Park, the increase in shading of aquatic habitat resulting from the proposed project would be minimal due to the narrow width of the fingerfloats and walkways (4 feet and 8 feet respectively). The narrow width of the platforms associated with the marina would permit some light to reach the water and mudline under them. Even the 30-foot by 60-foot-wide water taxi landing would allow some light to penetrate under the floating platform. NYSDEC generally considers aquatic habitat under an overwater structure to be shade-impacted after the first 15 feet from the structure's edge. This is consistent with results of research conducted by Able and Grothues (2011) of pier effects on fish behavior, which indicated that shading affected use of the underpier area by certain species of fish about 16 feet in from the edge. The minimum 5-foot separation between the edge of the pier and the adjacent marina walkways, combined with the narrow widths of the marina walkways, would allow light to reach the underlying aquatic habitat and would not result in an increase in the effective width of the pier or an increase in the area of aquatic habitat affected by shading from overwater structures. Because of the area occupied by the caissons and piles, only about 55 percent of the area under the pier is available for use by aquatic biota. The proposed project would not result in a decrease in available aquatic habitat under the pier. Therefore, the walkways associated with the marina and the water taxi landing, and the small increase in shading contributed by the approximately 15-foot-wide previously permitted walkway extensions, would not be expected to result in any significant adverse impacts to the habitat due to shading.

In summary, the operation of the redeveloped pier would not result in significant adverse impacts to aquatic biota of the Hudson River.

ESSENTIAL FISH HABITAT

The proposed project would not result in significant adverse impacts to water quality, aquatic habitat, or aquatic biota. Therefore, the proposed project would not result in significant adverse

impacts to the suitability of the project site for fish species identified by NMFS as having EFH in the lower Hudson River Estuary.

THREATENED OR ENDANGERED SPECIES, OR SPECIAL CONCERN SPECIES

The preference of shortnose and Atlantic sturgeons for deep water habitat indicates that it is unlikely that individuals of either species would occur in the vicinity of the proposed Pier 57 redevelopment except perhaps as occasional transients. Although shortnose sturgeon were collected from the Hudson River channel south of the George Washington Bridge during winter sampling of the channel in 2003-2004 and 2004-2005, the number collected were low, and all but two of the individuals were collected north of Pier 57. Additionally, these collections of shortnose sturgeon occurred during the November to April period, when in-water construction is prohibited to protect overwintering striped bass. Because water quality impacts associated with in-water construction activities for the proposed project pile driving would be localized, the deep channel habitat preferred by shortnose and Atlantic sturgeon would not be adversely impacted during redevelopment of the pier and construction of the marina. Migration of Atlantic sturgeon into the Hudson River during early spring and emigration from the river during the fall months will not be obstructed by construction activities because of the planned in-water construction window from May through October. Because the New York Harbor estuary is used primarily for migration rather than extended occupation for feeding or reproduction, it is unlikely that construction will significantly affect Atlantic sturgeon. Therefore, shortnose and Atlantic sturgeon would not be adversely impacted by the proposed project.

Through consultation and coordination between HRPT and the NYSDEC, the proposed project would not result in significant adverse impacts to the NYSDEC listed endangered peregrine falcon pair that has at times been nesting on the pier since 2009. These consultations would result in the development of measures to minimize potential adverse impacts to nesting, foraging, and roosting activity. Coordination activities may include attempting to relocate the nest, staging construction to avoid sensitive periods, or use of monitoring cameras.

All marine mammals potentially found within the Hudson River would be able to hear sounds from pile driving since the frequencies are well within the hearing range of the animal (Southall et al. 2007). However, the hearing sensitivity of all of these species is sufficiently acute that they are likely to be able to hear, and behaviorally respond to, the sounds at very substantial distance from the pile driving. They are likely to move away from the sound well before they get to a location where the pile driving levels would be sufficient to cause potential injury. Because seals are unlikely to occur in the vicinity of Pier 57 except as occasional transient individuals and any individuals that would occur near the pier would be expected to exhibit avoidance behavior during pile driving, significant adverse impacts would not occur to seals during in-water construction associated with the proposed project.

Four species of threatened or endangered sea turtles have the potential to occur in the lower Hudson River estuary as occasional seasonal transients: Kemp's ridley, loggerhead, green, and leatherback. Because they neither nest, nor reside in the area year-round, redevelopment and operation of historic Pier 57 and construction and operation of the marina would not result in significant adverse impacts to sea turtles.

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT

The Lower Hudson Reach has been identified as a Significant Coastal Fish and Wildlife Habitat primarily because of its use by large numbers of juvenile striped bass as wintering habitat. Adult

striped bass enter the Hudson River to spawn during spring and summer but spend most of their time in coastal waters, not within the study area for the project. Spawning occurs in freshwaters far upstream of the study area and would not be adversely affected by the construction or operation of historic Pier 57. Because striped bass spawning occurs well upriver of Pier 57, the majority of the larval striped bass are also located upstream of the study area. Furthermore, the highest abundances of juvenile striped bass are also upstream of the study area, in the Hyde Park region. Because striped bass larvae and juveniles are widely distributed throughout the Hudson River, losses of individuals resulting from the construction of the project would not result in adverse impacts to striped bass populations of the Hudson River. Due to the restriction of pile driving between November 1 and April 30 when juveniles are using the area for wintering habitat, the limited potential for in-water construction activities and operation of the marina to affect water quality, and the limited potential for pile driving to result in significant adverse impacts to fish, the proposed project would not result in significant adverse impacts to striped bass or adversely affect the designation of this portion of the Hudson River as a Significant Coastal Fish and Wildlife Habitat.

TERRESTRIAL RESOURCES

The proposed project would have no significant adverse impact on terrestrial resources. The nearest significant green space and quality habitat available to native wildlife is the Hallett Nature Sanctuary at Central Park's southern end, more than 2 miles north of historic Pier 57. Construction of the proposed project would have no impact on wildlife inhabiting this area. Smaller green spaces within the vicinity of the project (under half a mile away) with the potential to provide wildlife habitat include the 14th Street Park (located immediately across Route 9A from the project site), Clement Clarke Moore Park (located northeast of the project site at 10th Avenue and 22nd Street), Jackson Square (located southeast of the project site at 8th Avenue and Horatio Street), and the Chelsea Waterside sections of Hudson River Park (located north of the project site at 23rd Street and 11th Avenue). The wildlife with the potential to use the habitats provided by these green spaces, open lawn with shade trees, would be those tolerant of urban conditions and would not be expected to be adversely affected by the proposed project. The proposed project would also have no significant short- or long-term impacts on the disturbance-tolerant wildlife inhabiting the area immediately surrounding historic Pier 57. The vegetation lost as a result of project construction would be limited to invasive weeds currently growing through cracks in the pier's surface.

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Chapter 10: Hazardous Materials

A. INTRODUCTION

This chapter presents the findings of the hazardous materials assessment and identifies potential issues of concern that could pose a hazard to workers, the community, users of Pier 57 and/or Hudson River Park and the environment during or after development of the proposed project. The proposed project would entail rehabilitation and repair of the pier's supporting caissons, piles, and the pier structure itself with the addition of new rooftop structures on the headhouse, pier shed, and within the building interior. Limited shallow subsurface disturbance upland of the pier, within Hudson River Park, would also be required.

A Phase I Environmental Site Assessment (ESA) was performed for the project site by Langan Engineering and Environmental Services P.C. (Langan) in September 2010 to identify potential environmental concerns resulting from past or current on- and off-site operations. The Phase I ESA included a visual inspection of the property; a review of available records, historical maps, aerial photographs and interviews with facility personnel to determine previous on-site and adjacent land uses; and an evaluation of regulatory databases for the project site and neighboring properties.

A Phase II Environmental Site Investigation (ESI) was also conducted by Langan (dated January 3, 2011) and consisted of: a geophysical survey, four soil borings with laboratory analysis of soil samples; and laboratory analysis of indoor and ambient air samples.

As described below, though the pier was constructed from 1950 to 1954 and historically used for the Grace Lines cruises (through 1967), after 1967 it was used as a bus garage and maintenance facility. The pier has been vacant since 2004. Multiple aboveground and underground storage tanks (ASTs and USTs) were associated with the prior uses (primarily storing petroleum products). Remediation of a diesel spill (No. 9106100) from a 7,500 gallon underground tank reported in 1991 in the upland portion of the site is ongoing under the oversight of New York State Department of Environmental Conservation (NYSDEC). Residual soil and groundwater contamination is still present. As part of Hudson River Park, the overall site is subject to existing requirements to address potential hazardous materials; e.g., requirements for asbestos abatement prior to rehabilitating buildings, and Health and Safety Plan requirements addressing subsurface disturbance.

PRINCIPAL CONCLUSIONS

The Phase I ESA and Phase II Subsurface Investigation for the site revealed the potential for subsurface contamination and hazardous materials (such as asbestos-containing materials [ACM] and lead-based paint [LBP]) on the project site. Renovation and rehabilitation or the project site would be conducted in accordance with applicable federal, state and local regulatory requirements. Excavation work would be performed in accordance with a New York City Department of Environmental Protection (NYCDEP)-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) and all excavated soil requiring off-site disposal would be

managed in accordance with applicable regulatory requirements. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur either during or following construction at the site.

B. EXISTING CONDITIONS

TOPOGRAPHY AND SUBSURFACE CONDITIONS

The surface topography of the upland portion of the project site is less than 10 feet above mean sea level with a slight slope down to the Hudson River. During the Phase II, groundwater was encountered at depths of less than 10 feet and historic urban fill materials were found to extend at least 10 feet below grade. Historical maps indicated that the project site was entirely within the River prior to filling of the area west of 11th Avenue in the late 1800s. Bedrock is estimated to be approximately 70 feet below grade.

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

The Phase I ESA revealed the following:

- Sixteen petroleum ASTs/USTs and two chemical bulk storage tanks (containing ethylene glycol—commonly known as antifreeze) were historically listed, some within the structure and some underground in the upland portion of the site. Staining was observed on concrete floors around ASTs in the basement. Following the 1991 spill report (a release associated with a 7,500 gallon diesel UST), a subsurface investigation was conducted and a recovery system was installed. Approximately 430 gallons of petroleum were recovered and two large USTs were subsequently closed in place; however, residual contamination remained. In 2002, New York City Transit addressed the residual contamination using bioremediation but further monitoring and sampling indicated that residual contamination still remained. Since 2007, quarterly groundwater and soil samples have been collected on behalf of NYCT as part of a NYSDEC-approved Monitored Natural Attenuation (MNA) Work Plan. Injection of a chemical oxidant to increase the pace of attenuation was conducted in June 2010. Recent data has indicated that no floating petroleum product remains on the water table but residual soil and groundwater contamination remains.
- The bus depot, in addition to storing and using a range of petroleum products and solvents, generated a variety of hazardous wastes including ignitable wastes, corrosive wastes and cadmium.
- Upland areas of the property include historical urban fill materials as historic maps indicate that the area west of 11th Avenue was filled in for waterfront development in the late 1800s. Historical urban fill typically includes ash and demolition debris. Although manufactured gas (also known as coal-gas) facilities were historically located east of the highway between West 16th and 18th Streets, based on the anticipated groundwater flow direction (towards the river), these would not be expected to affect the project area. No signs of manufactured gas plant-related contamination have been found in soil or groundwater samples collected in upland areas close to the project site. Based on the high density of manufactured gas plant wastes, it is possible that contamination may be present in deeper soils or in rivers sediments. However, the proposed project would not involve deep soil disturbance or dredging and would not disturb these areas.

- Potential ACM, LBP, and polychlorinated biphenyls (PCBs) containing equipment (such as fluorescent light ballasts, window caulking, and hydraulic elevator fluid) were observed inside the pier. AKRF Inc. prepared a Preliminary Asbestos and Lead Paint Inspection Report in 2004, described the collection and analysis of approximately 287 samples for asbestos and use of an X/Ray Flourescence (XRF) meter to determine the approximate level of lead in paint. ACM (in tiling, fireproofing, insulation, linoleum, caulking, plaster, etc.) and LBP (on metal elevator doors, concrete walls and floors, metal guardrails, piping and electrical panels, wood walls, etc.) were found in the pier.
- Historic nearby properties (across Eleventh Avenue) included a gasoline filling station, a manufactured gas works, a galvanizing factory, a smelting and refining works and a wall paper colors manufacturer.

Based on the findings of the Phase I ESA, a Phase II ESI was conducted, consisting of: a geophysical survey, four soil borings with laboratory analysis of soil samples; and laboratory analysis of indoor and ambient air samples. The four soil borings were located upland of the site along Eleventh Avenue; two borings were located along the northern half of the pier frontage and two were located along the southern half of the pier frontage. These borings were in addition to those conducted as part of the ongoing remediation of the previous spill on the upland portion of the site.

The Phase II ESI revealed the following:

- The two borings immediately upland of the northern half of the pier showed evidence of petroleum contamination (the release described in the first bullet above was close to the northeast corner of the pier) whereas the two borings in the southern half showed no such signs. Although laboratory analysis of soil samples did show some exceedances of the most stringent NYSDEC criteria (Unrestricted Use Soil Cleanup Objectives specified in 6 NYCRR 375-6), exceedances were present (as would be anticipated for petroleum-contaminated soil) but relatively minor and subsequent testing indicated that the soil would not be classified as a (lead) hazardous waste.
- Indoor air samples were collected at three locations inside the pier where ASTs or signs of petroleum releases (staining/odor) were noted. Laboratory analysis revealed no levels above guidelines, except for methylene chloride, which was also detected in the associated batch blank and therefore was judged to be a laboratory artifact and not representative of indoor air quality.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, or No Action condition, the pier will continue to be unoccupied. NYCT would continue to address the petroleum spill immediately upland of the pier with oversight by NYSDEC. As with current conditions, there will be no significant health or environmental risks in the future without the project.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PIER STRUCTURE

Construction of the proposed project would entail renovation and rehabilitation of the existing structure along with the addition of several new rooftop structures. Based on the findings of the Phase I ESA and Phase II Subsurface Investigation, the pier contains ACM, LBP, and possible PCB-containing items. Some concrete staining in the vicinity of petroleum tanks was also observed. Renovation and rehabilitation would be conducted in accordance with applicable

federal, state and local regulatory requirements including those relating to ACM-, LBP-, and PCB-containing items. Any remaining stored chemicals would be properly removed and disposed of off-site. Stained areas would be cleaned and sealed as necessary.

UPLAND AREA

Limited shallow subsurface disturbance upland of the pier, within Hudson River Park, would be required for construction of the proposed project. This work would consist primarily of construction of driveways to the pier structure and the realignment of the Route 9A bikeway, and no buildings, piles or deep disturbance is anticipated in this area. Based on the findings of the Phase I ESA and Phase II Subsurface Investigation, petroleum-contaminated soil could be encountered, especially in the vicinity of the known historical spill near the northeast corner of the pier. If remediation of this spill has not been completed to the satisfaction of NYSDEC (i.e., the spill still has an "open" status) when the subsurface disturbance occurs, coordination with NYCT and NYSDEC would be performed to ensure that construction for the proposed project would not exacerbate the spill or prevent it from being properly addressed during or following construction. Remediation of this spill would continue in accordance with NYSDEC requirements, and a copy of the spill closure report will be submitted to the NYCDEP upon the completion of remedial activities. Petroleum-contaminated groundwater is not expected to be encountered, as construction is not expected to extend to the water table. In this and other areas, historical urban fill materials are known to be present and the presence of unexpected tanks or other unexpected sources of contamination cannot be ruled out. Since excavation would disturb any such materials and potentially increase pathways for human exposure, impacts would be avoided by performing the work in accordance with a NYCDEP-approved RAP and CHASP. The RAP would specify requirements for items such as: installation of two feet of clean fill as a "site cap" in unpaved areas; handling of contaminated or potentially contaminated soil, groundwater or treated wood (e.g., pilings); soil stockpiling, soil disposal and transportation; dust control; air monitoring in the work zone and the community; dewatering procedures; quality assurance; and contingency measures (including reporting and registration requirements) should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment. The measures included in the CHASP would include oversight by a trained Health and Safety Officer (HSO), training for workers, personal protective equipment, air monitoring requirements including community air monitoring, and emergency response procedures. Following any excavation, the area would be backfilled with clean soil. Most of the area east of the pier structure would also be paved.

Additionally, all excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements, and, as necessary, tested in accordance with the requirements of the intended receiving facility. Transportation of all material leaving the site would be in accordance with applicable requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. Should dewatering be required for construction of the proposed project, testing would be performed to ensure that the discharged water would meet applicable NYCDEP sewer discharge and/or NYSDEC SPDES requirements. If necessary, the water would be pretreated prior to discharge, as required by NYCDEP or NYSDEC permit/approval requirements.

With the implementation of the above procedures, no significant adverse impacts due to the potential presence of any hazardous materials would be expected to occur either during or following construction at the project site. ✷

Chapter 11: Water and Sewer Infrastructure

A. INTRODUCTION

This chapter evaluates the potential for significant adverse impacts on water and sewer infrastructure that could result from the proposed project. The project would consist of redeveloping the Pier 57 site with open space, retail facilities, a marina, restaurants and other commercial, educational and cultural uses. The redevelopment would increase the project site's water demand and sewage generation from the current condition. The effect on the City's water supply, wastewater treatment and stormwater conveyance infrastructure is discussed in this chapter.

Although stormwater from the proposed project site is directly discharged to the Hudson River, sanitary sewage would be conveyed to the City's combined sewer system. Therefore, the size and location of the project (more than 250,000 square feet of commercial development in a combined sewered area) warrants a preliminary sewer analysis per the 2012 *City Environmental Quality Review (CEQR) Technical Manual*.[1]

PRINCIPAL CONCLUSIONS

As described more fully below, the proposed project would result in an increased demand on the City's water supply and wastewater treatment infrastructure. The increases in water demand and wastewater due to the proposed project, however, would be minimal and would not significantly impact existing infrastructure. Given that the project site is a pier, stormwater runoff is directly discharged into the Hudson River; therefore the City's stormwater conveyance infrastructure would not be affected. Accordingly, the proposed project would not result in any significant adverse impacts on the City's water supply, wastewater treatment or stormwater conveyance infrastructure.

B. METHODOLOGY

This analysis follows the methodologies set forth in the *CEQR Technical Manual* and assesses current conditions, conditions in the future without the proposed project (No Action), and conditions in the future with the proposed project (With Action).

Water demands and sewage generation are calculated based on the proposed uses of the project and the generation rates set forth in the *CEQR Technical Manual*. The ability of the City's water and sewer infrastructure to handle the anticipated demand is determined by comparing With Action conditions to existing conditions for the analysis of stormwater and to No Action conditions for the analyses of water supply and sanitary sewage. The existing and With Action

[1] *CEQR Technical Manual*, May 2012, p. 13-9

stormwater runoff and sanitary flow volumes were calculated using the New York City Department of Environmental Protection (DEP) Flow Volume Calculation Matrix.

C. EXISTING CONDITIONS

WATER SUPPLY

New York City's water supply system is composed of three watersheds—Croton, Delaware, and Catskill—and extends as far north as the Catskill Mountains. From these watersheds, water is carried to the City via a conveyance system made up of reservoirs, aqueducts, and tunnels. Within the City, a network of underground water pipes distributes water to customers. On average, the New York City water system delivers approximately 1.1 billion gallons per day (bgd) to the five boroughs and Westchester County.

The Croton system supplies an average of 22 million gallons per day (mgd), primarily to users in the lower-elevation portions of Manhattan and the Bronx. The Delaware and Catskill systems supply all five boroughs and deliver approximately 98 percent of the City's drinking water. The Delaware and Catskill water systems collect water from watershed areas in the Catskill Mountains and deliver it to the Kensico Reservoir in Westchester County. From the Kensico Reservoir, water is sent to the Hillview Reservoir in Yonkers, which balances the daily fluctuations in water demand and pressure to the system. From there, water is delivered to the City through three tunnels, Tunnel Nos. 1, 2, and 3. Tunnel No. 1 carries water through the Bronx and Manhattan to Brooklyn; Tunnel No. 2 travels through the Bronx, Queens, Brooklyn, and then through the Richmond Tunnel to Staten Island; and Tunnel No. 3 goes through the Bronx and Manhattan, terminating in Queens. City Tunnel No. 1 serves the southern portion of Manhattan where the project site is located.

The site is served by a 20-inch diameter ductile iron pipe water main built in 1998 that is located on the west side of Route 9A.[1] The existing building on the Pier 57 site is vacant. Therefore, the Pier 57 site generates no current demand on the local water distribution system.

SANITARY SEWAGE

Sanitary sewage from the project site is conveyed to a network of combined sewers that convey both sanitary sewage and stormwater to the North River Wastewater Treatment Plant (WWTP). In periods of dry weather, the combined sewer conveys only sanitary sewage. During and immediately after wet weather, the sewers can experience a much larger flow. To control flooding at the North River WWTP, regulators are built into the system to only allow approximately two times the amount of design dry weather flow into the interceptors, which take the flow to the North River WWTP. The excess flow to the regulators is discharged to the nearest waterbody as combined sewer overflow (CSO). The sanitary sewage from the project site is conveyed to a 4' x 2'8" combined sewer in Route 9A, which conveys flow to Regulator 51. CSO from Regulator 51 is conveyed to CSO outfall NR-22.

At the North River WWTP, wastewater is fully treated by physical and biological processes before it is discharged into the Hudson River. The quality of the treated wastewater (effluent) is regulated by a New York State Pollution Discharge Elimination System (SPDES) permit issued by the New York State Department of Environmental Conservation (DEC). A maximum daily

[1] Information obtained from the DEP Bureau of Water and Sewer Operations Water Maps.

capacity for each treatment facility in the City is set to ensure that the quality of effluent is acceptable to discharge into surrounding water bodies; the maximum capacity for the North River WWTP is 170 million gallons per day (mgd). **Table 11-1** lists the monthly flows to the North River WWTP. The average monthly flow over a recent 12 month period was 124 mgd, well below the maximum permitted level of 170 mgd.

Table 11-1
Monthly Flows at North River WWTP

Month	Flow (mgd)
July 2010	126
August 2010	126
September 2010	126
October 2010	125
November 2010	119
December 2010	122
January 2011	121
February 2011	125
March 2011	128
April 2011	124
May 2011	122
June 2011	122
12-Month Average	**124**

Notes: Permitted Limit: 170 mgd
Source: DEP Monthly Reports: Operating Efficiency Citywide Bubble

STORMWATER

The project site is located on a pier in the Hudson River. Stormwater is discharged directly into the Hudson River and therefore does not affect CSO conditions in the City's combined sewer system.

The project site is approximately 3.80 acres. It is estimated that approximately 3.16 acres (83 percent) of the site is covered by impermeable building roof and 0.64 acres (17 percent) is paved. **Table 11-2** describes the project site surfaces and surface areas, and how stormwater runoff is currently discharged from the project site.

Table 11-2
Project Site Surface Coverage: Existing Conditions

Surface Type	Surface Areas (sf)	Discharge Method
Building Roofs	137,775	Direct Drainage
Paved Surfaces	27,800	Direct Drainage
Total	**165,575**	**----**

Note: sf = square feet
Sources: Data provided by Hudson Eagle LLC

The weighted runoff coefficient of the project site is calculated to be 0.97, which corresponds to the percentage of precipitation that becomes surface runoff.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the No Action condition, the existing pier structure on the project site is expected to remain vacant. Water consumption, sanitary sewage generation, and stormwater runoff would not be expected to change from existing conditions.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

WATER SUPPLY

Table 11-3 summarizes the estimated water consumption of the proposed project under the With Action condition. The proposed uses on the project site are estimated to have a water demand of 132,603 gallons per day (gpd).

Table 11-3
Projected Water Consumption

Use	Size (Square feet)	Rate	Consumption (gallons per day)
Retail[1]			
Domestic	261,900	0.24 gpd/sf	62,856
Air Conditioning	261,900	0.17 gpd/sf	44,523
Commercial[2]			
Domestic	83,700	0.10 gpd/sf	8,370
Air Conditioning	83,700	0.17 gpd/sf	14,229
Rooftop Open Space			
Domestic	525 visitors[3]	5 gpd/visitor[4]	2,625
TOTAL	**345,600**	**----**	**132,603**

Notes:
sf = square feet
1. Retail uses include: Work/Sell Marketplace Center, Food Market and Restaurants, Restaurant Terrace, Flexible Retail Space, and General Retail
2. Commercial uses include: Technical Art School and Ancillary Facilities, Theater/Cultural Use and Gallery/Spa/Storage/Other Uses
3. Number of visitors is based on the Saturday trip generation for the rooftop open space and rooftop exhibit space.
4. Rate obtained from NYSDEC Design Standards for Wastewater Treatment Works for Intermediate Size Sewage Facilities, last revised 1988.
Source: Rates from 2012 *CEQR Technical Manual.*

The projected water consumption for the proposed project of 132,603 gpd represents a small increase in demand on the New York City water supply system. The incremental demand due to the proposed project would be approximately 0.01 percent of the 1.1 bgd typically distributed within New York City and Westchester County. As described above, an existing 20-inch diameter water main is located on the west side of Route 9A. According to the Hudson River Park Trust, there are currently no reported issues with low water pressure within the Hudson River Park. The proposed project does not represent an exceptionally large water demand and is not located in an area that experiences low water pressure. Therefore, the proposed project would have no significant adverse impacts on the City's water supply.[1]

[1] *CEQR Technical Manual*, May 2012, p.13-8.

SANITARY SEWAGE

The estimated amount of sanitary sewage generated by the proposed project would be 73,851 gpd. This estimated amount conservatively includes all water demand except that consumed by air conditioning (as shown in Table 11-3 above), which is not discharged into the sewer system. The sanitary sewage generated by the proposed uses on the project site would be conveyed to the 4' x 2'8" combined sewer in Route 9A and treated at the North River WWTP. The volume of sanitary sewage generated would be 0.04 percent of the permitted average daily flow of 170 mgd at the North River WWTP and would not result in an exceedance of the North River WWTP's capacity. Therefore, the proposed project would not result in a significant adverse impact on the City's sanitary sewage treatment system. Additionally, per the New York City Plumbing Code (Local Law 33 of 2007) low-flow fixtures are required to be implemented and would help to reduce sanitary flows from the project site.

STORMWATER

Based on the proposed site plan, approximately 83 percent (137,775 square feet) of the site would be roof surfaces and 17 percent (27,800 square feet) of the site would be occupied by paved surfaces. Based on this information, the weighted runoff coefficient was calculated to be 0.97 (no change from the existing condition).[1] A small area of landscaping may be included on the roof, however it is conservatively assumed for this analysis that there would be no landscaped surfaces. As a part of the proposed project, the circulation space in front of the pier from West 14th Street to West 16th Street would be reconfigured. The surface coverage of this area in the existing condition is paved and would remain predominately paved in the With Action condition; therefore it is excluded from the project site area calculations. Using the existing and proposed site data, the DEP Volume Calculation Matrix was completed for the existing and With Action conditions. The summary tables, taken from the DEP Flow Volume Matrix are included in **Table 11-4.**

Table 11-4
DEP Flow Volume Matrix—Existing and With Action Volume Comparison

		Existing				With Action			
		165,575 sf / 3.80 Acres				165,575 sf / 3.80 Acres			
Rainfall Volume (in.)	Rainfall Duration (hr.)	Runoff Volume Direct Drainage (MG)	Runoff Volume To CSS (MG)	Sanitary Volume To CSS (MG)	Total Volume To CSS (MG)	Runoff Volume To River (MG)	Runoff Volume To CSS (MG)	Sanitary Volume To CSS (MG)	Total Volume To CSS (MG)
0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
0.40	3.80	0.04	0.00	0.00	0.00	0.04	0.00	0.01	0.01
1.20	11.30	0.12	0.00	0.00	0.00	0.12	0.00	0.03	0.03
2.50	19.50	0.25	0.00	0.00	0.00	0.24	0.00	0.06	0.06

Notes:
sf = square feet
CSS = Combined Sewer System; MG = Million Gallons

[1] The repair of the existing perimeter walkway and its extension to connect with the public esplanade to the east of the pier was previously assessed in the Final Environmental Impact Statement (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to the Hudson River Park Trust (HRPT). As this work was evaluated in the FEIS for the Hudson River Park and has been permitted, it will not be re-evaluated in this EIS.

The calculations from the flow volume matrix help to determine the change in wastewater volumes to the combined sewer system from existing conditions to the With Action condition. Runoff volumes were calculated for four rainfall volume scenarios with varying durations; however, all stormwater runoff would be directly discharged to the Hudson River. The overall increase in sanitary sewer discharge from the project site for the above rainfall volume-duration scenarios would be 0.01MG, 0.01MG, 0.03MG and 0.06MG, respectively. The increase in flows would be the result of sanitary sewer discharge from the proposed project since there would be no sanitary sewage discharged from the site in the No Action condition. Per the New York City Plumbing Code (Local Law 33 of 2007) low-flow fixtures are required to be implemented and would help to reduce sanitary flows from the project site.

The water and sediment quality of the lower Hudson River due to stormwater from the project site is assessed in Chapter 9, "Natural Resources." Stormwater from the project site is directly discharged to the Hudson River and is not conveyed to the City's combined or separate sewers; therefore the proposed project would have no impact on the City's stormwater conveyance infrastructure. ✷

Chapter 12: Solid Waste and Sanitation Services

A. INTRODUCTION

This chapter examines the proposed project's effects on solid waste and sanitation services. According to the *City Environmental Quality Review (CEQR) Technical Manual*, a solid waste and sanitation services assessment is intended to determine whether a project has the potential to cause a substantial increase in solid waste production. Such an increase may overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP) or with state policy related to the City's integrated solid waste management system. This chapter discloses the proposed project's solid waste generation based on standard waste generation rates provided in the *CEQR Technical Manual*.

PRINCIPAL CONCLUSIONS

The proposed project would generate approximately 138,085 pounds (approximately 69.0 tons) per week of solid waste. Though this would be an increase compared with conditions in the future without the proposed project (the No Action condition), it would be a negligible increase relative to the 13,000 tons of waste handled by commercial carters every day. The proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services.

B. EXISTING CONDITIONS

Solid waste management services in New York City are guided by the Solid Waste Management Plan (SWMP), which was prepared by the New York City Department of Sanitation (DSNY) and adopted by the City Council in 2006. The SWMP takes into account the objectives of the State's solid waste management policy with respect to the preferred hierarchy of waste management methods: first waste reduction, then recycling, composting, resource conservation and energy production, and, lastly, landfill disposal. The SWMP includes initiatives and programs for waste minimization, reuse, recycling, composting, siting a new waste conversion facility to derive energy from waste, waste transfer, transport, and out-of-city disposal at waste-to-energy facilities and landfills.

In accordance with the SWMP, and with DSNY's responsibilities under the City Charter, DSNY handles all residential and institutional refuse in the City. DSNY collects approximately 11,000 tons per day (tpd) of refuse and 2,000 tpd of recyclables. Solid waste from commercial and manufacturing uses is collected by private carters, which handle another 13,000 tpd of recyclables and mixed municipal solid waste (MSW).[1] Commercial carters transport the MSW

[1] Source: http://www.nyc.gov/html/dsny/html/about/about.shtml [Accessed August 23, 2011].

to transfer stations and recyclables to recycling facilities. At the transfer stations, MSW is consolidated into larger trucks or rail cars and transported to landfills or waste-to-energy facilities outside of New York City for disposal. Private carters also collect other waste such as mixed construction and demolition debris and dirt, rock, and masonry waste and deliver it to construction and demolition debris processing facilities where clean fill and other items of value are separated out for recycling and the residue is transferred to trucks, rail cars, or barges and sent for disposal. The SWMP includes solid waste transfer stations and special problem waste collection sites in each borough, as well as certain composting facilities, recycling facilities and private transfer stations.

New York City's Recycling Law requires that both DSNY and commercial carters collect certain designated recyclable materials and deliver them to material recovery facilities for sorting and recycling. New York City residents are required to separate recyclable aluminum foil, glass, plastic and metal containers, newspapers and other paper wastes from other household waste for separate collection by DSNY. Commercial entities are also required to separate recyclables for collection by private carters. Businesses are required to source-separate certain types of paper, cardboard, metal, and construction wastes. Food and beverage establishments must separate these same wastes, as well as metal, glass and plastic containers, and aluminum foil.

The SWMP also proposes the following three broad categories of action to address traffic issues associated with commercial waste handling: (1) improve conditions at and around transfer stations through stricter operating rules; (2) use DSNY marine transfer stations and procurements to facilitate a transition from a commercial waste system highly reliant on trucks to one that relies increasingly on barge and rail; and (3) reduce private transfer station capacity in the four community districts that currently absorb the largest proportion of the system's impacts.

The project site is currently occupied by a vacant building that does not generate solid waste.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the No Action condition, the project site will continue to be occupied by a vacant building and would not generate solid waste.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

As described in Chapter 1, "Project Description," the proposed project would result in new retail space, food markets and restaurants, theater and cultural uses, educational uses, a marina, parking, and publicly accessible open space. Of these components, it is expected that the parking use would generate a negligible amount of solid waste and was therefore not included in the estimated solid waste generation. It is expected that all solid waste generated by the proposed project would be handled by private carters. The proposed project would include waste management areas for the sorting and storage of solid waste and recyclables within the easternmost caisson and ground-floor.

Based on the solid waste generation rates provided by the *CEQR Technical Manual*, the proposed project would generate solid waste at a rate of 138,085 pounds (approximately 69.0 tons) per week (See **Table 12-1**). Because the pier structure would remain vacant absent the proposed project, the 69.0 tons per week would represent the total incremental increase in solid waste compared with the No Action condition. Given that a private carter truck typically carries at least 12 tons of solid waste, the proposed project would require approximately 6 additional truck trips compared with the No Action condition. Although this would represent a net increase

over the future without the proposed project, it would be a negligible increase relative to the 13,000 tons of waste handled by commercial carters every day. There are more than 100 private carters that are licensed to serve New York City and it is expected that their collection fleets would be sufficiently flexible to accommodate this increased demand for solid waste collection. The proposed project would not be unusually large nor would it involve uses with unusual waste generation characteristics. Therefore, the proposed project would not overburden the City's solid waste management capacity.

Table 12-1
Solid Waste Generation: The With Action Condition

Use	Units[1]	Generation Rate (lbs/week)	Total, Private Carters (lbs/week)
Retail	348 employees	79 per employee	27,492
Restaurant	68 employees	251 per employee	17,068
Food Markets and Restaurants	274 employees	284 per employee	77,816
Technical Art School	41 employees	251 per employee[2]	10,291
Theater	11 employees	13 per employee[3]	143
Gallery/Spa/Storage	50 employees	13 per employee[3]	650
Open Space	525 visitors[5]	7 per visitor[4]	3,675
Marina	190 slips	5 per slip	950
		TOTAL	**138,085**

Notes:
1. Employment density ratios were applied to the expected square footage for each use (with the exception of open space). The ratios used assume one worker per: 400 square feet of retail space, 200 square feet of restaurant space, and 800 square feet of community facility space. For the proposed project, it was assumed that 11 FTE workers would be employed in the theater.
2. The solid waste generation rate for the technical art school was conservatively assumed to be comparable to that for restaurant use, as the tenant may be a culinary school and the *CEQR Technical Manual* does not provide a solid waste generation rate for culinary schools.
3. The solid waste generation rate for community facility uses (theater, gallery/spa/storage) was assumed to be comparable to the solid waste generation rate for office building uses.
4. This estimate conservatively assumes waste generation of 1 pound per open space visitor per day.
5. Number of visitors is based on the Saturday trip generation for the rooftop open space and rooftop exhibit space.
6. It is expected that the parking use would generate a negligible amount of additional solid waste and was not included in the above estimate.

Sources: 2012 *CEQR Technical Manual* Table 14-1, Solid Waste Generation Rates. *Fresh Kills Park Final Generic Environmental Impact Statement*, March 13, 2009. *Brooklyn Bridge Park Final Generic Environmental Impact Statement*, December 2005.

In addition, the SWMP calls for the construction of a marine transfer station for recyclable waste at the former Marine Transfer Station on Pier 52 on the Gansevoort Peninsula. Although this facility is expected to be completed after the proposed project is operational, it would enhance the City's capacity to handle recyclable solid waste.

The proposed project would not have any effect on the City's SWMP or any other solid waste policies. It would not materially conflict with the City's SWMP's, with the hierarchy of preferred solid waste management methods in New York State, or with the implementation of the New York City Recycling Law, nor would it have the potential to affect the milestone dates identified in the SWMP.

The proposed project would not result in any increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services. ✷

Chapter 13: Energy

A. INTRODUCTION

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* recommends a detailed analysis of energy impacts for projects that could significantly affect the transmission or generation of energy or that cause substantial new consumption of energy. Because the proposed project would not result in any of these conditions, a detailed assessment of energy impacts is not necessary. Nevertheless the *CEQR Technical Manual* recommends that a project's energy consumption be calculated and disclosed. Therefore, this chapter projects the amount of energy consumption required by the proposed project.

PRINCIPAL CONCLUSIONS

The proposed project is projected to generate demand for 93,004 million BTUs of energy per year. Because the existing pier structure would remain vacant in the future without the proposed project (the No Action condition), this energy demand represents the total incremental increase in energy consumption that would be generated by the proposed project. As explained in the *CEQR Technical Manual*, the incremental demand produced by most projects would not create a significant impact on energy capacity, and detailed assessments are only recommended for projects that may significantly affect the transmission or generation of energy. The proposed project would generate an incremental increase in energy demand that would be negligible when compared to the overall demand within Con Edison's New York City and Westchester County service area.

B. EXISTING CONDITIONS

Within New York City, electricity is generated and delivered to most users by Consolidated Edison (Con Edison) as well as a number of independent power companies. Electrical energy in New York City is drawn from a variety of sources that originate both within and outside the City. These include non-renewable sources, such as oil, natural gas, and coal fuel; and renewable sources, such as hydroelectricity and, to a much lesser extent, biomass fuels, solar power and wind power. Electricity consumed in New York City is generated in various locations, including sites within New York City, locations across the Northeast, and places as far away as Canada.

Con Edison distributes power throughout the City and Westchester County. Transmission substations receive electricity from the regional high voltage transmission system and reduce the voltage to a level that can be delivered to area substations. Area substations further reduce the voltage to a level that can be delivered to the distribution system, or the street "grid." Within the grid, voltage is further reduced for delivery to customers. Each substation serves one or more distinct geographic areas, called networks, which are isolated from the rest of the local distribution system. If service is lost at a specific substation or substations, the network functions to isolate any problems from other parts in the city. Substations are also designed to have

sufficient capacity for the network to grow. Con Edison provides natural gas and steam utilities to the boroughs of the Bronx and Manhattan.

In 2010 approximately 59 billion KWH, or 201 trillion BTUs were delivered in Con Edison's service area. In addition, Con Edison supplied approximately 115 trillion BTUs of natural gas and approximately 23 billion pounds of steam, which is equivalent to approximately 23 trillion BTUs.[1] Overall, approximately 339 trillion BTUs of energy are consumed within Con Edison's New York City and Westchester County service area annually.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

As previously mentioned, in the No Action condition, the existing pier structure will remain vacant and would not consume energy.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would result in the redevelopment of the vacant building on Pier 57 with approximately 443,600 total gross square feet (gsf) of space that would consume energy, including approximately 428,000 gsf of commercial, educational, and cultural uses and approximately 15,600 gsf of parking. The proposed project would also include a marina and rooftop open space, but it is assumed that these uses would generate a negligible amount of energy demand because they would require electric lighting only for a few hours each day. Therefore these uses were not included in the estimate of energy consumption. For analysis purposes, all of the proposed project's commercial, educational, and cultural uses are assumed to consume energy at the commercial building type rate (216,300 Btu/square feet/year) as defined in Table 15-1 of the *CEQR Technical Manual*. For the parking area, since no emission intensity is provided in the 2012 *CEQR Technical Manual*, the annual energy intensity of 27,400 British Thermal Units (Btu) per gsf was assumed (provided in the 2001 *CEQR Technical Manual* Table 3N-1). Overall, the proposed project would generate an estimated total energy demand of 93,004 million BTUs of energy per year (See **Table 13-1**). Con Edison or another power company would provide electricity, gas, or steam to heat, cool, and light the proposed project.

Table 13-1
Projected Future Energy Consumption of the Proposed Project

Use	Size (sf)	Rate (BTUs/sf/year)	Energy Consumption (Million BTUs/Year)
Commercial, Educational, and Cultural	428,000	216,300	92,576
Parking	15,600	27,400	428
		Total Energy Consumption	**93,004**

Notes: sf = square feet
1. Although the marina and rooftop open space would generate some energy demand for lighting, the amount would be negligible and these components were not included in the calculations.

Sources:
2012 *CEQR Technical Manual*, Table 15-1 "Average Annual Whole-Building Energy Use in New York City," (the commercial building type rate was used for the commercial, educational, and cultural uses); 2001 *CEQR Technical Manual*, Table 3N-1 (the parking garage rate was used for the parking use).

[1] Consolidated Edison Annual Report, 2010.

Because the existing pier structure would remain vacant in the No Action condition, the 93,004 BTUs of energy projected to be used by the proposed project represent the total increment over the future without the proposed project. Compared with the approximately 339 trillion BTUs of energy consumed annually within Con Edison's New York City and Westchester County service area, this incremental increase would be considered a negligible change. In addition, the proposed project would implement a number of sustainability measures, as discussed in more detail in Chapter 16, "Greenhouse Gas Emissions." These measures would help to limit the project's energy consumption below the conservative projections set forth in this chapter.

In summary, the proposed project would not have any significant adverse impact on energy. ✷

Chapter 14: Transportation

A. INTRODUCTION

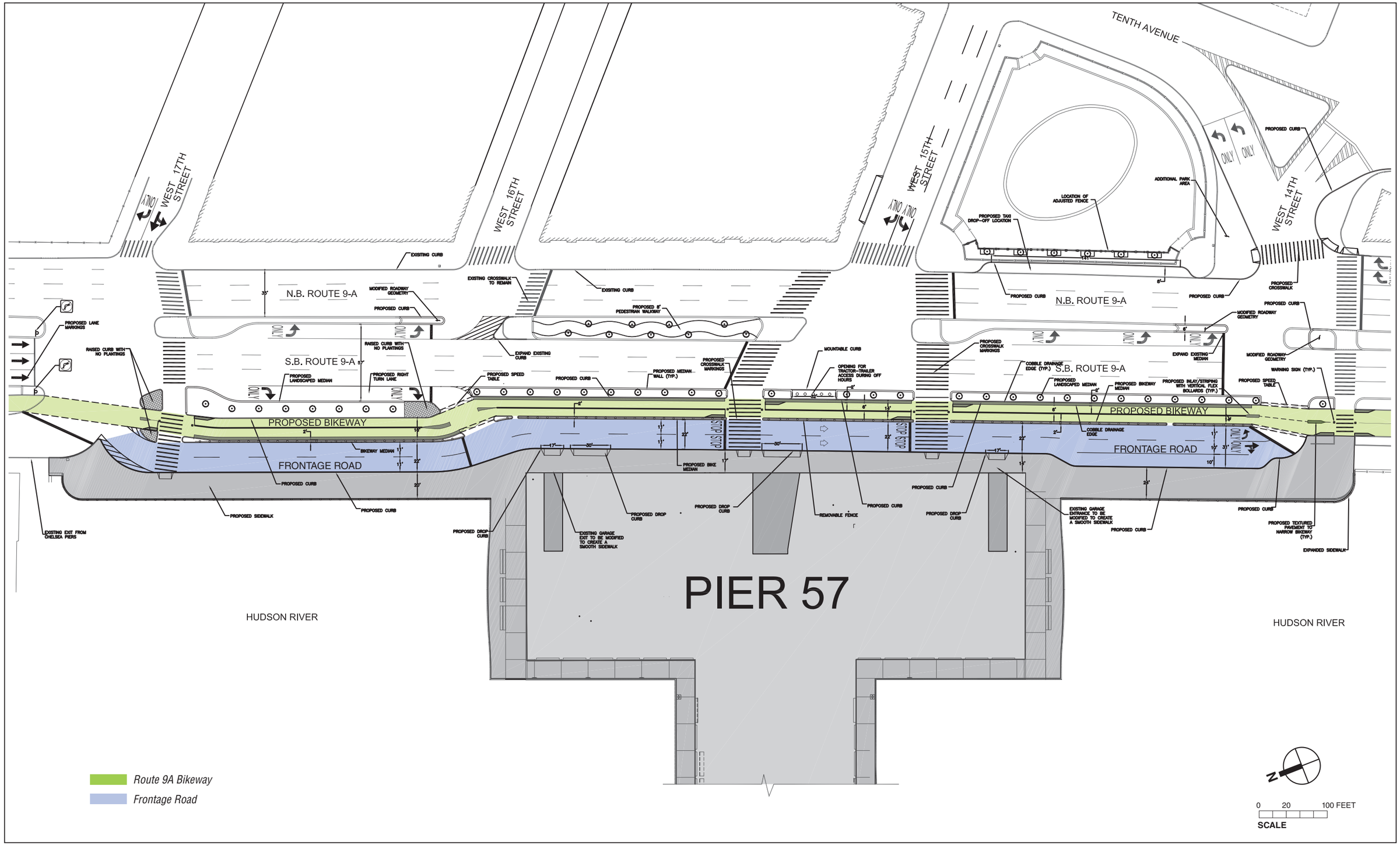
This chapter examines the potential traffic, parking, transit, pedestrian, and safety impacts of the development proposed for Pier 57 in the Chelsea neighborhood of Manhattan. The proposed development is anticipated to include the following land uses: food counters, quality restaurant, retail, open space, rooftop event space, art gallery, cultural use, technical arts school, and marina. Vehicular access would be at West 17th Street and West 16th Street, egress would be at West 14th Street, and primary pedestrian access would be at West 15th Street. The project access plan is provided in **Figure 14-1**.

Several design features included as part of project access plan are intended to create a safe, inviting, and functional frontage for pedestrians and cyclists. These include:

- Overwater platforms from the northern edge of the building to West 17th Street (20 feet wide) and from the southern edge of the building to West 14th Street (24 feet wide). These platforms would connect to the walkway along the perimeter of the pier and to the Hudson River Park waterfront esplanade (the esplanade), and would increase overall pedestrian space.
- A wide sidewalk along the project frontage to encourage pedestrians to walk adjacent to the project frontage rather than on the Route 9A bikeway (the bikeway).
- No on-site public parking facilities which would limit the number of vehicles coming onto the site and crossing the bikeway and sidewalk.
- All movements into and out of the site would be controlled by traffic signals, the phasing of which would eliminate conflicts between motorists and cyclists.
- A Traffic Management Plan (TMP) would be implemented that would include active management of the frontage road and other transportation elements by project staff. The objectives of the TMP are to ensure operational efficiency and enhance pedestrian/traffic safety.

There is also the possibility of providing an on-site bus stop for the New York City Transit (NYCT) M14 bus route, which would improve transit access to the project site and the waterfront.

The rooftop would be a flexible-use space that would primarily serve as a public park/exhibit space and at some times be used to host events, as described in Chapter 1. Two scenarios were considered for this analysis that examined the potential transportation-related impacts of the rooftop space. For the "Typical" scenario, the rooftop was assumed to operate as public open space, with a small area intended for art installations and exhibits. For the evening "Pre-Event" scenario, the rooftop was conservatively assumed to operate as an event space with a 2,500-person event, although events would generally not exceed 1,500 people and would not occur on a regular basis. Events would include the Tribeca Film Festival and other special interest



SOURCE: Philip Habib and Associates

HUDSON RIVER PARK PIER 57

Detailed Access Plan
Figure 14-1

programming. The Typical Scenario represents the reasonable worst-case scenario for the Weekday Midday (12:00 to 1:00 PM), Weekday PM (5:30 PM to 6:30 PM), and Saturday Midday peak hours (12:45 to 1:45 PM), while the Pre-Event Scenario represents the reasonable worst-case scenario for the Weekday Evening and Saturday Evening peak hours (7:00 to 8:00 PM).

PRINCIPAL CONCLUSIONS

TRAFFIC FLOW AND OPERATING CONDITIONS

The proposed project would add a substantial number of vehicle trips to the study area. Based on the traffic analysis the proposed project is forecasted to result in significant adverse traffic impacts at the following locations in the 2015 build year:

Weekday PM Typical Peak Hour (2 locations)

- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street

Weekday Evening Pre-Event Peak Hour (4 locations)

- Route 9A and West 17th Street
- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street
- Eighth Avenue and West 14th Street

Saturday Midday Typical Peak Hour (3 locations)

- Route 9A and West 15th Street
- Tenth Avenue and West 14th Street
- Eighth Avenue and West 14th Street

Saturday Evening Pre-Event Peak Hour (2 locations)

- Eighth Avenue and West 17th Street
- Eighth Avenue and West 14th Street

PARKING CONDITIONS

While the proposed project would provide on-site accessory parking for approximately 75 cars, the full project generated demand would not be accommodated on-site during any of the peak hours. However, off-site parking facilities in the area could accommodate the remaining project generated demand. Therefore, there would not be any parking-related significant adverse impacts.

SUBWAY SERVICE AND FACILITIES

With the addition of project-generated subway trips, subway stairs would continue to operate at Level of Service (LOS) D or better with a volume-to-capacity (v/c) ratio not in excess of 1.0 and subway control areas would continue to operate at LOS B or better. Therefore, there would not be any subway-related significant adverse impacts.

BUS SERVICE

With the addition of project-generated bus trips, there is still expected to be remaining capacity on route M14. Therefore, there would not be any bus-related significant adverse impacts.

PEDESTRIAN FACILITIES

Corners

Under the 2015 With Action Condition, all corners are projected to operate at LOS D or better, with more than 19.5 square-feet per pedestrian (ft^2/p). Therefore, there would not be any corner-related significant adverse impacts.

Sidewalks

With the addition of project generated pedestrian traffic, all sidewalks are projected to operate with pedestrian flows less than 6.4 pedestrians per foot per minute (PMF). Therefore there would not be any sidewalk-related significant adverse impacts.

Crosswalks

The pedestrian analysis shows that the proposed project would result in significant adverse pedestrian impacts at the following locations in the 2015 build year:

Weekday Midday Typical Peak Hour (1 crosswalk)
- Ninth Avenue and West 15th Street, North Crosswalk

Weekday PM Typical Peak Hour (1 crosswalk)
- Ninth Avenue and West 15th Street, North Crosswalk

Weekday Evening Pre-Event Peak Hour (2 crosswalks)
- Ninth Avenue and West 15th Street, North Crosswalk
- Route 9A and West 15th Street, North Crosswalk

Saturday Midday Typical Peak Hour (2 crosswalks)
- Ninth Avenue and West 15th Street, North Crosswalk
- Ninth Avenue and West 14th Street, North Crosswalk, west side

Saturday Evening Pre-Event Peak Hour (1 crosswalk)
- Ninth Avenue and West 15th Street, North Crosswalk

SAFETY ASSESSMENTS

The intersection at Eighth Avenue and West 14th Street is the only study intersection classified as a high pedestrian/bicycle crash location. The proposed project would increase the level of pedestrian activity at this intersection, and measures are recommended to address the potential safety issues. Additional measures are recommended at the project frontage, including a TMP, to address the potential safety issues that result from the addition of high pedestrian volumes crossing the bikeway. These measures are described in Chapter 14, Section I.

B. SCREENING METHODOLOGY

Transportation impact analysis methodologies for proposed projects in New York City are defined in the 2012 City Environmental Quality Review (*CEQR) Technical Manual*. The first

step of the transportation screening analysis is the calculation of the trip generation and trip assignment, which are based on the location, size, and land uses of the proposed project.

TRAFFIC

According to the criteria specified in the *CEQR Technical Manual*, traffic analyses are generally required at intersections where more than 50 new vehicle trips would be generated by a project during an individual peak hour during a peak period based on the results of the vehicle trip assignment. It was determined that individual intersections exceed this threshold during the following five peak hours:

For the "Typical" scenario:

- Weekday Midday (MD) peak hour: 12:00 to 1:00 PM
- Weekday Commuter peak (PM) peak hour: 5:30 to 6:30 PM
- Saturday Midday (SAT MD) peak hour: 12:45 to 1:45 PM

For the "Pre-Event" scenario:

- Weekday Evening peak (EVE) peak hour, representing the 7:00 to 8:00 PM pre-event time period
- Saturday Evening peak (SAT EVE) peak hour, representing the 7:00 to 8:00 PM pre-event time period

Detailed intersection analyses were conducted for all five peak periods at intersections within the study area that met the *CEQR Technical Manual* criteria for at least one of these time periods.

PARKING CONDITIONS

A parking analysis identifies the extent to which on-street and off-street parking is available and utilized under Existing, No Action, and With Action conditions. Based on the trip generation data, it was determined that a detailed parking analysis is warranted. Typically, this analysis encompasses a study area within ¼ mile of the project site. If the analysis produces a shortfall in parking in the ¼ mile study area, the study area could be extended to ½ mile to identify additional parking supply. Since there are limited on-street parking spaces available throughout the periods analyzed for traffic, it was assumed that all project generated vehicles would park either on-site or at an off-street parking facility. As a result, a detailed on-site parking accumulation analysis and off-street parking analysis was prepared for this project.

TRANSIT

The transit criteria specified in the *CEQR Technical Manual* and thresholds used by New York City Metropolitan Transportation Authority (MTA) agencies were used to determine which locations in the study area would be analyzed. According to the criteria, if the proposed project is projected to result in fewer than 200 peak hour subway/rail passengers assigned to a single subway station or on a single subway line or 50 bus passengers assigned to a single bus line (in one direction), further transit analyses are not typically required as the proposed project is considered unlikely to create a significant transit impact. It was determined that the project would exceed this threshold for the NYCT bus route M14 (M14A and M14D) and the ACE/L subway station at West 14th Street and Eighth Avenue during all five peak hours. Bus load level analyses were conducted for all peak periods; subway station pedestrian element analyses were

conducted for the Weekday PM peak period, which would have the greatest potential for a significant impact because of the net increment of the proposed project combined with the highest background volumes.

PEDESTRIANS

Based on criteria specified in the *CEQR Technical Manual*, projected pedestrian volume increases of more than 200 pedestrians per hour at any sidewalk, crosswalk or intersection corner would be considered a location with the potential for significant impacts and would require a detailed analysis. The proposed project would generate more than 200 pedestrians per hour at 90 locations within the study area during at least one of the five peak hours based on a combination of walk, subway, and bus trips. Therefore, a detailed pedestrian analysis was conducted for these locations for all five peak time periods.

SAFETY ASSESSMENT

An evaluation of traffic safety is necessary for locations within the study area that have been identified as high accident locations as specified in the *CEQR Technical Manual*. These locations are defined as those with more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes that occur during any consecutive 12 months of the most recent three-year period for which data is available. Crash histories are reviewed to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations or whether existing unsafe conditions could adversely impact the flow of the projected new vehicular or pedestrian/bicycle trips.

BICYCLISTS ALONG THE ROUTE 9A BIKEWAY

The *CEQR Technical Manual* does not specifically describe screening criteria that requires a bicycle analysis. However, the proposed project is located adjacent to the Route 9A bikeway, one of the busiest bicycle greenways in the United States. To manage conflicts between pedestrians, cyclists, and motorists traveling on or across the Route 9A bikeway the project would include the development and implementation of a TMP, particularly during large events at the pier. The TMP would be implemented during typical higher-volume times and event conditions and would include active management of the frontage road and other transportation elements by project staff to ensure operational efficiency and enhance pedestrian/traffic safety.

C. STUDY AREA

To assess the potential transportation impacts associated with the proposed development, the study area was defined based on principal access routes to and from the project site, traffic conditions in the surrounding area, and key intersections likely to be affected by project-generated trips. In total, 16 signalized intersections were selected for traffic analysis and 90 pedestrian elements were analyzed for the pedestrian analysis. The transit analysis included one subway station and one bus route. The safety assessment was conducted for 19 intersections. The geographic locations of these intersections and pedestrian elements are depicted on **Figures 14-2 and 14-3**, respectively.

Figure 14-2
Vehicular Analysis Locations

Pier 57 EIS

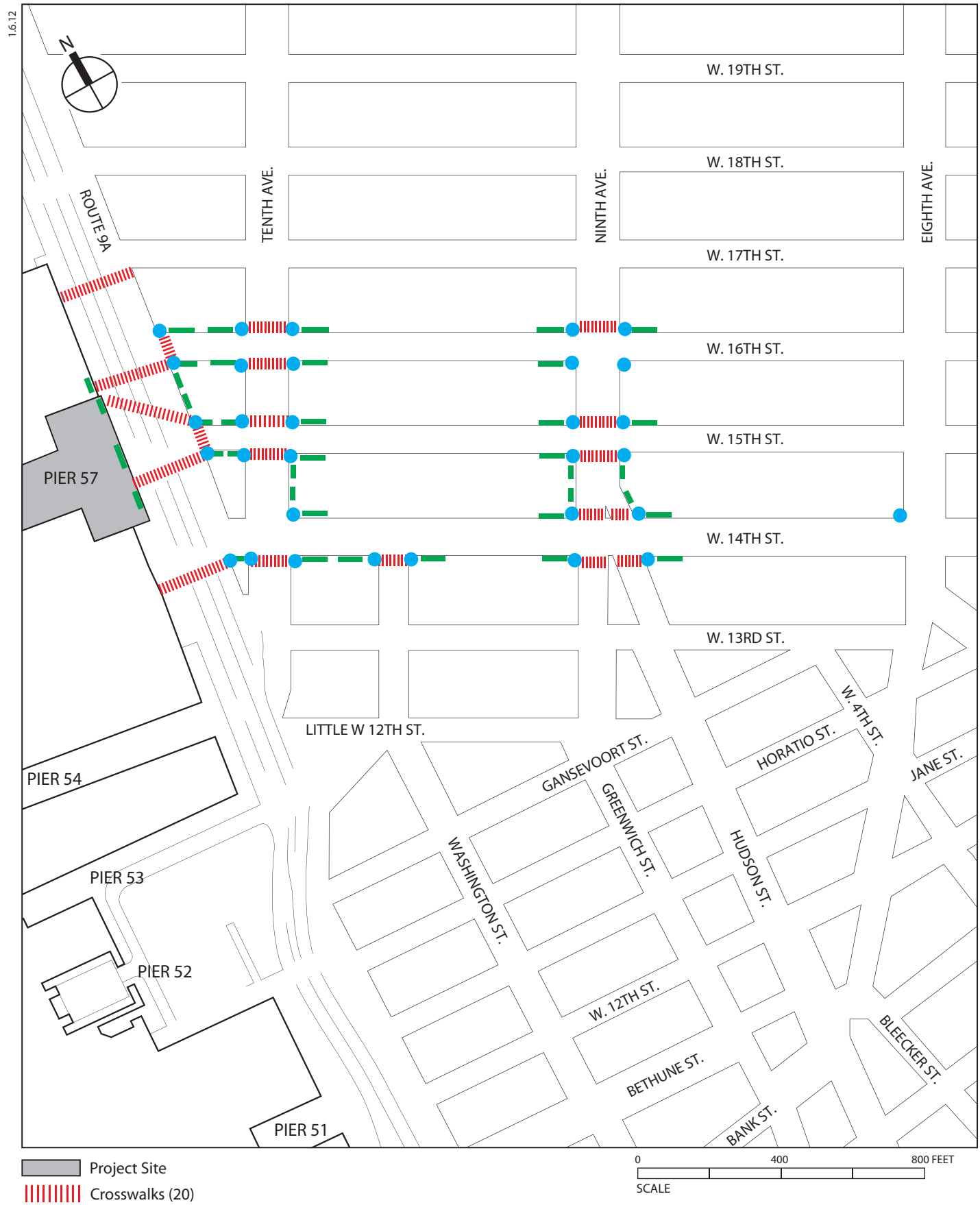


Figure 14-3
Pedestrian Analysis Locations

Pier 57 EIS

STUDY AREA INTERSECTIONS AND ROADWAY CHARACTERISTICS

The project site is located at Pier 57 in Manhattan, NY, at the intersection of Route 9A and West 15th Street. The study area is located in the Chelsea neighborhood of Manhattan and is generally bound by West 24th Street to the north, Eighth Avenue to the east, West 14th Street to the south, and Route 9A to the west.

As shown in Figure 14-2, the study area consists of 16 signalized intersections to be analyzed for traffic, as listed below:

1. Route 9A and West 24th Street
2. Route 9A/11th Avenue and West 22nd Street
3. Route 9A and West 18th Street
4. Route 9A and West 17th Street
5. Route 9A and West 16th Street
6. Route 9A and West 15th Street
7. Route 9A and West 14th Street
8. Route 9A and Tenth Avenue
9. Tenth Avenue and West 17th Street
10. Tenth Avenue and West 16th Street
11. Tenth Avenue and West 15th Street
12. Tenth Avenue and West 14th Street
13. Ninth Avenue and West 17th Street
14. Ninth Avenue and West 14th Street
15. Eighth Avenue and West 17th Street
16. Eighth Avenue and West 14th Street

The physical and operational characteristics of the study area roadways and streets are as follows:

- *Route 9A* is a state highway that runs north-south adjacent to the Hudson River waterfront on Manhattan's west side. In the vicinity of the project site, this roadway has three northbound travel lanes and three southbound travel lanes separated by a landscaped median. At major intersections, southbound left-turn bays are provided. No on-street curbside parking is provided in either direction. The bikeway, a bi-directional bicycle facility and the promenade, a bi-directional pedestrian walkway, are adjacent to the west edge of the Route 9A southbound travel lanes, separated by a landscaped median.

  Between West 14th Street and West 22nd Street, Eleventh Avenue is designated as Route 9A. North of West 22nd Street, Route 9A continues to the northwest as Twelfth Avenue.

- *West 14th Street* is a major east-west roadway that provides a two-way cross-town connection between the east side of Manhattan and Tenth Avenue. The segment of West 14th Street between Tenth Avenue and Route 9A operates as one-way eastbound. East of Tenth Avenue, the roadway operates with two travel lanes and on-street parking in both directions. NYCT M14A and M14D bus routes provide service on this roadway. Vehicle egress from the project site would occur at West 14th Street.
- *West 15th Street* is a local one-way east-west street that operates with one moving lane of traffic in the westbound direction with parking on both sides of the street. Primary pedestrian and transit access to/from the project site is anticipated to occur on West 15th Street.

- *West 16th Street* is a local one-way east-west street that operates with one moving lane of traffic in the eastbound direction with parking on both sides of the street. Vehicular access to the project site would be provided at West 16th Street.
- *West 17th Street* is a local one-way east-west street that operates with one moving lane of traffic in the westbound direction with parking on both sides of the street.
- *West 18th Street* is a local one-way east-west street that operates with one moving lane of traffic in the eastbound direction with parking on both sides of the street.
- *Tenth Avenue* is a one-way north-south street. North of West 14th Street, Tenth Avenue generally operates with four northbound travel lanes with parking on both sides of the street. South of West 14th Street, Tenth Avenue operates with one to two southbound travel lanes with parking on both sides except for a two-way segment between Gansevoort Street and Little West 12th Street. The NYCT bus route M11 operates along this roadway.
- *Ninth Avenue* is a one-way north-south street that generally operates with three southbound travel lanes with parking on both sides of the street. A southbound Class I bicycle lane is provided on the east side of the street, separated from through traffic by a median (painted or concrete) and a parking lane. At intersections with eastbound cross streets, turn bays are provided. The NYCT bus route M11 operates along this roadway.
- *Eighth Avenue* is a one-way north-south street that generally operates with three northbound travel lanes with parking on both sides of the street. A northbound Class I bicycle lane is provided on the west side of the street, separated from through traffic by a median (painted or concrete) and a parking lane. At intersections with westbound cross streets, turn bays are provided. The NYCT M20 bus routes operate along this roadway. Access to the NYCT 14th Street subway station for the A, C, E, lines and Eighth Avenue subway station for the L line are located on Eighth Avenue at 14th, 15th, and 16th Streets.

PARKING SUPPLY AND INVENTORY

Existing study area parking conditions for on-street and off-street parking were evaluated through site visits. On-street parking regulations are shown on **Figures 14-4a and 14-4b**. Based on the information collected, it was determined that there was very little available on-street parking during any of the peak periods. As a result, a detailed study of on-street parking was not performed. A detailed field inventory of off-street parking facilities and utilization within a ¼ mile radius of the proposed project was conducted. Basic data was collected for each facility including the name of the operator, licensed capacity, owner name, facility address, license number, hours of operation, and parking rates. A map identifying the locations of all off-street facilities is provided in **Figure 14-5**.

TRANSIT ELEMENTS

Three NYCT subway stations, as shown on **Figure 14-6**, have been identified to most likely accommodate project-generated subway trips. Two of these stations are located on Seventh Avenue. One serves the Seventh Avenue Local (No. 1 train) at West 18th Street and one serves the Seventh Avenue Local and Express (No. 1, 2, and 3 trains) at West 14th Street. The third station is located on Eighth Avenue at West 14th Street and serves the Eighth Avenue Local and Express trains (A/C/E) and the L train.

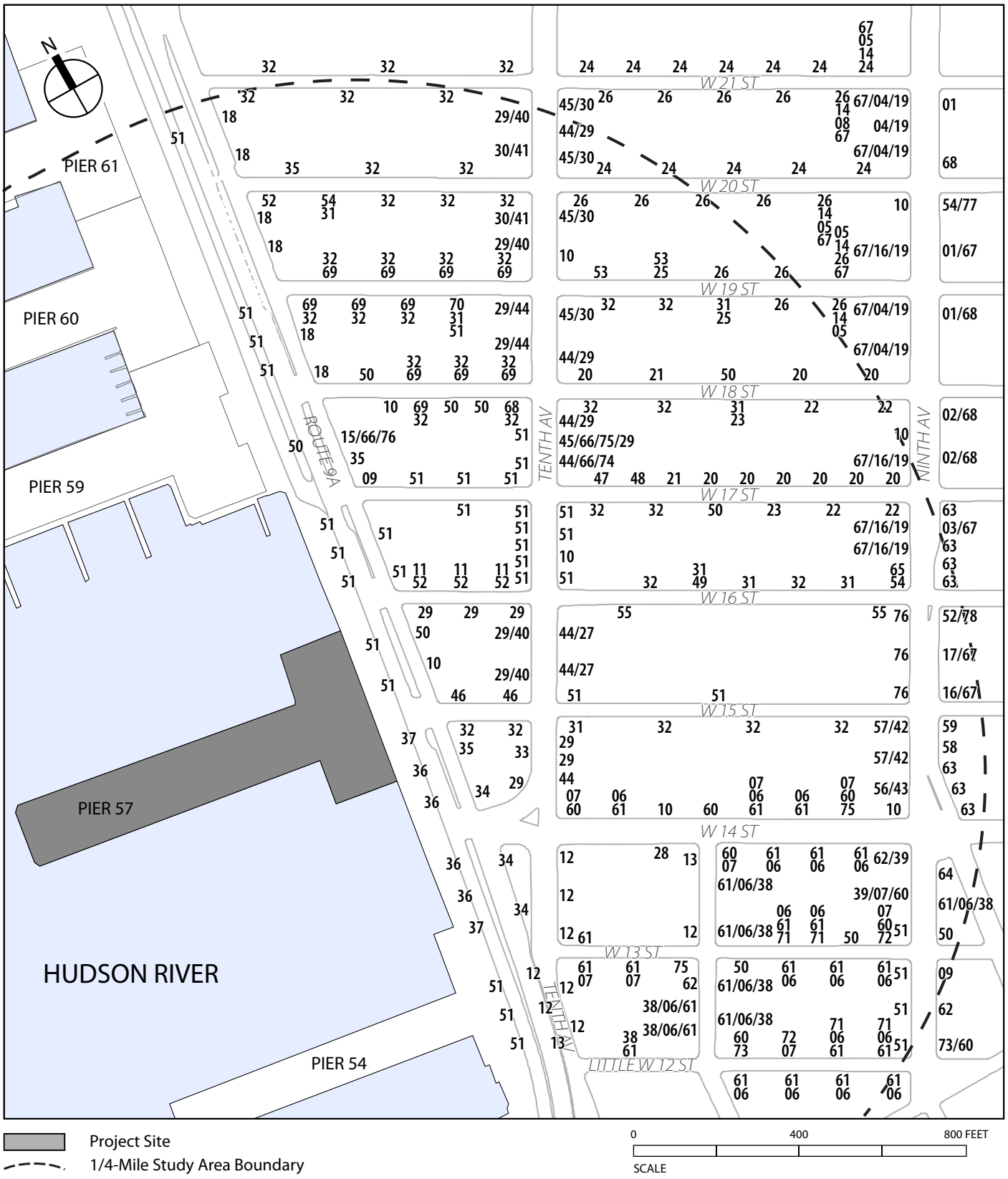


Figure 14-4a
Parking Regulations

Pier 57 EIS

1 1 HOUR PARKING 8:30AM-10PM EXCEPT SUNDAY <-->
2 1 HOUR PARKING 8:30AM-7PM EXCEPT SUNDAY <-->
3 1 HOUR PARKING 8:30AM-7PM EXCEPT SUNDAY W/SINGLE ARROW
4 1 HOUR PARKING 8AM-10PM EXCEPT SUNDAY <-->
5 1 HOUR PARKING 9AM-7PM EXCEPT SUNDAY (ARROW)
6 2 HOUR PARKING 4PM-11PM MON THRU FRI 7AM-11PM SATURDAY <-->
7 2 HOUR PARKING 4PM-11PM MON THRU FRI 7AM-11PM SATURDAY W/ SINGLE ARROW
8 2 HOUR PARKING 9AM-7PM EXCEPT SUNDAY (ARROW)
9 BUS STOP SIGN (BUS & HANDICAP SYMBOLS) NO STANDING <-->
10 BUS STOP SIGN (BUS & HANDICAP SYMBOLS) NO STANDING W/ SINGLE ARROW
11 F L E O (FEDERAL LAW ENFORCEMENT OFFICER)
12 GANSEVOORT MARKET NO PARKING 2AM-4PM MON THRU FRI EXCEPT TRUCKS <-->
13 GANSEVOORT MARKET NO PARKING 2AM-4PM MON THRU FRI EXCEPT TRUCKS W/ SINGLE ARROW
14 METERS ARE NOT IN EFFECT ABOVE TIMES (RIDER)
15 MOON (SYMBOL) SPECIAL NIGHT REGULATION STAR (SYMBOLS) NO STANDING 11PM-6AM INCLUDING SUNDAY <-->
16 N/S EXCEPT COMM VEHICLES METERED PKNG 3 HR LIMIT 8AM-6PM MON/FRI 6PM-10PM MON/FRI METERED PKNG 1 HR LIMIT <-> 8AM-10PM SATURDAY METERED PKNG 1 HR LIMIT <-->
17 N/S EXCEPT COMM VEHICLES METERED PKNG 3 HR LIMIT 8AM-6PM MON/FRI 6PM-10PM MON/FRI METERED PKNG 1 HR LIMIT --> 8AM-10PM SATURDAY METERED PKNG 1 HR LIMIT -->
18 NIGHT REGULATION (MOON & STARS SYMBOLS) NO PARKING (SANITATION BROOM SYMBOL) MIDNIGHT TO 3AM TUES & FRI <-->
19 NO PARKING (SANITATION BROOM SYMBOL) 7:30-8AM MON THRU FRI <-->
20 NO PARKING (SANITATION BROOM SYMBOL) 8:30-10AM MON & THURS <-->
21 NO PARKING (SANITATION BROOM SYMBOL) 8:30-10AM MON & THURS W/ SINGLE ARROW
22 NO PARKING (SANITATION BROOM SYMBOL) 8:30-10AM TUES & FRI <-->
23 NO PARKING (SANITATION BROOM SYMBOL) 8:30-10AM TUES & FRI W/SINGLE ARROW
24 NO PARKING (SANITATION BROOM SYMBOL) 9-10:30AM MON & THURS <-->
25 NO PARKING (SANITATION BROOM SYMBOL) 9-10:30AM TUES & F RI W/SINGLE ARROW
26 NO PARKING (SANITATION BROOM SYMBOL) 9-10:30AM TUES & FRI <-->
27 NO PARKING 7AM-10PM EXCEPT SUNDAY <-->
28 NO PARKING 7AM-6PM MON THRU FRI <-->
29 NO PARKING 7AM-7PM EXCEPT SUNDAY
30 NO PARKING 7AM-7PM EXCEPT SUNDAY (SINGLE ARROW)
31 NO PARKING 8AM-6PM MON THRU FRI (SINGLE ARROW)
32 NO PARKING 8AM-6PM MON THRU FRI <-->
33 NO PARKING 8AM-MIDNIGHT EXCEPT SUNDAY
34 NO PARKING ANYTIME
35 NO PARKING ANYTIME (SINGLE ARROW)
36 NO PARKING TRUCK WAITING LINE
37 NO PARKING TRUCK WAITING LINE (SINGLE ARROW)
38 NO STANDING 11PM-6AM THURS FRI SAT <-->
39 NO STANDING 11PM-6AM THURS FRI SAT W/SINGLE ARROW
40 NO STANDING 4-7PM EXCEPT SUNDAY
41 NO STANDING 4-7PM EXCEPT SUNDAY (SINGLE ARROW)
42 NO STANDING 7-10AM 4-7PM EXCEPT SUNDAY
43 NO STANDING 7-10AM 4-7PM EXCEPT SUNDAY (SINGLE ARROW)
44 NO STANDING 7-10AM EXCEPT SUNDAY
45 NO STANDING 7AM-10AM EXCEPT SUNDAY (SINGLE ARROW)
46 NO STANDING 7AM-7PM MON THRU FRI <-->
47 NO STANDING 7PM-7AM INCLUDING SUNDAY <-->
48 NO STANDING 7PM-7AM INCLUDING SUNDAY W/ SINGLE ARROW
49 NO STANDING ACCESS A RIDE BUS STOP (SINGLE ARROW)
50 NO STANDING ANYTIME (SINGLE ARROW)
51 NO STANDING ANYTIME <-->
52 NO STANDING ANYTIME EXCEPT AUTHORIZED VEHICLES <-->
53 NO STANDING ANYTIME W/SINGLE ARROW HARD HAT (SYMBOL) TEMPORARY CONSTRUCTION REGULATION
54 NO STANDING EXCEPT AUTHORIZED VEHICLES (SINGLE ARROW)
55 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING <-->
56 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 10AM-4PM EXCEPT SUNDAY (SINGLE ARROW)
57 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 10AM-4PM EXCEPT SUNDAY <-->
58 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 7AM-4PM EXCEPT SUNDAY (SINGLE ARROW)
59 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 7AM-4PM EXCEPT SUNDAY <-->
60 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 7AM-4PM MON THRU FRI (SINGLE ARROW)
61 NO STANDING EXCEPT TRUCKS LOADING & UNLOADING 7AM-4PM MON THRU FRI <-->
62 NO STANDING HOTEL LOADING ZONE (SINGLE ARROW)
63 NO STOPPING ANYTIME <-->
64 NO STOPPING ANYTIME W/SINGLE ARROW
65 NY PRESS LICENSE PLATES ONLY- 3HR LIMIT
66 OTHER TIMES (RIDER FOR PARKING RESTRICTED SIGNS - RED/WHITE)
67 PAY AT MUNI-METER W/ SINGLE ARROW
68 PAY AT MUNI-METER W/ SINGLE ARROW NYC PARKING CARD AVAILABLE (PARKING CARDS LOGO)
69 SPECIAL NIGHT REGULATION (MOON & STARS SYMBOLS) NO STANDING 11PM-6AM INCLUDING SUN <-->
70 SPECIAL NIGHT REGULATION (MOON & STARS SYMBOLS) NO STANDING 11PM-6AM INCLUDING SUN SINGLE ARROW
71 SPECIAL NIGHT REGULATION (MOON & STARS SYMBOLS) NO STANDING 11PM-6AM THURS THRU SUN <-->
72 SPECIAL NIGHT REGULATION (MOON & STARS SYMBOLS) NO STANDING 11PM-6AM THURS THRU SUN W/ SINGLE ARROW
73 SPECIAL NIGHT REGULATION (MOON & STARS SYMBOLS) NO STANDING 4PM-6AM W/ SINGLE ARROW
74 TAXI (SYMBOL) TAXI STAND NO STANDING ANYTIME EXCEPT TAXIS <-->
75 TAXI (SYMBOL) TAXI STAND NO STANDING ANYTIME EXCEPT TAXIS W/ SINGLE ARROW
76 TAXI (SYMBOL) TAXI STAND NO STANDING EXCEPT TAXIS <-->
77 TAXI RELIEF STAND 1 HOUR LIMIT NO PARKING ANYTIME EXCEPT-TAXIS W/ SINGLE ARROW
78 U S MAIL

Figure 14-4b
Parking Regulations Legend

Pier 57 EIS

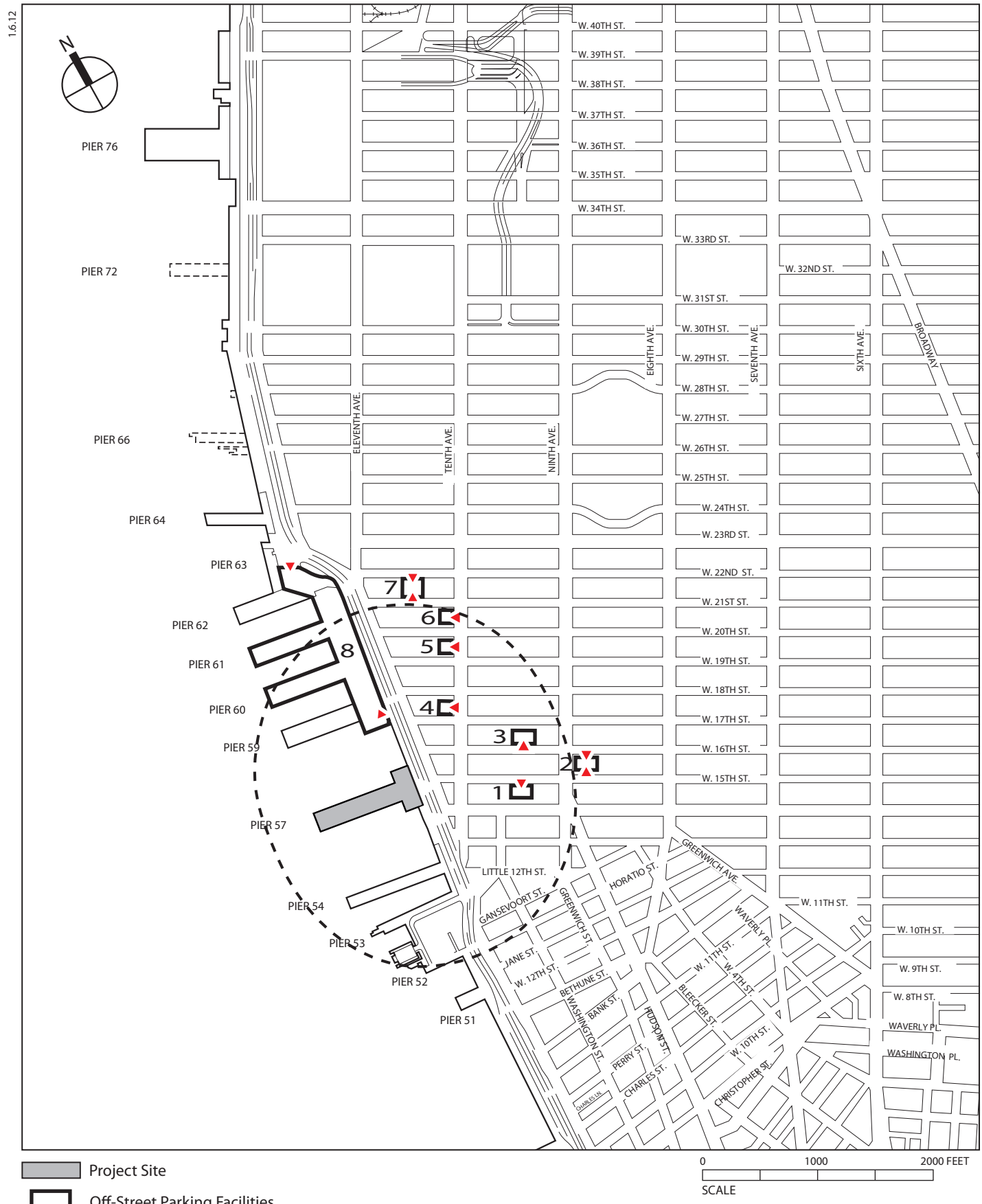


Figure 14-5
Study Area Off-Street Parking Facilities

Pier 57 EIS

Figure 14-6
Study Area Transit Map

Pier 57 EIS

NO. 1, 2, AND 3 SUBWAY LINES

The No. 1, 2, and 3 subway lines operate northbound and southbound through the study area. The No. 1 train serves stations primarily along Broadway and Seventh Avenue in Manhattan. Service is provided between Van Cortland Park/242nd Street in the Bronx and the South Ferry Terminal in Manhattan. The No. 2 train serves stations primarily along White Plains Road in the Bronx and Broadway and Seventh Avenue in Manhattan. Service is provided between Wakefield/241st Street in the Bronx and Flatbush Avenue/Brooklyn College in Brooklyn. The No. 3 train serves stations primarily along Broadway and Seventh Avenue in Manhattan and Eastern Parkway/Livonia Avenue in Brooklyn. Service is provided between Harlem/148th Street in Manhattan and New Lots Avenue in Brooklyn. Within the vicinity of the project site, the No. 1 line can be accessed from both the West 14th Street and West 18th Street stations. Transfers to the No. 2 and 3 Express lines are available at the West 14th Street station.

A/C/E SUBWAY LINES

The A, C, and E subway lines operate northbound and southbound through the study area. The A train serves stations primarily along Central Park West and Eighth Avenue in Manhattan, Fulton Street and Pitkin Avenue in Brooklyn, and Liberty Avenue in Queens. Service is provided between Inwood/207th Street in Manhattan and Far Rockaway/Mott Avenue in Queens with a connection to the John F. Kennedy International Airport Airtrain. Some A trains terminate at Lefferts Boulevard in Queens. Peak hour directional service is provided to Rockaway Park/Beach 116th Street in Queens during weekday peak periods only. Within Manhattan, the A train provides express service.

The C train serves stations primarily along Central Park West and Eighth Avenue in Manhattan and Fulton Street in Brooklyn. Service is provided between Washington Heights/168th Street in Manhattan and Euclid Avenue in Brooklyn. Within Manhattan, the C train provides local service.

The E train serves stations primarily along Queens Boulevard and Broadway in Queens and along Eighth Avenue in Manhattan. Service is provided between Jamaica Center at Parsons Boulevard in Queens and the World Trade Center in Manhattan. Within Manhattan, the E train provides local service.

The C and E trains serve the same stops between 50th Street and Chambers Street. Express service along this corridor is provided on the A train. Transfers between the A, C, and E trains are available at the Eighth Avenue and West 14th Street station.

L SUBWAY LINE

The L train operates eastbound and westbound through the study area and serves stations across Manhattan on 14th Street and primarily along Metropolitan Avenue, Bushwick Avenue, and Wyckoff Avenue in Brooklyn. Service is provided from Eighth Avenue and West 14th Street in Manhattan to Canarsie/Rockaway Parkway in Brooklyn. Within the vicinity of the project site, the L train can be accessed from the Eighth Avenue station at West 14th Street. Transfers to the A/C/E trains are available at this station.

BUS SERVICE

Three NYCT local bus routes provide regular service to the study area: the M11, M14A, and M14D. The M14D is the only route that operates adjacent to the project site; the remaining routes operate within a half-mile of the project site. In the study area, the M11 route provides

daily service along Ninth Avenue in the southbound direction and Tenth Avenue in the northbound direction between Bethune and Hudson Streets (Abingdon Square) and West 135th Street/Broadway from about 5:00 AM until midnight. The M14A route operates daily along West 14th Street through the study area between Bethune and Hudson Streets (Abingdon Square) and Grand Street/FDR Drive from 5:30 AM until midnight. Late night service (1:00 AM to 5:00 AM) operates daily between West 18th Street/West Street (Chelsea Piers) and Grand Street/FDR Drive. The M14D route operates daily at all times along West 14th Street and West 18th Street through the study area between West 18th Street/Route 9A (Chelsea Piers) and Delancey Street/Columbia Street on the Lower East Side via Avenues C and D.

These bus routes are shown on Figure 14-6, and peak hour headways (in both directions) are summarized in **Table 14-1**.

Table 14-1
NYCT Local Bus Routes Serving the Study Area

Bus Route	Start Point	End Point	Routing	Frequency of Bus Service (Headway in Minutes)				
				Weekday			Saturday	
				MD	PM	EVE	MD	EVE
M11	Bethune St/ Hudson St	West 135th St/ Broadway	SB: Columbus Ave/Ninth Ave NB: Tenth Ave/Amsterdam Ave	10	11	15	13	15
M14A	Bethune St/ Hudson St	Grand St/ FDR Dr	14th St/Ave A/Grand St	12	10	12	12	12
M14D	West 18th St/ Chelsea Piers	Delancey St/ Columbus St	18th St/14th St/Ave C/Ave D/FDR Dr	6	5	6	6	6

Source: NYC Manhattan Bus Map, December 2011.

PEDESTRIAN ELEMENTS

Pedestrian elements including 39 sidewalks, 31 corner reservoirs, and 20 crosswalks were assessed at key intersections in the vicinity of the proposed project site. The pedestrian elements are primarily located along West 14th Street and West 15th Street and represent locations where most of the project-generated pedestrian trips are anticipated. These locations are shown on Figure 14-3.

D. OPERATIONAL ANALYSIS METHODOLOGY

The following sections summarize the operational analysis methodologies and significant impact criteria in accordance with the *CEQR Technical Manual* guidelines for traffic, parking transit, pedestrians, and safety.

TRAFFIC OPERATIONS

The operations of the study area intersections were analyzed in accordance with the *CEQR Technical Manual* guidelines by applying the methodologies presented in the *2000 Highway Capacity Manual* (2000 HCM) using the Highway Capacity Software (HCS+ 5.5). A description of these methodologies is provided below.

SIGNALIZED INTERSECTIONS

The LOS of a signalized intersection is defined in terms of control delay per vehicle (seconds per vehicle). Control delay is the portion of total delay experienced by a motorist that is attributed to the traffic signal. Several factors contribute to the delay at a signalized intersection including cycle length, pedestrian crossing times, progression/signal coordination, and v/c ratios. For signalized intersections, LOS A describes operations with minimal delays, up to 10 seconds per vehicle, while LOS F describes operations with delays in excess of 80 seconds per vehicle Delays experienced at LOS A, B, C or mid-D (less than 45 seconds per vehicle) are generally considered "acceptable" operating conditions according to the *CEQR Technical Manual*. Conversely, LOS E and F are generally considered "unacceptable" operating conditions. The LOS criteria for signalized intersections, as defined in the 2000 HCM, are provided in **Table 14-2**.

Table 14-2
Level of Service Criteria for Signalized Intersections

Level-of-Service (LOS)	Average Delay (Seconds)
A	≤ 10.0
B	> 10.0 to ≤ 20.0
C	> 20.0 to ≤ 35.0
D	> 35.0 to ≤ 55.0
E	> 55.0 to ≤ 80.0
F	> 80.0
Source: Transportation Research Board. *Highway Capacity Manual*, 2000.	

SIGNIFICANT IMPACT CRITERIA: TRAFFIC OPERATIONS

According to the criteria presented in the *CEQR Technical Manual*, a lane group under the With Action Condition operating within LOS A, B, or C, or mid-LOS D up to a maximum average control delay of 45.0 seconds/vehicle is not considered significant. However, if a lane group under the No Action Condition is within LOS A, B, or C, then deterioration under the With Action Condition to worse than mid-LOS D (delay greater than 45.0 seconds/vehicle) is considered a significant impact.

For lane groups operating at LOS D, E, or F under the No Action Condition, then deterioration under the With Action Condition that meet the following criteria are considered significant impacts:

- For a lane group operating at LOS D under the No Action Condition, an increase in projected average control delay of five or more seconds is considered significant if the With Action Condition delay exceeds mid-LOS D.
- For a lane group operating at LOS E under the No Action Condition, an increase in projected average control delay of four or more seconds is considered significant when compared to the With Action Condition delay.
- For a lane group operating at LOS F under the No Action Condition, impacts are considered significant and require examination of mitigation if they result in an increase of three or more seconds when compared to the With Action Condition.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which on-street and off-street parking is available and utilized under Existing, No Action, and With Action conditions. Typically, this analysis encompasses a study area within ¼ mile of the project site. If the analysis produces a shortfall in

parking in the ¼ mile study area, the study area could be extended to ½ mile to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the proposed project.

SIGNIFICANT IMPACT CRITERIA: PARKING

According to the *CEQR Technical Manual*, if the proposed project generates more parking demand than it supplies, this shortfall may be considered significant. However, the available parking supply should consider the parking spaces within a ¼-mile of the proposed project site. If the project generated parking demand can be accommodated with the on-site project parking supply and on-street/off-street parking spaces within a ¼-mile radius of the project site, then there would be no significant parking impact. If the project generated parking demand cannot be accommodated with the on-site project parking supply and on-street/off-street parking spaces within a ¼-mile radius of the project site, then there may be a significant parking impact.

TRANSIT OPERATIONS

The subway station elements and bus transit operations were analyzed in accordance with the *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

SUBWAY STATION ELEMENTS

Subway station elements including stairways and control areas were considered for this analysis. A platform analysis was not performed, as they are typically not conducted for existing stations. As described in the *CEQR Technical Manual*, platform analyses are conducted for projects such as the design of new stations or large station renovations. A subway line haul analysis was also not conducted. Given the large number of subway trains that operate at the three stations included in the analysis, the number of new subway trips generated during the Evening Pre-Event condition is not expected to exceed the CEQR/NYCT loading guideline capacities.

Subway Stairways

The v/c ratio and LOS for stairways are based on the peak 15-minute passenger volume divided by the capacity. The NYCT guideline capacity for stairways is 10 PFM. This rate is based on the Volume/SVCD (Service Volume between LOS C and D) capacity ratio. The breakpoint between LOS C and LOS D at a v/c ratio of 1.00 has been established by NYCT as the minimum acceptable standard for pedestrian conditions. Therefore, the v/c ratio is used to determine the design capacity of the critical stairway locations in a station during each peak 15-minute period.

To calculate the service level of a stairway, the v/c ratio of the entering flow is calculated separately from the v/c ratio of the exiting flow. These ratios are added together to generate the overall v/c ratio of the stairway. The data needed to derive the capacity of a stair include the effective width of the stair, 15-minute passenger volumes, SVCD (based on NYCT capacity guidelines), surge factor, and friction factor. The effective width of a stair is adjusted by reducing its width at the narrowest point by six inches on each side of the stair and three inches total if a center handrail is present. Exiting passenger flows within subway stations can be "surged" which reduces the calculated capacity because there is a disproportionate number of pedestrians concentrated within portions of the 15-minute period. Circulation elements closest to the platform level have the highest reduction in capacity (25 percent) due to surging. Surging factors decrease for each level above the platform level as a result of passenger volumes

dissipating each level towards the street. The effect of surging is also less for elements that serve three or more tracks. It is estimated by NYCT that the capacity on stairs is reduced by 10 percent due to friction if opposing flows are less than 95 percent in one direction. The LOS criteria for subway stairways and control area elements (see next section) are defined in **Table 14-3**.

Table 14-3
LOS Criteria for Subway Station Stairways and Control Areas

LOS	Volume/SVCD Ratio
A	< 0.45
B	> 0.45 to > 0.70
C	> 0.70 to > 1.00
D	> 1.00 to > 1.33
E	> 1.33 to > 1.67
F	> 1.67

Source: *CEQR Technical Manual* (2012).

Control Areas

Station control areas separate the unpaid and paid areas of the station and are comprised of regular (low) turnstiles, High Entrance/Exit Turnstiles (HEETs), High Exit Turnstiles (HXT), and Service Gates. Regular and HEET turnstiles and Service Gates are bi-directional, where HXT turnstiles only serve exiting passengers. The v/c ratios of these fare control elements providing access to the station are based on the peak 15-minute passenger volume divided by the 15-minute capacity. The NYCT guideline capacities are 420 entries and 645 exits at regular turnstiles, 255 entries and 540 exits at HEETs, 555 exits HXTs, and 750 (combined entries and exits) at Service Gates. For these control area elements, overall capacity is measured by the number of elements, the NYCT guideline capacity per element, surging factors, and friction factors. The application of surging and friction factors to calculate capacity is the same as for stairways. The LOS criteria for control area elements are defined in Table 14-3.

BUS LOAD LEVELS

The methodology for assessing bus load levels is provided in the *CEQR Technical Manual* and considers the capacity of the various models of buses that are used to provide service in the study area. The various bus transit operators use three models of buses and have adopted guideline capacities for each:

- 40-foot standard buses (guideline capacity of 54 passengers)
- 60-foot articulated buses (guideline capacity of 85 passengers)
- 45-foot over-the-road coaches (guideline capacity of 55 passengers)

The number of passengers per bus at the maximum load point is quantified using methods outlined in the *CEQR Technical Manual* and is compared to the guideline capacities to determine if there is capacity available to accommodate additional project-generated trips. The *CEQR Technical Manual* does not define LOS thresholds for the bus load level analysis.

SIGNIFICANT IMPACT CRITERIA: TRANSIT OPERATIONS

NYCT has defined significant stairway impacts in terms of the width increment threshold (WIT). The WIT is used only to determine significant impact and is not the actual widening that would be required to mitigate a significant impact. For stairways, the WIT is calculated using the

formulas provided in the *CEQR Technical Manual* if the With Action Condition v/c ratio is greater than 1.00. Significant impacts are typically considered to occur once the WIT levels for stairways have reached or exceeded the thresholds provided in the *CEQR Technical Manual*.

For regular turnstiles, HEETs, and HXTs, if the No Action Condition v/c ratio is less than 1.00 but the With Action Condition v/c ratio increases to 1.00 or greater, the impact is considered significant. If both the No Action and With Action condition v/c ratios are 1.00 or greater, a 0.01 change in v/c ratio is considered significant.

According to MTA bus operating guidelines, increases in bus load levels to above their maximum capacity at any load point as a result of a project is defined as a significant impact since it necessitates adding more bus service along that route.

PEDESTRIAN OPERATIONS

The pedestrian crosswalk, corner, and sidewalk elements were analyzed in accordance with the *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

CROSSWALK/CORNER

Crosswalk and corner analyses are conducted at signalized intersections using the analytical procedures described in the 2000 HCM. The capacity of crosswalks and corners are evaluated on the basis of pedestrian space measured in terms of square feet per pedestrian. To calculate pedestrian space, effective crosswalk widths and corner areas, peak 15-minute pedestrian volumes (crosswalk, corner, and sidewalk), conflicting peak 15-minute turning vehicles, average walking speed (3.5 feet/second or 3.0 feet/second if 20 percent of pedestrians are seniors and/or school children or the intersection is in a Senior Pedestrian Focus Area), and signal timing are required. **Table 14-4** shows the LOS conditions for crosswalks and corners based on pedestrian space.

Table 14-4
LOS Criteria for Crosswalks and Corners

LOS	Pedestrian Space (feet^2/pedestrian) (Square Feet/Pedestrian)
A	>60
B	< 60 to > 40
C	< 40 to > 24
D	< 24 to > 15
E	< 15 to > 8
F	< 8

Source: Transportation Research Board. *Highway Capacity Manual*; 2000

SIDEWALK

As identified in the HCM 2000, pedestrian unit flow rate is the primary performance measure used to evaluate sidewalks. This measure is based on PFM which is calculated by dividing the average per minute two-way pedestrian volume (during the peak 15-minute period) by the effective sidewalk width in feet (taking into account a buffer between walls, curbs, and obstructions). To accurately calculate sidewalk LOS, it is important to determine if the pedestrian flow is generally "platoon" (with surges from a bus stop, subway station, or a crosswalk) or "non-platoon" (uniform) within the peak period being analyzed. Accounting for platoons generally results in a poorer LOS. **Table 14-5** shows the non-platoon and platoon LOS conditions for sidewalks based on PFM.

Table 14-5
LOS Criteria for Sidewalks

LOS	Non-Platoon Flow (PFM) (Square Fan)	Platoon Flow (PFM)
A	< 5	< 0.5
B	> 5 to < 7	> 0.5 to < 3
C	> 7 to < 10	> 3 to < 6
D	> 10 to < 15	> 6 to < 11
E	> 15 to < 23	> 11 to < 18
F	> 23	> 18

Note: PFM = Pedestrians per foot per minute
Source: Transportation Research Board. *Highway Capacity Manual*; 2000.

SIGNIFICANT IMPACT CRITERIA: PEDESTRIAN OPERATIONS

The *CEQR Technical Manual* provides guidance on the impact criteria for pedestrian facilities based on the general comfort and convenience levels of pedestrians, according to the location of the study area. Pedestrians in central business district (CBD) areas have become accustomed to higher pedestrian volumes and generally are more tolerant of restricted LOS conditions that might not be acceptable in other less congested (non-CBD) locations. An acceptable LOS for CBD areas is generally a mid-LOS D or better while an acceptable LOS for non-CBD areas is generally the upper limit of LOS C or better. For purposes of the pedestrian operations analysis, the study area was considered to be part of a CBD area given the proximity to Chelsea Market and other retail, restaurant, and office land uses

For corners and crosswalks in CBD areas, the average pedestrian space that is considered acceptable ranges from LOS A to mid-LOS D. If the pedestrian space deteriorates to mid-LOS D or worse (less than 19.5 ft^2/p), significant impacts are determined based on a sliding scale, as follows:

- If the average pedestrian space under the No Action Condition is greater than 21.5 ft^2/p, then a decrease to 19.5 ft^2/p or less under the With Action Condition is considered a significant impact.
- If the average pedestrian space under the No Action Condition is between 5.1 and 21.5 ft^2/p, a decrease in space under the With Action Condition should be considered significant if it is greater than or equal to ((No Action pedestrian space ft^2/p / 9.0) – 0.3. The With Action Condition increments are provided in Table 16-13 in the *CEQR Technical Manual*.
- If the average pedestrian space under the No Action Condition is less than 5.1 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.2 ft^2/p under the With Action Condition is considered a significant impact.

For sidewalks in CBD areas, the average pedestrian flow rate that is considered acceptable ranges from LOS A to mid-LOS D. If the pedestrian flow rate deteriorates to mid-LOS D or worse (greater than 12.5 PMF for non-platoon flow and greater than 8.5 PMF for platoon flow), significant impacts are determined based on a sliding scale, as follows:

- Non-platoon flow
  - If the average pedestrian flow rate under the No Action Condition is less than 10.3 PMF, then an increase to greater than 12.5 PMF under the With Action Condition is considered a significant impact.
  - If the average pedestrian flow rate under the No Action Condition is between 10.3 and 23.0 PMF, then an increase in average pedestrian flow rate under the With Action

Condition should be considered significant if it is greater than or equal to (3.5 – (No Action pedestrian flow rate in PMF / 8.0)). The With Action Condition increments are provided in Table 16-15 in the *CEQR Technical Manual*.

- If the average pedestrian flow rate under the No Action Condition is greater than 23.0 PMF, then an increase in pedestrian flow rate greater than or equal to 0.6 PMF is considered a significant impact.

- Platoon flow
  - If the average pedestrian flow rate under the No Action Condition is less than 6.3 PMF, then an increase to greater than 8.5 PMF under the With Action Condition is considered a significant impact.
  - If the average pedestrian flow rate under the No Action Condition is between 6.3 and 19.0 PMF, then an increase in average pedestrian flow rate under the With Action Condition should be considered significant if it is greater than or equal to (3.0 – (No Action pedestrian flow rate in PMF / 8.0)). The With Action Condition increments are provided in Table 16-17 in the *CEQR Technical Manual*.
  - If the average pedestrian flow rate under the No Action Condition is greater than 19.0 PMF, then an increase in pedestrian flow rate greater than or equal to 0.6 PMF is considered a significant impact.

TRAFFIC SAFETY EVALUATION

Accident data is collected for the most recent three-year period from NYCDOT (supplemented by data from NYPD and NYSDOT as needed) and classified as Reportable, Non-Reportable, or Property Damage Only. For locations that are identified as a high accident location, the assessment of safety should include accident types and severity (including pedestrian and bicycle accidents), type of intersection control, and any discernible patterns of accidents. Other factors should be considered such as high volumes of at-risk pedestrian age groups (children or the elderly), crossing locations with difficult sight lines, or uncontrolled locations.

SIGNIFICANT IMPACT CRITERIA: TRAFFIC SAFETY

The determination of potential significant safety impacts is often subjective and depends largely on the location of the proposed project and the circumstances under which historic accidents took place. It is the goal of this analysis to determine whether the proposed project would increase the potential for pedestrian and bicycle accidents at study intersections that are considered high accident locations. In cases where this determination is made, measures to improve pedestrian and bicycle safety should be identified and coordinated with NYCDOT. Traffic safety along the bikeway is considered separately and would be managed as part of the TMP, described in Chapter 14, Section I.

E. EXISTING CONDITIONS

Once the project characteristics have been defined, baseline conditions ("Existing Conditions") are established for traffic, transit, pedestrian data, parking, and other physical and operational characteristics.

TRAFFIC CONDITIONS

Existing study area traffic volumes were based on traffic data collected in October 2010, November 2011, and March 2012 during peak hours where background traffic is typically greatest and/or when the proposed project is projected to generate the greatest number of trips that would be added to the roadway network. The October 2010 field program included manual traffic counts at study area intersections during the Weekday Midday, Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak periods. The November 2011 field program included manual traffic counts at study area intersections during the Saturday Evening Pre-Event peak period. The March 2012 field program included pedestrian counts during all peak periods for select intersections.

The manual traffic counts provided turning movement counts and vehicle classification counts at each study intersection. The traffic count data collected in October 2010 was increased by 0.25 percent for one year to create the base Existing 2011 traffic volumes, and traffic volumes were balanced between intersections where appropriate. Automated Traffic Recorders (ATRs) were placed at key locations (Route 9A, Tenth Avenue, Ninth Avenue, West 15th Street, and West 14th Street) for a nine day period in October 2010 to collect 24-hour counts. The ATR counts were used to identify daily and temporal traffic variations.

An inventory of the study intersections was performed to determine traffic signal timing, phasing, and cycle length, street and curbside signage, pavement markings, and lane dimensions to be used in the calculation of street capacities. Also, official signal timing data were obtained from the New York City Department of Transportation (NYCDOT) to confirm field observations and for incorporation into the capacity analysis.

Figures 14-7 through 14-11 show the 2011 Existing Condition traffic volumes for the five peak hours. The representative peak hours of background traffic in the study area were determined to be:

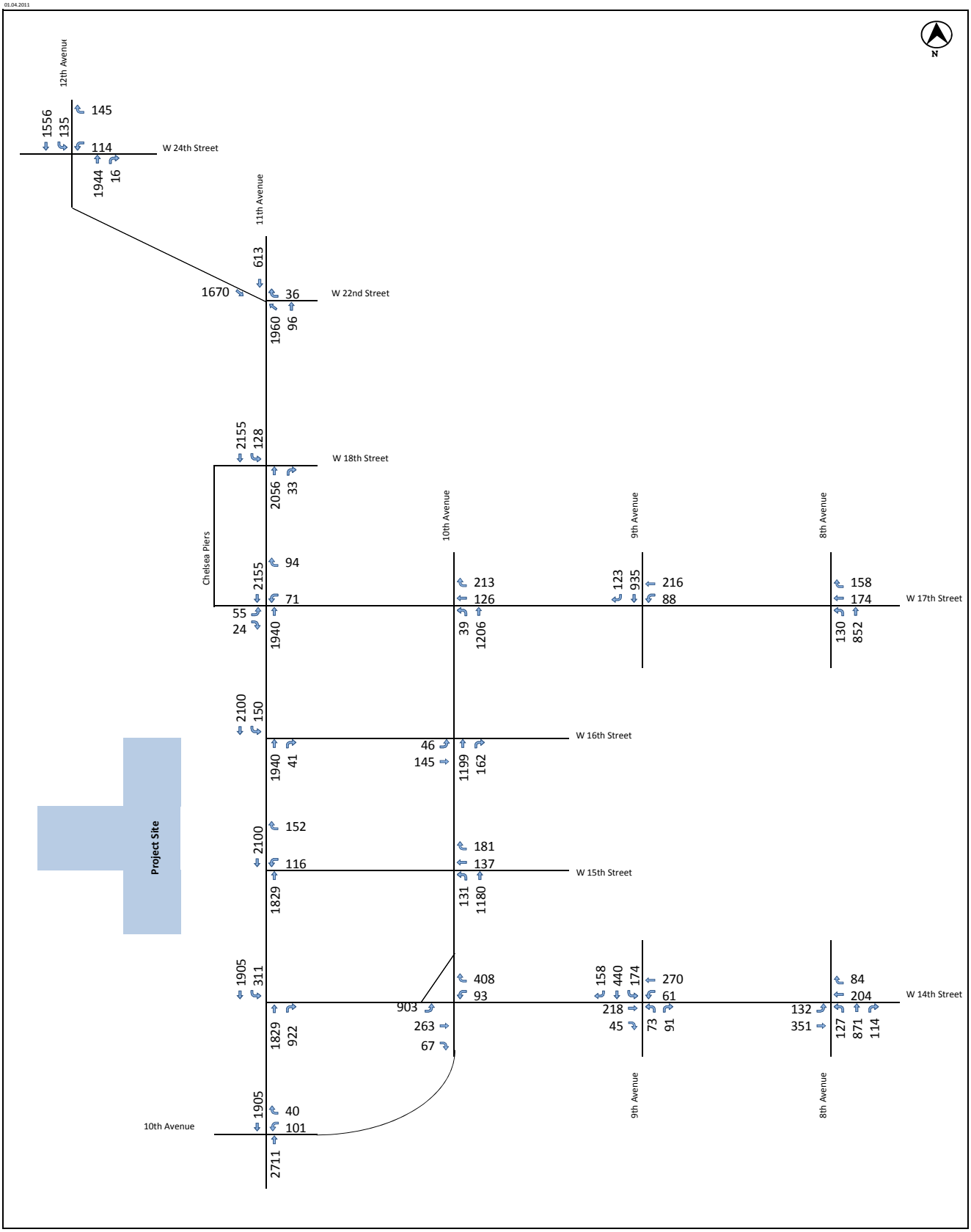
- Weekday Midday: 12:00 to 1:00 PM
- Weekday PM: 5:30 to 6:30 PM
- Saturday Midday: 12:45 to 1:45 PM

The representative peak hours of the project site during rooftop events were determined to be:

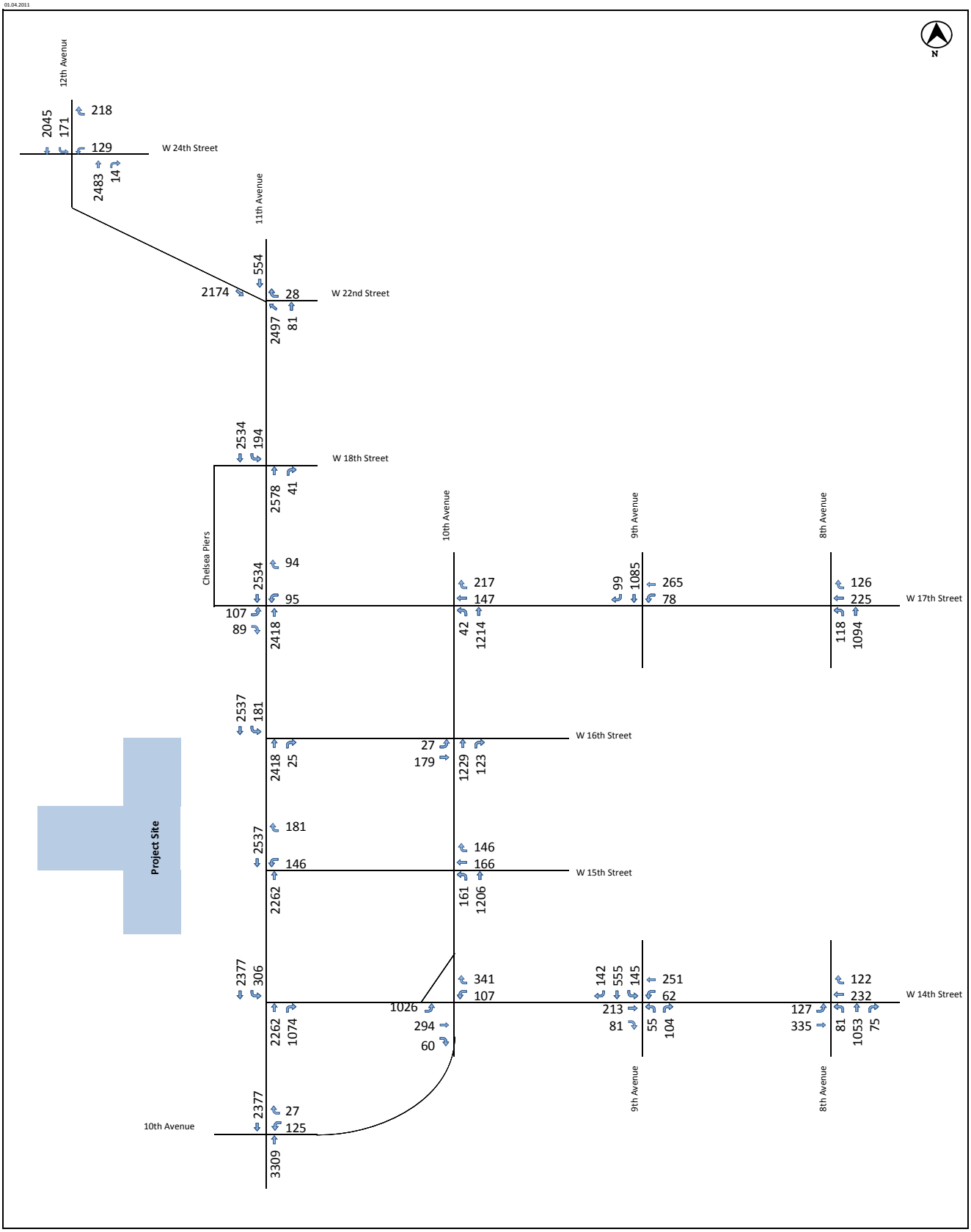
- Weekday Evening (Pre-Event): 7:00 to 8:00 PM
- Saturday Evening (Pre-Event): 7:00 to 8:00 PM

In terms of traffic volumes (based on the 2010 ATR counts), Route 9A carries the highest traffic volumes within the study area. Traffic volumes on Route 9A and other roadways in the study area are described below.

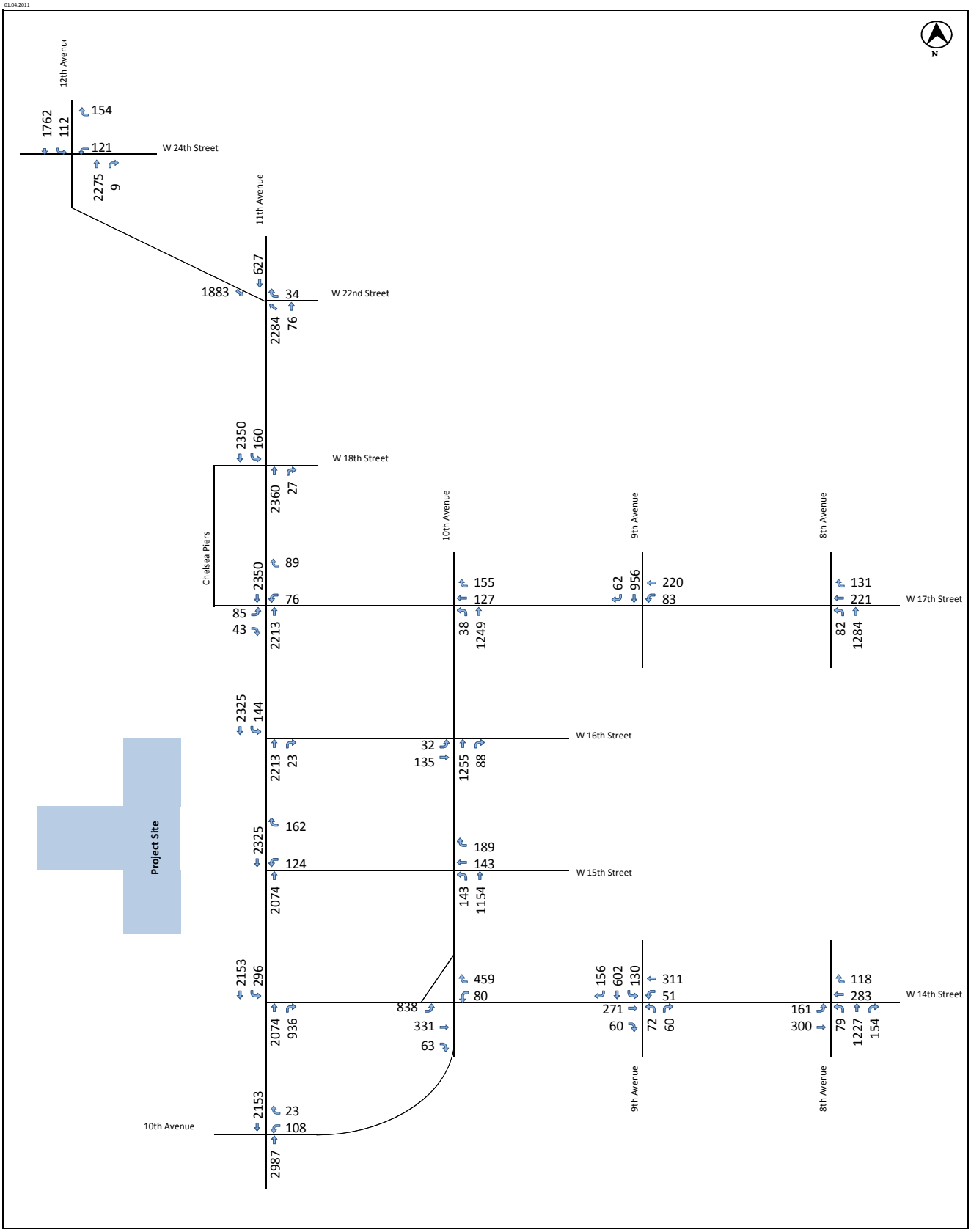
- Two-way hourly traffic volumes on Route 9A range from 4,040 during the Weekday Midday peak hour to 4,830 during the Weekday PM peak hour.
- One-way hourly traffic volumes on Tenth Avenue range from 1,110 during the Saturday Evening peak hour to 1,305 during the Weekday PM peak hour.
- One-way hourly traffic volumes on West 14th Street between Route 9A and Tenth Avenue range from 1,260 during the Saturday Midday peak hour to 1,573 during the Weekday PM peak hour.
- Two-way hourly traffic volumes on West 14th Street east of Tenth Avenue range from 760 during the Weekday Midday peak hour to 890 during the Saturday Evening peak hour.
- One-way hourly traffic volumes on West 15th Street range from 355 during the Saturday Midday peak hour to 415 during the Weekday Evening peak hour.



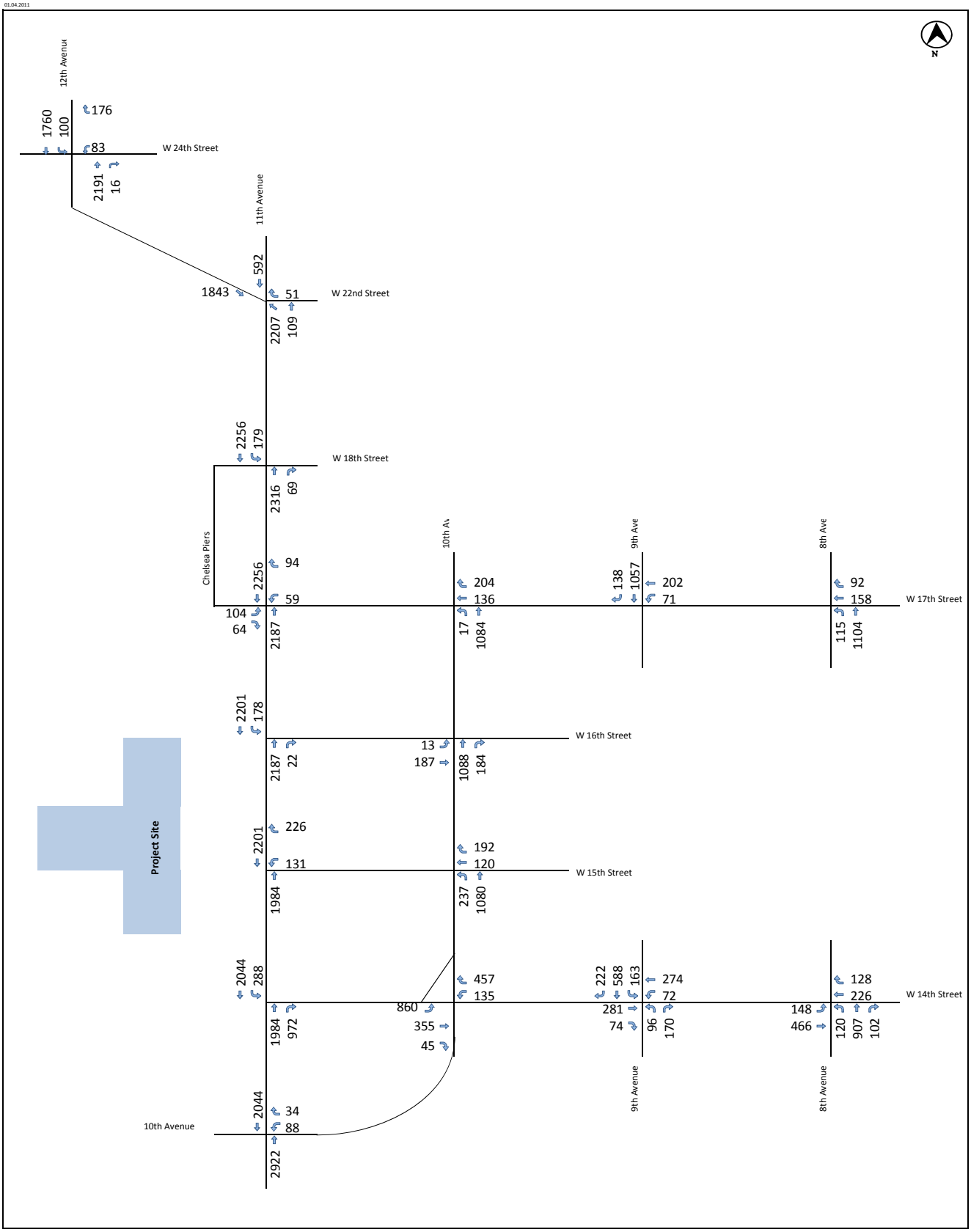
2011 Existing Traffic Network
Weekday Midday Peak Hour
Figure 14-7



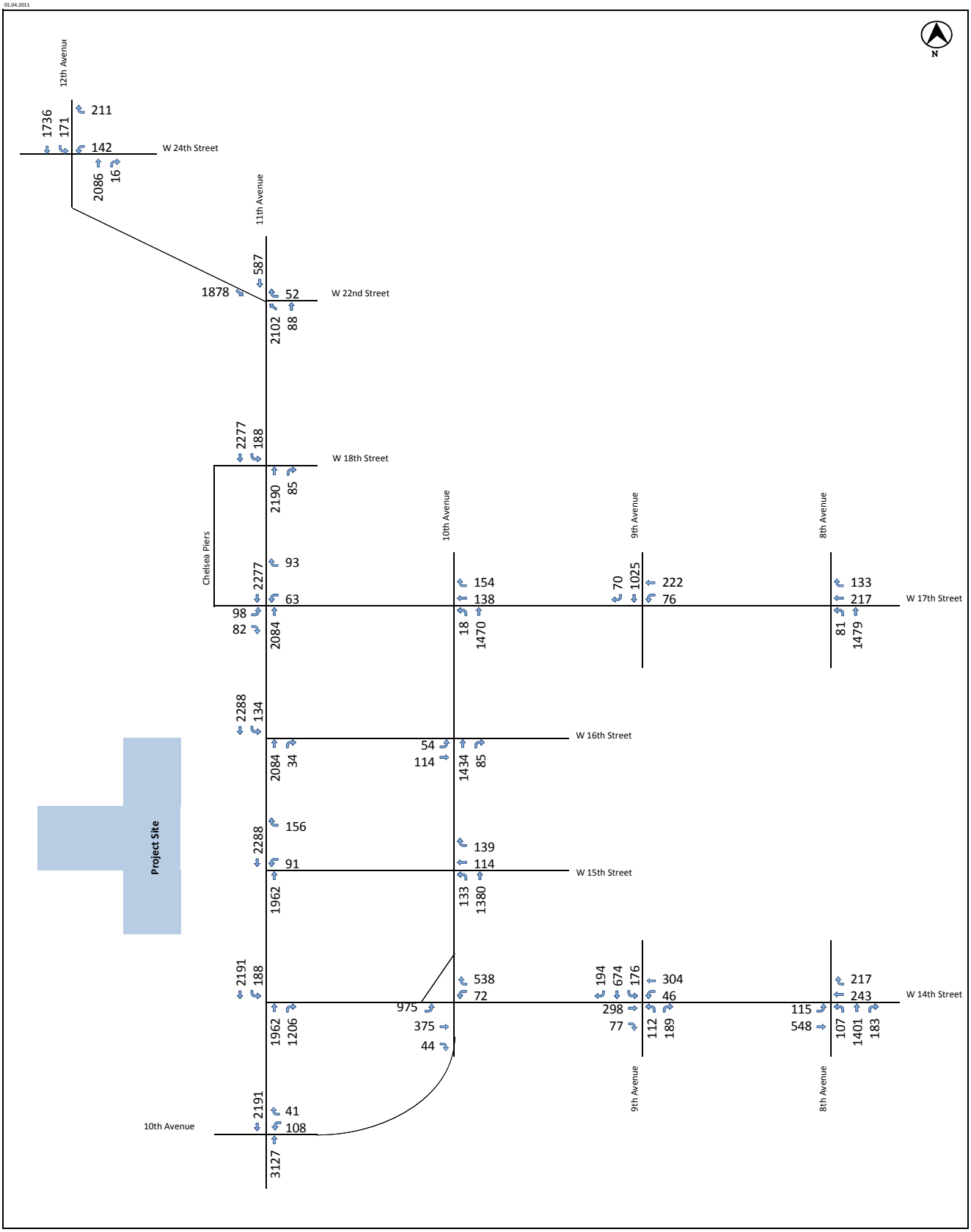
2011 Existing Traffic Network
Weekday PM Peak Hour
Figure 14-8



2011 Existing Traffic Network
Weekday Evening Pre-Event Peak Hour
Figure 14-9



2011 Existing Traffic Network
Saturday Midday Peak Hour
Figure 14-10



2011 Existing Traffic Network
Saturday Evening Pre-Event Peak Hour
Figure 14-11

LEVEL OF SERVICE

Table 14-6 presents the capacity analysis results for the intersections included in the study area. The majority of the analyzed intersection approaches and lane groups operate at an acceptable level of mid-LOS D or better (45.0 seconds of delay) during the five analysis peak hours. The exceptions are as follows:

Route 9A and West 24th Street

- During the **Weekday Midday** peak hour, the westbound right-turn movement operates at LOS D with an average delay of 45.8 seconds and a v/c ratio of 0.47. The southbound left-turn movement operates at LOS F with an average delay of 147.0 seconds and a v/c ratio of 1.05.
- During the **Weekday PM** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 54.3 seconds and v/c ratio of 0.23. The westbound right-turn movement operates at LOS F with an average delay of 84.9 seconds and a v/c ratio of 0.83. The southbound left-turn movement operates at LOS F with an average delay of 153.1 seconds and a v/c ratio of 1.05.
- During the **Weekday Evening Pre-Event** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 54.2 seconds and v/c ratio of 0.22. The westbound right-turn movement operates at LOS E with an average delay of 66.7 seconds and a v/c ratio of 0.60. The southbound left-turn movement operates at LOS F with an average delay of 113.4 seconds and a v/c ratio of 0.86.
- During the **Saturday Midday** peak hour, the westbound right-turn movement operates at LOS D with an average delay of 47.1 seconds and a v/c ratio of 0.52. The southbound left-turn movement operates at LOS F with an average delay of 81.0 seconds and a v/c ratio of 0.72.
- During the **Saturday Evening Pre-Event** peak hour, the westbound right-turn movement operates at LOS D with an average delay of 50.4 seconds and a v/c ratio of 0.62. The southbound left-turn movement operates at LOS F with an average delay of 136.2 seconds and a v/c ratio of 1.05.

Route 9A and West 22nd Street

- During the **Weekday PM** peak hour, the westbound approach (Eleventh Avenue) operates at LOS D with an average delay of 53.9 seconds and v/c ratio of 0.55.
- During the **Weekday Evening Pre-Event** peak hour, the westbound approach (Eleventh Avenue) operates at LOS E with an average delay of 55.9 seconds and v/c ratio of 0.63.

Route 9A and West 17th Street

- During the **Weekday Midday** peak hour, the westbound approach operates at LOS E with an average delay of 77.0 seconds and a v/c ratio of 0.80.
- During the **Weekday PM** peak hour, the eastbound left-turn movement operates at LOS D with an average delay of 54.2 seconds and a v/c ratio of 0.18. The eastbound left/right-turn lane operates at LOS E with an average delay of 58.3 seconds and a v/c ratio of 0.36. The eastbound right-turn movement operates at LOS D with an average delay of 54.7 seconds and a v/c ration of 0.19. The westbound approach operates at LOS F with an average delay of 148.2 seconds and a v/c ratio of 1.05.

Table 14-6
2011 Existing Conditions Level of Service Analysis

Weekday Midday Peak Hour

	Int.	Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**				
	WB	L	0.18	38.9	D
		R	0.47	45.8	D
	NB	TR	0.70	10.9	B
	SB	L	1.05	147.0	F
		T	0.66	17.0	B
		Intersection		20.2	C
2	**Route 9A and West 22nd Street**				
	WB	T	0.50	37.9	D
	NB	T	0.76	16.3	B
		R	0.20	26.6	C
	SB	T	0.56	8.0	A
		Intersection		16.4	B
3	**Route 9A and West 18th Street**				
	NB	TR	0.89	20.6	C
	SB	L	0.25	27.4	C
		T	0.82	17.4	B
		Intersection		19.2	B
4	**Route 9A and West 17th Street**				
	EB	L	0.09	41.2	D
		LR	0.13	41.9	D
		R	0.05	40.7	D
	WB	LR	0.80	77.0	E
	NB	T	0.72	14.7	B
	SB	T	0.78	15.9	B
		Intersection		18.1	B
5	**Route 9A and West 16th Street**				
	NB	TR	0.68	9.4	A
	SB	L	0.31	34.4	C
		T	0.70	9.6	A
		Intersection		10.4	B
6	**Route 9A and West 15th Street**				
	WB	L	0.28	34.4	C
		R	0.39	36.8	D
	NB	T	0.64	8.8	A
	SB	T	0.72	9.9	A
		Intersection		11.1	B
7	**Route 9A and West 14th Street**				
	NB	T	0.65	9.0	A
		R	0.62	9.5	A
	SB	L	1.62	354.5	F
		T	0.63	8.7	A
		Intersection		30.6	C
8	**Route 9A and Tenth Avenue/Horatio Street**				
	WB	L	0.35	46.6	D
		R	0.17	43.6	D
	NB	T	0.81	15.6	B
	SB	T	0.60	3.7	A
		Intersection		11.7	B

	Int.	Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**				
	WB	T	0.26	23.1	C
	NB	LT	0.47	2.6	A
		Intersection		8.3	A
10	**Tenth Avenue and West 16th Street**				
	EB	LT	0.37	24.7	C
	NB	TR	0.51	2.8	A
		Intersection		5.5	A
11	**Tenth Avenue and West 15th Street**				
	WB	T	0.26	19.8	B
	NB	LT	0.54	6.0	A
		Intersection		9.2	B
12	**Tenth Avenue and West 14th Street**				
	EB	L	0.63	21.7	C
		T	0.24	25.6	C
		R	0.16	25.1	C
	WB	LR	0.56	34.8	C
		R	0.59	34.5	C
		Intersection		26.2	C
13	**Ninth Avenue and West 17th Street**				
	WB	L	0.19	19.1	B
		T	0.41	22.2	C
	SB	TR	0.60	6.9	A
		Intersection		10.1	B
14	**Ninth Avenue and West 14th Street**				
	EB	TR	0.41	29.1	C
	WB	LT	0.63	34.3	C
	NB	L	0.34	37.3	D
		R	0.51	43.4	D
	SB	LT	0.62	15.6	B
		R	0.51	17.7	B
		Intersection		24.9	C
15	**Eighth Avenue and West 17th Street**				
	WB	TR	0.82	42.2	D
	NB	L	0.56	35.1	D
		T	0.41	3.0	A
		Intersection		16.1	B
16	**Eighth Avenue and West 14th Street**				
	EB	LT	0.73	30.0	C
	WB	TR	0.37	20.9	C
	NB	L	0.56	39.4	D
		TR	0.53	6.2	A
		Intersection		16.8	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.

Table 14-6 (cont'd)
2011 Existing Conditions Level of Service Analysis

Weekday PM Peak Hour

	Int.	Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**				
	WB	L	0.23	54.3	D
		R	0.83	84.9	F
	NB	TR	0.77	8.3	A
	SB	L	1.05	153.1	F
		T	0.70	13.3	B
		Intersection		19.7	B
2	**Route 9A and West 22nd Street**				
	WB	T	0.55	53.9	D
	NB	T	0.82	12.7	B
		R	0.20	42.2	D
	SB	T	0.64	5.0	A
		Intersection		14.3	B
3	**Route 9A and West 18th Street**				
	NB	TR	0.97	26.6	C
	SB	L	0.38	41.3	D
		T	0.84	15.4	B
		Intersection		21.9	C
4	**Route 9A and West 17th Street**				
	EB	L	0.18	54.2	D
		LR	0.36	58.3	E
		R	0.19	54.7	D
	WB	LR	1.05	148.2	F
	NB	T	0.81	14.5	B
	SB	T	0.85	15.8	B
		Intersection		21.4	C
5	**Route 9A and West 16th Street**				
	NB	TR	0.75	5.7	A
	SB	L	0.47	53.5	D
		T	0.76	5.8	A
		Intersection		7.4	A
6	**Route 9A and West 15th Street**				
	WB	L	0.39	51.3	D
		R	0.56	57.4	E
	NB	T	0.70	5.1	A
	SB	T	0.78	6.2	A
		Intersection		8.8	A
7	**Route 9A and West 14th Street**				
	NB	T	0.69	5.0	A
		R	0.61	5.0	A
	SB	L	1.97	528.6	F
		T	0.70	5.0	A
		Intersection		31.6	C
8	**Route 9A and Tenth Avenue/Horatio Street**				
	WB	L	0.53	68.0	E
		R	0.11	57.3	E
	NB	T	0.83	10.5	B
	SB	T	0.69	3.3	A
		Intersection		9.0	A

	Int.	Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**				
	WB	T	0.32	24.1	C
	NB	LT	0.44	2.4	A
		Intersection		8.2	A
10	**Tenth Avenue and West 16th Street**				
	EB	LT	0.39	25.0	C
	NB	TR	0.49	2.6	A
		Intersection		5.6	A
11	**Tenth Avenue and West 15th Street**				
	WB	T	0.29	20.1	C
	NB	LT	0.54	5.9	A
		Intersection		8.7	A
12	**Tenth Avenue and West 14th Street**				
	EB	L	0.57	18.6	B
		T	0.30	39.1	D
		R	0.16	37.4	D
	WB	LR	0.59	51.5	D
		R	0.67	52.0	D
		Intersection		30.6	C
13	**Ninth Avenue and West 17th Street**				
	WB	L	0.18	18.9	B
		T	0.53	24.7	C
	SB	TR	0.69	7.8	A
		Intersection		11.3	B
14	**Ninth Avenue and West 14th Street**				
	EB	TR	0.49	30.7	C
	WB	LT	0.56	32.5	C
	NB	L	0.24	34.9	C
		R	0.53	43.9	D
	SB	LT	0.68	16.6	B
		R	0.29	12.3	B
		Intersection		24.3	C
15	**Eighth Avenue and West 17th Street**				
	WB	TR	0.77	37.6	D
	NB	L	0.46	31.0	C
		T	0.50	3.4	A
		Intersection		13.2	B
16	**Eighth Avenue and West 14th Street**				
	EB	LT	0.74	30.9	C
	WB	TR	0.44	21.9	C
	NB	L	0.33	32.0	C
		TR	0.58	6.4	A
		Intersection		15.8	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.

Table 14-6 (cont'd)
2011 Existing Conditions Level of Service Analysis

Weekday Evening Pre-Event Peak Hour

	Int.	Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**				
	WB	L	0.22	54.2	D
		R	0.60	66.7	E
	NB	TR	0.73	7.6	A
	SB	L	0.86	113.4	F
		T	0.62	12.0	B
		Intersection		15.3	B
2	**Route 9A and West 22nd Street**				
	WB	T	0.63	55.9	E
	NB	T	0.79	11.9	B
		R	0.20	42.2	D
	SB	T	0.59	4.5	A
		Intersection		15.2	B
3	**Route 9A and West 18th Street**				
	NB	TR	0.91	19.7	B
	SB	L	0.33	40.2	D
		T	0.80	14.3	B
		Intersection		17.7	B
4	**Route 9A and West 17th Street**				
	EB	L	0.14	53.5	D
		LR	0.23	55.2	E
		R	0.09	52.9	D
	WB	LR	0.93	115.0	F
	NB	T	0.74	12.8	B
	SB	T	0.79	14.1	B
		Intersection		18.0	B
5	**Route 9A and West 16th Street**				
	NB	TR	0.69	5.0	A
	SB	L	0.39	51.3	D
		T	0.71	5.2	A
		Intersection		6.5	A
6	**Route 9A and West 15th Street**				
	WB	L	0.37	51.1	D
		R	0.55	57.0	E
	NB	T	0.67	4.8	A
	SB	T	0.76	5.9	A
		Intersection		8.4	A
7	**Route 9A and West 14th Street**				
	NB	T	0.65	4.6	A
		R	0.56	4.5	A
	SB	L	1.99	534.0	F
		T	0.66	4.7	A
		Intersection		33.3	C
8	**Route 9A and Tenth Avenue/Horatio Street**				
	WB	L	0.47	65.6	E
		R	0.11	57.4	E
	NB	T	0.77	9.1	A
	SB	T	0.64	2.9	A
		Intersection		7.9	A
9	**Tenth Avenue and West 17th Street**				
	WB	T	0.31	24.0	C
	NB	LT	0.47	2.6	A
		Intersection		6.6	A
10	**Tenth Avenue and West 16th Street**				
	EB	LT	0.37	24.7	C
	NB	TR	0.52	2.7	A
		Intersection		5.2	A
11	**Tenth Avenue and West 15th Street**				
	WB	T	0.25	19.6	B
	NB	LT	0.52	5.8	A
		Intersection		9.2	A
12	**Tenth Avenue and West 14th Street**				
	EB	L	0.49	16.9	B
		T	0.35	40.0	D
		R	0.20	38.3	D
	WB	LR	0.76	62.2	E
		R	0.81	61.3	E
		Intersection		35.6	D
13	**Ninth Avenue and West 17th Street**				
	WB	L	0.20	19.2	B
		T	0.46	23.2	C
	SB	TR	0.61	6.9	A
		Intersection		10.4	B
14	**Ninth Avenue and West 14th Street**				
	EB	TR	0.50	30.6	C
	WB	LT	0.59	32.6	C
	NB	L	0.33	36.9	D
		R	0.31	36.8	D
	SB	LT	0.66	15.9	B
		R	0.33	12.9	B
		Intersection		23.6	C
15	**Eighth Avenue and West 17th Street**				
	WB	TR	0.76	36.4	D
	NB	L	0.32	27.7	C
		T	0.58	3.8	A
		Intersection		11.6	B
16	**Eighth Avenue and West 14th Street**				
	EB	LT	0.74	31.0	C
	WB	TR	0.46	22.1	C
	NB	L	0.33	32.1	C
		TR	0.70	7.8	A
		Intersection		15.7	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.

Table 14-6 (cont'd)
2011 Existing Conditions Level of Service Analysis

Saturday Midday Peak Hour

	Int.	Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**				
	WB	L	0.11	38.1	D
		R	0.52	47.1	D
	NB	TR	0.75	11.8	B
	SB	L	0.72	81.0	F
		T	0.68	17.5	B
		Intersection		17.7	B
2	**Route 9A and West 22nd Street**				
	WB	T	0.46	37.2	D
	NB	T	0.81	17.8	B
		R	0.21	26.7	C
	SB	T	0.57	8.0	A
		Intersection		16.6	B
3	**Route 9A and West 18th Street**				
	NB	TR	0.97	29.5	C
	SB	L	0.32	28.4	C
		T	0.81	16.9	B
		Intersection		23.6	C
4	**Route 9A and West 17th Street**				
	EB	L	0.11	34.5	C
		LR	0.19	35.7	D
		R	0.09	34.2	C
	WB	LR	0.92	103.7	F
	NB	T	0.86	23.7	C
	SB	T	0.89	25.3	C
		Intersection		27.4	C
5	**Route 9A and West 16th Street**				
	NB	TR	0.73	10.1	B
	SB	L	0.38	35.9	D
		T	0.72	10.0+	B
		Intersection		11.1	B
6	**Route 9A and West 15th Street**				
	WB	L	0.28	34.3	C
		R	0.56	41.3	D
	NB	T	0.67	9.2	A
	SB	T	0.75	10.5	B
		Intersection		12.2	B
7	**Route 9A and West 14th Street**				
	NB	T	0.66	9.1	A
		R	0.61	9.3	A
	SB	L	1.50	302.8	F
		T	0.68	9.3	A
		Intersection		25.2	C
8	**Route 9A and Tenth Avenue/Horatio Street**				
	WB	L	0.34	46.8	D
		R	0.13	42.9	D
	NB	T	0.81	15.6	B
	SB	T	0.62	3.8	A
		Intersection		11.6	B
9	**Tenth Avenue and West 17th Street**				
	WB	T	0.30	23.8	C
	NB	LT	0.39	2.3	A
		Intersection		8.3	A
10	**Tenth Avenue and West 16th Street**				
	EB	LT	0.37	24.8	C
	NB	TR	0.47	2.6	A
		Intersection		5.6	A
11	**Tenth Avenue and West 15th Street**				
	WB	T	0.21	19.0	B
	NB	LT	0.51	5.7	A
		Intersection		8.8	A
12	**Tenth Avenue and West 14th Street**				
	EB	L	0.60	20.9	C
		T	0.33	26.9	C
		R	0.13	24.8	C
	WB	LR	0.74	46.4	D
		R	0.80	44.6	D
		Intersection		29.9	C
13	**Ninth Avenue and West 17th Street**				
	WB	L	0.15	18.4	B
		T	0.38	21.7	C
	SB	TR	0.68	7.7	A
		Intersection		10.1	B
14	**Ninth Avenue and West 14th Street**				
	EB	TR	0.58	32.2	C
	WB	LT	0.69	36.8	D
	NB	L	0.41	38.2	D
		R	0.93	84.7	F
	SB	LT	0.75	18.5	B
		R	0.73	26.8	C
		Intersection		32.0	C
15	**Eighth Avenue and West 17th Street**				
	WB	TR	0.53	27.6	C
	NB	L	0.44	30.3	C
		T	0.52	3.5	A
		Intersection		9.7	A
16	**Eighth Avenue and West 14th Street**				
	EB	LT	0.90	42.3	D
	WB	TR	0.43	21.8	C
	NB	L	0.52	37.4	D
		TR	0.53	6.1	A
		Intersection		21.1	C

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.

Table 14-6 (cont'd)
2011 Existing Conditions Level of Service Analysis

Saturday Evening Pre-Event Peak Hour

	Int.	Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**				
	WB	L	0.20	39.1	D
		R	0.62	50.4	D
	NB	TR	0.72	11.3	B
	SB	L	1.05	136.2	F
		T	0.69	17.6	B
		Intersection		21.5	C
2	**Route 9A and West 22nd Street**				
	WB	T	0.45	37.1	D
	NB	T	0.78	16.9	B
		R	0.17	26.2	C
	SB	T	0.60	8.3	A
		Intersection		16.2	B
3	**Route 9A and West 18th Street**				
	NB	TR	0.91	22.5	C
	SB	L	0.33	28.5	C
		T	0.81	16.9	B
		Intersection		20.0+	C
4	**Route 9A and West 17th Street**				
	EB	L	0.15	42.2	D
		LR	0.30	44.8	D
		R	0.15	42.4	D
	WB	LR	0.68	65.0	E
	NB	T	0.74	15.1	B
	SB	T	0.80	16.6	B
		Intersection		18.6	B
5	**Route 9A and West 16th Street**				
	NB	TR	0.69	9.5	A
	SB	L	0.27	33.7	C
		T	0.75	10.4	B
		Intersection		10.7	B
6	**Route 9A and West 15th Street**				
	WB	L	0.20	32.9	C
		R	0.39	36.7	D
	NB	T	0.66	9.0	A
	SB	T	0.78	11.2	B
		Intersection		11.6	B
7	**Route 9A and West 14th Street**				
	NB	T	0.65	8.9	A
		R	0.73	11.3	B
	SB	L	0.96	106.9	F
		T	0.72	10.0-	A
		Intersection		13.2	B
8	**Route 9A and Tenth Avenue/Horatio Street**				
	WB	L	0.32	45.7	D
		R	0.13	42.6	D
	NB	T	0.85	16.8	B
	SB	T	0.67	4.1	A
		Intersection		12.5	B
9	**Tenth Avenue and West 17th Street**				
	WB	T	0.30	23.7	C
	NB	LT	0.51	2.7	A
		Intersection		6.4	A
10	**Tenth Avenue and West 16th Street**				
	EB	LT	0.32	24.0	C
	NB	TR	0.51	2.7	A
		Intersection		4.8	A
11	**Tenth Avenue and West 15th Street**				
	WB	T	0.18	18.7	B
	NB	LT	0.54	5.9	A
		Intersection		7.9	A
12	**Tenth Avenue and West 14th Street**				
	EB	L	0.61	21.0	C
		T	0.32	26.7	C
		R	0.09	23.9	C
	WB	LR	0.60	35.4	D
		R	0.65	36.0	D
		Intersection		26.6	C
13	**Ninth Avenue and West 17th Street**				
	WB	L	0.16	18.5	B
		T	0.45	23.1	C
	SB	TR	0.61	6.8	A
		Intersection		10.0+	B
14	**Ninth Avenue and West 14th Street**				
	EB	TR	0.59	32.5	C
	WB	LT	0.58	32.5	C
	NB	L	0.46	39.6	D
		R	0.97	92.5	F
	SB	LT	0.81	20.7	C
		R	0.54	17.7	B
		Intersection		32.1	C
15	**Eighth Avenue and West 17th Street**				
	WB	TR	0.81	40.6	D
	NB	L	0.31	27.4	C
		T	0.72	5.0	A
		Intersection		12.5	B
16	**Eighth Avenue and West 14th Street**				
	EB	LT	0.94	47.8	D
	WB	TR	0.61	25.4	C
	NB	L	0.44	34.5	C
		TR	0.85	11.4	B
		Intersection		23.1	C

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.

- During the **Weekday Evening Pre-Event** peak hour, the eastbound left-turn movement operates at LOS D with an average delay of 53.5 seconds and a v/c ratio of 0.14. The eastbound left/right-turn lane operates at LOS E with an average delay of 55.2 seconds and a v/c ratio of 0.23. The eastbound right-turn movement operates at LOS D with an average delay of 52.9 seconds and a v/c ration of 0.09. The westbound approach operates at LOS F with an average delay of 115.0 seconds and a v/c ratio of 0.93.
- During the **Saturday Midday** peak hour, the westbound approach operates at LOS F with an average delay of 103.7 seconds and a v/c ratio of 0.92.

- During the **Saturday Evening Pre-Event** peak hour, the westbound approach operates at LOS E with an average delay of 65.0 seconds and a v/c ratio of 0.68.

Route 9A and West 16th Street

- During the **Weekday PM** peak hour, the southbound left-turn movement operates at LOS D with an average delay of 53.5 seconds and v/c ratio of 0.47.
- During the **Weekday Evening Pre-Event** peak hour, the southbound left-turn movement operates at LOS D with an average delay of 51.3 seconds and v/c ratio of 0.39.

Route 9A and West 15th Street

- During the **Weekday PM** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 51.3 seconds and v/c ratio of 0.39. The westbound right-turn movement operates at LOS E with an average delay of 57.4 seconds and a v/c ratio of 0.56.
- During the **Weekday Evening Pre-Event** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 51.1 seconds and v/c ratio of 0.37. The westbound right-turn movement operates at LOS E with an average delay of 57.0 seconds and a v/c ratio of 0.55.

Route 9A and West 14th Street

- During the **Weekday Midday** peak hour, the southbound left-turn movement operates at LOS F with an average delay of 354.5 seconds and a v/c ratio of 1.62.
- During the **Weekday PM** peak hour, the southbound left-turn movement operates at LOS F with an average delay of 528.6 seconds and a v/c ratio of 1.97.
- During the **Weekday Evening Pre-Event** peak hour, the southbound left-turn movement operates at LOS F with an average delay of 534.0 seconds and a v/c ratio of 1.99.
- During the **Saturday Midday** peak hour, the southbound left-turn movement operates at LOS F with an average delay of 302.8 seconds and a v/c ratio of 1.50.
- During the **Saturday Evening Pre-Event** peak hour, the southbound left-turn movement operates at LOS F with an average delay of 106.9 seconds and a v/c ratio of 0.96.

Route 9A and Tenth Avenue/Horatio Street

- During the **Weekday Midday** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 46.6 seconds and a v/c ratio of 0.35.
- During the **Weekday PM** peak hour, the westbound left-turn movement operates at LOS E with an average delay of 68.0 seconds and a v/c ratio of 0.53. The westbound right-turn movement operates at LOS E with an average delay of 57.3 seconds and a v/c ratio of 0.11.
- During the **Weekday Evening Pre-Event** peak hour, the westbound left-turn movement operates at LOS E with an average delay of 65.6 seconds and a v/c ratio of 0.47. The westbound right-turn movement operates at LOS E with an average delay of 57.4 seconds and a v/c ratio of 0.11.
- During the **Saturday Midday** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 46.8 seconds and a v/c ratio of 0.34.
- During the **Saturday Evening Pre-Event** peak hour, the westbound left-turn movement operates at LOS D with an average delay of 45.7 seconds and a v/c ratio of 0.32.

Tenth Avenue and West 14th Street

- During the **Weekday PM** peak hour, the westbound left/right-turn lane operates at LOS D with an average delay of 51.5 seconds and a v/c ratio of 0.59. The westbound right-turn lane operates at LOS D with an average delay of 52.0 seconds and a v/c ratio of 0.67.
- During the **Weekday Evening Pre-Event** peak hour, the westbound left/right-turn lane operates at LOS E with an average delay of 62.2 seconds and a v/c ratio of 0.76. The westbound right-turn lane operates at LOS E with an average delay of 61.3 seconds and a v/c ratio of 0.81.
- During the **Saturday Midday** peak hour, the westbound left/right-turn lane operates at LOS D with an average delay of 46.4 seconds and a v/c ratio of 0.74.

Ninth Avenue and West 14th Street

- During the **Saturday Midday** peak hour, the northbound right-turn movement operates at LOS F with an average delay of 84.7 seconds and a v/c ratio of 0.93.
- During the **Saturday Evening Pre-Event** peak hour, the northbound right-turn movement operates at LOS F with an average delay of 92.5 seconds and a v/c ratio of 0.97.

Eighth Avenue and West 14th Street

- During the **Saturday Evening Pre-Event** peak hour, the eastbound approach operates at LOS D with an average delay of 47.8 seconds and a v/c ratio of 0.94.

PARKING OCCUPANCY AND UTILIZATION

Existing study area on-street parking conditions were evaluated via a field inventory of parking regulations and utilization within a ¼-mile radius of the project site. Based on observations of on-street utilization in this area, it was estimated that on-street parking is generally close to 100 percent utilized.

Personal interviews of parking facility operators were conducted to determine the off-street parking supply and utilization within a ¼-mile radius of the project site. In this area, there are eight off-street public parking garages/surface lots, as shown on Figure 14-5. These facilities have a combined licensed capacity of 2,106 spaces. The maximum combined parking utilization rate for the parking facilities was observed to be approximately 81 percent during the Weekday Midday peak hour. The 2011 Existing Condition off-street parking supply and utilization are presented in **Table 14-7**.

TRANSIT OPERATIONS

It was determined that the proposed project would exceed the *CEQR Technical Manual* screening threshold for transit during all five peak hours (Weekday Midday, Weekday PM, Weekday Evening, Saturday Midday, and Saturday Evening) for the ACE/L subway station at West 14th Street and Eighth Avenue and bus route M14. Detailed subway station pedestrian element analyses were conducted for the Weekday PM peak period which would have the greatest potential for a significant impact because of the net increment of the proposed project combined with the highest background volumes. Detailed subway station pedestrian analyses were conducted for key elements in this station during this period. The existing condition bus load level analysis was conducted for the M14 route (combined M14A and M14D routes) during each of the five peak periods.

Table 14-7
2011 Existing Conditions: Off-Street Public Parking Utilization

Map Location	Garage	Location	License Number	Licensed Capacity	Utilization Rate					Utilized Spaces					Available Spaces				
					Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
					Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE
1	Park 15 West LLC	W. 15th Street between Ninth and Tenth Avenues	1155053	374	90%	75%	65%	50%	20%	337	281	244	187	75	37	93	130	187	299
2	Icon Parking Systems	W. 15th Street east of Ninth Avenue	1002786	625	80%	60%	60%	60%	60%	500	375	375	375	375	125	250	250	250	250
3	MP 17 LLC	W. 16th Street between Ninth and Tenth Avenue	1310036	206	80%	60%	50%	35%	25%	165	124	103	73	52	41	82	103	133	154
4	Edison Parking	W. 17th Street west of Tenth Avenue	1298623	320	95%	85%	80%	60%	60%	304	272	256	192	192	16	48	64	128	128
5	Edison Parking	W. 20th Street west of Tenth Avenue	1006124	80	95%	85%	80%	50%	70%	76	68	64	40	56	4	12	16	40	24
6	GGMC Parking	W. 21st Street west of Tenth Avenue	1362685	142	40%	50%	30%	40%	80%	57	71	43	57	114	85	71	99	85	28
7	Edison Parking	W. 22nd Street west of Tenth Avenue	1040211	49	90%	85%	75%	60%	90%	45	42	37	30	45	4	7	12	19	4
8	Chelsea Piers[1]	W. 19th Street west of Eleventh Avenue	1132509	250	70%	70%	70%	50%	90%	175	175	175	125	225	75	75	75	125	25
Total Existing				**2,046**	**81%**	**69%**	**63%**	**53%**	**55%**	**1,659**	**1,408**	**1,297**	**1,079**	**1,134**	**387**	**638**	**749**	**967**	**912**

Notes:
1. Licensed parking capacity at Chelsea Piers is based on public parking on Piers 60 and 61. The valet parking on Pier 59 was not included in the analysis.

SUBWAY

Based upon the location of the proposed project, the 11 west side street stairs and the two platform stairs closest to 14th Street at the ACE/L subway station were counted on a mid-week day (i.e. Tuesday, Wednesday, or Thursday) during the PM (4:30 to 6:30 PM) peak period. The exiting volumes from the H1 (Eighth Avenue and West 14th Street) and N78 (Eighth Avenue and West 15th Street/West 16th Street) control areas (center turnstiles, HXT, and HEETs on the west side of Eighth Avenue) were also counted during this period. Since these subway counts were conducted in November 2010, a 0.25 percent annual growth rate was applied to these volumes to estimate 2011 conditions. Measurements were taken of the total width at the 13 stairways. The effective stairway widths were calculated by reducing the total width by six inches on either side of any obstructions (walls, handrails, etc.). The entering volumes from the H1 and N78 control areas were provided by NYCT for May 2011 (average weekday entries). All of the count data was summarized into 15-minute intervals.

Detailed stairway analyses were conducted for 13 analysis stairways in the 14th Street ACE/L subway station. The results of the analyses provided in **Table 14-8** indicate that these 13 stairways operate at LOS C or better during the Weekday PM peak period. Detailed analyses were also conducted for the two control areas (H1 and N78) in the 14th Street ACE/L subway station. Control array capacity was based on NYCT guidelines in accordance with the *CEQR Technical Manual* and station volumes were provided by NYCT.

Table 14-8
2011 Existing PM Peak Period Conditions: Subway Stairways
West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	ID	Type	Location	Width (feet)	Effective Width (feet)	Weekday PM Peak 15 Minute Entering Volume	Weekday PM Peak 15 Minute Exiting Volume	Friction Factor	V/C	LOS
H1	8th Ave and 14th St	M1	Stairway	NW Corner	6.00	5.00	171	136	0.9	0.48	B
H1		S1	Stairway	NW Corner	6.00	5.00	171	136	0.9	0.48	B
H1		M2A/B	Stairway	SW Corner	12.83	11.58	250	198	0.9	0.30	A
H1		S2	Stairway	SW Corner	6.00	5.00	250	198	0.9	0.70	B
N78	8th Ave and 15th St	M3	Stairway	NW Corner	4.50	3.50	218	97	0.9	0.69	B
N78		S3	Stairway	NW Corner	4.50	3.50	218	97	0.9	0.69	B
N78		M5	Stairway	SW Corner	5.83	4.83	169	38	0.9	0.32	A
N78		S5	Stairway	SW Corner	4.50	3.50	169	38	0.9	0.45	A
N78	8th Ave and 16th St	M7A/B	Stairway	NW Corner	9.58	8.33	195	139	0.9	0.31	A
N78		S5	Stairway	NW Corner	4.33	3.33	96	80	0.9	0.41	A
N78		S7	Stairway	NW Corner	4.33	3.33	100	60	0.9	0.37	A
Mezzanine	From 14th St to 16th St	P1A/B	Stairway	Downtown Platform	9.67	8.42	178	494	0.9	0.74	C
Mezzanine	From 14th St to 16th St	P2A/B	Stairway	Uptown Platform	9.92	8.67	628	103	0.9	0.65	B

The data provided by NYCT were combined volumes that did not distinguish between the east and west control arrays. Rather than estimate the split, the total volume was conservatively applied to the west side control arrays only. The results of the analyses provided in **Table 14-9** indicate that the two control areas operate at LOS B or better during the Weekday PM peak period.

Table 14-9
2011 Existing PM Peak Period Conditions: Subway Control Areas
West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	Station Elements	Quantity (5)	PM Peak 15 Minute Entering Volume (2)	PM Peak 15 Minute Exiting Volume (1)	15 Minute Turnstile Capacity for Entries (3)	15 Minute Turnstile Capacity for Exits (3)	V/C	LOS
H1	14th Street / 8th Avenue	Turnstile	6	600	313	2775	3870	**0.51**	**B**
		HEET	1		152		1095		
		HXT	1						
N78 (4)	16th Street / 8th Avenue	Turnstile	6	623	232	3285	3870	**0.35**	**A**
		HEET	3		115		2175		
		HXT	1						

Notes:

(1) Source: SSE November 2010 field counts, growth rate applied to estimate 2011 values. Represents all exit volumes except from HEETs and HXTs on east side of Eighth Avenue.

(2) Source: May 2011 average weekday entries, NYCT. Represents all entering volumes for each control area. However, total capacity considered for analysis was based only on center turnstiles and HEETs on the west side of Eighth Avenue.

(3) Fare array capacity based on NYCT guidelines in accordance with the *2012 CEQR Technical Manual* .

(4) Control Area N78 includes fare gates at West 15th Street/8th Avenue.

(5) Quantity of fare gates excludes turnstiles/HEETs/HXTs on east side of the station.

BUS

The most recent bus ridership data were provided for the NYCT bus route M14 based on the NYCT Ride-Check survey results. These data were utilized to determine the peak hour bus service during all five peak hours. **Table 14-10** summarizes the results of the existing bus conditions, including the number of buses per hour, maximum passenger volume at the peak load point, average passengers per bus, total route capacity, and available capacity on the M14 route by peak direction during the five peak hours. Available capacity was based on a maximum of 85 passengers per bus as bus route M14 uses articulated buses. The results of the analysis indicate that the M14 bus route currently operates under capacity at its peak load point during all five peak hours.

Table 14-10
2011 Existing Conditions: Bus Peak Load Point Analysis—Route M14

Route	Peak Direction	Maximum Load Point	Peak Hour Buses (1)	Peak Hour Passengers (1)	Average Passengers Per Bus	Total Capacity (2)	Available Capacity
Weekday Midday							
M14	WB	East 14th St & 2nd Ave	16	667	42	1360	693
Weekday PM							
M14	EB	East 14th St & Ave A	19	1095	58	1615	520
Weekday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	16	741	46	1360	619
Saturday Midday							
M14	WB	East 14th St & 2nd Ave	15	747	50	1275	528
Saturday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	13	630	48	1105	475

Notes:
(1) Based on most currently available data from NYC Transit.
(2) Available capacity based on a maximum of 85 passengers per bus (M14 uses articulated buses).

PEDESTRIAN OPERATIONS

The existing operations of the study area's sidewalks, corner reservoirs, and crosswalks, located primarily on West 14th Street and West 15th Street, were assessed during the five peak periods (Weekday Midday, Weekday PM, Weekday Evening, Saturday Midday, and Saturday Evening). The specific elements analyzed were selected based on meeting the criteria of a projected pedestrian volume increase of more than 200 pedestrians per hour at any sidewalk, crosswalk, or corner reservoir during at least one of the five peak hours. The analyses were performed at a total of 90 locations within the study area including 31 corners, 20 crosswalks, and 39 sidewalks.

Pedestrian (sidewalk, corner reservoir, and crosswalk) counts were conducted within the study area in October 2010, November 2011, and March 2012 during the five peak periods. These counts are summarized into 15-minute intervals during each peak period. The 15-minute peak period was identified separately for each pedestrian element (corner reservoir, crosswalk, and sidewalk) during the five peak periods.

CORNERS

Corner reservoir locations were analyzed using the pedestrian data within the study area. As presented in **Table 14-11**, all 31 corner reservoirs operate at a LOS B or better during the five peak periods.

CROSSWALKS

The 20 crosswalk locations within the study area were analyzed using the collected pedestrian data. As presented in **Table 14-12**, all 20 crosswalks operate at a mid-LOS D or better during the five peak periods with the exception of one location. The north crosswalk at the Ninth Avenue and West 15th Street intersection operates at 17 ft^2 per pedestrian during the Weekday Midday period which is a low LOS D.

Table 14-11
2011 Existing Conditions: Corner Level of Service Analysis

Location	Corner	Required Corner Circulation Space (ft^2/p)					Corner Circulation LOS				
		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street	Southeast	1191	988	1057	1408	2062	A	A	A	A	A
	Northeast	2787	1527	1632	2428	1857	A	A	A	A	A
Route 9A and West 15th Street	Northeast	3234	2888	3575	2304	2955	A	A	A	A	A
	Southeast	2147	1624	2136	1788	3151	A	A	A	A	A
Route 9A and West 14th Street	Southeast	1054	603	398	578	1277	A	A	A	A	A
Tenth Avenue and West 16th Street	Northeast	191	215	213	134	250	A	A	A	A	A
	Southeast	181	258	259	143	288	A	A	A	A	A
	Northwest	820	750	724	858	863	A	A	A	A	A
	Southwest	645	924	719	793	846	A	A	A	A	A
Tenth Avenue and West 15th Street	Northwest	578	703	764	483	673	A	A	A	A	A
	Northeast	327	358	381	222	406	A	A	A	A	A
	Southeast	457	529	500	321	650	A	A	A	A	A
	Southwest	710	796	918	579	1119	A	A	A	A	A
Tenth Avenue and West 14th Street	Northeast	638	1058	1073	497	610	A	A	A	A	A
	Southeast	871	1009	799	608	993	A	A	A	A	A
	Southwest	1102	935	550	813	1541	A	A	A	A	A
Washington Street and West 14th Street	Southeast	389	296	319	193	229	A	A	A	A	A
	Southwest	486	375	368	185	267	A	A	A	A	A
Ninth Avenue and West 16th Street	Northeast	96	93	113	100	102	A	A	A	A	A
	Southeast	69	74	104	82	107	A	A	A	A	A
	Northwest	95	104	114	80	100	A	A	A	A	A
	Southwest	67	76	99	81	107	A	A	A	A	A
Ninth Avenue and West 15th Street	Northwest	73	99	134	98	128	A	A	A	A	A
	Northeast	57	63	114	93	115	B	A	A	A	A
	Southeast	178	184	238	149	211	A	A	A	A	A
	Southwest	117	153	174	98	142	A	A	A	A	A
Ninth Avenue and West 14th Street	Northwest	146	154	177	79	110	A	A	A	A	A
	Northeast	115	87	110	70	83	A	A	A	A	A
	Southeast	343	156	233	172	205	A	A	A	A	A
	Southwest	282	248	363	131	169	A	A	A	A	A
Eighth Avenue and West 14th Street	Northwest	177	110	112	184	143	A	A	A	A	A

Table 14-12
2011 Existing Conditions: Crosswalk Level of Service Analysis

Location	Crosswalk	Crosswalk Length (feet)	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)					Crosswalk Circulation LOS				
				Weekday			Saturday		Weekday			Saturday	
				Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 17th Street	South	89.3	19.3	521	486	580	522	726	A	A	A	A	A
Route 9A and West 16th Street	South	87.9	15.0	276	252	233	289	789	A	A	A	A	A
	East	32.0	12.0	1200	780	900	1051	1043	A	A	A	A	A
Route 9A and West 15th Street	North	121.4	15.3	330	412	787	464	567	A	A	A	A	A
	East	46.7	16.7	2369	2489	2739	11891	3389	A	A	A	A	A
	South	88.4	16.0	490	301	379	281	881	A	A	A	A	A
Route 9A and West 14th Street	South	106.0	14.5	289	114	89	178	358	A	A	A	A	A
Tenth Avenue and West 16th Street	North	60.0	12.5	217	179	227	290	292	A	A	A	A	A
	South	58.0	13.0	119	271	230	220	322	A	A	A	A	A
Tenth Avenue and West 15th Stree	North	59.1	15.5	124	172	163	200	284	A	A	A	A	A
	South	61.0	16.3	221	262	328	293	461	A	A	A	A	A
Tenth Avenue and West 14th Street	South	65.0	17.0	377	273	168	295	527	A	A	A	A	A
Washington Street and West 14th Street	South	39.3	12.3	55	59	99	31	59	B	B	A	C	B
Ninth Avenue and West 16th Street	North	57.5	11.0	52	40	73	58	67	B	B	A	B	A
Ninth Avenue and West 15th Street	North	68.8	9.9	14	17	36	33	35	E	D	C	C	C
	South	70.5	13.3	48	47	63	42	54	B	B	A	B	B
Ninth Avenue and West 14th Street (west side of intersection)	North	21.0	15.4	46	48	60	26	38	B	B	B	C	C
	South	30.8	16.5	41	37	41	26	36	B	C	B	C	C
Ninth Avenue and West 14th Street (east side of intersection)	North	30.0	12.3	38	33	93	30	45	C	C	A	C	B
	South	39.4	22.7	51	32	50	29	43	B	C	B	C	B

SIDEWALKS

A total of 39 sidewalk locations was analyzed using the pedestrian data within the study area. As presented in **Table 14-13**, all 39 sidewalk locations operate at a LOS A for the non-platoon conditions and a LOS C or better for platoon conditions during the five peak periods.

Table 14-13
2011 Existing Conditions: Sidewalk Level of Service Analysis

Location	Effective Width (feet)	Peak 15-Min Volumes					Flow Rate (pfm)					Non-Platoon Conditions LOS					Platoon Conditions LOS				
		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street (south side, west sidewalk)	11.5	48	57	95	112	53	0.28	0.33	0.55	0.65	0.31	A	A	A	A	A	A	A	B	B	A
Route 9A and West 16th Street (south side, east sidewalk)	13.3	31	14	17	8	8	0.16	0.07	0.09	0.04	0.04	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, north sidewalk)	11.0	10	12	15	10	12	0.06	0.07	0.09	0.06	0.07	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, south sidewalk)	10.0	46	151	104	19	8	0.31	1.01	0.69	0.13	0.05	A	A	A	A	A	A	B	B	A	A
Route 9A and West 15th Street (north side, west sidewalk)	12.8	40	59	93	110	46	0.21	0.31	0.49	0.58	0.24	A	A	A	A	A	A	A	A	B	A
Route 9A and West 15th Street (north side, east sidewalk)	13.8	13	12	14	15	2	0.06	0.06	0.07	0.07	0.01	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (east side, north sidewalk)	11.5	11	10	7	12	11	0.06	0.06	0.04	0.07	0.06	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (east side, south sidewalk)	3.0	14	13	13	20	14	0.31	0.29	0.29	0.44	0.31	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (south side, west sidewalk)	15.3	33	58	97	122	39	0.14	0.25	0.42	0.53	0.17	A	A	A	A	A	A	A	A	B	A
Route 9A and West 15th Street (west side, within intersection)	18.8	85	117	101	115	44	0.30	0.41	0.36	0.41	0.16	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (east side, north sidewalk)	5.5	95	69	94	144	93	1.15	0.84	1.14	1.75	1.13	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 16th Street (east side, south sidewalk)	9.5	47	30	17	31	22	0.33	0.21	0.12	0.22	0.15	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (west side, north sidewalk)	10.0	26	26	23	12	11	0.17	0.17	0.15	0.08	0.07	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (west side, south sidewalk)	9.0	18	16	20	23	11	0.13	0.12	0.15	0.17	0.08	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (west side, north sidewalk)	9.0	12	12	7	14	7	0.09	0.09	0.05	0.10	0.05	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (west side, south sidewalk)	3.0	17	18	16	12	6	0.38	0.40	0.36	0.27	0.13	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (east side, north sidewalk)	9.3	59	42	18	82	52	0.43	0.30	0.13	0.59	0.37	A	A	A	A	A	A	A	A	B	A
Tenth Avenue and West 15th Street (east side, south sidewalk)	13.0	13	20	14	32	21	0.07	0.10	0.07	0.16	0.11	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (south side, east sidewalk)	16.3	94	63	47	131	99	0.39	0.26	0.19	0.54	0.41	A	A	A	A	A	A	A	A	B	A
Tenth Avenue and West 14th Street (north side, east sidewalk)	15.8	79	58	44	130	88	0.33	0.25	0.19	0.55	0.37	A	A	A	A	A	A	A	A	B	A
Tenth Avenue and West 14th Street (west side, south sidewalk)	10.0	24	48	90	50	30	0.16	0.32	0.60	0.33	0.20	A	A	A	A	A	A	A	B	A	A
Tenth Avenue and West 14th Street (east side, north sidewalk)	16.5	31	18	21	96	66	0.13	0.07	0.08	0.39	0.27	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 14th Street (east side, south sidewalk)	19.7	46	43	20	99	39	0.16	0.15	0.07	0.34	0.13	A	A	A	A	A	A	A	A	A	A
Washington Street and West 14th Street (west side, south sidewalk)	15.5	158	173	91	214	107	0.68	0.74	0.39	0.92	0.46	A	A	A	A	A	B	B	A	B	A
Washington Street and West 14th Street (east side, south sidewalk)	12.8	116	161	142	263	249	0.61	0.84	0.74	1.38	1.30	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (east side, north sidewalk)	6.8	114	176	180	116	179	1.11	1.72	1.76	1.13	1.75	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, north sidewalk)	8.0	140	95	91	104	83	1.17	0.79	0.76	0.87	0.69	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, south sidewalk)	4.5	51	58	34	66	136	0.76	0.86	0.50	0.98	2.01	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (west side, north sidewalk)	11.4	126	115	101	113	68	0.74	0.67	0.59	0.66	0.40	A	A	A	A	A	B	B	B	B	A
Ninth Avenue and West 15th Street (west side, south sidewalk)	11.5	69	122	63	35	21	0.40	0.71	0.37	0.20	0.12	A	A	A	A	A	A	B	A	A	A
Ninth Avenue and West 15th Street (east side, north sidewalk)	3.9	165	232	121	168	107	2.81	3.95	2.06	2.86	1.82	A	A	A	A	A	B	C	B	B	B
Ninth Avenue and West 15th Street (south side, east sidewalk)	7.0	188	203	207	292	194	1.79	1.93	1.97	2.78	1.85	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (south side, west sidewalk)	9.5	264	319	312	419	361	1.85	2.24	2.19	2.94	2.53	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (west side, north sidewalk)	13.5	294	292	302	378	302	1.45	1.44	1.49	1.87	1.49	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (west side, south sidewalk)	12.0	106	165	144	266	224	0.59	0.92	0.80	1.48	1.24	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (north side, east sidewalk)	4.5	193	195	206	293	207	2.86	2.89	3.05	4.34	3.07	A	A	A	A	A	B	B	C	C	C
Ninth Avenue and West 14th Street (north side, west sidewalk)	8.0	245	297	313	413	334	2.04	2.48	2.61	3.44	2.78	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 14th Street (east side, north sidewalk)	8.8	293	513	349	382	370	2.21	3.87	2.63	2.88	2.79	A	A	A	A	A	B	C	B	B	B
Ninth Avenue and West 14th Street (east side, south sidewalk)	15.0	194	381	294	190	166	0.86	1.69	1.31	0.84	0.74	A	A	A	A	A	B	B	B	B	B

F. THE FUTURE WITHOUT THE PROPOSED PROJECT

The future without the proposed project ("No Action Condition") builds on the Existing Conditions analysis by incorporating background growth, other nearby projects expected to be completed and anticipated changes in the transportation network. The No Action Condition analysis focuses on conditions in 2015, when the project is expected to be complete. The analysis of the No Action Condition serves as the baseline to which the impacts of the project will be compared.

In accordance with *CEQR Technical Manual* guidelines (Table 16-4) for projects in Manhattan, the 2015 No Action Condition background traffic, pedestrian, transit, and parking volumes were developed by applying a 0.25 percent annual growth rate, over a period of four years, to the 2011 Existing Condition volumes. In addition to the background growth, the development projects described in Chapter 2, "Land Use, Zoning, and Public Policy," were considered to forecast the No Action Condition volumes.

The background growth and trips generated by the development projects were added to the 2011 Existing Condition volumes to develop the 2015 No Action volumes. Furthermore, relevant project-related intersection improvements were incorporated into the No Action Condition including signal timing modifications at West 14th Street and Ninth Avenue and West 14th Street and Eighth Avenue.

TRAFFIC CONDITIONS

Figures 14-12 through 14-16 show the 2015 No Action traffic volumes for the five peak hours. **Table 14-14** presents a comparison of Existing and No Action conditions for the study intersections. Based on the analysis results, the majority of the approaches/lane-groups would operate at the same LOS as in the existing conditions. At the following locations, the addition of No Action traffic would result in changes in LOS beyond mid-LOS D:

ROUTE 9A AND WEST 17TH STREET

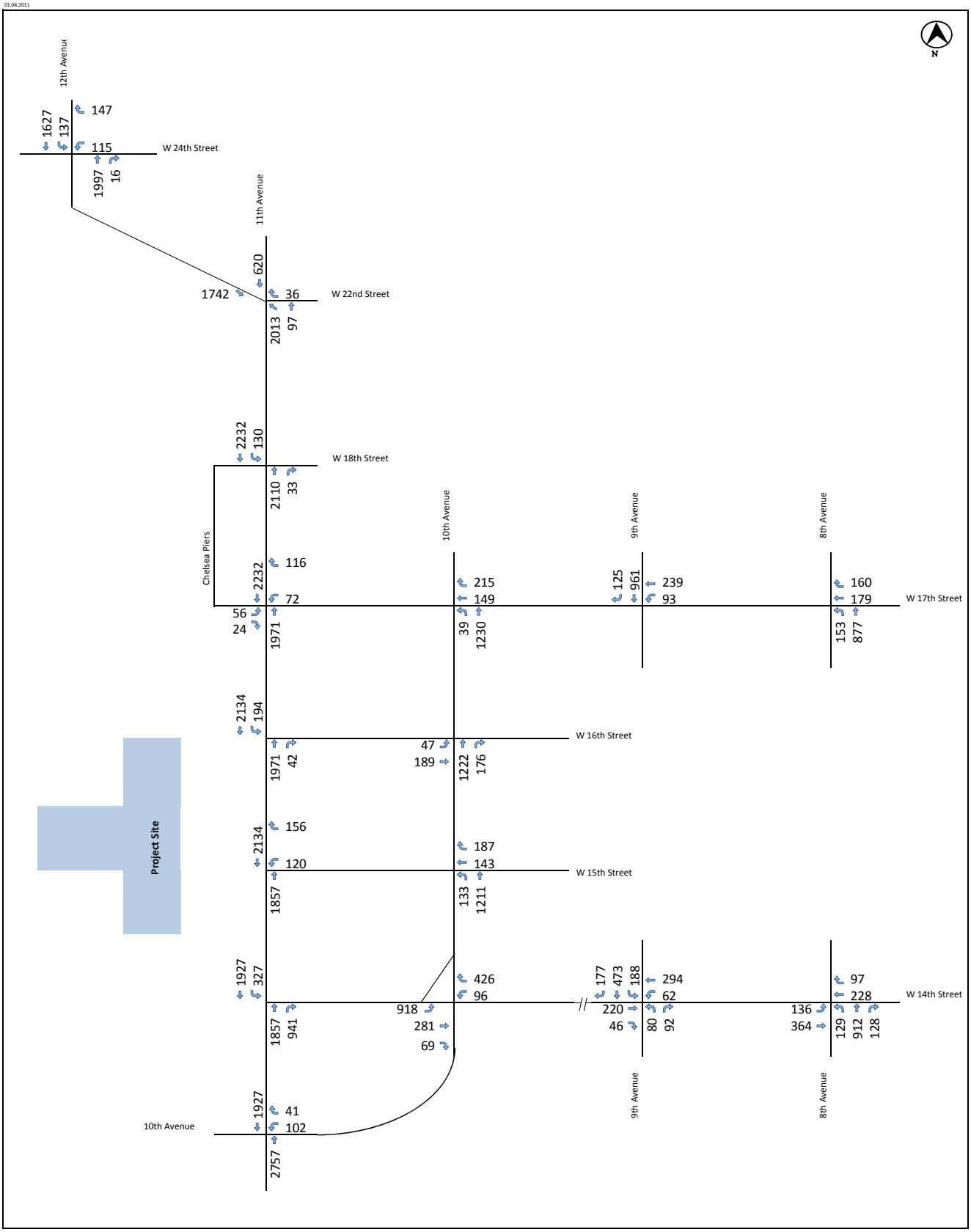
- During the **Weekday Midday** peak hour, the westbound approach would deteriorate from LOS E with an average delay of 77.0 and v/c ratio of 0.80 to LOS F with an average delay of 92.2 seconds and v/c ratio of 0.90.

ROUTE 9A AND WEST 16TH STREET

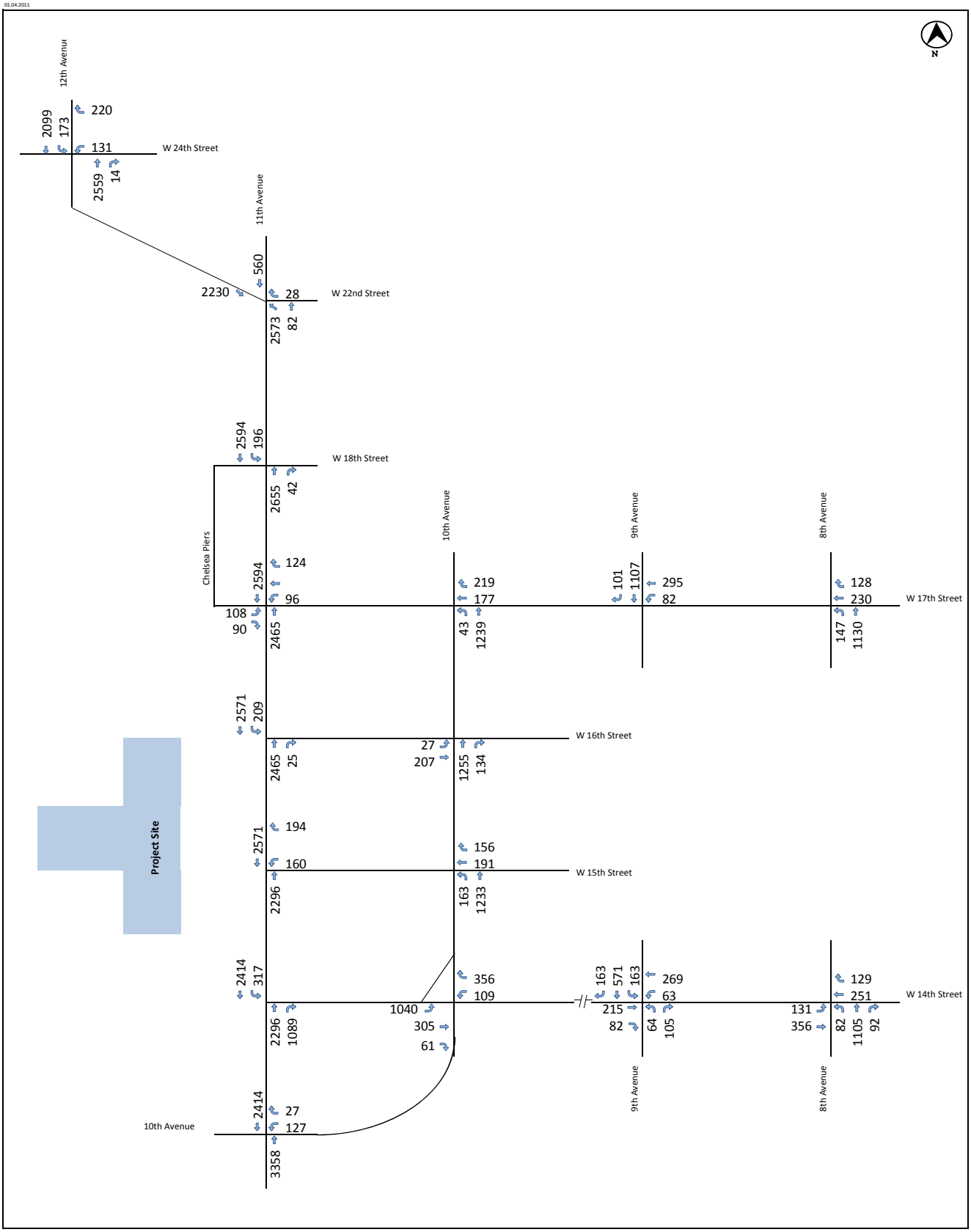
- During the **Weekday PM** peak hour, the southbound left-turn movement would deteriorate from LOS D with an average delay of 53.5 seconds and v/c ratio of 0.47 to LOS E with an average delay of 55.7 seconds and v/c ratio of 0.54.

TENTH AVENUE AND WEST 14TH STREET

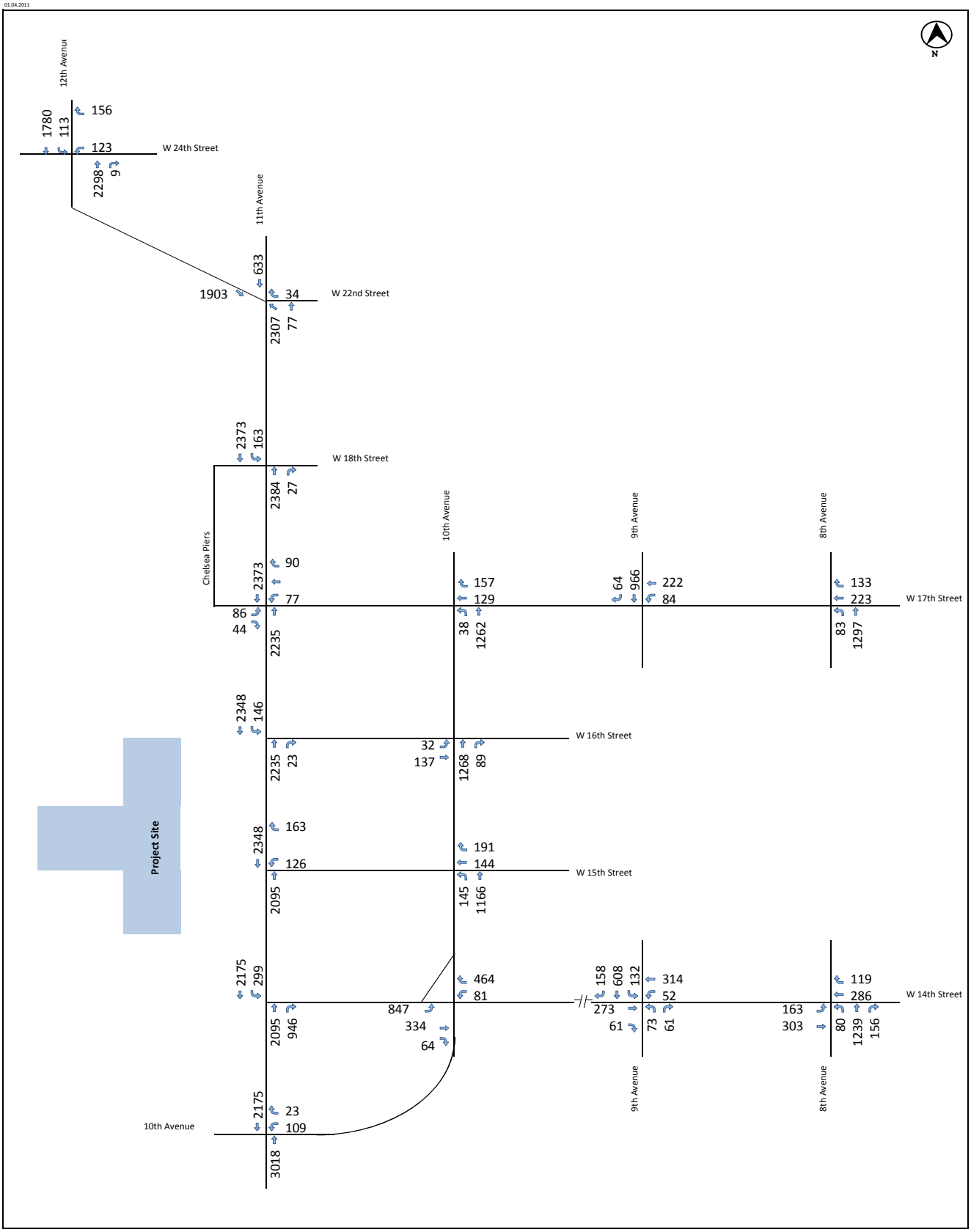
- During the **Saturday Midday** peak hour, the westbound right-turn movement would deteriorate within LOS D from an average delay of 44.6 seconds and v/c ratio of 0.80 to an average delay of 47.4 seconds and v/c ratio of 0.83.



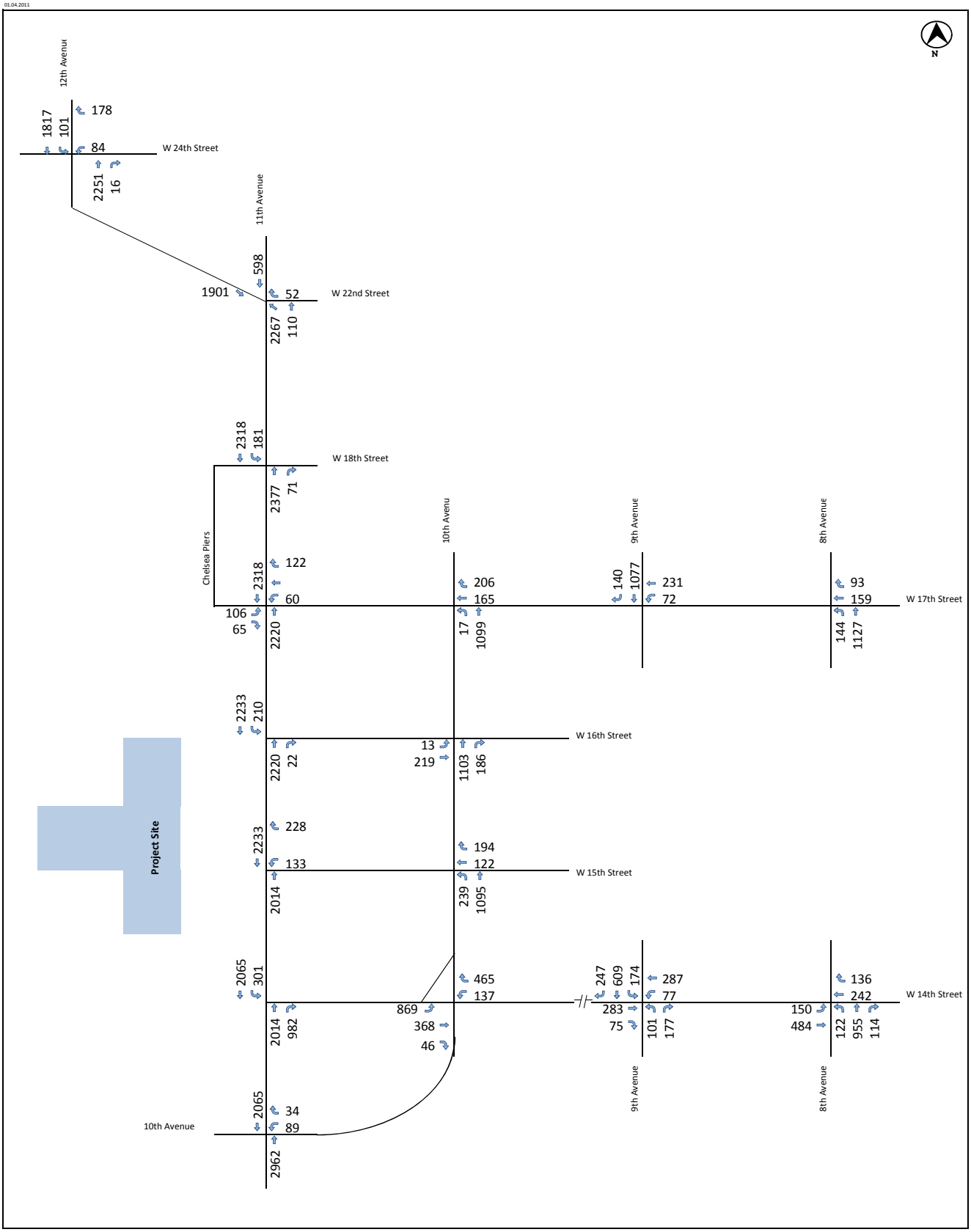
2015 No Action Traffic Network
Weekday Midday Peak Hour
Figure 14-12



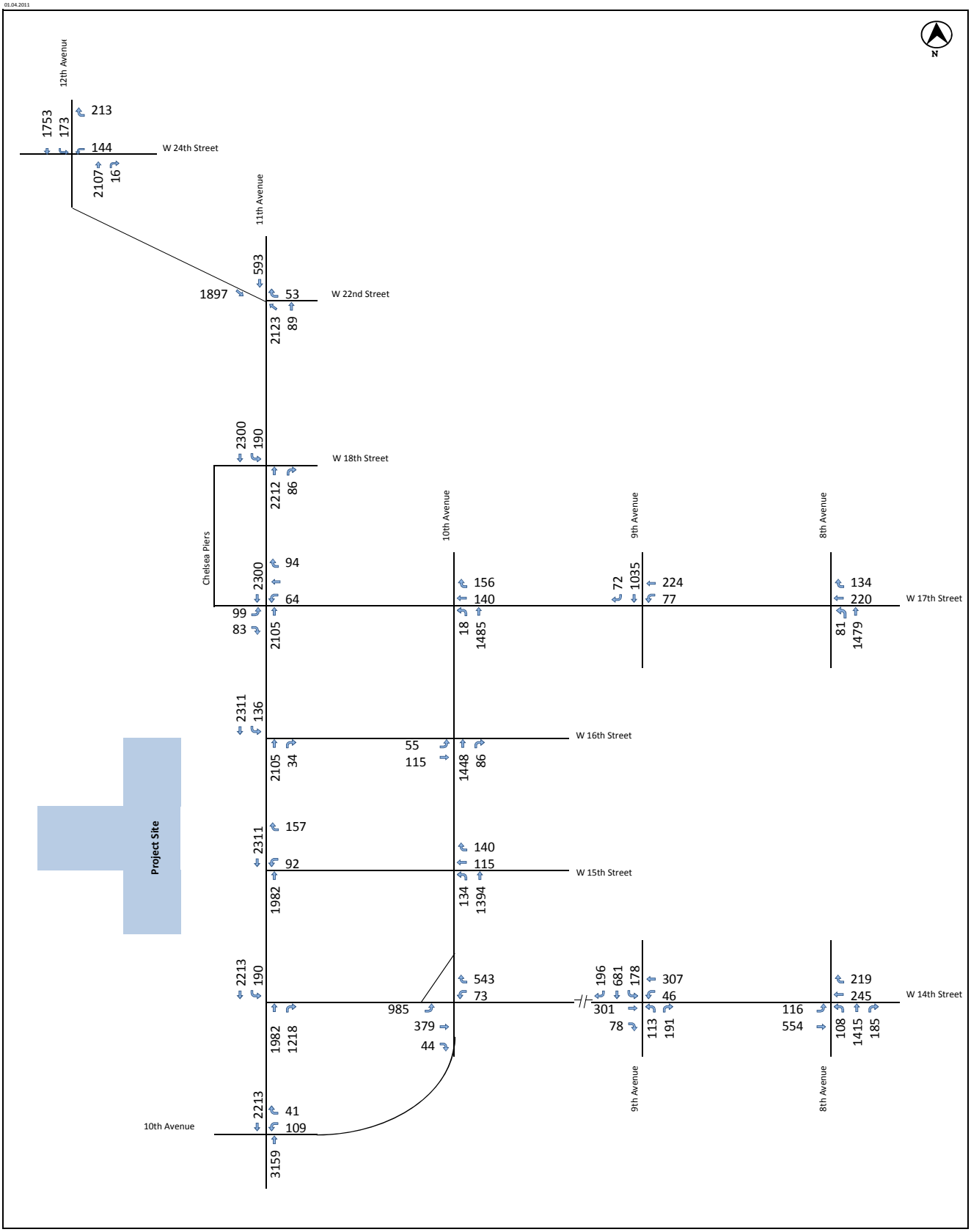
2015 No Action Traffic Network
Weekday PM Peak Hour
Figure 14-13



2015 No Action Traffic Network
Weekday Evening Pre-Event Peak Hour
Figure 14-14



2015 No Action Traffic Network
Saturday Midday Peak Hour
Figure 14-15



2015 No Action Traffic Network
Saturday Evening Pre-Event Peak Hour
Figure 14-16

Table 14-14
2011 Existing Condition and 2015 No Action Condition
Intersection Level of Service Analysis

Weekday Midday Peak Hour

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.18	38.9	D	L	0.18	38.9	D	
		R	0.47	45.8	D	R	0.48	45.9	D	
	NB	TR	0.70	10.9	B	TR	0.72	11.3	B	
	SB	L	1.05	147.0	F	L	1.07	151.4	F	
		T	0.66	17.0	B	T	0.69	17.6	B	
		Intersection		20.2	C	Intersection		20.6	C	
2	**Route 9A and West 22nd Street**									
	WB	T	0.50	37.9	D	T	0.50	38.0	D	
	NB	T	0.76	16.3	B	T	0.78	16.9	B	
		R	0.20	26.6	C	R	0.20	26.7	C	
	SB	T	0.56	8.0	A	T	0.59	8.2	A	
		Intersection		16.4	B	Intersection		16.6	B	
3	**Route 9A and West 18th Street**									
	NB	TR	0.89	20.6	C	TR	0.91	22.1	C	
	SB	L	0.25	27.4	C	L	0.26	27.5	C	
		T	0.82	17.4	B	T	0.85	18.5	B	
		Intersection		19.2	B	Intersection		20.5	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.09	41.2	D	L	0.09	41.3	D	
		LR	0.13	41.9	D	LR	0.13	42.0	D	
		R	0.05	40.7	D	R	0.05	40.7	D	
	WB	LR	0.80	77.0	E	LR	0.90	92.2	F	+
	NB	T	0.72	14.7	B	T	0.73	14.9	B	
	SB	T	0.78	15.9	B	T	0.80	16.7	B	
		Intersection		18.1	B	Intersection		19.5	B	
5	**Route 9A and West 16th Street**									
	NB	TR	0.68	9.4	A	TR	0.70	9.6	A	
	SB	L	0.31	34.4	C	L	0.40	36.2	D	
		T	0.70	9.6	A	T	0.71	9.8	A	
		Intersection		10.4	B	Intersection		10.9	B	
6	**Route 9A and West 15th Street**									
	WB	L	0.28	34.4	C	L	0.29	34.6	C	
		R	0.39	36.8	D	R	0.40	37.1	D	
	NB	T	0.64	8.8	A	T	0.65	8.9	A	
	SB	T	0.72	9.9	A	T	0.73	10.1	B	
		Intersection		11.1	B	Intersection		11.3	B	
7	**Route 9A and West 14th Street**									
	NB	T	0.65	9.0	A	T	0.66	9.1	A	
		R	0.62	9.5	A	R	0.63	9.7	A	
	SB	L	1.62	354.5	F	L	1.70	389.6	F	
		T	0.63	8.7	A	T	0.64	8.8	A	
		Intersection		30.6	C	Intersection		33.7	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.35	46.6	D	L	0.35	46.7	D	
		R	0.17	43.6	D	R	0.17	43.7	D	
	NB	T	0.81	15.6	B	T	0.82	16.0	B	
	SB	T	0.60	3.7	A	T	0.61	3.7	A	
		Intersection		11.7	B	Intersection		11.9	B	

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**								
	WB	T	0.26	23.1	C	T	0.31	23.8	C
	NB	LT	0.47	2.6	A	LT	0.48	2.6	A
		Intersection		8.3	A	Intersection		8.6	A
10	**Tenth Avenue and West 16th Street**								
	EB	LT	0.37	24.7	C	LT	0.45	26.2	C
	NB	TR	0.51	2.8	A	TR	0.53	2.8	A
		Intersection		5.5	A	Intersection		6.2	A
11	**Tenth Avenue and West 15th Street**								
	WB	T	0.26	19.8	B	T	0.27	20.0-	B
	NB	LT	0.54	6.0	A	LT	0.56	6.1	A
		Intersection		9.2	B	Intersection		9.5	A
12	**Tenth Avenue and West 14th Street**								
	EB	L	0.63	21.7	C	L	0.64	21.9	C
		T	0.24	25.6	C	T	0.25	25.8	C
		R	0.16	25.1	C	R	0.17	25.2	C
	WB	LR	0.56	34.8	C	LR	0.60	36.5	D
		R	0.59	34.5	C	R	0.62	35.5	D
		Intersection		26.2	C	Intersection		26.8	C
13	**Ninth Avenue and West 17th Street**								
	WB	L	0.19	19.1	B	L	0.20	19.2	B
		T	0.41	22.2	C	T	0.45	23.1	C
	SB	TR	0.60	6.9	A	TR	0.62	7.0	A
		Intersection		10.1	B	Intersection		10.5	B
14	**Ninth Avenue and West 14th Street**								
	EB	TR	0.41	29.1	C	TR	0.43	29.5	C
	WB	LT	0.63	34.3	C	LT	0.68	36.4	D
	NB	L	0.34	37.3	D	L	0.38	38.1	D
		R	0.51	43.4	D	R	0.51	43.6	D
	SB	LT	0.62	15.6	B	LT	0.71	17.6	B
		R	0.51	17.7	B	R	0.69	26.5	C
		Intersection		24.9	C	Intersection		27.1	C
15	**Eighth Avenue and West 17th Street**								
	WB	TR	0.82	42.2	D	TR	0.83	43.7	D
	NB	L	0.56	35.1	D	L	0.67	40.0	D
		T	0.41	3.0	A	T	0.42	3.0	A
		Intersection		16.1	B	Intersection		17.2	B
16	**Eighth Avenue and West 14th Street**								
	EB	LT	0.73	30.0	C	LT	0.77	32.3	C
	WB	TR	0.37	20.9	C	TR	0.42	21.7	C
	NB	L	0.56	39.4	D	L	0.57	39.7	D
		TR	0.53	6.2	A	TR	0.56	6.4	A
		Intersection		16.8	B	Intersection		17.6	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies LOS changes beyond mid-LOS D

Table 14-14 (cont'd)
2011 Existing Condition and 2015 No Action Condition
Intersection Level of Service Analysis

Weekday PM Peak Hour

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.23	54.3	D	L	0.23	54.4	D	
		R	0.83	84.9	F	R	0.84	85.9	F	
	NB	TR	0.77	8.3	A	TR	0.79	8.8	A	
	SB	L	1.05	153.1	F	L	1.07	156.7	F	
		T	0.70	13.3	B	T	0.72	13.6	B	
		Intersection		19.7	B	Intersection		20.1	C	
2	**Route 9A and West 22nd Street**									
	WB	T	0.55	53.9	D	T	0.55	54.0	D	
	NB	T	0.82	12.7	B	T	0.84	13.5	B	
		R	0.20	42.2	D	R	0.20	42.2	D	
	SB	T	0.64	5.0	A	T	0.66	5.1	A	
		Intersection		14.3	B	Intersection		14.7	B	
3	**Route 9A and West 18th Street**									
	NB	TR	0.97	26.6	C	TR	1.00	32.8	C	
	SB	L	0.38	41.3	D	L	0.39	41.4	D	
		T	0.84	15.4	B	T	0.86	16.2	B	
		Intersection		21.9	C	Intersection		25.3	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.18	54.2	D	L	0.18	54.2	D	
		LR	0.36	58.3	E	LR	0.36	58.4	E	
		R	0.19	54.7	D	R	0.19	54.8	D	
	WB	LR	1.05	148.2	F	LR	1.22	204.8	F	
	NB	T	0.81	14.5	B	T	0.82	14.9	B	
	SB	T	0.85	15.8	B	T	0.87	16.6	B	
		Intersection		21.4	C	Intersection		24.9	C	
5	**Route 9A and West 16th Street**									
	NB	TR	0.75	5.7	A	TR	0.76	5.9	A	
	SB	L	0.47	53.5	D	L	0.54	55.7	E	+
		T	0.76	5.8	A	T	0.77	6.0	A	
		Intersection		7.4	A	Intersection		7.9	A	
6	**Route 9A and West 15th Street**									
	WB	L	0.39	51.3	D	L	0.42	52.2	D	
		R	0.56	57.4	E	R	0.60	59.1	E	
	NB	T	0.70	5.1	A	T	0.71	5.2	A	
	SB	T	0.78	6.2	A	T	0.79	6.4	A	
		Intersection		8.8	A	Intersection		9.2	A	
7	**Route 9A and West 14th Street**									
	NB	T	0.69	5.0	A	T	0.70	5.7	A	
		R	0.61	5.0	A	R	0.62	5.6	A	
	SB	L	1.97	528.6	F	L	1.90	493.7	F	
		T	0.70	5.0	A	T	0.71	5.8	A	
		Intersection		31.6	C	Intersection		31.0	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.53	68.0	E	L	0.54	68.5	E	
		R	0.11	57.3	E	R	0.11	57.3	E	
	NB	T	0.83	10.5	B	T	0.84	10.8	B	
	SB	T	0.69	3.3	A	T	0.70	3.4	A	
		Intersection		9.0	A	Intersection		9.3	A	

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**								
	WB	T	0.32	24.1	C	T	0.38	25.2	C
	NB	LT	0.44	2.4	A	LT	0.45	2.5	A
		Intersection		8.2	A	Intersection		8.6	A
10	**Tenth Avenue and West 16th Street**								
	EB	LT	0.39	25.0	C	LT	0.44	26.0	C
	NB	TR	0.49	2.6	A	TR	0.50	2.7	A
		Intersection		5.6	A	Intersection		6.0	A
11	**Tenth Avenue and West 15th Street**								
	WB	T	0.29	20.1	C	T	0.33	20.7	C
	NB	LT	0.54	5.9	A	LT	0.55	6.0	A
		Intersection		8.7	A	Intersection		9.1	A
12	**Tenth Avenue and West 14th Street**								
	EB	L	0.57	18.6	B	L	0.58	18.7	B
		T	0.30	39.1	D	T	0.31	39.2	D
		R	0.16	37.4	D	R	0.16	37.5	D
	WB	LR	0.59	51.5	D	LR	0.61	53.0	D
		R	0.67	52.0	D	R	0.70	53.7	D
		Intersection		30.6	C	Intersection		31.3	C
13	**Ninth Avenue and West 17th Street**								
	WB	L	0.18	18.9	B	L	0.19	19.0	B
		T	0.53	24.7	C	T	0.59	26.4	C
	SB	TR	0.69	7.8	A	TR	0.70	8.0	A
		Intersection		11.3	B	Intersection		12.0	B
14	**Ninth Avenue and West 14th Street**								
	EB	TR	0.49	30.7	C	TR	0.52	31.4	C
	WB	LT	0.56	32.5	C	LT	0.61	33.6	C
	NB	L	0.24	34.9	C	L	0.28	35.7	D
		R	0.53	43.9	D	R	0.54	44.1	D
	SB	LT	0.68	16.6	B	LT	0.73	17.9	B
		R	0.29	12.3	B	R	0.42	14.7	B
		Intersection		24.3	C	Intersection		25.3	C
15	**Eighth Avenue and West 17th Street**								
	WB	TR	0.77	37.6	D	TR	0.79	38.7	D
	NB	L	0.46	31.0	C	L	0.57	34.6	C
		T	0.50	3.4	A	T	0.52	3.5	A
		Intersection		13.2	B	Intersection		14.0	B
16	**Eighth Avenue and West 14th Street**								
	EB	LT	0.74	30.9	C	LT	0.79	33.8	C
	WB	TR	0.44	21.9	C	TR	0.47	22.5	C
	NB	L	0.33	32.0	C	L	0.33	32.1	C
		TR	0.58	6.4	A	TR	0.62	6.8	A
		Intersection		15.8	B	Intersection		16.7	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies LOS changes beyond mid-LOS D

Table 14-14 (cont'd)
2011 Existing Condition and 2015 No Action Condition
Intersection Level of Service Analysis

Weekday Evening Pre-Event Peak Hour

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**								
	WB	L	0.22	54.2	D	L	0.23	54.3	D
		R	0.60	66.7	E	R	0.61	67.1	E
	NB	TR	0.73	7.6	A	TR	0.73	7.7	A
	SB	L	0.86	113.4	F	L	0.87	116.0	F
		T	0.62	12.0	B	T	0.63	12.1	B
		Intersection		15.3	B	Intersection		15.5	B
2	**Route 9A and West 22nd Street**								
	WB	T	0.63	55.9	E	T	0.64	56.0	E
	NB	T	0.79	11.9	B	T	0.80	12.1	B
		R	0.20	42.2	D	R	0.20	42.2	D
	SB	T	0.59	4.5	A	T	0.59	4.6	A
		Intersection		15.2	B	Intersection		15.3	B
3	**Route 9A and West 18th Street**								
	NB	TR	0.91	19.7	B	TR	0.92	20.4	C
	SB	L	0.33	40.2	D	L	0.34	40.3	D
		T	0.80	14.3	B	T	0.81	14.5	B
		Intersection		17.7	B	Intersection		18.2	B
4	**Route 9A and West 17th Street**								
	EB	L	0.14	53.5	D	L	0.15	53.6	D
		LR	0.23	55.2	E	LR	0.24	55.3	E
		R	0.09	52.9	D	R	0.09	52.9	D
	WB	LR	0.93	115.0	F	LR	0.94	117.2	F
	NB	T	0.74	12.8	B	T	0.75	12.9	B
	SB	T	0.79	14.1	B	T	0.80	14.3	B
		Intersection		18.0	B	Intersection		18.2	B
5	**Route 9A and West 16th Street**								
	NB	TR	0.69	5.0	A	TR	0.70	5.0	A
	SB	L	0.39	51.3	D	L	0.39	51.4	D
		T	0.71	5.2	A	T	0.72	5.3	A
		Intersection		6.5	A	Intersection		6.6	A
6	**Route 9A and West 15th Street**								
	WB	L	0.37	51.1	D	L	0.39	51.6	D
		R	0.55	57.0	E	R	0.56	57.4	E
	NB	T	0.67	4.8	A	T	0.68	4.9	A
	SB	T	0.76	5.9	A	T	0.77	6.0	A
		Intersection		8.4	A	Intersection		8.5	A
7	**Route 9A and West 14th Street**								
	NB	T	0.65	4.6	A	T	0.66	4.7	A
		R	0.56	4.5	A	R	0.56	4.5	A
	SB	L	1.99	534.0	F	L	2.01	545.0	F
		T	0.66	4.7	A	T	0.67	4.8	A
		Intersection		33.3	C	Intersection		34.0	C
8	**Route 9A and Tenth Avenue/Horatio Street**								
	WB	L	0.47	65.6	E	L	0.48	65.8	E
		R	0.11	57.4	E	R	0.11	57.4	E
	NB	T	0.77	9.1	A	T	0.78	9.3	A
	SB	T	0.64	2.9	A	T	0.65	3.0	A
		Intersection		7.9	A	Intersection		8.0	A

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**								
	WB	T	0.31	24.0	C	T	0.31	24.0	C
	NB	LT	0.47	2.6	A	LT	0.48	2.6	A
		Intersection		6.6	A	Intersection		6.7	A
10	**Tenth Avenue and West 16th Street**								
	EB	LT	0.37	24.7	C	LT	0.37	24.8	C
	NB	TR	0.52	2.7	A	TR	0.53	2.8	A
		Intersection		5.2	A	Intersection		5.2	A
11	**Tenth Avenue and West 15th Street**								
	WB	T	0.25	19.6	B	T	0.25	19.6	B
	NB	LT	0.52	5.8	A	LT	0.52	5.8	A
		Intersection		9.2	A	Intersection		9.2	A
12	**Tenth Avenue and West 14th Street**								
	EB	L	0.49	16.9	B	L	0.49	17.0	B
		T	0.35	40.0	D	T	0.36	40.1	D
		R	0.20	38.3	D	R	0.20	38.3	D
	WB	LR	0.76	62.2	E	LR	0.76	63.0	E
		R	0.81	61.3	E	R	0.83	63.7	E
		Intersection		35.6	D	Intersection		36.2	D
13	**Ninth Avenue and West 17th Street**								
	WB	L	0.20	19.2	B	L	0.21	19.2	B
		T	0.46	23.2	C	T	0.47	23.3	C
	SB	TR	0.61	6.9	A	TR	0.62	6.9	A
		Intersection		10.4	B	Intersection		10.4	B
14	**Ninth Avenue and West 14th Street**								
	EB	TR	0.50	30.6	C	TR	0.51	30.7	C
	WB	LT	0.59	32.6	C	LT	0.59	32.8	C
	NB	L	0.33	36.9	D	L	0.33	37.0	D
		R	0.31	36.8	D	R	0.31	36.9	D
	SB	LT	0.66	15.9	B	LT	0.66	16.1	B
		R	0.33	12.9	B	R	0.34	13.0	B
		Intersection		23.6	C	Intersection		23.8	C
15	**Eighth Avenue and West 17th Street**								
	WB	TR	0.76	36.4	D	TR	0.77	37.0	D
	NB	L	0.32	27.7	C	L	0.32	27.7	C
		T	0.58	3.8	A	T	0.59	3.9	A
		Intersection		11.6	B	Intersection		11.8	B
16	**Eighth Avenue and West 14th Street**								
	EB	LT	0.74	31.0	C	LT	0.75	31.5	C
	WB	TR	0.46	22.1	C	TR	0.46	22.2	C
	NB	L	0.33	32.1	C	L	0.33	32.2	C
		TR	0.70	7.8	A	TR	0.70	7.9	A
		Intersection		15.7	B	Intersection		15.9	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies LOS changes beyond mid-LOS D

Table 14-14 (cont'd)
2011 Existing Condition and 2015 No Action Condition
Intersection Level of Service Analysis

Saturday Midday Peak Hour

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.11	38.1	D	L	0.12	38.1	D	
		R	0.52	47.1	D	R	0.53	47.3	D	
	NB	TR	0.75	11.8	B	TR	0.77	12.2	B	
	SB	L	0.72	81.0	F	L	0.73	81.8	F	
		T	0.68	17.5	B	T	0.71	18.0	B	
		Intersection		17.7	B	Intersection		18.1	B	
2	**Route 9A and West 22nd Street**									
	WB	T	0.46	37.2	D	T	0.46	37.3	D	
	NB	T	0.81	17.8	B	T	0.84	18.6	B	
		R	0.21	26.7	C	R	0.21	26.7	C	
	SB	T	0.57	8.0	A	T	0.59	8.2	A	
		Intersection		16.6	B	Intersection		17.0	B	
3	**Route 9A and West 18th Street**									
	NB	TR	0.97	29.5	C	TR	1.00	35.0+	D	
	SB	L	0.32	28.4	C	L	0.32	28.5	C	
		T	0.81	16.9	B	T	0.83	17.7	B	
		Intersection		23.6	C	Intersection		26.6	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.11	34.5	C	L	0.12	34.5	C	
		LR	0.19	35.7	D	LR	0.20	35.8	D	
		R	0.09	34.2	C	R	0.09	34.2	C	
	WB	LR	0.92	103.7	F	LR	1.08	144.5	F	
	NB	T	0.86	23.7	C	T	0.88	24.4	C	
	SB	T	0.89	25.3	C	T	0.92	27.1	C	
		Intersection		27.4	C	Intersection		30.5	C	
5	**Route 9A and West 16th Street**									
	NB	TR	0.73	10.1	B	TR	0.74	10.3	B	
	SB	L	0.38	35.9	D	L	0.45	37.3	D	
		T	0.72	10.0+	B	T	0.74	10.2	B	
		Intersection		11.1	B	Intersection		11.5	B	
6	**Route 9A and West 15th Street**									
	WB	L	0.28	34.3	C	L	0.29	34.4	C	
		R	0.56	41.3	D	R	0.55	41.1	D	
	NB	T	0.67	9.2	A	T	0.68	9.4	A	
	SB	T	0.75	10.5	B	T	0.76	10.8	B	
		Intersection		12.2	B	Intersection		12.3	B	
7	**Route 9A and West 14th Street**									
	NB	T	0.66	9.1	A	T	0.67	9.3	A	
		R	0.61	9.3	A	R	0.62	9.4	A	
	SB	L	1.50	302.8	F	L	1.57	331.1	F	
		T	0.68	9.3	A	T	0.69	9.4	A	
		Intersection		25.2	C	Intersection		27.4	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.34	46.8	D	L	0.34	47.0	D	
		R	0.13	42.9	D	R	0.13	42.9	D	
	NB	T	0.81	15.6	B	T	0.82	15.9	B	
	SB	T	0.62	3.8	A	T	0.63	3.8	A	
		Intersection		11.6	B	Intersection		11.8	B	

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS	
9	**Tenth Avenue and West 17th Street**									
	WB	T	0.30	23.8	C	T	0.37	24.9	C	
	NB	LT	0.39	2.3	A	LT	0.39	2.3	A	
		Intersection		8.3	A	Intersection		8.7	A	
10	**Tenth Avenue and West 16th Street**									
	EB	LT	0.37	24.8	C	LT	0.43	25.8	C	
	NB	TR	0.47	2.6	A	TR	0.47	2.6	A	
		Intersection		5.6	A	Intersection		6.1	A	
11	**Tenth Avenue and West 15th Street**									
	WB	T	0.21	19.0	B	T	0.21	19.1	B	
	NB	LT	0.51	5.7	A	LT	0.52	5.8	A	
		Intersection		8.8	A	Intersection		8.9	A	
12	**Tenth Avenue and West 14th Street**									
	EB	L	0.60	20.9	C	L	0.61	21.0	C	
		T	0.33	26.9	C	T	0.35	27.1	C	
		R	0.13	24.8	C	R	0.14	24.8	C	
	WB	LR	0.74	46.4	D	LR	0.74	47.4	D	
		R	0.80	44.6	D	R	0.83	47.4	D	+
		Intersection		29.9	C	Intersection		30.7	C	
13	**Ninth Avenue and West 17th Street**									
	WB	L	0.15	18.4	B	L	0.15	18.5	B	
		T	0.38	21.7	C	T	0.44	22.8	C	
	SB	TR	0.68	7.7	A	TR	0.69	7.8	A	
		Intersection		10.1	B	Intersection		10.6	B	
14	**Ninth Avenue and West 14th Street**									
	EB	TR	0.58	32.2	C	TR	0.60	32.8	C	
	WB	LT	0.69	36.8	D	LT	0.74	39.2	D	
	NB	L	0.41	38.2	D	L	0.43	38.9	D	
		R	0.93	84.7	F	R	0.96	92.5	F	
	SB	LT	0.75	18.5	B	LT	0.80	20.2	C	
		R	0.73	26.8	C	R	0.91	49.0	D	+
		Intersection		32.0	C	Intersection		36.6	D	
15	**Eighth Avenue and West 17th Street**									
	WB	TR	0.53	27.6	C	TR	0.54	27.7	C	
	NB	L	0.44	30.3	C	L	0.55	33.6	C	
		T	0.52	3.5	A	T	0.53	3.5	A	
		Intersection		9.7	A	Intersection		10.4	B	
16	**Eighth Avenue and West 14th Street**									
	EB	LT	0.90	42.3	D	LT	0.94	49.0	D	+
	WB	TR	0.43	21.8	C	TR	0.46	22.3	C	
	NB	L	0.52	37.4	D	L	0.53	37.7	D	
		TR	0.53	6.1	A	TR	0.56	6.4	A	
		Intersection		21.1	C	Intersection		23.1	C	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies LOS changes beyond mid-LOS D

Table 14-14 (cont'd)
2011 Existing Condition and 2015 No Action Condition
Intersection Level of Service Analysis

Saturday Evening Pre-Event Peak Hour

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
1	**Route 9A and West 24th Street**								
	WB	L	0.20	39.1	D	L	0.21	39.2	D
		R	0.62	50.4	D	R	0.63	50.6	D
	NB	TR	0.72	11.3	B	TR	0.73	11.4	B
	SB	L	1.05	136.2	F	L	1.06	139.7	F
		T	0.69	17.6	B	T	0.70	17.8	B
		Intersection		21.5	C	Intersection		21.8	C
2	**Route 9A and West 22nd Street**								
	WB	T	0.45	37.1	D	T	0.46	37.2	D
	NB	T	0.78	16.9	B	T	0.79	17.1	B
		R	0.17	26.2	C	R	0.17	26.2	C
	SB	T	0.60	8.3	A	T	0.61	8.4	A
		Intersection		16.2	B	Intersection		16.3	B
3	**Route 9A and West 18th Street**								
	NB	TR	0.91	22.5	C	TR	0.92	23.2	C
	SB	L	0.33	28.5	C	L	0.33	28.5	C
		T	0.81	16.9	B	T	0.82	17.2	B
		Intersection		20.0+	C	Intersection		20.5	C
4	**Route 9A and West 17th Street**								
	EB	L	0.15	42.2	D	L	0.15	42.2	D
		LR	0.30	44.8	D	LR	0.30	44.9	D
		R	0.15	42.4	D	R	0.15	42.4	D
	WB	LR	0.68	65.0	E	LR	0.69	65.5	E
	NB	T	0.74	15.1	B	T	0.75	15.3	B
	SB	T	0.80	16.6	B	T	0.81	16.9	B
		Intersection		18.6	B	Intersection		18.8	B
5	**Route 9A and West 16th Street**								
	NB	TR	0.69	9.5	A	TR	0.70	9.6	A
	SB	L	0.27	33.7	C	L	0.27	33.8	C
		T	0.75	10.4	B	T	0.75	10.5	B
		Intersection		10.7	B	Intersection		10.8	B
6	**Route 9A and West 15th Street**								
	WB	L	0.20	32.9	C	L	0.20	33.0	C
		R	0.39	36.7	D	R	0.39	36.8	D
	NB	T	0.66	9.0	A	T	0.66	9.1	A
	SB	T	0.78	11.2	B	T	0.79	11.3	B
		Intersection		11.6	B	Intersection		11.7	B
7	**Route 9A and West 14th Street**								
	NB	T	0.65	8.9	A	T	0.66	9.0	A
		R	0.73	11.3	B	R	0.73	11.5	B
	SB	L	0.96	106.9	F	L	0.97	109.3	F
		T	0.72	10.0-	A	T	0.73	10.1	B
		Intersection		13.2	B	Intersection		13.4	B
8	**Route 9A and Tenth Avenue/Horatio Street**								
	WB	L	0.32	45.7	D	L	0.32	45.8	D
		R	0.13	42.6	D	R	0.13	42.6	D
	NB	T	0.85	16.8	B	T	0.86	17.1	B
	SB	T	0.67	4.1	A	T	0.67	4.2	A
		Intersection		12.5	B	Intersection		12.7	B

	Int.	2011 Existing Ln Grp	v/c	Delay (sec)	LOS	2015 No Action Ln Grp	v/c	Delay (sec)	LOS
9	**Tenth Avenue and West 17th Street**								
	WB	T	0.30	23.7	C	T	0.30	23.8	C
	NB	LT	0.51	2.7	A	LT	0.51	2.7	A
		Intersection		6.4	A	Intersection		6.4	A
10	**Tenth Avenue and West 16th Street**								
	EB	LT	0.32	24.0	C	LT	0.33	24.1	C
	NB	TR	0.51	2.7	A	TR	0.52	2.7	A
		Intersection		4.8	A	Intersection		4.8	A
11	**Tenth Avenue and West 15th Street**								
	WB	T	0.18	18.7	B	T	0.19	18.8	B
	NB	LT	0.54	5.9	A	LT	0.54	5.9	A
		Intersection		7.9	A	Intersection		7.9	A
12	**Tenth Avenue and West 14th Street**								
	EB	L	0.61	21.0	C	L	0.61	21.1	C
		T	0.32	26.7	C	T	0.32	26.7	C
		R	0.09	23.9	C	R	0.09	23.9	C
	WB	LR	0.60	35.4	D	LR	0.61	35.9	D
		R	0.65	36.0	D	R	0.66	36.3	D
		Intersection		26.6	C	Intersection		26.8	C
13	**Ninth Avenue and West 17th Street**								
	WB	L	0.16	18.5	B	L	0.16	18.6	B
		T	0.45	23.1	C	T	0.46	23.2	C
	SB	TR	0.61	6.8	A	TR	0.62	6.9	A
		Intersection		10.0+	B	Intersection		10.1	B
14	**Ninth Avenue and West 14th Street**								
	EB	TR	0.59	32.5	C	TR	0.60	32.7	C
	WB	LT	0.58	32.5	C	LT	0.59	32.6	C
	NB	L	0.46	39.6	D	L	0.47	39.8	D
		R	0.97	92.5	F	R	0.98	94.9	F
	SB	LT	0.81	20.7	C	LT	0.82	21.1	C
		R	0.54	17.7	B	R	0.55	17.9	B
		Intersection		32.1	C	Intersection		32.6	C
15	**Eighth Avenue and West 17th Street**								
	WB	TR	0.81	40.6	D	TR	0.82	41.4	D
	NB	L	0.31	27.4	C	L	0.31	27.4	C
		T	0.72	5.0	A	T	0.71	4.9	A
		Intersection		12.5	B	Intersection		12.6	B
16	**Eighth Avenue and West 14th Street**								
	EB	LT	0.94	47.8	D	LT	0.95	49.9	D
	WB	TR	0.61	25.4	C	TR	0.61	25.5	C
	NB	L	0.44	34.5	C	L	0.44	34.6	C
		TR	0.85	11.4	B	TR	0.86	11.7	B
		Intersection		23.1	C	Intersection		23.9	C

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies LOS changes beyond mid-LOS D

NINTH AVENUE AND WEST 14TH STREET

- During the **Saturday Midday** peak hour, the southbound right-turn movement would deteriorate from LOS C with an average delay of 26.8 seconds and v/c ratio of 0.73 to LOS D with an average delay of 49.0 seconds and v/c ratio of 0.91.

EIGHTH AVENUE AND WEST 14TH STREET

- During the **Saturday Midday** peak hour, the eastbound approach would deteriorate within LOS D from an average delay of 42.3 seconds and v/c ratio of 0.90 to an average delay of 49.0 seconds and v/c ratio of 0.94.

PARKING SUPPLY AND UTILIZATION

The utilization of off-street parking facilities in the study area is expected to increase due to the area's background growth and additional demand generated by other development projects. The maximum utilization rate of off-street parking facilities in the study area is estimated to increase to approximately 86 percent during the Weekday Midday period, with one facility at 100 percent occupancy. **Table 14-15** shows the No Action parking utilization analysis.

Table 14-15
2015 No Action Condition: Off-Street Parking Utilization

Map Location	Garage	Location	License Number	Licensed Capacity	Utilization Rate					Utilized Spaces					Available Spaces				
					Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
					Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE
1	Park 15 West LLC	W. 15th Street between Ninth and Tenth Avenues	1155053	374	100%	71%	66%	55%	21%	373	266	247	206	79	1	108	127	168	295
2	Icon Parking Systems	W. 15th Street east of Ninth Avenue	1002786	625	89%	57%	61%	62%	61%	556	356	382	386	382	69	269	243	239	243
3	MP 17 LLC	W. 16th Street between Ninth and Tenth Avenue	1310036	206	81%	61%	51%	36%	26%	167	126	106	75	54	39	80	100	131	152
4	Edison Parking	W. 17th Street west of Tenth Avenue	1298623	320	96%	86%	81%	61%	61%	308	276	260	196	196	12	44	60	124	124
5	Edison Parking	W. 20th Street west of Tenth Avenue	1006124	80	96%	86%	81%	51%	71%	77	69	65	41	57	3	11	15	39	23
6	GGMC Parking	W. 21st Street west of Tenth Avenue	1362685	142	42%	51%	32%	42%	82%	59	73	45	59	116	83	69	97	83	26
7	Edison Parking	W. 22nd Street west of Tenth Avenue	1040211	49	92%	88%	78%	61%	92%	45	43	38	30	45	4	6	11	19	4
8	Chelsea Piers[1]	W. 19th Street west of Eleventh Avenue	1132509	250	71%	71%	71%	51%	91%	178	178	178	128	228	72	72	72	122	22
Total No-Build 2015				**2,046**	**86%**	**68%**	**65%**	**55%**	**57%**	**1,763**	**1,387**	**1,321**	**1,121**	**1,157**	**283**	**659**	**725**	**925**	**889**

Notes:
1. Licensed parking capacity at Chelsea Piers is based on public parking on Piers 60 and 61. The valet parking on Pier 59 was not included in the analysis.

TRANSIT OPERATIONS

Transit trips associated with general annual background growth of 0.25 percent and the development projects planned for 2015 were superimposed onto the existing transit networks to generate peak period transit volumes for the 2015 No Action Condition analysis.

SUBWAY

Detailed stairway analyses conducted for 13 analysis stairways in the 14th Street ACE/L subway station identified in **Table 14-16** indicate that they are projected to continue to operate at LOS C or better for the 2015 No Action Condition during the Weekday PM peak period. According to **Table 14-17**, the

two control areas (H1 and N78) in the 14th Street ACE/L subway station are projected to continue to operate at LOS B or better for the 2015 No Action condition during the Weekday PM peak period.

Table 14-16
2015 No Action Condition
Subway Stairs Level of Service Analysis West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	ID	Type	Location	Width (feet)	Effective Width (feet)	No Action Weekday PM Peak 15 Minute Entering Volume	No Action Weekday PM Peak 15 Minute Exiting Volume	Friction Factor	V/C	LOS
H1	8th Ave and 14th St	M1	Stairway	NW Corner	6.00	5.00	205	147	0.9	0.54	B
H1		S1	Stairway	NW Corner	6.00	5.00	205	147	0.9	0.54	B
H1		M2A/B	Stairway	SW Corner	12.83	11.58	360	230	0.9	0.39	A
H1		S2	Stairway	SW Corner	6.00	5.00	360	230	0.9	0.91	C
N78	8th Ave and 15th St	M3	Stairway	NW Corner	4.50	3.50	239	101	0.9	0.74	C
N78		S3	Stairway	NW Corner	4.50	3.50	239	101	0.9	0.74	C
N78		M5	Stairway	SW Corner	5.83	4.83	171	39	0.9	0.33	A
N78		S5	Stairway	SW Corner	4.50	3.50	171	39	0.9	0.45	B
N78	8th Ave and 16th St	M7A/B	Stairway	NW Corner	9.58	8.33	231	145	0.9	0.35	A
N78		S5	Stairway	NW Corner	4.33	3.33	114	83	0.9	0.46	B
N78		S7	Stairway	NW Corner	4.33	3.33	119	63	0.9	0.42	A
Mezzanine	From 14th St to 16th St	P1A/B	Stairway	Downtown Platform	9.67	8.42	249	518	0.9	0.83	C
Mezzanine	From 14th St to 16th St	P2A/B	Stairway	Uptown Platform	9.92	8.67	635	105	0.9	0.74	C

Table 14-17
2015 No Action Condition
Subway Station Control Area Level of Service Analysis West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	Station Elements	Quantity (5)	No Action PM Peak 15 Minute Entering Volume (2)	No Action PM Peak 15 Minute Exiting Volume (1)	15 Minute Turnstile Capacity for Entries (3)	15 Minute Turnstile Capacity for Exits (3)	V/C	LOS
H1	14th Street / 8th Avenue	Turnstile	6	745	343	2775	3870	**0.60**	**B**
		HEET	1		167		1095		
		HXT	1						
N78 (4)	16th Street / 8th Avenue	Turnstile	6	681	240	3285	3870	**0.37**	**A**
		HEET	3		119		2175		
		HXT	1						

Notes:

(1) Source: SSE November 2010 field counts, growth rate applied to estimate 2011 values. Represents all exit volumes except from HEETs and HXTs on east side of Eighth Avenue.

(2) Source: May 2011 average weekday entries, NYCT. Represents all entering volumes for each control area. However, total capacity considered for analysis was based only on center turnstiles and HEETs on the west side of Eighth Avenue.

(3) Fare array capacity based on NYCT guidelines in accordance with the *2012 CEQR Technical Manual* .

(4) Control Area N78 includes fare gates at West 15th Street/8th Avenue.

(5) Quantity of fare gates excludes turnstiles/HEETs/HXTs on east side of the station.

BUS

As shown in **Table 14-18**, the results of the 2015 No Action Condition analysis indicate that the M14 bus route is projected to continue to operate under capacity at its peak load point during all five peak hours.

Table 14-18
2015 No Action Conditions
Bus Load Level of Service Analysis - Route M14

Route	Peak Direction	Maximum Load Point	Peak Hour Buses (1)	No Action Peak Hour Passengers (1)	Average Passengers Per Bus	Total Capacity (2)	Available Capacity
Weekday Midday							
M14	WB	East 14th St & 2nd Ave	16	737	46	1360	623
Weekday PM							
M14	EB	East 14th St & Ave A	19	1206	63	1615	409
Weekday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	16	749	47	1360	611
Saturday Midday							
M14	WB	East 14th St & 2nd Ave	15	785	52	1275	490
Saturday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	13	637	49	1105	468

Notes:
(1) Based on most currently available data from NYC Transit.
(2) Available capacity based on a maximum of 85 passengers per bus (M14 uses articulated buses).

PEDESTRIAN OPERATIONS

Pedestrian trips associated with general annual background growth of 0.25 percent and the development projects planned for 2015 were superimposed onto the existing pedestrian elements (sidewalks, corner reservoirs, and crosswalks) to generate No Action Condition peak period volumes for analysis during the five peak periods.

Corners

As presented in **Table 14-19**, all 31 corner reservoirs are projected to operate at a LOS B or better during the five peak periods during the 2015 No Action Condition.

Crosswalks

Table 14-20 summarizes the 2015 No Action Condition crosswalk analysis. All 20 crosswalks are projected to operate at a mid-LOS D or better during the five peak periods with the exception of one location. The north crosswalk at the Ninth Avenue and West 15th Street intersection is projected to worsen to LOS E (14 ft^2 per pedestrian) during the **Weekday Midday** period and to a low LOS D (17 ft^2 per pedestrian) during the **Weekday PM** period.

Sidewalks

All 39 sidewalk locations are projected to operate at a LOS B for the non-platoon conditions and a LOS C or better for platoon conditions during the five peak periods for the 2015 No Action Condition as presented in **Table 14-21**.

Table 14-19
2015 No Action Conditions: Corner Level of Service Analysis

Location	Corner	Required Corner Circulation Space (ft^2/p)					Corner Circulation LOS				
		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street	Southeast	797	842	955	1104	1788	A	A	A	A	A
	Northeast	2256	1352	1434	2058	1632	A	A	A	A	A
Route 9A and West 15th Street	Northeast	1508	2088	2828	1708	2426	A	A	A	A	A
	Southeast	1831	1369	1822	1563	2320	A	A	A	A	A
Route 9A and West 14th Street	Southeast	955	573	372	541	1134	A	A	A	A	A
Tenth Avenue and West 16th Street	Northeast	172	198	207	127	242	A	A	A	A	A
	Southeast	154	230	251	132	277	A	A	A	A	A
	Northwest	585	615	688	678	818	A	A	A	A	A
	Southwest	427	699	677	596	782	A	A	A	A	A
Tenth Avenue and West 15th Street	Northwest	408	573	725	409	632	A	A	A	A	A
	Northeast	189	219	369	181	391	A	A	A	A	A
	Southeast	230	273	480	239	626	A	A	A	A	A
	Southwest	488	607	853	465	1015	A	A	A	A	A
Tenth Avenue and West 14th Street	Northeast	299	478	991	342	592	A	A	A	A	A
	Southeast	327	479	756	378	934	A	A	A	A	A
	Southwest	1007	854	520	759	1418	A	A	A	A	A
Washington Street and West 14th Street	Southeast	135	154	310	125	224	A	A	A	A	A
	Southwest	165	196	357	129	261	A	A	A	A	A
Ninth Avenue and West 16th Street	Northeast	74	68	110	89	99	A	A	A	A	A
	Southeast	59	65	101	76	103	B	A	A	A	A
	Northwest	64	64	111	68	98	A	A	A	A	A
	Southwest	50	55	97	70	105	B	B	A	A	A
Ninth Avenue and West 15th Street	Northwest	48	59	131	78	125	B	B	A	A	A
	Northeast	40	46	111	73	112	B	B	A	A	A
	Southeast	119	134	231	122	206	A	A	A	A	A
	Southwest	75	94	169	82	139	A	A	A	A	A
Ninth Avenue and West 14th Street	Northwest	62	78	173	53	108	A	A	A	B	A
	Northeast	74	68	108	58	82	A	A	A	B	A
	Southeast	143	102	228	114	201	A	A	A	A	A
	Southwest	68	81	352	67	166	A	A	A	A	A
Eighth Avenue and West 14th Street	Northwest	134	96	111	158	141	A	A	A	A	A

Table 14-20
2015 No Action Conditions: Crosswalk Level of Service Analysis

Location	Crosswalk	Crosswalk Length (feet)	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)					Crosswalk Circulation LOS				
				Weekday			Saturday		Weekday			Saturday	
				Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 17th Street	South	89.3	19.3	521	486	580	522	726	A	A	A	A	A
Route 9A and West 16th Street	South	87.9	15.0	276	252	233	289	789	A	A	A	A	A
	East	32.0	12.0	1200	780	900	1051	1043	A	A	A	A	A
Route 9A and West 15th Street	North	121.4	15.3	330	412	787	464	567	A	A	A	A	A
	East	46.7	16.7	2369	2489	2739	11891	3389	A	A	A	A	A
	South	88.4	16.0	490	301	379	281	881	A	A	A	A	A
Route 9A and West 14th Street	South	106.0	14.5	289	114	89	178	358	A	A	A	A	A
Tenth Avenue and West 16th Street	North	60.0	12.5	217	179	227	290	292	A	A	A	A	A
	South	58.0	13.0	119	271	230	220	322	A	A	A	A	A
Tenth Avenue and West 15th Stree	North	59.1	15.5	124	172	163	200	284	A	A	A	A	A
	South	61.0	16.3	221	262	328	293	461	A	A	A	A	A
Tenth Avenue and West 14th Street	South	65.0	17.0	377	273	168	295	527	A	A	A	A	A
Washington Street and West 14th Street	South	39.3	12.3	55	59	99	31	59	B	B	A	C	B
Ninth Avenue and West 16th Street	North	57.5	11.0	52	40	73	58	67	B	B	A	B	A
Ninth Avenue and West 15th Street	North	68.8	9.9	14	17	36	33	35	E	D	C	C	C
	South	70.5	13.3	48	47	63	42	54	B	B	A	B	B
Ninth Avenue and West 14th Street (west side of intersection)	North	21.0	15.4	46	48	60	26	38	B	B	B	C	C
	South	30.8	16.5	41	37	41	26	36	B	C	B	C	C
Ninth Avenue and West 14th Street (east side of intersection)	North	30.0	12.3	38	33	93	30	45	C	C	A	C	B
	South	39.4	22.7	51	32	50	29	43	B	C	B	C	B

Table 14-21
2015 No Action Conditions
Sidewalk Level of Service Analysis

Location	Effective Width (feet)	Peak 15-Min Volumes					Flow Rate (pfm)					Non-Platoon Conditions LOS					Platoon Conditions LOS				
		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street (south side, west sidewalk)	11.5	49	58	96	114	54	0.28	0.34	0.56	0.66	0.31	A	A	A	A	A	A	A	B	B	A
Route 9A and West 16th Street (south side, east sidewalk)	13.3	32	15	18	9	9	0.16	0.08	0.09	0.05	0.05	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, north sidewalk)	11.0	11	13	16	11	13	0.07	0.08	0.10	0.07	0.08	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, south sidewalk)	10.0	56	155	106	23	9	0.38	1.03	0.71	0.16	0.06	A	A	A	A	A	A	B	B	A	A
Route 9A and West 15th Street (north side, west sidewalk)	12.8	41	60	94	112	47	0.21	0.31	0.49	0.59	0.25	A	A	A	A	A	A	A	A	B	A
Route 9A and West 15th Street (north side, east sidewalk)	13.8	14	13	15	16	3	0.07	0.06	0.07	0.08	0.01	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (east side, north sidewalk)	11.5	21	13	8	16	12	0.12	0.08	0.05	0.09	0.07	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (east side, south sidewalk)	3.0	15	14	14	21	15	0.33	0.31	0.31	0.47	0.33	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (south side, west sidewalk)	15.3	34	59	98	124	40	0.15	0.26	0.43	0.54	0.17	A	A	A	A	A	A	A	A	B	A
Route 9A and West 15th Street (west side, within intersection)	18.8	86	119	103	117	46	0.30	0.42	0.36	0.41	0.16	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (east side, north sidewalk)	5.5	96	70	95	146	94	1.16	0.85	1.15	1.77	1.14	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 16th Street (east side, south sidewalk)	9.5	61	40	18	40	23	0.43	0.28	0.13	0.28	0.16	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (west side, north sidewalk)	10.0	27	0	24	13	12	0.18	0.00	0.16	0.09	0.08	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 16th Street (west side, south sidewalk)	9.0	28	19	21	27	12	0.21	0.14	0.16	0.20	0.09	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (west side, north sidewalk)	9.0	22	15	8	18	8	0.17	0.11	0.06	0.14	0.06	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (west side, south sidewalk)	3.0	18	19	17	13	7	0.40	0.42	0.38	0.29	0.16	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (east side, north sidewalk)	9.3	83	54	19	94	53	0.60	0.39	0.14	0.68	0.38	A	A	A	A	A	B	A	A	B	A
Tenth Avenue and West 15th Street (east side, south sidewalk)	13.0	16	29	15	33	22	0.08	0.15	0.08	0.17	0.11	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 15th Street (south side, east sidewalk)	16.3	155	108	48	162	100	0.64	0.44	0.20	0.66	0.41	A	A	A	A	A	B	A	A	B	A
Tenth Avenue and West 14th Street (north side, east sidewalk)	15.8	219	103	45	161	89	0.93	0.43	0.19	0.68	0.38	A	A	A	A	A	B	A	A	B	A
Tenth Avenue and West 14th Street (west side, south sidewalk)	10.0	25	49	91	51	31	0.17	0.33	0.61	0.34	0.21	A	A	A	A	A	A	A	B	A	A
Tenth Avenue and West 14th Street (east side, north sidewalk)	16.5	42	24	22	103	67	0.17	0.10	0.09	0.42	0.27	A	A	A	A	A	A	A	A	A	A
Tenth Avenue and West 14th Street (east side, south sidewalk)	19.7	231	147	21	198	40	0.78	0.50	0.07	0.67	0.14	A	A	A	A	A	B	A	A	B	A
Washington Street and West 14th Street (west side, south sidewalk)	15.5	344	278	92	315	109	1.48	1.19	0.40	1.36	0.47	A	A	A	A	A	B	B	A	B	A
Washington Street and West 14th Street (east side, south sidewalk)	12.8	289	276	144	360	252	1.51	1.44	0.75	1.88	1.32	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (east side, north sidewalk)	6.8	135	217	182	125	181	1.32	2.12	1.78	1.22	1.77	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, north sidewalk)	8.0	142	96	92	106	84	1.18	0.80	0.77	0.88	0.70	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, south sidewalk)	4.5	65	68	35	75	138	0.97	1.00	0.52	1.11	2.04	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (west side, north sidewalk)	11.4	151	128	103	126	69	0.88	0.74	0.60	0.74	0.40	A	A	A	A	A	B	B	B	B	A
Ninth Avenue and West 15th Street (west side, south sidewalk)	11.5	72	132	64	36	22	0.42	0.76	0.37	0.21	0.13	A	A	A	A	A	A	B	A	A	A
Ninth Avenue and West 15th Street (east side, north sidewalk)	3.9	231	295	123	197	109	3.93	5.02	2.09	3.34	1.86	A	B	A	A	A	C	C	B	C	B
Ninth Avenue and West 15th Street (south side, east sidewalk)	7.0	274	255	210	335	196	2.61	2.43	2.00	3.19	1.87	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 15th Street (south side, west sidewalk)	9.5	325	364	316	447	365	2.28	2.55	2.22	3.14	2.56	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 14th Street (west side, north sidewalk)	13.5	307	300	306	388	306	1.52	1.48	1.51	1.92	1.51	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (west side, south sidewalk)	12.0	279	280	146	363	227	1.55	1.56	0.81	2.02	1.26	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (north side, east sidewalk)	4.5	279	246	209	336	210	4.14	3.65	3.10	4.98	3.11	A	A	A	A	A	C	C	C	C	C
Ninth Avenue and West 14th Street (north side, west sidewalk)	8.0	306	341	317	441	338	2.55	2.84	2.64	3.68	2.82	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 14th Street (east side, north sidewalk)	8.8	398	617	353	466	374	3.00	4.66	2.66	3.52	2.82	A	A	A	A	A	C	C	B	C	B
Ninth Avenue and West 14th Street (east side, south sidewalk)	15.0	340	517	297	291	168	1.51	2.30	1.32	1.29	0.75	A	A	A	A	A	B	B	B	B	B

G. DESCRIPTION OF THE PROPOSED PROJECT

The proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 structure in Hudson River Park. The proposed development program is assumed to include the following land uses:

- 59,214 square feet of restaurant including:
  - 24,450 square feet of quality restaurant
  - 34,764 square feet of food counter
- 202,686 square feet of market (retail space)
- 110,000 square feet rooftop (for park use and programmed events)
- 40,000 square feet of art gallery/exhibit space (caisson level)
- 11,000 square feet cultural use (300-seat theatre)
- 32,700 square feet technical arts school
- 190-slip marina[1]
- Potential water taxi landing

The following section describes the methods and assumptions used to develop the trip generation and trip distribution characteristics of the proposed project.

SITE ACCESS AND EGRESS

Access to the project site would be limited to locations along Route 9A. Vehicles approaching the site from the north would access the site at the Route 9A and West 16th Street intersection via a southbound right turn. Vehicles approaching the site from the east and south would access the site at the Route 9A and West 17th Street intersection via a through movement from West 17th Street. Vehicles would egress the site at the Route 9A and West 14th Street intersection and be able to turn right onto southbound Route 9A, left onto northbound Route 9A, or continue straight across Route 9A to West 14th Street eastbound. Taxis would load/unload along a frontage road separated from Route 9A by the bikeway or at a designated taxi stand located on northbound Route 9A between West 14th and West 15th Streets. Taxis were also assumed to load and unload on the north side of West 15th Street between Tenth Avenue and Route 9A. Trucks would load/unload along the frontage road. During overnight hours when the facility is closed, a truck-only entry off Route 9A at West 15th Street would be used for larger truck deliveries. Deliveries that require access to the truck-only entry would be scheduled in advance.

The frontage road would operate with two travel lanes. A third eight-foot-wide drop-off lane adjacent to the project frontage would be paved with a special pavement treatments such that it would operate as a pedestrian space during peak periods and would be available as a loading and unloading lane for trucks during off-peak periods when a greater number of truck deliveries are expected.

Access to an approximately 75-space on-site accessory parking garage would be from two driveways (one inbound, one outbound) located along the project frontage road. The outbound

[1] The transportation analysis considers the effects of a 190-slip marina, which is more conservative than the 141-slip marina described in Chapter 1, "Project Description."

driveway would be located closer to West 16th Street, and the inbound driveway would be located closer to the West 14th Street.

Pedestrians would access the site from the esplanade to the north or south, or via crosswalks at West 17th Street, West 16th Street, West 15th Street, and West 14th Street. An access plan is provided in Figure 14-1.

ANALYSIS SCENARIOS

The trip generation and assignment estimates were prepared for two scenarios. The "Typical" scenario is the more common condition when the rooftop would be used as public open space with an exhibit space. The "Pre-Event" scenario is when the rooftop space would be used for high attendance evening events. The other project elements would operate the same under both analysis scenarios. To analyze a reasonable worst-case condition, the Pre-Event scenario assumes a 2,500-person event. The Typical scenario was analyzed for the Weekday Midday, Weekday PM, and Saturday Midday peak hours, and the Pre-Event scenario was analyzed for the Weekday Evening and Saturday Evening peak hours.

TRIP GENERATION

LINKED TRIPS

Linked trips are trips that have multiple destinations for multi-use sites. The Pier 57 redevelopment plan calls for a major concentration of food-based uses surrounded by a variety of international cuisines, educational programs, and retail merchandise. The Pier 57 site would produce linked trips with visitors traveling between the open space, retail market, food counters, restaurants, and the cultural use. Other linked trips would occur between the technical arts school, food market, and restaurants. Furthermore, the Tribeca Film Festival experience would draw linked trips between the restaurant, retail, and rooftop spaces.

MARKET (RETAIL SPACE)

The market is retail space that is expected to be primarily made up of small retail pods; in total, it would comprise 202,686 square feet of related retail space that are expected to have both a regional and local draw. As such, it was assumed that the market space would operate most similar to the "destination retail" land use, and the total Weekday and Saturday daily trip generation rates were obtained from Table 16-2 of the *CEQR Technical Manual*.

A survey was conducted at Chelsea Market to serve as a basis for modal split and vehicle occupancy assumptions for the retail space at Pier 57. Pier 57 would provide similar "work-sell" spaces for food and fashion-related businesses.

This survey was conducted on Saturday, February 12, 2011, from 1:00 PM to 4:00 PM and from 5:00 PM to 8:00 PM and on Wednesday, February 16, 2011, from 11:30 AM to 2:30 PM and 4:30 PM to 7:30 PM. The results of the survey are presented in **Appendix C-1**.

RESTAURANT

The site would contain a total of 59,214 square feet of restaurant space spread out among several locations within the Pier. Of this space, 24,450 square feet would be high-end restaurants ("Quality Restaurant") and 34,764 square feet would be more casual food counter service ("Food Counter").

Quality Restaurant

The development would include 24,450 square feet of quality restaurant space, including an outdoor terrace. Trip generation was based on Urban Space for Pedestrians (Pushkarev & Zupan, 1975) and the Quality Restaurant (Land Use Code 931) land use from the Institute of Transportation Engineers' (ITE) Trip Generation, 8th Edition manual. Modal splits and vehicle occupancies were obtained from Table II.F.7 of the Chelsea Piers FEIS for the restaurant land use, and the modal splits were modified based on discussions with NYCDOT to reflect a lower bus mode share and higher walk-only and subway mode shares.

Food Counters

The development would include 34,764 square feet of food counter space that would operate similar to the counter-service style food establishments at Chelsea Market. It is expected that most of the patrons of these food counters would also be shopping at the retail pods and, as such, are expected to have similar trip generation characteristics as the destination retail. However, to be conservative, the total daily trip generation rates were based on daily trip rates for a Quality Restaurant, which provides higher rates than for destination retail.

As with the Quality Restaurant lane use, modal splits and vehicle occupancies were obtained from Table II.F.7 of the Chelsea Piers FEIS for the restaurant use, and the modal splits were modified based on discussions with NYCDOT.

ROOFTOP

While the 110,000 square feet (2.5 acres) of rooftop space would be open to public, the Pier would also occasionally host evening events during the year, with approximately two weeks in late April/early May dedicated to the Tribeca Film Festival. Trip generation estimates were performed for the Typical and Pre-Event scenarios.

Typical Scenario

During the Typical Scenario, the rooftop would operate mainly as passive open space, drawing visitors to the Pier to enjoy the rooftop space and the waterfront views. Also, the anticipated programming for the rooftop includes art installations and exhibits that would take up approximately 10,000 square feet of the rooftop. These installations were assumed to occur three to four times per year and run for approximately two months each, plus one week to set up and one week to take down the exhibits. Therefore, this scenario could be considered "typical," as four installations at 10 weeks each would comprise 40 weeks over the course of a year. To generate trips for this scenario, it was assumed that this exhibition space would operate similar to a museum, while the remaining 100,000 square feet would operate with the same trip generation characteristics as open/park space.

Daily trip generation rates and temporal distribution for the rooftop space were based on the *CEQR Technical Manual*, Table 16-2. While the open space on the rooftop would be a passive use, the higher active park rate was conservatively applied. Mode share, vehicle occupancy, and directional distribution assumptions were based on the *Special West Chelsea District Rezoning and High Line Open Space FEIS* (2010), Table 16-6, for the High Line open space land use.

For the art installation occurring on one-third of the rooftop, daily trip generation rates were based on the museum land use on Table 16-2 of the *CEQR Technical Manual*. Modal splits and vehicle occupancies were obtained from a survey conducted in May 2005 for a temporary art and film installation called "Ashes and Snow" that ran for three months on Pier 54.

Pre-Event Scenario

Although a limited number of events would be staged on the rooftop, trip generation estimates were calculated for the Pre-Event Scenario to represent a worst-case scenario. The rooftop event space has a 2,500-person capacity; however, events would typically not exceed 1,500 people. Events would include Tribeca Film Festival events and other special interest programming. The worst-case scenario of a 2,500-person event was analyzed for the Weekday Evening Pre-Event and Saturday Evening Pre-Event peak periods.

The total daily trip generation rate was based on the Brooklyn Bridge Park FEIS (2005), Table 14-6, for the multi-use / theatre land use, and assumed a capacity of 2,500 people ("seats"). The mode share, vehicle occupancy, temporal distribution, and directional distribution rates for both a Weekday and Saturday Evening Pre-Event were based on a survey performed for an outdoor movie event on Pier 54. Mode share and vehicle occupancy survey data was collected between the hours of 6:00 PM and 9:00 PM, and temporal distribution observations were made between 6:00 PM and 11:30 PM. The movie event was open to the public, with people arriving and departing throughout the duration of the event. Saturday Evening Pre-Event and Weekday PM directional distributions were assumed to be the same as the Weekday Evening Pre-Event assumptions.

The transportation planning assumptions for the cultural use were conservatively based on a 300-seat theatre as it would generate the greatest number of trips for a cultural use in the space available. The same transportation planning assumptions were used as for the rooftop event. However, it was assumed that the cultural use could be operational during the Weekday Midday and Saturday Midday peak periods (matinee shows).

TECHNICAL ARTS SCHOOL

The 32,700-square-foot technical arts school would be an educational facility with a specialized focus, such as cooking, fashion, photography, or graphic arts. Examples of technical arts schools in Manhattan include the Institute for Culinary Education (ICE), the Fashion Institute of Technology (FIT), and the Art Institute of New York City. Typically, these schools focus on a single technical arts area, such as the culinary arts, and also provide a recreational curriculum. Daily trip rates were obtained from the ITE Trip Generation, 8th Edition manual for the Junior/Community College (Land Use Code 540) land use.

To develop assumptions for modal splits and vehicle occupancies, the graduate/full-time student land use from the Fordham University Lincoln Center Master Plan FEIS (2009) was used. Class schedules at several technical arts schools were reviewed to estimate temporal distributions.

MARINA

Weekday trip generation assumptions for the proposed 190-slip marina were based on the Brooklyn Bridge Park FEIS Table 14-6 for the marina land use. The remaining travel demand assumptions were obtained from the Hudson River Park FEIS (1998), Table 11-25, for the marina land use. The Weekday Evening Pre-Event temporal and directional distributions were assumed to be same as Weekday PM, and the Saturday Evening Pre-Event temporal and directional distributions were assumed to be same as the Saturday Midday.

POTENTIAL WATER TAXI LANDING

There is the potential for a water taxi landing to be constructed on Pier 57. The landing could become a stop along the Hudson River water taxi route that currently stops at various locations including Pier 45 at Christopher Street and Pier 84 at West 44th Street. As a stand-alone use, it is expected that the water taxi landing would primarily attract pedestrians from along the esplanade. However, it would also provide an alternative mode for visitors to travel to and from the site and would therefore result in a modal shift that would reduce the number of pedestrians coming from subway stations, bus stops, and taxis on the local streets. Since the presence of the water taxi would likely reduce the transportation impact of the project, the transportation planning analysis conservatively did not account for the water taxi landing.

While some additional pedestrian trips might be generated through the study area by the presence of a water taxi, this potential increase would be offset by a reduction in pedestrian trips due to some site visitors choosing to travel via water taxi rather than coming from the landside of the pier.

POTENTIAL TOUR BUS ACTIVITY

There is the potential for tour bus activity to be generated by the proposed project, and the access plan would accommodate such activities, if needed. Tour buses could be accommodated along the frontage road, and an area for loading and unloading such buses has been identified on the frontage road, though this area could also be used by other vehicles when no tour buses are present. Tour buses would be required to stage off-site at tour bus staging locations in Manhattan that have been designated by NYCDOT. Tour bus activity is likely to generate only a small percentage of visitors to the proposed project and has not been explicitly accounted for in the travel demand assessment.

TRIP GENERATION RESULTS

The results of the trip generation estimates for the Typical and Pre-Event scenarios are summarized in **Table 14-22**. Complete transportation demand factors are shown in **Table 14-23**, with detailed trip generation estimates for the Typical and Pre-Event scenarios shown in **Tables 14-24** and **14-25**.

Table 14-22
Pier 57 Trip Generation Estimates

Peak Hour	Vehicle Trips (auto/taxi/truck)	Subway Trips	Bus Trips	Pedestrian Trips	Total Walk Trips (includes transit)
Typical Scenario					
Weekday MD	367	846	110	706	1,662
Weekday PM	348	857	112	735	1,704
Saturday MD	549	882	126	970	1,979
Event Scenario					
Weekday EVE	475	1,763	167	1,401	3,332
Saturday EVE	380	1,331	122	1,020	2,473

TRIP ASSIGNMENT

Trip assignment factors were generally obtained from trip-origin surveys collected for similar land uses located on the west side of Manhattan or near West Chelsea. The trip-origin survey

data were used to estimate the general direction project trips would come from/go to and to determine which transit routes would be used. Professional judgment was applied to determine the specific routes within the study area that would be used to access the site. A list of trip assignment sources used for each land use is provided below:

- Retail and Restaurant: Chelsea Market Survey (February 2011)
- Cultural Use and Rooftop Event: Pier 54 Movie Survey (July 2009)
- Rooftop Open Space/Park and Marina: Nelson Rockefeller (North) Park survey (Hudson River Park FEIS)
- Exhibit Space: Pier 54 "Ashes and Snow" exhibit survey (May 2005)
- Technical Arts School: Journey-to-Work data, 2000 Census.

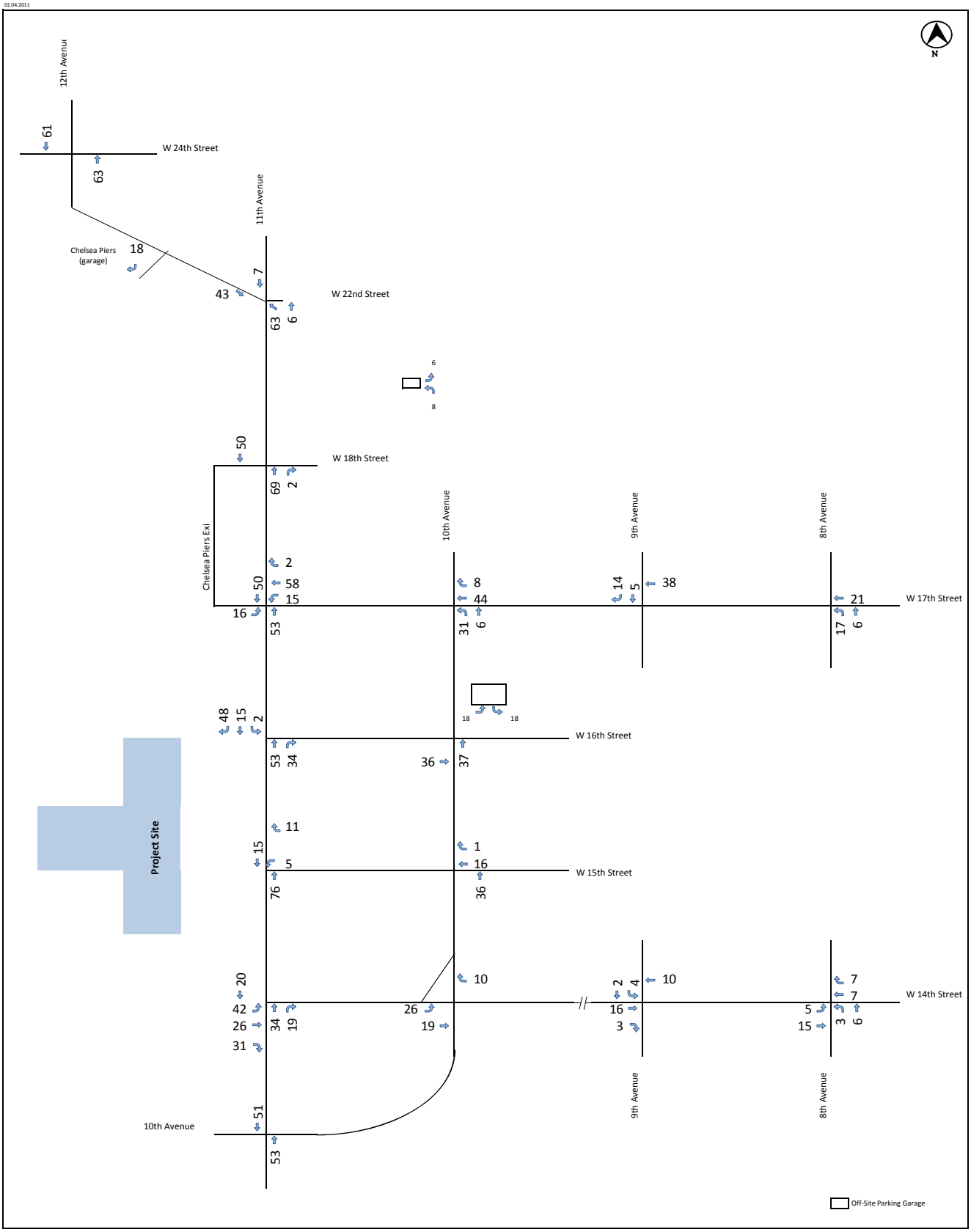
Additional information is provided in the Transportation Demand Factors Memo, included as **Appendix C-2**.

Figures 14-17 through 14-21 show the project-generated trips for all peak hours.

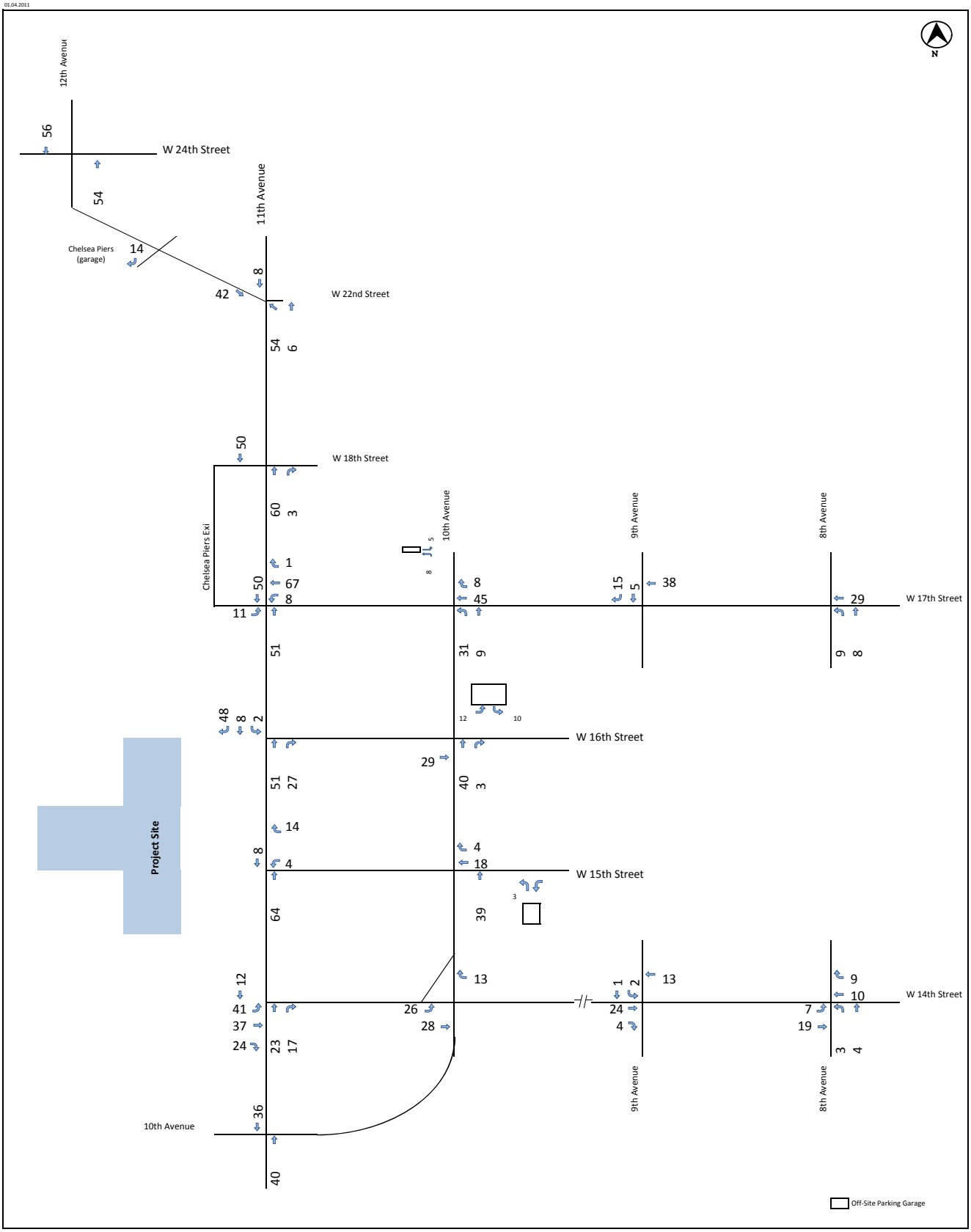
PARKING ACCUMULATION

The proposed project would provide approximately 75 on-site accessory parking spaces. Access to the parking garage would be along the adjacent access road via an entry driveway located south of the Route 9A and West 15th Street intersection, as shown in the project site plan in Figure 14-1. Garage egress would occur along the adjacent access road via an exit driveway located north of the Route 9A and West 15th Street intersection.

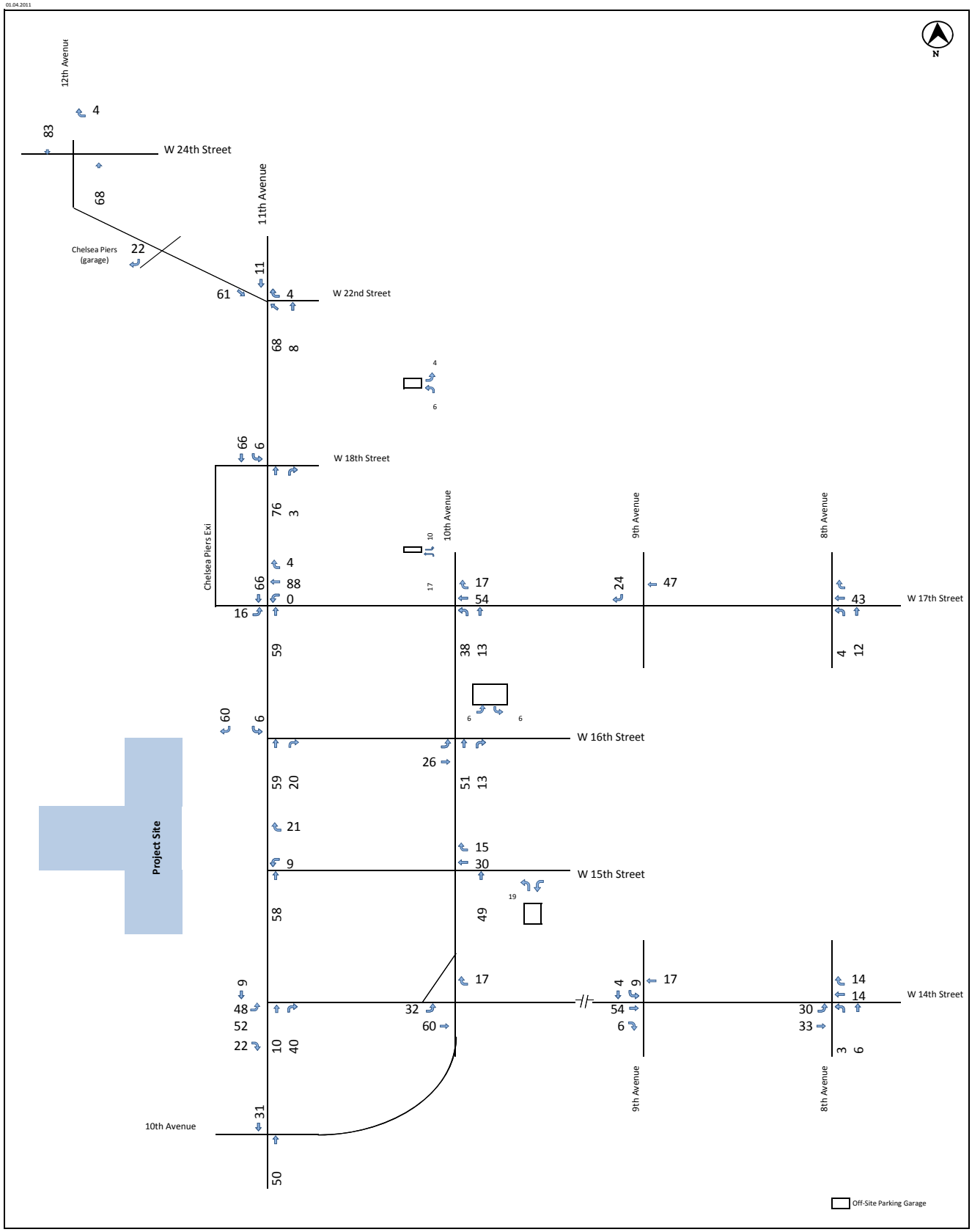
Tables 14-26 and **14-27** show the parking accumulation for a typical Weekday and Saturday for both the Event and Typical scenarios. Overall, the total demand during a typical Weekday would peak at 187 spaces at 1:00 PM during the Typical Scenario and 212 spaces at 7:00 PM during the Pre-Event Scenario. The total demand during a typical Saturday would peak at 293 spaces at 2:00 PM during the Typical Scenario and 292 spaces at 2:00 PM during the Pre-Event Scenario. With a capacity of approximately 75 accessory parking spaces, the full project-generated demand cannot be completely accommodated on-site during any of the five peak hours.



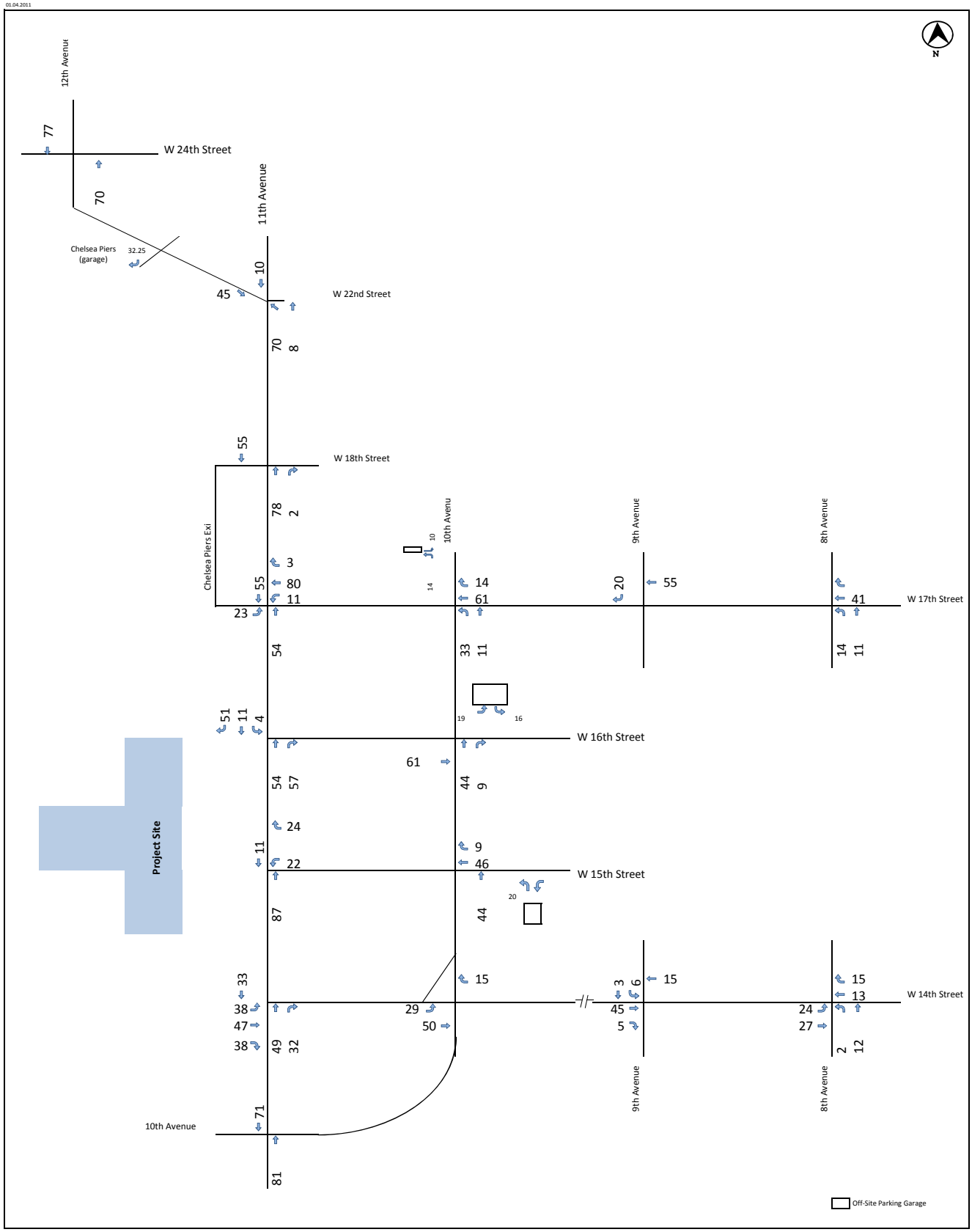
Vehicular Project Increment
Weekday Midday Peak Hour
Figure 14-17



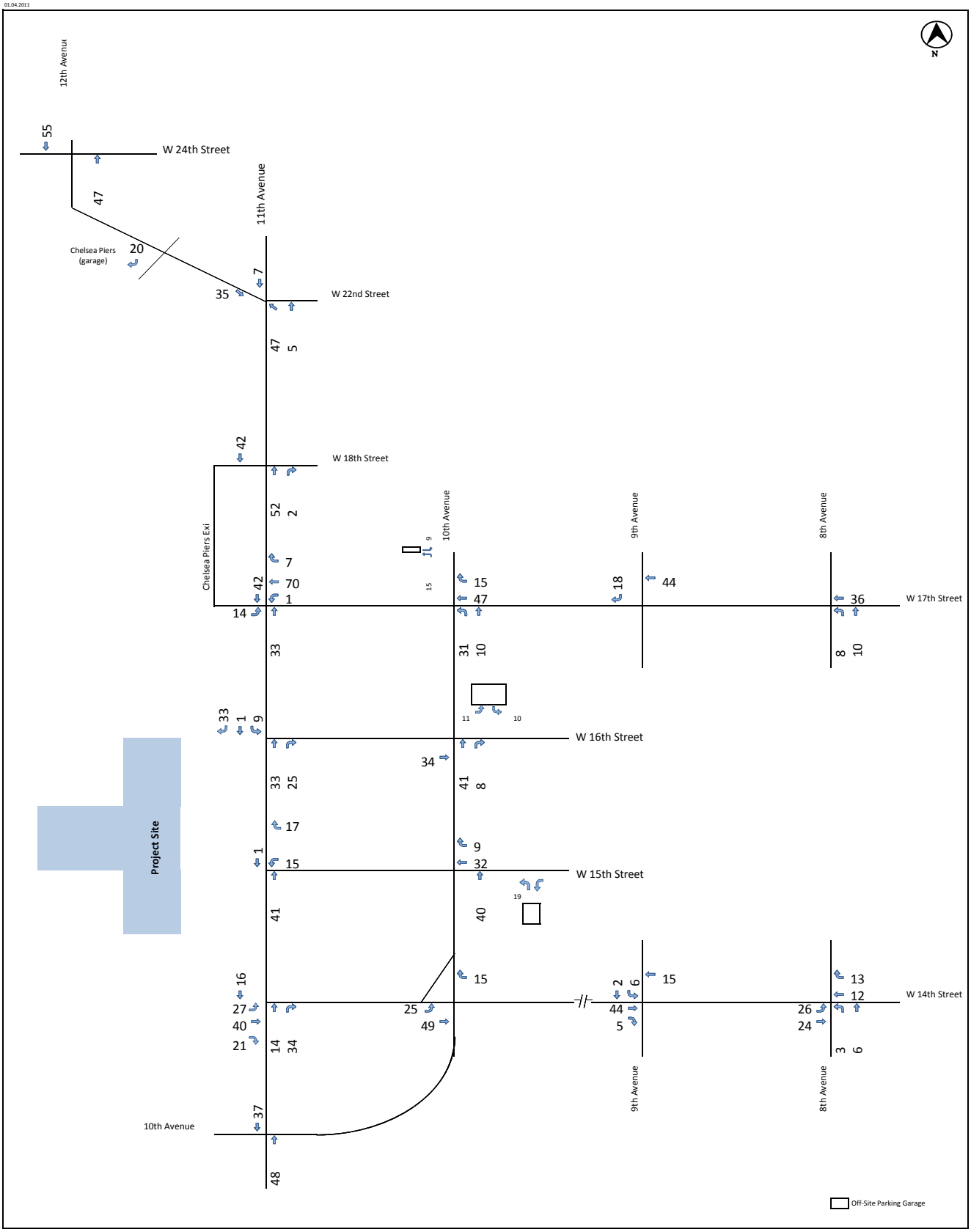
Vehicular Project Increment
Weekday PM Peak Hour
Figure 14-18



Vehicular Project Increment
Weekday Evening Pre-Event Peak Hour
Figure 14-19



Vehicular Project Increment
Saturday Midday Peak Hour
Figure 14-20



Vehicular Project Increment
Saturday Evening Pre-Event Peak Hour
Figure 14-21

Table 14-23
Pier 57 Transportation Demand Factors

		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Open Space	Rooftop Exhibit (Museum)	Rooftop Event
Project Component	Size	202,686	24,450	34,764	300	40,000	32,700	190	2.30	10,000	2,500
	Unit	gsf	gsf	gsf	Seats	gsf	gsf	slips	acres	gsf	people
Person Trip Generation Rate		(1)	Weekday (3), Saturday (5)	(16)	(6)	(1)	(11)	Weekday (6), Saturday (12)	(1)	(1)	(6)
	Weekday	78.2	173	173	2.68	27.0	30.51	6.23	139	27.0	2.68
	Saturday	92.5	181	181	2.68	20.6	12.47	12.80	196	20.6	2.68
	Unit	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf	per seat	per 1,000 gsf	per 1,000 gsf	per slip	per acre	per 1,000 gsf	per person
Truck Generation Rate		(14)	(12)	(12)	(6)	(13)	(8)	(12)	(7)	(13)	(6)
	Weekday	0.35	3.60	3.60	0.01	0.05	0.03	0.02	0.00	0.05	0.01
	Saturday	0.02	3.60	3.60	0.01	0.00	0.03	0.02	0.00	0.00	0.01
	Unit	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf	per seat	per 1,000 gsf	per 1,000 gsf	per slip	per acre	per 1,000 gsf	per person

		Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday MD	Weekday PM/EVE	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
Modal Split		(2)		(18)		(18)		(9)		(4)		(8)		(12)		(7)		(4)		(9)	
	Auto	9.2%	10.5%	25.0%	25.0%	25.0%	25.0%	9.0%	9.0%	19.5%	19.5%	7.5%	2.4%	75.0%	75.0%	5.0%	5.0%	19.5%	19.5%	9.0%	9.0%
	Taxi	5.0%	14.2%	20.0%	20.0%	15.0%	15.0%	2.0%	2.0%	10.0%	10.0%	6.3%	3.6%	10.0%	10.0%	1.0%	1.0%	10.0%	10.0%	2.0%	2.0%
	Subway	40.0%	29.6%	30.0%	30.0%	35.0%	35.0%	49.0%	49.0%	33.0%	33.0%	61.6%	59.9%	5.0%	5.0%	3.0%	3.0%	33.0%	33.0%	49.0%	49.0%
	Bus	4.2%	3.7%	5.0%	5.0%	5.0%	5.0%	3.0%	3.0%	7.0%	7.0%	7.5%	8.6%	5.0%	5.0%	4.0%	4.0%	7.0%	7.0%	3.0%	3.0%
	Walk/Other	41.6%	42.0%	20.0%	20.0%	20.0%	20.0%	37.0%	37.0%	30.5%	30.5%	17.1%	25.6%	5.0%	5.0%	87.0%	87.0%	30.5%	30.5%	37.0%	37.0%
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Vehicle Occupancy		(2)		(15)		(15)		Auto (9), Taxi (6)		(4)		(8)		(12)		(7)		(4)		Auto (9), Taxi (6)	
	Auto	1.86	2.63	2.20	2.20	2.20	2.20	2.90	2.90	2.67	2.67	1.11	1.11	2.00	2.00	2.80	2.80	2.67	2.67	2.90	2.90
	Taxi	1.42	2.13	2.30	2.30	2.30	2.30	2.30	2.30	2.08	2.08	1.23	1.23	2.00	2.00	2.80	2.80	2.08	2.08	2.30	2.30
Linked Trips (10)		20%	20%	20%	20%	25%	25%	20%	20%	20%	20%	20%	20%	0%	0%	20%	20%	20%	20%	20%	20%
Temporal Distribution		(14)		(5)		(16)		MD and PM (6), EVE (9)		(1)		(8)		(12)		(1)		(1)		(9)	
	MD (12-1)	9.0%		6.2%		10.6%		0.0%		16.0%		20.0%		4.6%		5.0%		16.0%		0.0%	
	PM (5-6)	9.0%		8.3%		8.8%		10.0%		13.0%		20.0%		6.4%		6.0%		13.0%		0.0%	
	EVE (7-8)	8.4%		10.0%		14.5%		32.0%		13.0%		5.0%		6.4%		3.0%		13.0%		32.0%	
	Sat MD (1-2)	11.0%		11.0%		11.0%		10.0%		17.0%		5.0%		4.8%		6.0%		17.0%		0.0%	
	Sat EVE (7-8)	1.7%		11.5%		8.9%		32.0%		13.0%		5.0%		4.8%		3.0%		13.0%		32.0%	
Truck Temporal Distribution		(14)		(12)		(12)		(6)		(13)		(12)		(12)		(7)		(13)		(6)	
	MD (12-1)	11.0%		6.0%		6.0%		6.0%		11.0%		6.0%		6.0%		0.0%		11.0%		6.0%	
	PM (5-6)	1.0%		1.0%		1.0%		1.0%		1.0%		1.0%		1.0%		0.0%		1.0%		1.0%	
	EVE (7-8)	0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		1.0%		0.0%		0.0%		0.0%	
	Sat MD (1-2)	11.0%		6.0%		6.0%		0.0%		1.0%		6.0%		1.0%		0.0%		1.0%		0.0%	
	Sat EVE (7-8)	1.0%		0.0%		0.0%		0.0%		0.0%		0.0%		1.0%		0.0%		0.0%		0.0%	
Directional Distribution		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
		(14)		(5)		(16)		(7,9)		(13)		(17)		(12)		(7)		(13)		(7,9)	
	MD (12-1)	55.0%	45.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	63.0%	37.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	63.0%	37.0%	50.0%	50.0%
	PM (5-6)	48.0%	52.0%	67.0%	33.0%	59.0%	41.0%	75.0%	25.0%	52.0%	48.0%	50.0%	50.0%	60.0%	40.0%	45.0%	55.0%	52.0%	48.0%	75.0%	25.0%
	EVE (7-8)	55.0%	45.0%	62.0%	38.0%	54.0%	46.0%	75.0%	25.0%	34.0%	66.0%	50.0%	50.0%	60.0%	40.0%	45.0%	55.0%	34.0%	66.0%	75.0%	25.0%
	Sat MD (1-2)	71.0%	29.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	Sat EVE (7-8)	40.0%	60.0%	59.0%	41.0%	53.0%	47.0%	75.0%	25.0%	34.0%	66.0%	50.0%	50.0%	50.0%	50.0%	45.0%	55.0%	34.0%	66.0%	75.0%	25.0%
Truck Directional Distribution		(1)		(1)		(1)		(1)		(1)		(1)		(1)		(1)		(1)		(1)	
	MD (12-1)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	PM (5-6)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	EVE (7-8)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	Sat MD (1-2)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	Sat EVE (7-8)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes
1. CEQR Technical Manual 2012, Table 16-2. For open space, Active Park Space was used; temporal distribution for Weekday EVE assumed to be half of Weekday PM and Sat EVE assumed to be half of Sat MD. For Rooftop Exhibit (Museum), Weekday EVE and Saturday EVE temporal distribution assumed to be same as Weekday PM temporal distribution.
2. Sam Schwartz Engineering survey at Chelsea Market, February 2011.
3. Weekday person trip rate based on Urban Space for Pedestrians (Pushkarev & Zupan, 1975), Table 2.3.
4. PHA Survey of temporary art installation/exhibit at Pier 54, May 2005.
5. ITE Trip Generation, 8th Edition, Land Use Code 931, Quality Restaurant. Weekday PM is same as weekday peak of Adjacent Street Traffic, Weekday EVE is same as weekday PM Peak of Generator, Satruday EVE is same proportion as Saturday Peak of Generator and Daily Saturday trip rate. Saturday MD trip rate based on ITE ratio of Saturday to weekday daily trip generation (see note 3). Temporal and directional distributions based on ITE as follows:
6. Brooklyn Bridge Park FEIS (2005), Table 14-6, Multi-use (Theater) land use. Truck temporal distribution for EVE and Sat EVE assumed to be 0%. Restaurant vehicle occupancies were used for taxi. Marina land use used weekday trip generation rates for Marina.
7. Special West Chelsea District Rezoning and High Line Open Space FEIS, May 2010, Table 16-6, High Line Open Space land use. Saturday mode share and vehicle occupancy assumed to be same as weekday. Weekday EVE temporal distribution assumed to be half of Weekday PM; Sat EVE temporal assumed to be half of Sat MD. Weekday EVE and Sat EVE directional distribution is assumed to be same as Weekday PM. Saturday MD directional assumed
8. Fordham University Lincoln Center Master Plan FEIS, 2009, Table 15-2, for Graduate Students Day/Full-Time. Dorm-based mode share redistributed proportionally among auto, taxi, bus and subway. Shuttle mode share redistributed proportionally among bus and subway. SSE determined Weekday MD and PM temporal distribution based on published class schedules for the Institute of Culinary Education. Weekday EVE temporal distribution assumed be half
9. Based on Pier 54 movie event survey on 7/8/2009 performed by AKRF. Saturday EVE and Weekday PM temporal distribution and directional distribution assumed to be same as weekday EVE. Assumed no rooftop events for weekday MD and Saturday MD. During these times, open space assumptions were used. Taxi vehicle occupancy did not have good data from the AKRF survey; therefore, the restaurant assumption was used. (see note 6)
10. Assumed 20% linked trips for all uses except Marina, which assumes 0% linked trips.
11. ITE 8th Edition, Land Use Code 540, Junior/Community College
12. Hudson River Park FEIS (1998), Table 11-25. For Marina, Weekday EVE temporal distribution and directional distribution assumed to be same as weekday PM. For Marina, Sat EVE temporal distribution and directional distribution assumed to be same as Sat MD. For Restaurant, assume Saturday MD is the same as Weekday MD and assume Weekday EVE and Saturday EVE are zero.
13. Hudson Yards FGEIS (2004) App S-1, Table 1, "Museum Trip Generation Transportation Planning Assumptions" Memorandum. Saturday EVE directional distribution assumed to be same as Weekday EVE. Saturday MD directional distribution assumed to be 50/50. Saturday EVE temporal distribution assumed to be 0.
14. CEQR Technical Manual 2012, Table 16-2, for MD, PM, Saturday midday.Hudson Yards FGEIS (2004) App S-1, Table 1 and 2, "Destination Retail Trip Generation Transportation Planning Assumptions" Memorandum for Weekday EVE and Saturday EVE. Truck distribution for Sat MD assumed to be same as Weekday MD.
15. Chelsea Piers, FEIS (1993), Table II.F.7. Saturday mode share and vehicle occupancy assumed to be same as weekday.
16. ITE Trip Generation, 8th Edition, Land Use Code 932, High-Turnover (Sit Down) Restaurant. Saturday MD temporal distribution assumed to be same as Destination Retail for Saturday MD.
17. SSE assumptions based on review of class schedules at several technical art schools, including the Instituite of Culinary Education in NYC.
18. SSE and NYCDOT Assumptions.

Table 14-24
Pier 57 Trip Generation Estimates: Typical Scenario

Person Trips		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Open Space	Rooftop Exhibit (Museum)	TOTAL
Daily Trips	Weekday	12,680	3,384	4,511	643	864	798	1,184	255	216	**24,535**
	Saturday	14,999	3,550	4,732	643	659	326	2,432	360	165	**27,866**
Peak Hour Trips	MD (12-1)	1,141	210	480	0	138	160	54	13	35	**2,230**
	PM (5-6)	1,141	282	396	64	112	160	76	15	28	**2,274**
	EVE (7-8)	1,065	339	656	206	112	40	76	8	28	**2,530**
	Sat MD (1-2)	1,650	390	520	64	112	16	117	22	28	**2,920**
	Sat EVE (7-8)	255	407	423	206	86	16	117	11	21	**1,542**

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Open Space		Rooftop Exhibit (Museum)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	58	47	26	26	60	60	0	0	17	10	6	6	20	20	0	0	4	2	**192**	**173**	**364**
	Taxi	31	26	21	21	36	36	0	0	9	5	5	5	3	3	0	0	2	1	**107**	**97**	**204**
	Subway	251	205	31	31	84	84	0	0	29	17	49	49	1	1	0	0	7	4	**453**	**393**	**846**
	Bus	26	22	5	5	12	12	0	0	6	4	6	6	1	1	0	0	2	1	**59**	**51**	**110**
	Walk/Other	261	214	21	21	48	48	0	0	27	16	14	14	1	1	6	6	7	4	**384**	**323**	**706**
	Total	627	514	104	104	240	240	0	0	88	52	80	80	26	26	6	6	22	12	**1195**	**1037**	**2232**
PM	Auto	50	55	47	23	58	41	4	1	11	11	2	2	34	23	0	0	3	3	**211**	**158**	**369**
	Taxi	27	30	38	19	35	24	1	0	6	5	3	3	5	3	0	0	1	1	**116**	**86**	**201**
	Subway	219	237	57	28	82	57	24	8	19	18	48	48	2	2	0	0	5	4	**455**	**402**	**857**
	Bus	23	25	9	5	12	8	1	0	4	4	7	7	2	2	0	0	1	1	**60**	**52**	**112**
	Walk/Other	228	247	38	19	47	32	18	6	18	16	20	20	2	2	6	7	4	4	**381**	**354**	**735**
	Total	547	594	189	94	234	162	48	15	58	54	80	80	45	32	6	7	14	13	**1223**	**1052**	**2275**
EVE	Auto	54	44	53	32	89	75	14	5	7	14	0	0	34	23	0	0	2	4	**253**	**198**	**451**
	Taxi	29	24	42	26	53	45	3	1	4	7	1	1	5	3	0	0	1	2	**138**	**109**	**247**
	Subway	234	192	63	39	124	106	76	25	13	24	12	12	2	2	0	0	3	6	**527**	**405**	**933**
	Bus	25	20	11	6	18	15	5	2	3	5	2	2	2	2	0	0	1	1	**65**	**53**	**118**
	Walk/Other	244	199	42	26	71	60	57	19	12	23	5	5	2	2	3	4	3	6	**439**	**343**	**782**
	Total	586	479	211	129	355	301	155	52	39	73	20	20	45	32	3	4	10	19	**1422**	**1108**	**2530**
Sat MD	Auto	123	50	49	49	65	65	3	3	11	11	0	0	44	44	1	1	3	3	**298**	**225**	**523**
	Taxi	166	68	39	39	39	39	1	1	6	6	0	0	6	6	0	0	1	1	**258**	**160**	**418**
	Subway	347	142	59	59	91	91	16	16	18	18	5	5	3	3	0	0	5	5	**543**	**338**	**882**
	Bus	43	18	10	10	13	13	1	1	4	4	1	1	3	3	0	0	1	1	**76**	**50**	**126**
	Walk/Other	492	201	39	39	52	52	12	12	17	17	2	2	3	3	9	9	4	4	**631**	**340**	**970**
	Total	1171	479	196	196	260	260	33	33	56	56	8	8	59	59	10	10	14	14	**1806**	**1113**	**2919**
Sat EVE	Auto	11	16	60	42	56	50	14	5	6	11	0	0	44	44	0	0	1	3	**192**	**170**	**362**
	Taxi	14	22	48	33	34	30	3	1	3	6	0	0	6	6	0	0	1	1	**109**	**99**	**208**
	Subway	30	45	72	50	78	70	76	25	10	19	5	5	3	3	0	0	2	5	**276**	**221**	**498**
	Bus	4	6	12	8	11	10	5	2	2	4	1	1	3	3	0	0	1	1	**38**	**34**	**72**
	Walk/Other	43	64	48	33	45	40	57	19	9	17	2	2	3	3	4	5	2	4	**213**	**188**	**401**
	Total	102	153	240	166	224	200	155	52	30	57	8	8	59	59	4	5	7	14	**828**	**712**	**1540**

Vehicle Trips		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	31	25	12	12	27	27	0	0	6	4	5	5	10	10	0	0	2	1	**94**	**85**	**179**
	Taxi	22	18	9	9	16	16	0	0	4	2	4	4	1	1	0	0	1	1	58	51	109
	Taxi (Balanced)[1]	**31**	**31**	**14**	**14**	**23**	**23**	**0**	**0**	**5**	**5**	**6**	**6**	**2**	**2**	**0**	**0**	**1**	**1**	**83**	**83**	**167**
	Truck	4	4	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	**11**	**11**	**21**
	Total	66	60	29	29	54	54	0	0	11	9	11	11	12	12	0	0	3	2	**188**	**179**	**367**
PM	Auto	27	29	21	11	27	18	1	0	4	4	2	2	17	11	0	0	1	1	**101**	**77**	**178**
	Taxi	19	21	16	8	15	11	0	0	3	3	2	2	2	2	0	0	1	1	60	47	106
	Taxi (Balanced)[1]	**31**	**31**	**20**	**20**	**21**	**21**	**0**	**0**	**4**	**4**	**3**	**3**	**3**	**3**	**0**	**0**	**1**	**1**	**84**	**84**	**167**
	Truck	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
	Total	58	60	41	31	49	40	1	0	8	8	5	5	20	14	0	0	2	2	**186**	**162**	**348**
EVE	Auto	29	24	24	15	40	34	5	2	3	5	0	0	17	11	0	0	1	1	**119**	**93**	**212**
	Taxi	21	13	18	12	23	21	1	0	2	3	1	1	2	2	0	0	0	1	69	51	120
	Taxi (Balanced)[1]	**27**	**27**	**24**	**24**	**33**	**33**	**2**	**2**	**4**	**4**	**1**	**1**	**3**	**3**	**0**	**0**	**1**	**1**	**95**	**95**	**190**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	56	51	48	39	73	67	7	4	7	9	1	1	20	14	0	0	2	2	**214**	**188**	**402**
Sat MD	Auto	47	19	22	22	30	30	1	1	4	4	0	0	22	22	0	0	1	1	**126**	**99**	**225**
	Taxi	78	32	17	17	17	17	0	0	3	3	0	0	3	3	0	0	1	1	119	72	191
	Taxi (Balanced)[1]	**94**	**94**	**25**	**25**	**25**	**25**	**0**	**0**	**4**	**4**	**0**	**0**	**4**	**4**	**0**	**0**	**1**	**1**	**155**	**155**	**310**
	Truck	0	0	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**14**
	Total	141	113	50	50	59	59	1	1	8	8	0	0	26	26	0	0	2	2	**288**	**261**	**549**
Sat EVE	Auto	4	6	27	19	25	23	5	2	2	4	0	0	22	22	0	0	1	1	**86**	**76**	**162**
	Taxi	7	10	21	15	15	13	1	0	1	3	0	0	3	3	0	0	0	1	49	45	93
	Taxi (Balanced)[1]	**14**	**14**	**28**	**28**	**21**	**21**	**2**	**2**	**3**	**3**	**0**	**0**	**4**	**4**	**0**	**0**	**1**	**1**	**73**	**73**	**146**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	18	20	55	47	46	44	7	4	5	7	0	0	26	26	0	0	2	2	**159**	**149**	**308**

Notes
1. A 50% taxi overlap rate was assumed (i.e., 50% of inbound full taxis are assumed to be available for outbound demand), based on the CEQR 2012 Technical Manual.

Total Walk Trips		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	In	Out	**IN**	**OUT**	**TOTAL**
MD	Total Walk Trips[1]	539	441	58	58	144	144	0	0	61	36	69	69	4	4	6	6	15	9	**896**	**766**	**1,662**
PM	Total Walk Trips[1]	470	509	104	51	140	97	43	14	41	38	75	75	7	5	6	8	10	10	**897**	**807**	**1,704**
EVE	Total Walk Trips[1]	503	411	116	71	213	181	137	46	27	52	19	19	7	5	3	4	7	13	**1,031**	**802**	**1,832**
SAT MD	Total Walk Trips[1]	882	360	107	107	156	156	29	29	40	40	8	8	9	9	10	10	10	10	**1,250**	**728**	**1,979**
SAT EVE	Total Walk Trips[1]	77	115	132	92	135	119	137	46	21	40	8	8	9	9	5	6	5	10	**527**	**444**	**971**

Notes
1. Total walk trips includes all trips via transit plus walk only trips.

Table 14-25
Pier 57 Trip Generation Estimates: Event Scenario

Person Trips		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Event (2)	TOTAL
Daily Trips	Weekday	12,680	3,384	4,511	643	864	798	1,184	5,360	**29,424**
	Saturday	14,999	3,550	4,732	643	659	326	2,432	5,360	**32,701**
Peak Hour Trips	MD (12-1)	1,141	210	480	0	138	160	54	0	**2,183**
	PM (5-6)	1,141	282	396	64	112	160	76	0	**2,231**
	EVE (7-8)	1,065	339	656	206	112	40	76	1,715	**4,209**
	Sat MD (1-2)	1,650	390	520	64	112	16	117	0	**2,870**
	Sat EVE (7-8)	255	407	423	206	86	16	117	1,715	**3,225**

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Event (2)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	TOTAL
MD	Auto	58	47	26	26	60	60	0	0	17	10	6	6	20	20	0	0	**187**	**170**	**357**
	Taxi	31	26	21	21	36	36	0	0	9	5	5	5	3	3	0	0	**105**	**96**	**200**
	Subway	251	205	31	31	84	84	0	0	29	17	49	49	1	1	0	0	**446**	**388**	**834**
	Bus	26	22	5	5	12	12	0	0	6	4	6	6	1	1	0	0	**57**	**50**	**107**
	Walk/Other	261	214	21	21	48	48	0	0	27	16	14	14	1	1	0	0	**372**	**313**	**685**
	Total	627	514	104	104	240	240	0	0	88	52	80	80	26	26	0	0	**1167**	**1017**	**2184**
PM	Auto	50	55	47	23	58	41	4	1	11	11	2	2	34	23	0	0	**208**	**155**	**363**
	Taxi	27	30	38	19	35	24	1	0	6	5	3	3	5	3	0	0	**114**	**84**	**199**
	Subway	219	237	57	28	82	57	24	8	19	18	48	48	2	2	0	0	**450**	**397**	**847**
	Bus	23	25	9	5	12	8	1	0	4	4	7	7	2	2	0	0	**59**	**50**	**109**
	Walk/Other	228	247	38	19	47	32	18	6	18	16	20	20	2	2	0	0	**371**	**342**	**713**
	Total	547	594	189	94	234	162	48	15	58	54	80	80	45	32	0	0	**1202**	**1028**	**2230**
EVE	Auto	54	44	53	32	89	75	14	5	7	14	0	0	34	23	116	39	**367**	**233**	**599**
	Taxi	29	24	42	26	53	45	3	1	4	7	1	1	5	3	26	9	**162**	**116**	**278**
	Subway	234	192	63	39	124	106	76	25	13	24	12	12	2	2	630	210	**1,154**	**609**	**1,763**
	Bus	25	20	11	6	18	15	5	2	3	5	2	2	2	2	39	13	**103**	**64**	**167**
	Walk/Other	244	199	42	26	71	60	57	19	12	23	5	5	2	2	476	159	**909**	**492**	**1,401**
	Total	586	479	211	129	355	301	155	52	39	73	20	20	45	32	1287	430	**2695**	**1514**	**4209**
Sat MD	Auto	123	50	49	49	65	65	3	3	11	11	0	0	44	44	0	0	**295**	**222**	**517**
	Taxi	166	68	39	39	39	39	1	1	6	6	0	0	6	6	0	0	**257**	**158**	**415**
	Subway	347	142	59	59	91	91	16	16	18	18	5	5	3	3	0	0	**538**	**333**	**872**
	Bus	43	18	10	10	13	13	1	1	4	4	1	1	3	3	0	0	**75**	**49**	**124**
	Walk/Other	492	201	39	39	52	52	12	12	17	17	2	2	3	3	0	0	**617**	**326**	**943**
	Total	1171	479	196	196	260	260	33	33	56	56	8	8	59	59	0	0	**1782**	**1088**	**2870**
Sat EVE	Auto	11	16	60	42	56	50	14	5	6	11	0	0	44	44	116	39	**306**	**206**	**512**
	Taxi	14	22	48	33	34	30	3	1	3	6	0	0	6	6	26	9	**134**	**106**	**240**
	Subway	30	45	72	50	78	70	76	25	10	19	5	5	3	3	630	210	**904**	**427**	**1,331**
	Bus	4	6	12	8	11	10	5	2	2	4	1	1	3	3	39	13	**76**	**46**	**122**
	Walk/Other	43	64	48	33	45	40	57	19	9	17	2	2	3	3	476	159	**683**	**337**	**1,020**
	Total	102	153	240	166	224	200	155	52	30	57	8	8	59	59	1287	430	**2103**	**1122**	**3225**

Vehicle Trips		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Event (2)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	TOTAL
MD	Auto	31	25	12	12	27	27	0	0	6	4	5	5	10	10	0	0	**92**	**84**	**176**
	Taxi[1]	22	18	9	9	16	16	0	0	4	2	4	4	1	1	0	0	57	51	107
	Taxi (Balanced)[1]	**31**	**31**	**14**	**14**	**23**	**23**	**0**	**0**	**5**	**5**	**6**	**6**	**2**	**2**	**0**	**0**	**82**	**82**	**164**
	Truck	4	4	3	3	4	4	0	0	0	0	0	0	0	0	0	0	**11**	**11**	**21**
	Total	66	60	29	29	54	54	0	0	11	9	11	11	12	12	0	0	**185**	**177**	**362**
PM	Auto	27	29	21	11	27	18	1	0	4	4	2	2	17	11	0	0	**100**	**76**	**175**
	Taxi[1]	19	21	16	8	15	11	0	0	3	3	2	2	2	2	0	0	59	46	105
	Taxi (Balanced)[1]	**31**	**31**	**20**	**20**	**21**	**21**	**0**	**0**	**4**	**4**	**3**	**3**	**3**	**3**	**0**	**0**	**82**	**82**	**164**
	Truck	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
	Total	58	60	41	31	49	40	1	0	8	8	5	5	20	14	0	0	**183**	**159**	**342**
EVE	Auto	29	24	24	15	40	34	5	2	3	5	0	0	17	11	40	13	**158**	**105**	**263**
	Taxi[1]	21	13	18	12	23	21	1	0	2	3	1	1	2	2	11	3	79	53	133
	Taxi (Balanced)[1]	**27**	**27**	**24**	**24**	**33**	**33**	**2**	**2**	**4**	**4**	**1**	**1**	**3**	**3**	**13**	**13**	**106**	**106**	**212**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	56	51	48	39	73	67	7	4	7	9	1	1	20	14	53	26	**264**	**211**	**475**
Sat MD	Auto	47	19	22	22	30	30	1	1	4	4	0	0	22	22	0	0	**126**	**98**	**224**
	Taxi[1]	78	32	17	17	17	17	0	0	3	3	0	0	3	3	0	0	118	72	190
	Taxi (Balanced)[1]	**94**	**94**	**25**	**25**	**25**	**25**	**0**	**0**	**4**	**4**	**0**	**0**	**4**	**4**	**0**	**0**	**154**	**154**	**308**
	Truck	0	0	3	3	4	4	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**14**
	Total	141	113	50	50	59	59	1	1	8	8	0	0	26	26	0	0	**287**	**259**	**546**
Sat EVE	Auto	4	6	27	19	25	23	5	2	2	4	0	0	22	22	40	13	**126**	**88**	**214**
	Taxi[1]	7	10	21	15	15	13	1	0	1	3	0	0	3	3	11	4	59	47	107
	Taxi (Balanced)[1]	**14**	**14**	**28**	**28**	**21**	**21**	**2**	**2**	**3**	**3**	**0**	**0**	**4**	**4**	**13**	**13**	**83**	**83**	**166**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	18	20	55	47	46	44	7	4	5	7	0	0	26	26	53	26	**209**	**171**	**380**

Notes
1. A 50% taxi overlap rate was assumed (i.e., 50% of inbound full taxis are assumed to be available for outbound demand), based on the CEQR 2012 Technical Manual.
2. It was assumed that there would be no rooftop events during the Weekday MD and Saturday MD peaks. During those times, the rooftop trip generation would match the Weekday MD and Saturday MD for the Typical Scenario (ie, open space),.

Total Walk Trips		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Event (2)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	TOTAL
MD	Total Walk Trips[1]	539	441	58	58	144	144	0	0	61	36	69	69	4	4	0	0	**874**	**751**	**1,626**
PM	Total Walk Trips[1]	470	509	104	51	140	97	43	14	41	38	75	75	7	5	0	0	**880**	**790**	**1,669**
EVE	Total Walk Trips[1]	503	411	116	71	213	181	137	46	27	52	19	19	7	5	1,145	382	**2,166**	**1,166**	**3,332**
SAT MD	Total Walk Trips[1]	882	360	107	107	156	156	29	29	40	40	8	8	9	9	0	0	**1,230**	**708**	**1,939**
SAT EVE	Total Walk Trips[1]	77	115	132	92	135	119	137	46	21	40	8	8	9	9	1,145	382	**1,663**	**810**	**2,473**

Notes
1. Total walk trips includes all trips via transit plus walk only trips.

Table 14-26
Project Parking Accumulation: Weekday

	Destination Retail (Market)[1]			Quality Restaurant[2]			High Turnover Sit-Down Restaurant[1]			Theatre[3]			Museum/Exhibit Space (Caissons)[4]			Technical Arts School[5]			Marina[2]			Rooftop Open Space[2]			Rooftop Exhibit (Museum)[6]			Rooftop Event[3]			Total with Daytime Exhibit		Total with Evening Event	
Time Starting	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	In	Out
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3	0	3	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	6	0	0	0	0	0	0	0	0	0	3	0	3	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	6	0	0	0	0	0	0	0	0	0	4	4	4	4
8:00 AM	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	4	0	4	4	8	2	0	0	0	0	0	0	0	0	0	11	8	11	8
9:00 AM	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	3	0	7	25	6	21	0	0	0	0	0	0	0	0	0	30	6	30	6
10:00 AM	26	13	13	11	6	10	21	10	11	0	0	0	2	0	2	0	0	7	30	6	45	0	0	0	0	0	0	0	0	0	90	35	90	35
11:00 AM	32	19	26	26	2	34	23	14	20	0	0	0	1	0	3	0	0	7	30	5	70	0	0	0	1	0	1	0	0	0	113	40	112	40
12:00 PM	31	25	32	12	12	34	27	27	20	0	0	0	6	4	5	5	5	7	10	10	70	0	0	0	2	1	2	0	0	0	94	85	92	84
1:00 PM	31	28	35	18	10	42	23	23	20	0	0	0	2	1	6	0	0	7	15	10	75	0	0	0	1	1	2	0	0	0	90	73	89	72
2:00 PM	28	29	34	5	27	20	23	25	18	0	0	0	3	3	6	0	0	7	14	18	71	0	0	0	0	0	2	0	0	0	73	102	73	102
3:00 PM	27	30	31	10	17	13	21	26	13	0	0	0	2	3	5	0	0	7	14	18	67	0	0	0	0	1	1	0	0	0	74	95	74	94
4:00 PM	30	32	29	11	20	4	25	27	11	0	0	0	4	4	5	0	0	7	12	14	65	0	0	0	1	1	1	0	0	0	83	98	82	97
5:00 PM	27	29	27	21	11	14	27	18	20	1	0	1	4	4	5	2	2	7	17	11	71	0	0	0	1	1	1	0	0	0	101	77	100	76
6:00 PM	28	28	27	28	5	37	14	16	18	3	0	4	5	4	6	0	3	4	1	34	38	0	0	0	1	1	1	28	4	24	80	91	107	94
7:00 PM	29	24	32	24	15	46	40	34	24	5	2	7	3	5	4	0	0	4	17	11	44	0	0	0	1	1	1	40	13	51	119	93	158	105
8:00 PM	18	25	25	8	28	26	8	11	21	1	3	5	0	4	0	0	0	4	10	28	26	0	0	0	0	1	0	9	21	39	45	100	54	120
9:00 PM	6	31	0	12	30	8	5	26	0	0	1	4	0	0	0	0	0	4	13	39	0	0	0	0	0	0	0	3	13	29	36	127	39	140
10:00 PM	0	0	0	1	8	1	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	35	0	1	16	1	51
11:00 PM	0	0	0	0	1	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Project Total		Pier 57 On-Site Garage Only				
Daytime Exhibit	Evening Event	Daytime Exhibit			Evening Event	
Total Accumulation	Total Accumulation	In	Out	Total Accumulation	In	Out	Total Accumulation
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
3	3	3	0	3	3	0	3
6	6	3	0	6	3	0	6
6	6	4	4	6	4	4	6
9	9	11	8	9	11	8	9
33	33	25	5	29	25	5	29
88	88	55	23	61	55	23	61
161	160	48	38	71	48	38	71
170	168	44	40	75	43	39	75
187	185	13	13	75	13	13	75
158	156	25	25	75	25	25	75
137	136	30	30	75	30	30	75
122	121	35	50	60	36	51	60
146	145	62	47	75	62	47	75
135	158	41	55	61	33	58	50
162	**212**	66	52	75	75	50	75
107	146	20	35	60	20	35	60
16	45	10	56	14	10	56	14
1	1	1	14	1	1	14	1
0	0	0	1	0	0	1	0

Table 14-27
Project Parking Accumulation: Saturday

	Destination Retail (Market)[1]			Quality Restaurant[2]			High Turnover Sit-Down Restaurant[2]			Theatre[3]			Museum/Exhibit Space (Caissons)[4]			Technical Arts School[5]			Marina[2]			Rooftop Open Space[2]			Rooftop Exhibit (Museum)[4]			Rooftop Event[3]			Total with Daytime Exhibit		Total with Evening Event	
Time Starting	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	In	Out
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	0	0	0	0	0	0	0	0	0	16	0	16	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	32	0	0	0	0	0	0	0	0	0	16	0	16	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	14	33	0	0	0	0	0	0	0	0	0	15	14	15	14
8:00 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2	14	23	24	0	0	0	0	0	0	0	0	0	18	23	18	23
9:00 AM	0	0	0	3	0	5	0	0	0	0	0	0	0	0	0	2	0	4	40	20	44	0	0	0	0	0	0	0	0	0	45	20	45	20
10:00 AM	11	5	6	5	0	10	12	3	9	0	0	0	2	0	2	0	0	4	52	20	76	0	0	0	0	0	0	0	0	0	82	28	82	28
11:00 AM	29	11	24	9	0	19	29	7	31	0	0	0	4	1	5	0	0	4	48	20	104	0	0	0	1	0	1	0	0	0	120	39	119	39
12:00 PM	56	23	57	17	5	31	25	16	40	0	0	0	3	3	5	0	0	4	38	20	122	0	0	0	1	1	1	0	0	0	140	68	139	67
1:00 PM	47	19	85	22	22	31	30	30	40	1	1	0	4	4	5	0	0	4	22	22	122	0	0	0	1	1	1	0	0	0	126	99	125	98
2:00 PM	52	56	81	18	6	43	36	32	44	0	0	0	4	2	7	0	0	4	30	39	113	0	0	0	0	0	1	0	0	0	140	135	140	135
3:00 PM	39	55	65	10	13	40	34	40	38	0	0	0	3	3	7	0	0	4	25	38	100	0	0	0	1	1	1	0	0	0	112	150	111	149
4:00 PM	31	52	44	17	26	31	24	40	22	0	0	0	2	4	5	0	0	4	26	30	96	0	0	0	1	1	1	0	0	0	101	153	100	152
5:00 PM	17	49	12	25	20	36	31	47	6	1	0	1	0	3	2	0	2	2	36	25	107	0	0	0	0	1	0	6	1	5	110	147	116	147
6:00 PM	7	18	1	24	17	43	21	24	3	3	0	4	0	0	2	0	1	1	30	34	103	0	0	0	0	0	0	22	3	24	85	94	107	97
7:00 PM	4	6	0	27	19	51	25	23	5	5	2	7	2	4	0	0	0	1	22	22	103	0	0	0	1	1	0	40	13	51	86	76	126	88
8:00 PM	3	3	0	9	36	24	1	4	2	0	3	4	0	0	0	0	0	1	20	77	46	0	0	0	0	0	0	9	21	39	33	123	42	144
9:00 PM	3	3	0	13	31	6	1	4	0	0	1	3	0	0	0	0	0	1	6	33	19	0	0	0	0	0	0	3	13	29	23	72	26	85
10:00 PM	0	0	0	0	7	0	0	0	0	0	3	0	0	0	0	0	0	1	0	19	0	0	0	0	0	0	0	0	35	0	0	29	0	64
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Total		Pier 57 On-Site Garage Only				
Daytime Exhibit	Evening Event	Daytime Exhibit			Evening Event	
Total Accumulation	Total Accumulation	In	Out	Total Accumulation	In	Out	Total Accumulation
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
16	16	16	0	16	16	0	16
32	32	16	0	32	16	0	32
33	33	15	14	33	15	14	33
28	28	18	23	28	18	23	28
53	53	45	20	53	45	20	53
107	107	25	15	63	25	15	63
188	187	25	20	68	25	20	68
260	259	23	24	67	23	24	67
288	287	36	29	75	36	28	75
293	**292**	25	25	75	25	25	75
255	254	24	24	75	24	24	75
203	202	40	40	75	40	40	75
166	171	42	42	75	42	42	75
157	181	41	46	70	30	46	59
167	218	41	36	75	52	36	75
77	116	15	65	25	15	65	25
29	58	5	20	10	5	20	10
1	1	0	10	0	0	10	0
1	1	0	0	0	0	0	0

Notes:
1. Hudson Yards FGEIS (2004) App 5-1, Table 2, "Destination Retail Trip Generation Transportation Planning Assumptions" Memorandum. Peak hour temporal distribution modified to match trip generation in/outs with SSE assumptions. Some in/out percentages modified by SSE for balancing purposes.
2. Brooklyn Bridge Park FEIS (2005), Table 14-14. For Rooftop open space, Park land use was used. Due to lack of in/out vehicular volume from the Brooklyn Bridge Park FEIS, in/out volumes were adjusted based on SSE assumptions.
3. Based on Pier 54 movie event survey on 7/8/2009 performed by AKRF. Saturday MD peak in/out volumes were adjusted based on SSE assumptions.
4. Hudson Yards FGEIS (2004) App 5-1, Table 2 and Table 3, "Museum Trip Generation Transportation Planning Assumptions" Memorandum. Peak hour temporal distribution modified to match trip generation in/outs with SSE assumptions. Some in/out percentages modified by SSE for balancing purposes.
5. SSE determined Weekday MD and PM temporal distribution based on published class schedules for the Institute of Culinary Education. Weekday EVE temporal distribution assumed be half of weekday PM. Directional distribution based on SSE assumptions.
6. Peak hour vehicular trips from/to Pier 57 on-site parking garage are based on the ratio of Pier 57 project total parking accumulation to the Pier 57 on-site parking garage parking accumulation.

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H. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The No Action Condition analysis forms the future baseline to which projected increments associated with the proposed project are added to formulate the "With Action Condition." The *CEQR Technical Manual* defines how impacts to traffic, transit, pedestrians, safety and parking are to be determined. If the analysis results show that the proposed project would result in significant transportation-related impacts, mitigation measures are recommended to alleviate these impacts.

PROJECT IMPROVEMENTS

The following improvements would be implemented in the study area as part of the proposed project (see Figure 14-1):

- Construction of an access road adjacent to and west of Route 9A between West 17th Street and West 14th Street and related modifications to the West 14th, West 15th, West 16th, and West 17th Street intersections with Route 9A.
  - West 14th Street:
    - The addition of the project exit driveway on the west leg of the intersection.
    - The construction of curb extensions on the northeast and southeast corners of the intersection that would reduce the crossing distance of the east crosswalk from 98 feet to 48 feet.
  - West 15th Street:
    - The closure of access to Pier 57 from West 15th Street with the exception of access for large delivery trucks during overnight hours when the facility is closed.
    - The removal of the southbound right-turn lane from Route 9A to Pier 57.
  - West 16th Street:
    - The addition of a signalized southbound right-turn lane on Route 9A at West 16th Street that would operate on the same phase as the southbound left-turn.
    - The removal of signalization for the southbound through movement at West 16th Street thereby extending the block length.
    - The removal of the south crosswalk across the southbound lanes of Route 9A.
  - West 17th Street:
    - The addition of a westbound through movement from West 17th Street to the project access road.
    - The restriping of the westbound approach from one to two travel lanes to provide a shared left/through lane and an exclusive right-turn lane.
- Construction of an overwater platform walkway from the northern edge of the building to West 17th Street and from the southern edge of the building to West 14th Street. This platform would connect to the walkway along the perimeter of the pier.
- Construction of an additional lay-by lane on the east side of Route 9A between the West 14th and West 15th Street intersections that would operate as a taxi stand.
- Construction of a protected pedestrian pathway within the median on Route 9A between West 15th Street and West 16th Street. There is the potential that this median pathway would not be constructed as part of the project and that the crosswalk across Route 9A at West 16th Street would be eliminated from the project design. The implications of this

modification to the project design are considered as a second scenario in the With Action analyses.

- Widening of crosswalks across Route 9A as shown on Figure 14-1.

TRAFFIC CONDITIONS

Figures 14-22 through 14-26 show the 2015 With Action Condition traffic volumes for the five peak hours. **Table 14-28** presents a comparison of No Action and With Action conditions for the study intersections. Based on the significance criteria described in the *CEQR Technical Manual*, significantly impacted lane groups are denoted with a "+" sign in the tables and are detailed below. The results presented in these tables assume the implementation of the project improvements listed above.

ROUTE 9A AND WEST 17TH STREET

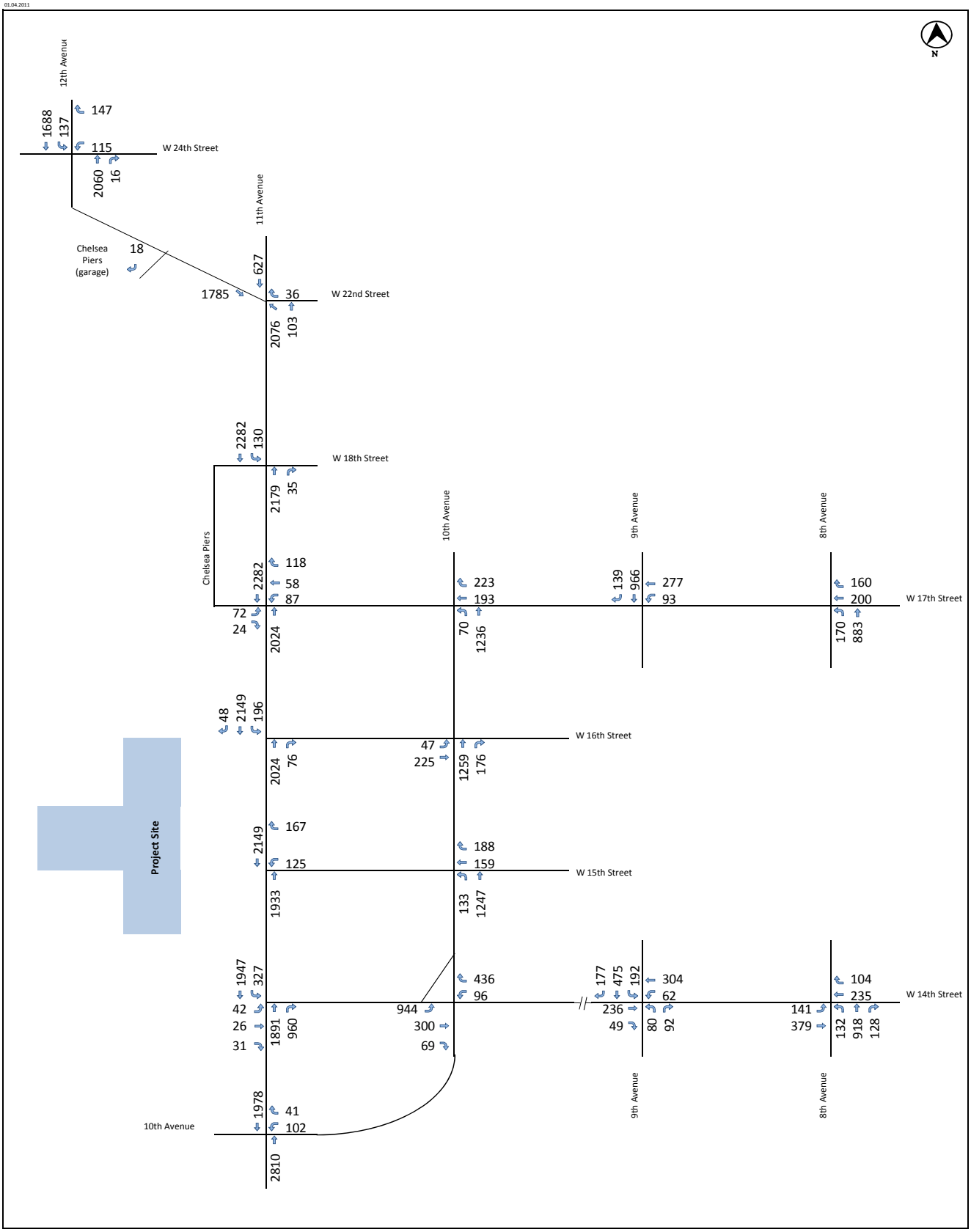
- During the **Weekday Evening Pre-Event** peak hour, the westbound approach would continue to operate at LOS F. Under the No Action condition, the average delay for the approach was 117.2 seconds with a v/c ratio of 0.94. Even with the project improvement to restripe the westbound approach as two travel lanes, the operations under the With Action condition would degrade to an average delay of 131.9 seconds for the westbound shared left/through lane change and 81.1 seconds for the exclusive right-turn lane, with a v/c ratio of 0.99 for the shared left/through lane and 0.62 for the exclusive right-turn lane.

ROUTE 9A AND WEST 15TH STREET

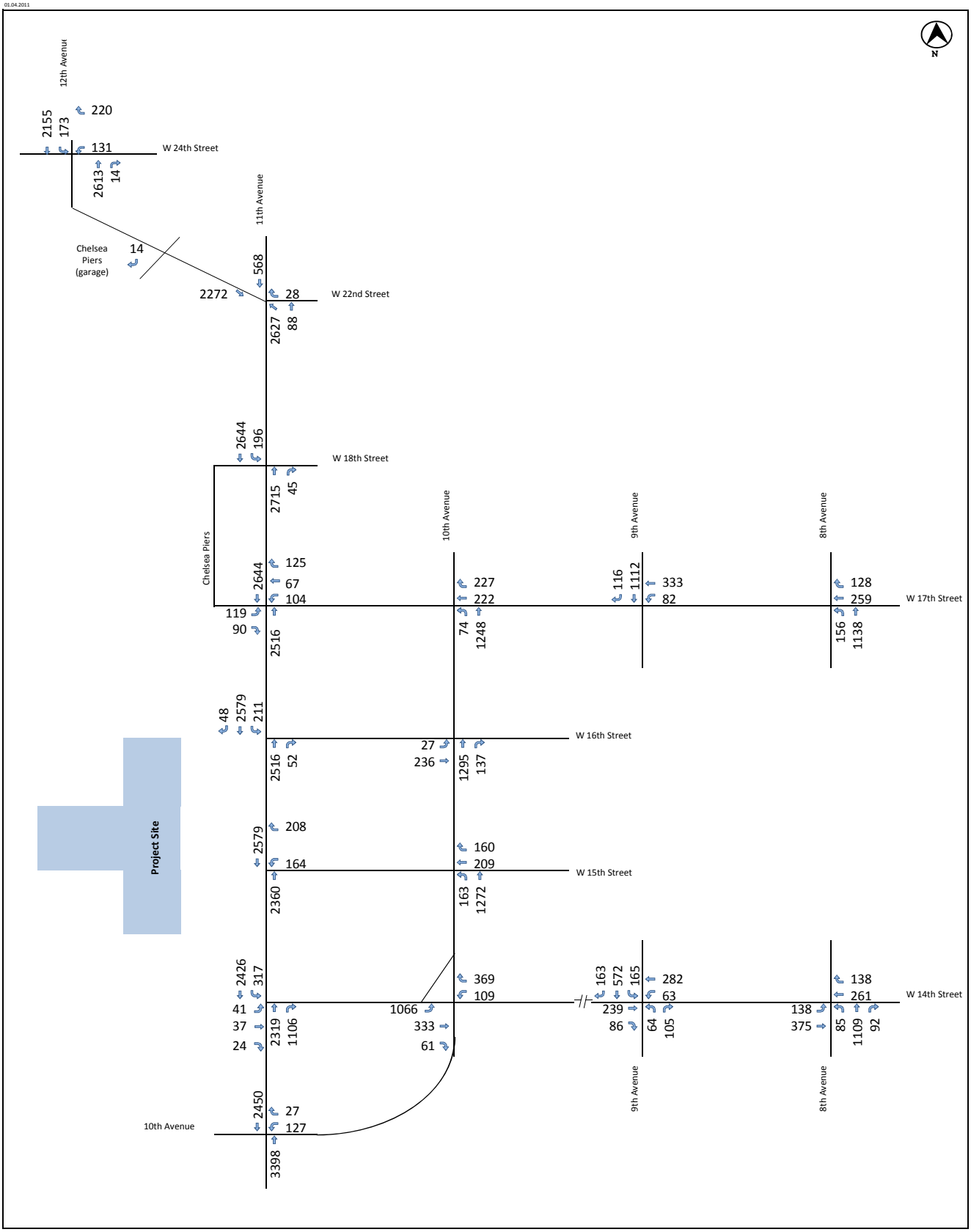
- During the **Weekday PM** peak hour, the westbound right-turn would continue to operate at LOS E, with an average delay increasing from 59.1 seconds to 69.4 seconds and v/c ratio increasing from 0.60 to 0.74.
- During the **Weekday Evening Pre-Event** peak hour, the westbound right-turn would continue to operate at LOS E, with an average delay increasing from 57.4 seconds to 71.5 seconds and v/c ratio increasing from 0.56 to 0.76.
- During the **Saturday Midday** peak hour, the westbound right-turn would continue to operate at LOS D, with an average delay increasing from 41.1 seconds to 49.4 seconds and v/c ratio increasing from 0.55 to 0.71.

TENTH AVENUE AND WEST 14TH STREET

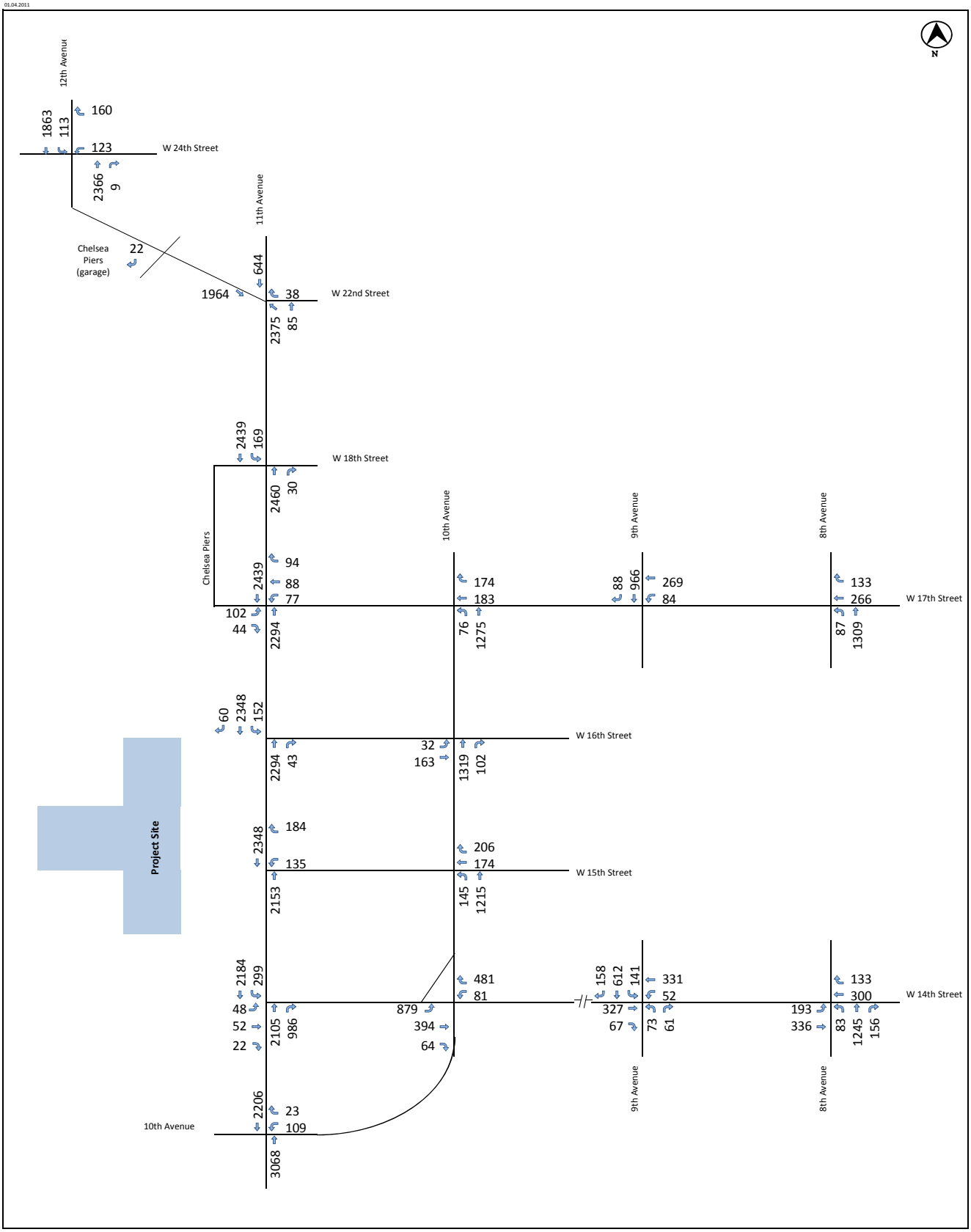
- During the **Weekday PM** peak hour, the westbound shared left/right-turn lane would deteriorate from LOS D to LOS E, with an average delay increasing from 53.0 seconds to 61.5 seconds and v/c ratio increasing from 0.61 to 0.68. The westbound right-turn lane would deteriorate from LOS D to LOS E, with an average delay increasing from 53.7 seconds to 61.8 seconds and v/c ratio increasing from 0.70 to 0.81.
- During the **Weekday Evening Pre-Event** peak hour, the eastbound right-turn lane would continue to operate at LOS D, with an average delay increasing from 38.3 seconds to 46.2 seconds and v/c ratio increasing from 0.20 to 0.40. The westbound shared left/right-turn lane would continue to operate at LOS E, with an average delay increasing from 63.0 seconds to 77.2 seconds and v/c ratio increasing from 0.76 to 0.84. The westbound right-turn lane would continue to operate at LOS E, with an average delay increasing from 63.7 seconds to 78.5 seconds and v/c ratio increasing from 0.83 to 0.94.



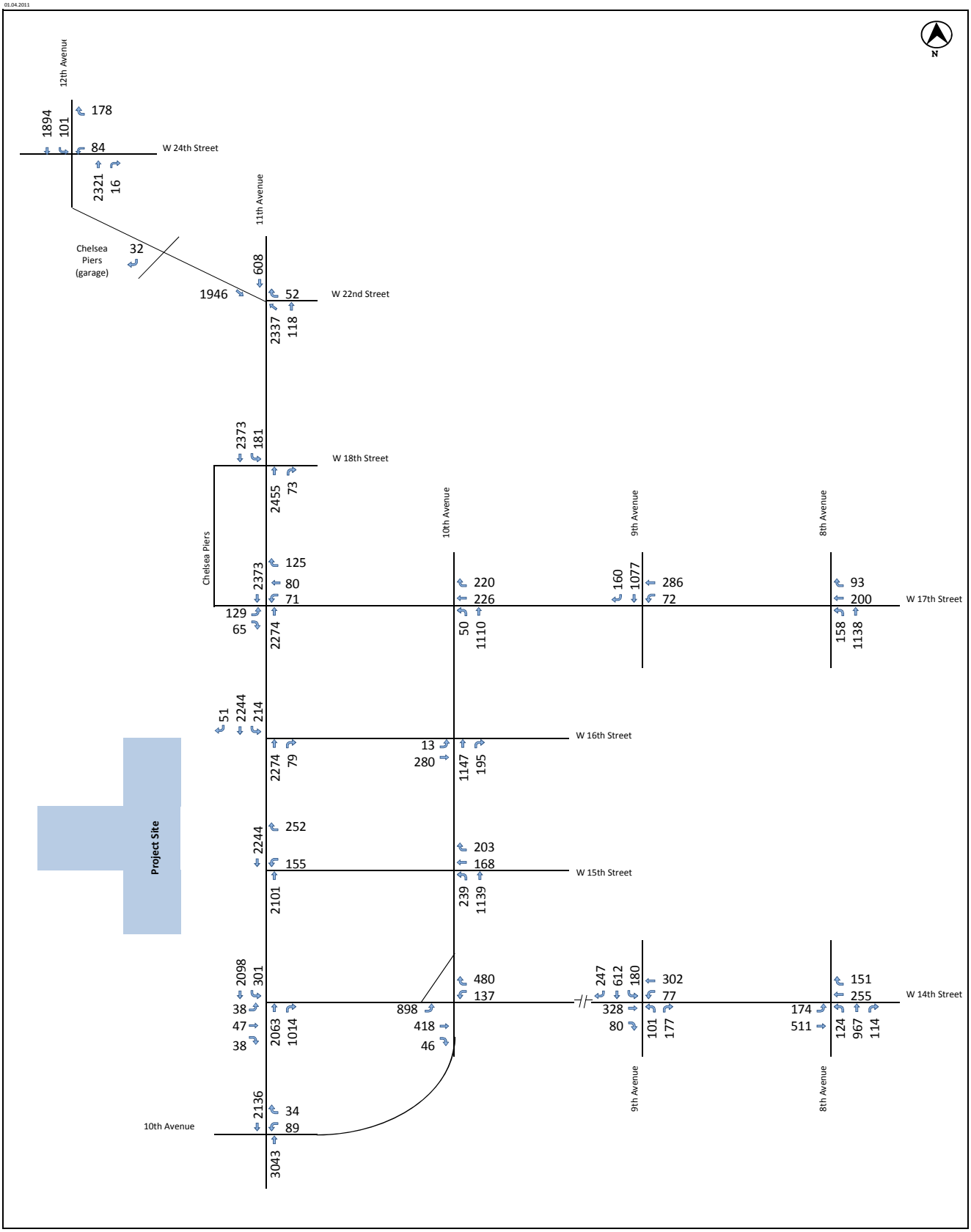
2015 With Action Traffic Network
Weekday Midday Peak Hour
Figure 14-22



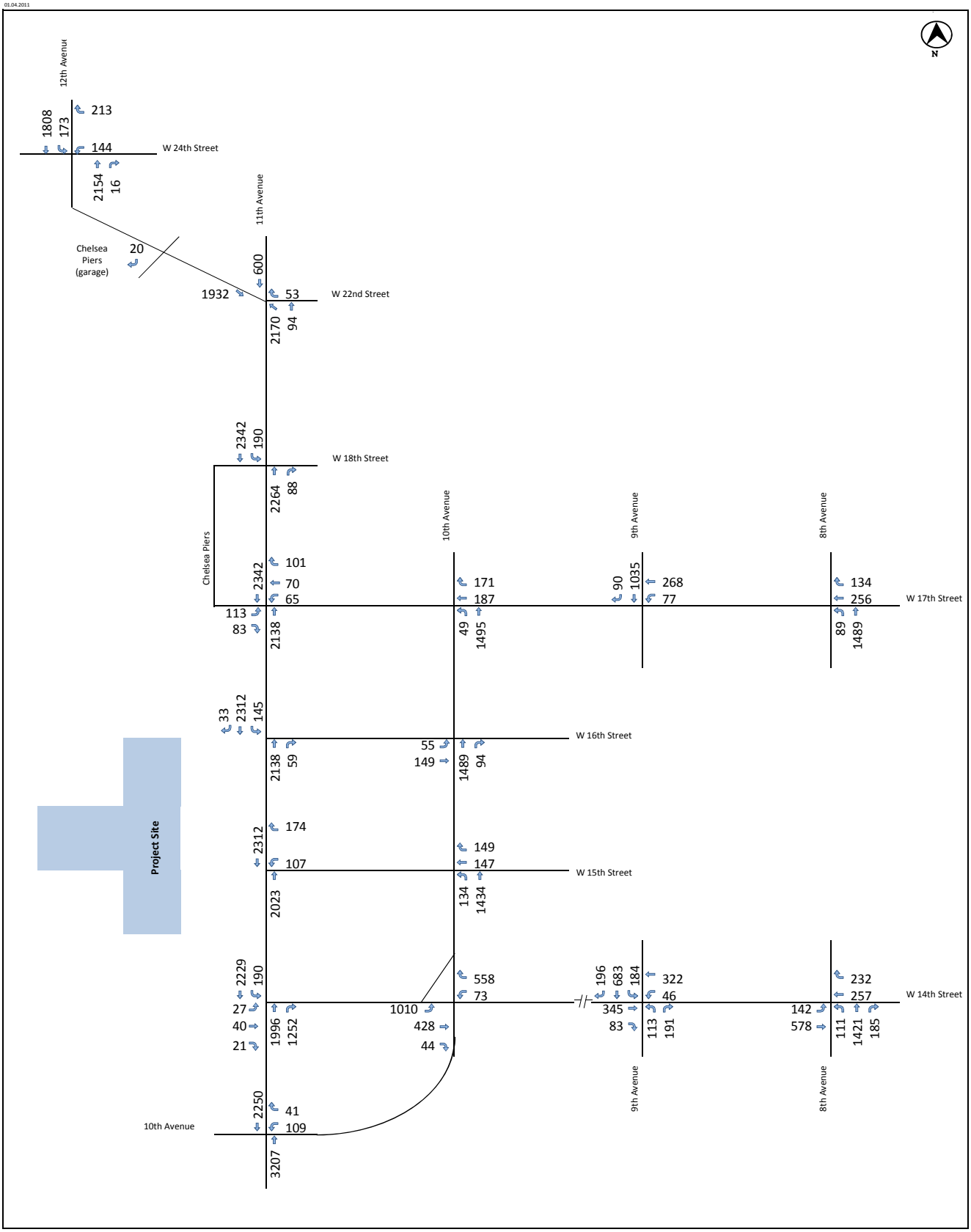
2015 With Action Traffic Network
Weekday PM Peak Hour
Figure 14-23



2015 With Action Traffic Network
Weekday Evening Pre-Event Peak Hour
Figure 14-24



2015 With Action Traffic Network
Saturday Midday Peak Hour
Figure 14-25



2015 With Action Traffic Network
Saturday Evening Pre-Event Peak Hour
Figure 14-26

Table 14-28
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison

Weekday Midday Peak Hour

	Int.	No Action Ln Grp	No Action v/c	No Action Delay (sec)	No Action LOS	With Action Ln Grp	With Action v/c	With Action Delay (sec)	With Action LOS
1	**Route 9A and West 24th Street**								
	WB	L	0.18	38.9	D	L	0.18	38.9	D
		R	0.48	45.9	D	R	0.48	45.9	D
	NB	TR	0.72	11.3	B	TR	0.74	11.7	B
	SB	L	1.07	151.4	F	L	1.07	151.4	F
		T	0.69	17.6	B	T	0.71	18.2	B
		Intersection		20.6	C	Intersection		20.9	C
2	**Route 9A and West 22nd Street**								
	WB	T	0.50	38.0	D	T	0.51	38.1	D
	NB	T	0.78	16.9	B	T	0.80	17.6	B
		R	0.20	26.7	C	R	0.22	26.9	C
	SB	T	0.59	8.2	A	T	0.60	8.4	A
		Intersection		16.6	B	Intersection		17.0	B
3	**Route 9A and West 18th Street**								
	NB	TR	0.91	22.1	C	TR	0.94	25.0	C
	SB	L	0.26	27.5	C	L	0.26	27.5	C
		T	0.85	18.5	B	TR	0.87	19.4	B
		Intersection		20.5	C	Intersection		22.3	C
4	**Route 9A and West 17th Street**								
	EB	L	0.09	41.3	D	L	0.12	41.7	D
		LR	0.13	42.0	D	LR	0.16	42.3	D
		R	0.05	40.7	D	R	0.05	40.7	D
	WB	LR	0.90	92.2	F	LT	0.78	77.9	E
						R	0.67	68.0	E
	NB	T	0.73	14.9	B	T	0.75	15.3	B
	SB	T	0.80	16.7	B	T	0.82	17.2	B
		Intersection		19.5	B	Intersection		20.1	C
5	**Route 9A and West 16th Street**								
	NB	TR	0.70	9.6	A	TR	0.73	10.2	B
	SB	L	0.40	36.2	D	L	0.40	36.3	D
		T	0.71	9.8	A	T	0.46	0.6	A
						R	0.12	31.8	C
		Intersection		10.9	B	Intersection		7.0	A
6	**Route 9A and West 15th Street**								
	WB	L	0.29	34.6	C	L	0.34	35.9	D
		R	0.40	37.1	D	R	0.49	40.0	D
	NB	T	0.65	8.9	A	T	0.67	9.3	A
	SB	T	0.73	10.1	B	T	0.73	10.2	B
		Intersection		11.3	B	Intersection		11.7	B
7	**Route 9A and West 14th Street**								
	EB					L	0.19	48.1	D
						TR	0.35	52.9	D
	NB	T	0.66	9.1	A	T	0.67	9.3	A
		R	0.63	9.7	A	R	0.71	11.3	B
	SB	L	1.70	389.6	F	L	1.70	389.6	F
		T	0.64	8.8	A	T	0.65	8.9	A
		Intersection		33.7	C	Intersection		34.1	C
8	**Route 9A and Tenth Avenue/Horatio Street**								
	WB	L	0.35	46.7	D	L	0.35	46.7	D
		R	0.17	43.7	D	R	0.17	43.7	D
	NB	T	0.82	16.0	B	T	0.84	16.4	B
	SB	T	0.61	3.7	A	T	0.63	3.8	A
		Intersection		11.9	B	Intersection		12.2	B
9	**Tenth Avenue and West 17th Street**								
	WB	T	0.31	23.8	C	T	0.40	25.4	C
		R	0.62	33.2	C	R	0.65	34.2	C
	NB	LT	0.48	2.6	A	LT	0.49	2.7	A
		Intersection		8.6	A	Intersection		9.3	A
10	**Tenth Avenue and West 16th Street**								
	EB	LT	0.45	26.2	C	LT	0.53	28.0	C
	NB	TR	0.53	2.8	A	TR	0.54	2.9	A
		Intersection		6.2	A	Intersection		6.9	A
11	**Tenth Avenue and West 15th Street**								
	WB	T	0.27	20.0-	B	T	0.30	20.4	C
	NB	LT	0.56	6.1	A	LT	0.58	6.2	A
		Intersection		9.5	A	Intersection		10.4	B
12	**Tenth Avenue and West 14th Street**								
	EB	L	0.64	21.9	C	L	0.66	22.4	C
		T	0.25	25.8	C	T	0.27	26.0	C
		R	0.17	25.2	C	R	0.28	28.4	C
	WB	LR	0.60	36.5	D	LR	0.69	41.9	D
		R	0.62	35.5	D	R	0.63	36.1	D
		Intersection		26.8	C	Intersection		27.9	C
13	**Ninth Avenue and West 17th Street**								
	WB	L	0.20	19.2	B	L	0.20	19.2	B
		T	0.45	23.1	C	T	0.52	24.7	C
	SB	TR	0.62	7.0	A	TR	0.63	7.2	A
		Intersection		10.5	B	Intersection		11.2	B
14	**Ninth Avenue and West 14th Street**								
	EB	TR	0.43	29.5	C	TR	0.47	30.1	C
	WB	LT	0.68	36.4	D	LT	0.71	37.3	D
	NB	L	0.38	38.1	D	L	0.38	38.1	D
		R	0.51	43.6	D	R	0.51	43.6	D
	SB	LT	0.71	17.6	B	LT	0.71	17.8	B
		R	0.69	26.5	C	R	0.69	26.9	C
		Intersection		27.1	C	Intersection		27.5	C
15	**Eighth Avenue and West 17th Street**								
	WB	TR	0.83	43.7	D	TR	0.87	48.0	D
	NB	L	0.67	40.0	D	L	0.74	45.0	D
		T	0.42	3.0	A	T	0.42	3.1	A
		Intersection		17.2	B	Intersection		19.6	B
16	**Eighth Avenue and West 14th Street**								
	EB	LT	0.77	32.3	C	LT	0.81	34.7	C
	WB	TR	0.42	21.7	C	TR	0.44	22.1	C
	NB	L	0.57	39.7	D	L	0.59	40.5	D
		TR	0.56	6.4	A	TR	0.57	6.5	A
		Intersection		17.6	B	Intersection		18.5	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

Table 14-28 (cont'd)
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison

Weekday PM Peak Hour

	Int.	No Action				With Action				
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.23	54.4	D	L	0.23	54.4	D	
		R	0.84	85.9	F	R	0.84	85.9	F	
	NB	TR	0.79	8.8	A	TR	0.81	9.2	A	
	SB	L	1.07	156.7	F	L	1.07	156.7	F	
		T	0.72	13.6	B	T	0.74	14.0	B	
		Intersection		20.1	C	Intersection		20.2	C	
2	**Route 9A and West 22nd Street**									
	WB	T	0.55	54.0	D	T	0.56	54.2	D	
	NB	T	0.84	13.5	B	T	0.86	14.1	B	
		R	0.20	42.2	D	R	0.21	42.5	D	
	SB	T	0.66	5.1	A	T	0.67	5.3	A	
		Intersection		14.7	B	Intersection		15.1	B	
3	**Route 9A and West 18th Street**									
	NB	TR	1.00	32.8	C	TR	1.02	39.0	D	
	SB	L	0.39	41.4	D	L	0.39	41.4	D	
		T	0.86	16.2	B	TR	0.88	17.0	B	
		Intersection		25.3	C	Intersection		28.7	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.18	54.2	D	L	0.20	54.6	D	
		LR	0.36	58.4	E	LR	0.38	58.9	E	
		R	0.19	54.8	D	R	0.19	54.8	D	
	WB	LR	1.22	204.8	F	LT	1.05	149.6	F	
						R	0.82	101.0	F	
	NB	T	0.82	14.9	B	T	0.84	15.5	B	
	SB	T	0.87	16.6	B	T	0.88	17.4	B	
		Intersection		24.9	C	Intersection		23.9	C	
5	**Route 9A and West 16th Street**									
	NB	TR	0.76	5.9	A	TR	0.79	6.3	A	
	SB	L	0.54	55.7	E	L	0.55	56.0	E	
		T	0.77	6.0	A	T	0.56	0.7	A	
						R	0.13	46.2	D	
		Intersection		7.9	A	Intersection		6.0	A	
6	**Route 9A and West 15th Street**									
	WB	L	0.42	52.2	D	L	0.49	54.8	D	
		R	0.60	59.1	E	R	0.74	69.4	E	+
	NB	T	0.71	5.2	A	T	0.73	5.5	A	
	SB	T	0.79	6.4	A	T	0.79	6.4	A	
		Intersection		9.2	A	Intersection		9.9	A	
7	**Route 9A and West 14th Street**									
	EB					L	0.23	64.3	E	
						TR	0.43	71.7	E	
	NB	T	0.70	5.7	A	T	0.71	5.8	A	
		R	0.62	5.6	A	R	0.68	6.6	A	
	SB	L	1.90	493.7	F	L	1.90	493.7	F	
		T	0.71	5.8	A	T	0.72	5.8	A	
		Intersection		31.0	C	Intersection		31.6	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.54	68.5	E	L	0.54	68.5	E	
		R	0.11	57.3	E	R	0.11	57.3	E	
	NB	T	0.84	10.8	B	T	0.85	11.1	B	
	SB	T	0.70	3.4	A	T	0.71	3.5	A	
		Intersection		9.3	A	Intersection		9.4	A	
9	**Tenth Avenue and West 17th Street**									
	WB	T	0.38	25.2	C	T	0.48	27.2	C	
		R	0.58	30.9	C	R	0.6	31.7	C	
	NB	LT	0.45	2.5	A	LT	0.46	2.5	A	
		Intersection		8.6	A	Intersection		9.4	A	
10	**Tenth Avenue and West 16th Street**									
	EB	LT	0.44	26.0	C	LT	0.50	27.2	C	
	NB	TR	0.50	2.7	A	TR	0.52	2.8	A	
		Intersection		6.0	A	Intersection		6.5	A	
11	**Tenth Avenue and West 15th Street**									
	WB	T	0.33	20.7	C	T	0.36	21.2	C	
	NB	LT	0.55	6.0	A	LT	0.57	6.1	A	
		Intersection		9.1	A	Intersection		9.7	A	
12	**Tenth Avenue and West 14th Street**									
	EB	L	0.58	18.7	B	L	0.59	19.1	B	
		T	0.31	39.2	D	T	0.34	39.7	D	
		R	0.16	37.5	D	R	0.28	41.2	D	
	WB	LR	0.61	53.0	D	LR	0.68	61.5	E	+
		R	0.70	53.7	D	R	0.81	61.8	E	+
		Intersection		31.3	C	Intersection		33.8	C	
13	**Ninth Avenue and West 17th Street**									
	WB	L	0.19	19.0	B	L	0.19	19.0	B	
		T	0.59	26.4	C	T	0.67	28.9	C	
	SB	TR	0.70	8.0	A	TR	0.72	8.3	A	
		Intersection		12.0	B	Intersection		13.0	B	
14	**Ninth Avenue and West 14th Street**									
	EB	TR	0.52	31.4	C	TR	0.57	32.4	C	
	WB	LT	0.61	33.6	C	LT	0.63	34.5	C	
	NB	L	0.28	35.7	D	L	0.28	35.7	D	
		R	0.54	44.1	D	R	0.54	44.1	D	
	SB	LT	0.73	17.9	B	LT	0.73	18.0	B	
		R	0.42	14.7	B	R	0.42	14.8	B	
		Intersection		25.3	C	Intersection		25.9	C	
15	**Eighth Avenue and West 17th Street**									
	WB	TR	0.79	38.7	D	TR	0.84	43.3	D	
	NB	L	0.57	34.6	C	L	0.61	36.1	D	
		T	0.52	3.5	A	T	0.53	3.5	A	
		Intersection		14.0	B	Intersection		15.7	B	
16	**Eighth Avenue and West 14th Street**									
	EB	LT	0.79	33.8	C	LT	0.84	37.7	D	
	WB	TR	0.47	22.5	C	TR	0.50	23.0	C	
	NB	L	0.33	32.1	C	L	0.34	32.3	C	
		TR	0.62	6.8	A	TR	0.62	6.8	A	
		Intersection		16.7	B	Intersection		18.0	B	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

Table 14-28 (cont'd)
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison

Weekday Evening Pre-Event Peak Hour

	Int.	No Action Ln Grp	No Action v/c	No Action Delay (sec)	No Action LOS	With Action Ln Grp	With Action v/c	With Action Delay (sec)	With Action LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.23	54.3	D	L	0.23	54.3	D	
		R	0.61	67.1	E	R	0.63	67.8	E	
	NB	TR	0.73	7.7	A	TR	0.76	8.1	A	
	SB	L	0.87	116.0	F	L	0.87	116.0	F	
		T	0.63	12.1	B	T	0.66	12.5	B	
		Intersection		15.5	B	Intersection		15.8	B	
2	**Route 9A and West 22nd Street**									
	WB	T	0.64	56.0	E	T	0.65	56.3	E	
	NB	T	0.80	12.1	B	T	0.82	12.7	B	
		R	0.20	42.2	D	R	0.22	42.6	D	
	SB	T	0.59	4.6	A	T	0.61	4.7	A	
		Intersection		15.3	B	Intersection		15.7	B	
3	**Route 9A and West 18th Street**									
	NB	TR	0.92	20.4	C	TR	0.95	23.6	C	
	SB	L	0.34	40.3	D	L	0.35	40.6	D	
		T	0.81	14.5	B	TR	0.83	15.2	B	
		Intersection		18.2	B	Intersection		20.2	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.15	53.6	D	L	0.17	54.0	D	
		LR	0.24	55.3	E	LR	0.26	55.8	E	
		R	0.09	52.9	D	R	0.09	52.9	D	
	WB	LR	0.94	117.2	F	LT	0.99	131.9	F	+
						R	0.62	81.1	F	
	NB	T	0.75	12.9	B	T	0.77	13.4	B	
	SB	T	0.80	14.3	B	T	0.82	14.9	B	
		Intersection		18.2	B	Intersection		20.3	C	
5	**Route 9A and West 16th Street**									
	NB	TR	0.70	5.0	A	TR	0.72	5.4	A	
	SB	L	0.39	51.4	D	L	0.41	51.8	D	
		T	0.72	5.3	A	T	0.52	0.6	A	
						R	0.17	46.9	D	
		Intersection		6.6	A	Intersection		5.1	A	
6	**Route 9A and West 15th Street**									
	WB	L	0.39	51.6	D	L	0.49	55.2	E	
		R	0.56	57.4	E	R	0.76	71.5	E	+
	NB	T	0.68	4.9	A	T	0.70	5.1	A	
	SB	T	0.77	6.0	A	T	0.77	6.0	A	
		Intersection		8.5	A	Intersection		9.5	A	
7	**Route 9A and West 14th Street**									
	EB					L	0.28	65.6	E	
						TR	0.54	77.0	E	
	NB	T	0.66	4.7	A	T	0.66	4.7	A	
		R	0.56	4.5	A	R	0.65	5.7	A	
	SB	L	2.01	545.0	F	L	2.01	545.0	F	
		T	0.67	4.8	A	T	0.67	4.8	A	
		Intersection		34.0	C	Intersection		34.8	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.48	65.8	E	L	0.48	65.8	E	
		R	0.11	57.4	E	R	0.11	57.4	E	
	NB	T	0.78	9.3	A	T	0.79	9.5	A	
	SB	T	0.65	3.0	A	T	0.66	3.0	A	
		Intersection		8.0	A	Intersection		8.2	A	

	Int.	No Action Ln Grp	No Action v/c	No Action Delay (sec)	No Action LOS	With Action Ln Grp	With Action v/c	With Action Delay (sec)	With Action LOS	
9	**Tenth Avenue and West 17th Street**									
	WB	T	0.31	24.0	C	T	0.44	26.4	C	
		R	0.43	26.6	C	R	0.47	27.6	C	
	NB	LT	0.48	2.6	A	LT	0.50	2.6	A	
		Intersection		6.7	A	Intersection		7.7	A	
10	**Tenth Avenue and West 16th Street**									
	EB	LT	0.37	24.8	C	LT	0.44	26.2	C	
	NB	TR	0.53	2.8	A	TR	0.56	2.9	A	
		Intersection		5.2	A	Intersection		5.7	A	
11	**Tenth Avenue and West 15th Street**									
	WB	T	0.25	19.6	B	T	0.31	20.3	C	
	NB	LT	0.52	5.8	A	LT	0.55	5.9	A	
		Intersection		9.2	A	Intersection		11.4	B	
12	**Tenth Avenue and West 14th Street**									
	EB	L	0.49	17.0	B	L	0.51	17.4	B	
		T	0.36	40.1	D	T	0.42	41.3	D	
		R	0.20	38.3	D	R	0.40	46.2	D	+
	WB	LR	0.76	63.0	E	LR	0.84	77.2	E	+
		R	0.83	63.7	E	R	0.94	78.5	E	+
		Intersection		36.2	D	Intersection		41.3	D	
13	**Ninth Avenue and West 17th Street**									
	WB	L	0.21	19.2	B	L	0.21	19.2	B	
		T	0.47	23.3	C	T	0.56	25.6	C	
	SB	TR	0.62	6.9	A	TR	0.64	7.2	A	
		Intersection		10.4	B	Intersection		11.4	B	
14	**Ninth Avenue and West 14th Street**									
	EB	TR	0.51	30.7	C	TR	0.61	33.0	C	
	WB	LT	0.59	32.8	C	LT	0.64	34.3	C	
	NB	L	0.33	37.0	D	L	0.33	37.0	D	
		R	0.31	36.9	D	R	0.31	36.9	D	
	SB	LT	0.66	16.1	B	LT	0.68	16.5	B	
		R	0.34	13.0	B	R	0.35	13.4	B	
		Intersection		23.8	C	Intersection		25.0	C	
15	**Eighth Avenue and West 17th Street**									
	WB	TR	0.77	37.0	D	TR	0.85	43.2	D	
	NB	L	0.32	27.7	C	L	0.34	28.1	C	
		T	0.59	3.9	A	T	0.59	3.9	A	
		Intersection		11.8	B	Intersection		13.8	B	
16	**Eighth Avenue and West 14th Street**									
	EB	LT	0.75	31.5	C	DefL	0.81	49.2	D	+
						T	0.72	32.1	C	
	WB	TR	0.46	22.2	C	TR	0.50	22.9	C	
	NB	L	0.33	32.2	C	L	0.35	32.5	C	
		TR	0.70	7.9	A	TR	0.71	7.9	A	
		Intersection		15.9	B	Intersection		18.0	B	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

Table 14-28 (cont'd)
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison

Saturday Midday Peak Hour

	Int.	No Action Ln Grp	No Action v/c	No Action Delay (sec)	No Action LOS	With Action Ln Grp	With Action v/c	With Action Delay (sec)	With Action LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.12	38.1	D	L	0.12	38.1	D	
		R	0.53	47.3	D	R	0.53	47.3	D	
	NB	TR	0.77	12.2	B	TR	0.79	12.8	B	
	SB	L	0.73	81.8	F	L	0.73	81.8	F	
		T	0.71	18.0	B	T	0.74	18.7	B	
		Intersection		18.1	B	Intersection		18.5	B	
2	**Route 9A and West 22nd Street**									
	WB	T	0.46	37.3	D	T	0.47	37.4	D	
	NB	T	0.84	18.6	B	T	0.86	19.7	B	
		R	0.21	26.7	C	R	0.22	26.9	C	
	SB	T	0.59	8.2	A	T	0.60	8.3	A	
		Intersection		17.0	B	Intersection		17.6	B	
3	**Route 9A and West 18th Street**									
	NB	TR	1.00	35.0+	D	TR	1.03	43.8	D	
	SB	L	0.32	28.5	C	L	0.32	28.5	C	
		T	0.83	17.7	B	TR	0.85	18.4	B	
		Intersection		26.6	C	Intersection		31.4	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.12	34.5	C	L	0.14	34.9	C	
		LR	0.20	35.8	D	LR	0.22	36.2	D	
		R	0.09	34.2	C	R	0.09	34.2	C	
	WB	LR	1.08	144.5	F	LT	0.99	124.8	F	
						R	0.85	94.5	F	
	NB	T	0.88	24.4	C	T	0.90	25.7	C	
	SB	T	0.92	27.1	C	T	0.94	29.2	C	
		Intersection		30.5	C	Intersection		32.3	C	
5	**Route 9A and West 16th Street**									
	NB	TR	0.74	10.3	B	TR	0.79	11.3	B	
	SB	L	0.45	37.3	D	L	0.45	37.5	D	
		T	0.74	10.2	B	T	0.48	0.6	A	
						R	0.12	31.8	C	
		Intersection		11.5	B	Intersection		7.7	A	
6	**Route 9A and West 15th Street**									
	WB	L	0.29	34.4	C	L	0.38	36.5	D	
		R	0.55	41.1	D	R	0.71	49.4	D	+
	NB	T	0.68	9.4	A	T	0.71	9.8	A	
	SB	T	0.76	10.8	B	T	0.76	10.8	B	
		Intersection		12.3	B	Intersection		13.3	B	
7	**Route 9A and West 14th Street**									
	EB					L	0.17	47.7	D	
						TR	0.50	58.0	E	
	NB	T	0.67	9.3	A	T	0.69	9.5	A	
		R	0.62	9.4	A	R	0.71	11.3	B	
	SB	L	1.57	331.1	F	L	1.57	331.1	F	
		T	0.69	9.4	A	T	0.70	9.6	A	
		Intersection		27.4	C	Intersection		28.1	C	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.34	47.0	D	L	0.34	47.0	D	
		R	0.13	42.9	D	R	0.13	42.9	D	
	NB	T	0.82	15.9	B	T	0.85	16.6	B	
	SB	T	0.63	3.8	A	T	0.65	4.0	A	
		Intersection		11.8	B	Intersection		12.2	B	
9	**Tenth Avenue and West 17th Street**									
	WB	T	0.37	24.9	C	T	0.50	27.6	C	
		R	0.57	30.6	C	R	0.61	32	C	
	NB	LT	0.39	2.3	A	LT	0.41	2.3	A	
		Intersection		8.7	A	Intersection		10.0-	A	
10	**Tenth Avenue and West 16th Street**									
	EB	LT	0.43	25.8	C	LT	0.55	28.4	C	
	NB	TR	0.47	2.6	A	TR	0.50	2.7	A	
		Intersection		6.1	A	Intersection		7.3	A	
11	**Tenth Avenue and West 15th Street**									
	WB	T	0.21	19.1	B	T	0.29	20.1	C	
	NB	LT	0.52	5.8	A	LT	0.54	5.9	A	
		Intersection		8.9	A	Intersection		10.3	B	
12	**Tenth Avenue and West 14th Street**									
	EB	L	0.61	21.0	C	L	0.63	21.5	C	
		T	0.35	27.1	C	T	0.39	27.9	C	
		R	0.14	24.8	C	R	0.24	27.6	C	
	WB	LR	0.74	47.4	D	LR	0.84	65.4	E	+
		R	0.83	47.4	D	R	0.96	65.1	E	+
		Intersection		30.7	C	Intersection		36.6	D	
13	**Ninth Avenue and West 17th Street**									
	WB	L	0.15	18.5	B	L	0.15	18.5	B	
		T	0.44	22.8	C	T	0.54	25.1	C	
	SB	TR	0.69	7.8	A	TR	0.71	8.1	A	
		Intersection		10.6	B	Intersection		11.6	B	
14	**Ninth Avenue and West 14th Street**									
	EB	TR	0.60	32.8	C	TR	0.67	34.9	C	
	WB	LT	0.74	39.2	D	LT	0.80	42.8	D	
	NB	L	0.43	38.9	D	L	0.43	38.9	D	
		R	0.96	92.5	F	R	0.96	92.5	F	
	SB	LT	0.80	20.2	C	LT	0.81	20.7	C	
		R	0.91	49.0	D	R	0.92	50.3	D	
		Intersection		36.6	D	Intersection		37.8	D	
15	**Eighth Avenue and West 17th Street**									
	WB	TR	0.54	27.7	C	TR	0.61	29.8	C	
	NB	L	0.55	33.6	C	L	0.61	35.6	D	
		T	0.53	3.5	A	T	0.53	3.5	A	
		Intersection		10.4	B	Intersection		11.6	B	
16	**Eighth Avenue and West 14th Street**									
	EB	LT	0.94	49.0	D	LT	1.05	77.2	E	+
	WB	TR	0.46	22.3	C	TR	0.50	23.0	C	
	NB	L	0.53	37.7	D	L	0.54	38.0	D	
		TR	0.56	6.4	A	TR	0.57	6.4	A	
		Intersection		23.1	C	Intersection		32.2	C	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

Table 14-28 (cont'd)
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison

Saturday Evening Pre-Event Peak Hour

	Int.	No Action Ln Grp	v/c	Delay (sec)	LOS	With Action Ln Grp	v/c	Delay (sec)	LOS	
1	**Route 9A and West 24th Street**									
	WB	L	0.21	39.2	D	L	0.21	39.2	D	
		R	0.63	50.6	D	R	0.63	50.6	D	
	NB	TR	0.73	11.4	B	TR	0.75	11.7	B	
	SB	L	1.06	139.7	F	L	1.06	139.7	F	
		T	0.70	17.8	B	T	0.72	18.2	B	
		Intersection		21.8	C	Intersection		21.9	C	
2	**Route 9A and West 22nd Street**									
	WB	T	0.46	37.2	D	T	0.46	37.3	D	
	NB	T	0.79	17.1	B	T	0.81	17.6	B	
		R	0.17	26.2	C	R	0.18	26.3	C	
	SB	T	0.61	8.4	A	T	0.62	8.5	A	
		Intersection		16.3	B	Intersection		16.6	B	
3	**Route 9A and West 18th Street**									
	NB	TR	0.92	23.2	C	TR	0.95	25.6	C	
	SB	L	0.33	28.5	C	L	0.33	28.5	C	
		T	0.82	17.2	B	TR	0.84	17.7	B	
		Intersection		20.5	C	Intersection		21.9	C	
4	**Route 9A and West 17th Street**									
	EB	L	0.15	42.2	D	L	0.17	42.5	D	
		LR	0.30	44.9	D	LR	0.32	45.4	D	
		R	0.15	42.4	D	R	0.15	42.4	D	
	WB	LR	0.69	65.5	E	LT	0.63	62.8	E	
						R	0.54	60.1	E	
	NB	T	0.75	15.3	B	T	0.76	15.6	B	
	SB	T	0.81	16.9	B	T	0.83	17.4	B	
		Intersection		18.8	B	Intersection		19.8	B	
5	**Route 9A and West 16th Street**									
	NB	TR	0.70	9.6	A	TR	0.73	10.0+	B	
	SB	L	0.27	33.8	C	L	0.29	34.1	C	
		T	0.75	10.5	B	T	0.49	0.6	A	
						R	0.07	31.0	C	
		Intersection		10.8	B	Intersection		6.3	A	
6	**Route 9A and West 15th Street**									
	WB	L	0.20	33.0	C	L	0.27	34.4	C	
		R	0.39	36.8	D	R	0.51	40.7	D	
	NB	T	0.66	9.1	A	T	0.68	9.3	A	
	SB	T	0.79	11.3	B	T	0.79	11.3	B	
		Intersection		11.7	B	Intersection		12.1	B	
7	**Route 9A and West 14th Street**									
	EB					L	0.12	46.8	D	
						TR	0.33	51.7	D	
	NB	T	0.66	9.0	A	T	0.66	9.1	A	
		R	0.73	11.5	B	R	0.83	15.1	B	
	SB	L	0.97	109.3	F	L	0.97	109.3	F	
		T	0.73	10.1	B	T	0.73	10.2	B	
		Intersection		13.4	B	Intersection		14.8	B	
8	**Route 9A and Tenth Avenue/Horatio Street**									
	WB	L	0.32	45.8	D	L	0.32	45.8	D	
		R	0.13	42.6	D	R	0.13	42.6	D	
	NB	T	0.86	17.1	B	T	0.87	17.6	B	
	SB	T	0.67	4.2	A	T	0.68	4.3	A	
		Intersection		12.7	B	Intersection		13.0	B	

	Int.	No Action Ln Grp	v/c	Delay (sec)	LOS	With Action Ln Grp	v/c	Delay (sec)	LOS	
9	**Tenth Avenue and West 17th Street**									
	WB	T	0.30	23.8	C	T	0.40	25.5	C	
		R	0.42	26.5	C	R	0.46	27.4	C	
	NB	LT	0.51	2.7	A	LT	0.53	2.8	A	
		Intersection		6.4	A	Intersection		7.2	A	
10	**Tenth Avenue and West 16th Street**									
	EB	LT	0.33	24.1	C	LT	0.41	25.6	C	
	NB	TR	0.52	2.7	A	TR	0.54	2.8	A	
		Intersection		4.8	A	Intersection		5.4	A	
11	**Tenth Avenue and West 15th Street**									
	WB	T	0.19	18.8	B	T	0.24	19.4	B	
	NB	LT	0.54	5.9	A	LT	0.56	6.0	A	
		Intersection		7.9	A	Intersection		8.6	A	
12	**Tenth Avenue and West 14th Street**									
	EB	L	0.61	21.1	C	L	0.63	21.5	C	
		T	0.32	26.7	C	T	0.36	27.3	C	
		R	0.09	23.9	C	R	0.17	25.6	C	
	WB	LR	0.61	35.9	D	LR	0.70	41.0	D	
		R	0.66	36.3	D	R	0.67	37.0	D	
		Intersection		26.8	C	Intersection		27.9	C	
13	**Ninth Avenue and West 17th Street**									
	WB	L	0.16	18.6	B	L	0.16	18.6	B	
		T	0.46	23.2	C	T	0.55	25.2	C	
	SB	TR	0.62	6.9	A	TR	0.63	7.0	A	
		Intersection		10.1	B	Intersection		10.9	B	
14	**Ninth Avenue and West 14th Street**									
	EB	TR	0.60	32.7	C	TR	0.68	35.1	D	
	WB	LT	0.59	32.6	C	LT	0.64	34.1	C	
	NB	L	0.47	39.8	D	L	0.47	39.8	D	
		R	0.98	94.9	F	R	0.98	94.9	F	
	SB	LT	0.82	21.1	C	LT	0.84	22.0	C	
		R	0.55	17.9	B	R	0.56	18.1	B	
		Intersection		32.6	C	Intersection		33.6	C	
15	**Eighth Avenue and West 17th Street**									
	WB	TR	0.82	41.4	D	TR	0.90	49.6	D	+
	NB	L	0.31	27.4	C	L	0.34	27.9	C	
		T	0.71	4.9	A	T	0.71	5.0	A	
		Intersection		12.6	B	Intersection		14.8	B	
16	**Eighth Avenue and West 14th Street**									
	EB	LT	0.95	49.9	D	LT	1.07	80.9	F	+
	WB	TR	0.61	25.5	C	TR	0.65	26.7	C	
	NB	L	0.44	34.6	C	L	0.45	34.9	C	
		TR	0.86	11.7	B	TR	0.86	11.9	B	
		Intersection		23.9	C	Intersection		32.2	C	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

- During the **Saturday Midday** peak hour, westbound shared left/right-turn lane would deteriorate from LOS D to LOS E, with an average delay increasing from 47.4 seconds to 65.4 seconds and v/c ratio increasing from 0.74 to 0.84. The westbound right-turn lane would deteriorate from LOS D to LOS E, with an average delay increasing from 47.4 seconds to 65.1 seconds and v/c ratio increasing from 0.83 to 0.96.

EIGHTH AVENUE AND WEST 17TH STREET

- During the **Saturday Evening Pre-Event** peak hour, the westbound approach would continue to operate at LOS D, with average delay increasing from 41.4 seconds to 49.6 seconds and v/c ratio increasing from 0.82 to 0.90.

EIGHTH AVENUE AND WEST 14TH STREET

- During the **Weekday Evening Pre-Event** peak hour, the eastbound shared through/left-turn movement would deteriorate from LOS C to LOS D, with an average delay increasing from 31.5 seconds to 49.2 seconds and v/c ratio increasing from 0.75 to 0.81.
- During the **Saturday Midday** peak hour, the eastbound approach would deteriorate from LOS D to LOS E, with an average delay increasing from 49.0 seconds to 77.2 seconds and v/c ratio increasing from 0.94 to 1.05.
- During the **Saturday Evening Pre-Event** peak hour, the eastbound approach would deteriorate from LOS D to LOS F, with an average delay increasing from 49.9 seconds to 80.9 seconds and v/c ratio increasing from 0.95 to 1.07.

ROUTE 9A AND WEST 15TH STREET: WITHOUT MEDIAN WALKWAY

There is the potential that the walkway in the Route 9A median between West 15th and West 16th Streets would not be constructed as part of the proposed project and that the existing crosswalk across Route 9A at West 16th Street would be eliminated. To analyze this potential scenario, pedestrian trips approaching Route 9A from the east along West 16th Street were assumed to travel south along the east sidewalk between West 16th and West 15th streets to cross Route 9A at West 15th Street via the north crosswalk. Similarly, pedestrians leaving the project site and destined for West 16th Street eastbound were assumed to use the north side crosswalk at Route 9A and West 15th Street, walk north along the Route 9A east sidewalk, and then turn right onto West 16th Street.

Table 14-29 presents a comparison of No Action and With Action vehicular traffic conditions for the West 15th Street and Route 9A study intersection, which is the only intersection that would operate differently under this scenario. Based on the significance criteria described in the *CEQR Technical Manual*, significantly impacted lane groups are denoted with a "+" sign in the table and are detailed below.

- During the **Weekday PM** peak hour, the westbound right turn would continue to operate at LOS E, with average delay increasing from 59.1 seconds to 72.1 seconds and v/c ratio increasing from 0.60 to 0.77.
- During the **Weekday Evening Pre-Event** peak hour, the westbound right turn would continue to operate at LOS E, with average delay increasing from 57.4 seconds to 71.5 seconds and v/c ratio increasing from 0.56 to 0.76.
- During the **Saturday Midday** peak hour, the westbound right turn would continue to operate at LOS D, with average delay increasing from 41.1 seconds to 51.3 seconds and v/c ratio increasing from 0.55 to 0.73.

Table 14-29
2015 No Action and With Action Condition
Intersection Level of Service Analysis Comparison
Without Median Pedestrian Walkway

		No Action				With Action				
	Int.	Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS	
Weekday Midday Peak Hour										
6	**Route 9A and West 15th Street**									
	WB	L	0.29	34.6	C	L	0.34	35.9	D	
		R	0.40	37.1	D	R	0.50	40.5	D	
	NB	T	0.65	8.9	A	T	0.67	9.3	A	
	SB	T	0.73	10.1	B	T	0.73	10.2	B	
		Intersection		11.3	B	Intersection		11.7	B	
Weekday PM Peak Hour										
6	**Route 9A and West 15th Street**									
	WB	L	0.42	52.2	D	L	0.49	54.8	D	
		R	0.60	59.1	E	R	0.77	72.1	E	+
	NB	T	0.71	5.2	A	T	0.73	5.5	A	
	SB	T	0.79	6.4	A	T	0.79	6.4	A	
		Intersection		9.2	A	Intersection		10.0+	B	
Weekday Evening Pre-Event Peak Hour										
6	**Route 9A and West 15th Street**									
	WB	L	0.39	51.6	D	L	0.49	55.2	E	
		R	0.56	57.4	E	R	0.76	71.5	E	+
	NB	T	0.68	4.9	A	T	0.70	5.1	A	
	SB	T	0.77	6.0	A	T	0.77	6.0	A	
		Intersection		8.5	A	Intersection		9.5	A	
Saturday Midday Peak Hour										
6	**Route 9A and West 15th Street**									
	WB	L	0.29	34.4	C	L	0.38	36.5	D	
		R	0.55	41.1	D	R	0.73	51.3	D	+
	NB	T	0.68	9.4	A	T	0.71	9.8	A	
	SB	T	0.76	10.8	B	T	0.76	10.8	B	
		Intersection		12.3	B	Intersection		13.4	B	
Saturday Evening Pre-Event Peak Hour										
6	**Route 9A and West 15th Street**									
	WB	L	0.20	33.0	C	L	0.27	34.4	C	
		R	0.39	36.8	D	R	0.53	41.4	D	
	NB	T	0.66	9.1	A	T	0.68	9.3	A	
	SB	T	0.79	11.3	B	T	0.79	11.3	B	
		Intersection		11.7	B	Intersection		12.1	B	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.
"+" implies a significant adverse impact

PARKING OCCUPANCY AND UTILIZATION

Based on the project parking accumulation shown in **Tables 14-26** and **14-27**, the approximately 75 accessory parking spaces that would be provided on-site would not be sufficient to accommodate the projected parking demand generated by the project. It is expected that the on-site parking garage would experience turnover every hour, and as a result, a portion of the auto trips generated during each of the five peak hours would be able to park on-site. The remaining auto trips were assigned to off-site parking facilities.

Therefore, the utilization of off-street parking facilities in the study area is expected to increase due to the project-generated auto trips. **Table 14-30** shows the With Action Condition parking utilization analysis. The off-site parking facilities would have sufficient capacity to accommodate the project generated demand; therefore, there would be no significant adverse parking impacts.

Table 14-30
2015 With Action Conditions: Off-Street Parking Utilization

Map Location	Garage	Location	License Number	Licensed Capacity	Utilization Rate					Utilized Spaces					Available Spaces				
					Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
					Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE	Midday	PM	EVE	Midday	EVE
1	Park 15 West LLC	W. 15th Street between Ninth and Tenth Avenues	1155053	374	100%	72%	69%	56%	24%	373	268	259	211	89	1	106	115	163	285
2	Icon Parking Systems	W. 15th Street east of Ninth Avenue	1002786	625	89%	57%	61%	62%	61%	556	356	382	386	382	69	269	243	239	243
3	MP 17 LLC	W. 16th Street between Ninth and Tenth Avenue	1310036	206	81%	62%	51%	38%	27%	167	128	106	78	55	39	78	100	128	151
4	Edison Parking	W. 17th Street west of Tenth Avenue	1298623	320	96%	87%	83%	63%	63%	308	279	267	200	202	12	41	53	120	118
5	Edison Parking	W. 20th Street west of Tenth Avenue	1006124	80	96%	86%	81%	51%	71%	77	69	65	41	57	3	11	15	39	23
6	GGMC Parking	W. 21st Street west of Tenth Avenue	1362685	142	43%	51%	33%	42%	82%	61	73	47	59	116	81	69	95	83	26
7	Edison Parking	W. 22nd Street west of Tenth Avenue	1040211	49	92%	88%	78%	61%	92%	45	43	38	30	45	4	6	11	19	4
8	Chelsea Piers[1]	W. 19th Street west of Eleventh Avenue	1132509	250	72%	72%	74%	55%	94%	180	181	184	137	234	70	69	66	113	16
Total with Action				**2,046**	**86%**	**68%**	**66%**	**56%**	**58%**	**1,767**	**1,397**	**1,348**	**1,142**	**1,180**	**279**	**649**	**698**	**904**	**866**

Notes:
1. Licensed parking capacity at Chelsea Piers is based on public parking on Piers 60 and 61. The valet parking on Pier 59 was not included in the analysis.

TRANSIT OPERATIONS

Transit trips associated with the project were superimposed onto the No Action Condition transit networks to generate peak period transit volumes for the 2015 With Action Condition analysis.

SUBWAY

The 2015 With Action Condition results for the 13 analysis stairways in the 14th Street ACE/L subway station provided in **Table 14-31** indicate that they are all projected to continue to operate at LOS D or better during the Weekday PM peak hour with v/c ratios less than or equal to 1.00.

Table 14-31
2015 With Action Condition
Subway Stairs Level of Service Analysis
West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	ID	Type	Location	Width (feet)	Effective Width (feet)	With Action Weekday PM Peak 15 Minute Entering Volume	With Action Weekday PM Peak 15 Minute Exiting Volume	Friction Factor	V/C	LOS
H1	8th Ave and 14th St	M1	Stairway	NW Corner	6.00	5.00	232	178	0.9	0.64	B
H1		S1	Stairway	NW Corner	6.00	5.00	232	178	0.9	0.64	B
H1		M2A/B	Stairway	SW Corner	12.83	11.58	387	261	0.9	0.43	A
H1		S2	Stairway	SW Corner	6.00	5.00	387	261	0.9	1.00	D
N78	8th Ave and 15th St	M3	Stairway	NW Corner	4.50	3.50	262	127	0.9	0.85	C
N78		S3	Stairway	NW Corner	4.50	3.50	262	127	0.9	0.85	C
N78		M5	Stairway	SW Corner	5.83	4.83	171	39	0.9	0.33	A
N78		S5	Stairway	SW Corner	4.50	3.50	171	39	0.9	0.45	B
N78	8th Ave and 16th St	M7A/B	Stairway	NW Corner	9.58	8.33	244	161	0.9	0.38	A
N78		S5	Stairway	NW Corner	4.33	3.33	114	83	0.9	0.46	B
N78		S7	Stairway	NW Corner	4.33	3.33	132	79	0.9	0.49	B
Mezzanine	From 14th St to 16th St	P1A/B	Stairway	Downtown Platform	9.67	8.42	272	544	0.9	0.88	C
Mezzanine	From 14th St to 16th St	P2A/B	Stairway	Uptown Platform	9.92	8.67	742	167	0.9	0.82	C

Based on these results, none of the 13 stairways would be significantly impacted by the proposed action during this period.

The two control areas (H1 and N78) in the 14th Street ACE/L subway station are projected to continue to operate at LOS B or better for the 2015 With Action Condition during the Weekday PM peak hour (**Table 14-32**). Based on these results, neither control area would be significantly impacted by the proposed action during this period.

Table 14-32
2015 With Action Condition
Subway Station Control Area Level of Service Analysis
West 14th Street/Eighth Avenue Station (A/C/E/L)

Control Area	Station Location	Station Elements	Quantity (5)	With Action PM Peak 15 Minute Entering Volume (2)	With Action PM Peak 15 Minute Exiting Volume (1)	15 Minute Turnstile Capacity for Entries (3)	15 Minute Turnstile Capacity for Exits (3)	V/C	LOS
H1	14th Street / 8th Avenue	Turnstile	6	806	389	2775	3870	**0.66**	**B**
		HEET	1		189		1095		
		HXT	1						
N78 (4)	16th Street / 8th Avenue	Turnstile	6	722	271	3285	3870	**0.41**	**A**
		HEET	3		135		2175		
		HXT	1						

Notes:

(1) Source: SSE November 2010 field counts, growth rate applied to estimate 2011 values. Represents all exit volumes except from HEETs and HXTs on east side of Eighth Avenue.
(2) Source: May 2011 average weekday entries, NYCT. Represents all entering volumes for each control area. However, total capacity considered for analysis was based only on center turnstiles and HEETs on the west side of Eighth Avenue.
(3) Fare array capacity based on NYCT guidelines in accordance with the *2012 CEQR Technical Manual* .
(4) Control Area N78 includes fare gates at West 15th Street/8th Avenue.
(5) Quantity of fare gates excludes turnstiles/HEETs/HXTs on east side of the station.

BUS

As shown in **Table 14-33**, the results of the 2015 With Action Condition analysis indicate that the M14 bus route is projected to continue to operate under capacity at its peak load point during all five peak hours. Based on these results, the M14 bus route would not be significantly impacted by the proposed action during any of the five peak hours.

Table 14-33
2015 With Action Condition
Bus Peak Load Point Analysis - Route M14

Route	Peak Direction	Maximum Load Point	Peak Hour Buses (1)	With Action Peak Hour Passengers (1)	Average Passengers Per Bus	Total Capacity (2)	Available Capacity
Weekday Midday							
M14	WB	East 14th St & 2nd Ave	16	806	50	1360	554
Weekday PM							
M14	EB	East 14th St & Ave A	19	1277	67	1615	338
Weekday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	16	859	54	1360	501
Saturday Midday							
M14	WB	East 14th St & 2nd Ave	15	871	58	1275	404
Saturday Evening Pre-Event							
M14	EB	East 14th St & 3rd Ave	13	711	55	1105	394

Notes:
(1) Based on most currently available data from NYC Transit.
(2) Available capacity based on a maximum of 85 passengers per bus (M14 uses articulated buses).

PEDESTRIAN OPERATIONS

Pedestrian trips associated with the project were superimposed onto the No Action Condition pedestrian elements (sidewalks, corner reservoirs, and crosswalks) to generate the With Action condition peak period 15-minute volumes for analysis during the five peak periods.

CORNERS

The 2015 With Action Condition results for the 31 corner reservoir locations were compared with the No Action Condition results for all five peak periods. As shown in **Table 14-34**, all corners would operate at LOS C or better. As a result, the project would not cause a significant adverse impact at any of the 31 corner reservoirs.

CROSSWALKS

Table 14-35 summarizes the 2015 No Action Condition crosswalk analysis. All 20 crosswalks are projected to operate at acceptable levels of service with the exception of three crosswalks. Based on the significance criteria described in the *CEQR Technical Manual*, significantly impacted crosswalks are denoted with a "+" sign in the tables and are detailed below. The results presented in these tables assume the implementation of the project improvements.

Table 14-34
2015 With Action Condition: Corner Level of Service Analysis

Location	Corner	Required Corner Circulation Space (ft^2/p)					Corner Circulation LOS				
		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street	Southeast	215	221	131	190	188	A	A	A	A	A
	Northeast	421	389	226	334	300	A	A	A	A	A
Route 9A and West 15th Street	Northeast	135	137	67	108	96	A	A	A	A	A
	Southeast	125	116	55	86	77	A	A	B	A	A
Route 9A and West 14th Street	Southeast	154	131	66	120	110	A	A	A	A	A
Tenth Avenue and West 16th Street	Northeast	120	137	118	91	139	A	A	A	A	A
	Southeast	116	159	138	98	159	A	A	A	A	A
	Northwest	288	295	223	261	270	A	A	A	A	A
	Southwest	246	325	230	260	277	A	A	A	A	A
Tenth Avenue and West 15th Street	Northwest	140	158	95	128	120	A	A	A	A	A
	Northeast	98	107	81	89	103	A	A	A	A	A
	Southeast	99	105	69	85	91	A	A	A	A	A
	Southwest	122	124	65	96	86	A	A	A	A	A
Tenth Avenue and West 14th Street	Northeast	201	269	239	212	245	A	A	A	A	A
	Southeast	188	228	169	190	228	A	A	A	A	A
	Southwest	181	170	80	148	130	A	A	A	A	A
Washington Street and West 14th Street	Southeast	103	113	128	93	127	A	A	A	A	A
	Southwest	118	133	131	94	133	A	A	A	A	A
Ninth Avenue and West 16th Street	Northeast	57	53	57	62	62	B	B	B	A	A
	Southeast	48	51	56	57	65	B	B	B	B	A
	Northwest	54	54	72	56	72	B	B	A	B	A
	Southwest	45	49	69	59	79	B	B	A	B	A
Ninth Avenue and West 15th Street	Northwest	36	44	55	53	63	C	B	B	B	A
	Northeast	29	32	39	44	48	C	C	C	B	B
	Southeast	101	111	137	99	142	A	A	A	A	A
	Southwest	65	78	100	67	98	A	A	A	A	A
Ninth Avenue and West 14th Street	Northwest	49	60	75	42	66	B	B	A	B	A
	Northeast	56	53	56	46	53	B	B	B	B	B
	Southeast	110	84	115	90	122	A	A	A	A	A
	Southwest	58	68	139	57	107	B	A	A	B	A
Eighth Avenue and West 14th Street	Northwest	120	89	93	136	120	A	A	A	A	A

Table 14-35
2015 With Action Condition: Crosswalk Level of Service Analysis

Location	Crosswalk	Crosswalk Length (feet)	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)					Crosswalk Circulation LOS				
				Weekday			Saturday		Weekday			Saturday	
				Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 17th Street	South	88.0	16.5	447	416	497	448	623	A	A	A	A	A
Route 9A and West 16th Street	South - EB	36.8*	15.0	81	65	35	67	70	A	A	C	A	A
	East	32.0	12.0	251	257	153	195	184	A	A	A	A	A
Route 9A and West 15th Street	North	102.4	23.8	26	20	10	20	20	C	D	E +	D	D
	East	46.7	16.7	1103	1211	855	1409	981	A	A	A	A	A
	South	88.4	24.2	55	39	20	37	36	B	C	D	C	C
Route 9A and West 14th Street	South	106.0	14.5	62	39	22	48	46	A	C	D	B	B
Tenth Avenue and West 16th Street	North	60.0	12.5	91	86	67	91	84	A	A	A	A	A
	South	58.0	13.0	72	114	74	91	98	A	A	A	A	A
Tenth Avenue and West 15th Stree	North	59.1	15.5	43	50	27	45	40	B	B	C	B	B
	South	61.0	16.3	51	52	26	43	36	B	B	C	B	C
Tenth Avenue and West 14th Street	South	65.0	17.0	105	81	41	86	83	A	A	B	A	A
Washington Street and West 14th Street	South	39.3	12.3	38	40	40	23	33	C	B	C	D	C
Ninth Avenue and West 16th Street	North	57.5	11.0	42	33	43	43	45	B	C	B	B	B
Ninth Avenue and West 15th Street	North	68.8	9.9	10	12	14	19	16	E +	E +	E +	D +	D +
	South	70.5	13.3	38	36	37	33	39	C	C	C	C	C
Ninth Avenue and West 14th Street (west side of intersection)	North	21.0	15.4	31	32	26	19	23	C	C	C	D +	D
	South	30.8	16.5	31	29	24	20	25	C	C	C	D	C
Ninth Avenue and West 14th Street (east side of intersection)	North	30.0	12.3	29	26	42	23	30	C	C	B	D	C
	South	39.4	22.7	38	26	29	23	29	C	C	C	D	C

Route 9A and West 15th Street, North Crosswalk

- During the **Weekday Evening Pre-Event** peak hour, the north crosswalk would degrade from LOS A to LOS E, and pedestrian space would decrease to less than 19.5 ft^2/p.

Ninth Avenue and West 15th Street, North Crosswalk

- During the **Weekday Midday** peak hour, the north crosswalk would continue to operate at LOS E, with a decrease in pedestrian space from 14.3 ft^2/p to 10.4 ft^2/p.
- During the **Weekday PM** peak hour, the north crosswalk would degrade from LOS D to LOS E, with a decrease in pedestrian space from 17.1ft^2/p to 12.1 ft^2/p.
- During the **Weekday Evening Pre-Event** peak hour, the north crosswalk would degrade from LOS C to LOS E, and pedestrian space would decrease to less than 19.5 ft^2/p.
- During the **Saturday Midday** peak hour, the north crosswalk would degrade from LOS C to LOS D, and pedestrian space would decrease to less than 19.5 ft^2/p.
- During the **Saturday Evening Pre-Event** peak hour, the north crosswalk would degrade from LOS C to LOS D, and pedestrian space would decrease to less than 19.5 ft^2/p.

Ninth Avenue and West 14th Street, North Crosswalk, West Side

- During the **Saturday Midday** peak hour, the north crosswalk on the west side of the median would degrade from LOS C to LOS D, and pedestrian space would decrease to less than 19.5 ft^2/p.

SIDEWALKS

The 2015 With Action Condition results for the 39 sidewalk locations were compared with the No Action Condition results for all five peak periods. As shown in **Table 14-36**, all sidewalks are projected to operate at LOS B or better for the non-platoon conditions and at LOS C or better for platoon conditions during the five peak periods for the 2015 With Action Condition, with the exception of the east sidewalk on the north side at the Ninth Avenue and West 15th Street intersection during the Weekday PM peak hour (LOS D). However, at this location, the pedestrian flow rate would degrade from 2.1 PMF under the No Action Condition to 6.4 PMF under the With Action Condition. According to the significance criteria, this is not considered a significant impact for platoon conditions because the flow rate is less than 8.5 PMF. Based on these results, none of the 39 sidewalk locations would be significantly impacted by the proposed action during any of the five peak hours.

PEDESTRIAN OPERATIONS: WITHOUT MEDIAN WALKWAY

As described previously, there is the potential that the walkway in the Route 9A median between West 15th and West 16th Streets would not be constructed as part of the proposed project, and the existing crosswalk across Route 9A at West 16th Street would be eliminated. This potential scenario would result in higher pedestrian volumes on the east sidewalk of Route 9A between West 15th and West 16th streets, the northeast corner at Route 9A and West 15th Street, and the east half of the north crosswalk at West 15th Street.

Tables 14-37, 14-38, and 14-39 present the associated corner, crosswalk, and sidewalk analysis results for this potential scenario. As shown, all associated corners and sidewalks would operate at acceptable LOS during the five peak periods for the 2015 With Action Condition without the median walkway with one exception. During the **Weekday Evening Pre-Event** peak hour, the north crosswalk at Route 9A and West 15th Street would degrade from LOS A to LOS E, and pedestrian space would decrease to less than 19.5 ft^2/p. The available pedestrian space on the crosswalk would be equal to what was analyzed for the With Action Condition with the median walkway; therefore, the magnitude of the significant adverse impact for this crosswalk would be the same.

Table 14-36
2015 With Action Condition: Sidewalk Level of Service Analysis

Location	Effective Width (feet)	Peak 15-Min Volumes					Flow Rate (pfm)					Non-Platoon Conditions LOS					Platoon Conditions LOS				
		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street (south side, west sidewalk)	14.8	50	58	112	136	78	0.23	0.26	0.50	0.61	0.35	A	A	A	A	A	A	A	B	B	A
Route 9A and West 16th Street (south side, east sidewalk)	13.3	69	49	76	56	52	0.35	0.25	0.38	0.28	0.26	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, north sidewalk)	11.0	45	48	81	57	64	0.27	0.29	0.49	0.34	0.39	A	A	A	A	A	A	A	A	A	A
Route 9A and West 16th Street (east side, south sidewalk)	10.0	96	194	174	74	64	0.64	1.29	1.16	0.49	0.43	A	A	A	A	A	B	B	B	A	A
Route 9A and West 15th Street (north side, west sidewalk)	13.5	42	60	110	134	71	0.21	0.29	0.54	0.66	0.35	A	A	A	A	A	A	A	B	B	A
Route 9A and West 15th Street (north side, east sidewalk)	13.8	51	47	73	63	46	0.24	0.23	0.35	0.31	0.22	A	A	A	A	A	A	A	A	A	A
Route 9A and West 15th Street (east side, north sidewalk)	11.5	180	170	310	213	244	1.04	0.99	1.80	1.23	1.41	A	A	A	A	A	B	B	B	B	B
Route 9A and West 15th Street (east side, south sidewalk)	3.0	90	92	262	142	189	2.00	2.05	5.83	3.15	4.20	A	A	B	A	A	B	B	C	C	C
Route 9A and West 15th Street (south side, west sidewalk)	10.5	109	135	250	213	153	0.69	0.86	1.58	1.35	0.97	A	A	A	A	A	B	B	B	B	B
Route 9A and West 15th Street (west side, within intersection)	10.5	286	316	598	461	422	1.81	2.01	3.80	2.93	2.68	A	A	A	A	A	B	B	C	B	B
Route 9A Median between West 15th & 16th Streets	5.0	93	89	153	110	106	1.24	1.19	2.04	1.47	1.41	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 16th Street (east side, north sidewalk)	5.5	150	118	170	210	158	1.81	1.43	2.06	2.55	1.92	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 16th Street (east side, south sidewalk)	9.5	90	69	77	74	66	0.63	0.49	0.54	0.52	0.47	A	A	A	A	A	B	A	B	B	A
Tenth Avenue and West 16th Street (west side, north sidewalk)	10.0	61	62	89	59	63	0.40	0.41	0.59	0.39	0.42	A	A	A	A	A	A	A	B	A	A
Tenth Avenue and West 16th Street (west side, south sidewalk)	9.0	68	58	89	78	67	0.51	0.43	0.66	0.58	0.50	A	A	A	A	A	B	A	B	B	A
Tenth Avenue and West 15th Street (west side, north sidewalk)	9.0	181	172	310	215	240	1.34	1.28	2.30	1.59	1.77	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 15th Street (west side, south sidewalk)	3.0	93	97	180	112	133	2.07	2.16	4.00	2.50	2.96	A	A	A	A	A	B	B	C	B	B
Tenth Avenue and West 15th Street (east side, north sidewalk)	9.3	191	159	230	213	210	1.38	1.15	1.65	1.54	1.51	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 15th Street (east side, south sidewalk)	13.0	60	79	136	118	120	0.31	0.41	0.70	0.61	0.61	A	A	A	A	A	A	A	B	B	B
Tenth Avenue and West 15th Street (south side, east sidewalk)	16.3	273	227	281	292	277	1.12	0.93	1.15	1.20	1.13	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 14th Street (north side, east sidewalk)	15.8	337	222	278	291	266	1.43	0.94	1.18	1.23	1.12	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 14th Street (west side, south sidewalk)	10.0	102	127	247	142	148	0.68	0.85	1.65	0.94	0.98	A	A	A	A	A	B	B	B	B	B
Tenth Avenue and West 14th Street (east side, north sidewalk)	16.5	140	122	221	211	217	0.57	0.49	0.89	0.85	0.88	A	A	A	A	A	B	A	B	B	B
Tenth Avenue and West 14th Street (east side, south sidewalk)	19.7	314	231	189	295	165	1.06	0.78	0.64	1.00	0.56	A	A	A	A	A	B	B	B	B	B
Washington Street and West 14th Street (west side, south sidewalk)	15.5	427	362	260	412	234	1.84	1.56	1.12	1.77	1.01	A	A	A	A	A	B	B	B	B	B
Washington Street and West 14th Street (east side, south sidewalk)	12.8	364	352	296	446	366	1.90	1.84	1.55	2.33	1.91	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (east side, north sidewalk)	6.8	178	261	270	173	247	1.73	2.54	2.63	1.68	2.41	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, north sidewalk)	8.0	196	144	167	170	148	1.63	1.20	1.39	1.42	1.24	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 16th Street (west side, south sidewalk)	4.5	94	97	94	109	181	1.39	1.44	1.39	1.62	2.69	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (west side, north sidewalk)	11.4	259	233	314	245	226	1.51	1.36	1.83	1.43	1.32	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (west side, south sidewalk)	11.5	116	182	185	121	120	0.68	1.06	1.07	0.70	0.69	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 15th Street (east side, north sidewalk)	3.9	314	374	282	282	228	5.34	6.37	4.80	4.80	3.87	B	B	A	A	A	C	D	C	C	C
Ninth Avenue and West 15th Street (south side, east sidewalk)	7.0	287	268	236	350	216	2.73	2.56	2.25	3.33	2.05	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 15th Street (south side, west sidewalk)	9.5	337	376	341	461	384	2.37	2.64	2.39	3.24	2.69	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 14th Street (west side, north sidewalk)	13.5	405	398	505	496	456	2.00	1.97	2.50	2.45	2.25	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (west side, south sidewalk)	12.0	354	356	298	449	341	1.97	1.98	1.66	2.49	1.89	A	A	A	A	A	B	B	B	B	B
Ninth Avenue and West 14th Street (north side, east sidewalk)	4.5	292	259	235	351	230	4.33	3.84	3.48	5.20	3.40	A	A	A	B	A	C	C	C	C	C
Ninth Avenue and West 14th Street (north side, west sidewalk)	8.0	318	353	342	455	357	2.65	2.94	2.85	3.79	2.97	A	A	A	A	A	B	B	B	C	B
Ninth Avenue and West 14th Street (east side, north sidewalk)	8.8	486	705	533	561	510	3.67	5.32	4.02	4.23	3.85	A	B	A	A	A	C	C	C	C	C
Ninth Avenue and West 14th Street (east side, south sidewalk)	15.0	423	599	465	381	295	1.88	2.66	2.07	1.69	1.31	A	A	A	A	A	B	B	B	B	B

Table 14-37
2015 With Action Condition: Corner Level of Service Analysis Without Median Pedestrian Walkway

Location	Corner	Required Corner Circulation Space (ft^2/p)					Corner Circulation LOS				
		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street	Southeast	221	230	139	196	192	A	A	A	A	A
Route 9A and West 15th Street	Northeast	110	110	52	88	80	A	A	B	A	A

Table 14-38
2015 With Action Condition: Crosswalk Level of Service Analysis Without Median Pedestrian Walkway

Location	Crosswalk	Crosswalk Length (feet)	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)					Crosswalk Circulation LOS				
				Weekday			Saturday		Weekday			Saturday	
				Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 15th Street	North	102.4	23.8	26.2	19.7	10.3	19.9	19.6	C	D	E +	D	D

Table 14-39
2015 With Action Condition: Sidewalk Level of Service Analysis
Without Median Pedestrian Walkway

Location	Effective Width (feet)	Peak 15-Min Volumes					Flow Rate (pfm)					Non-Platoon Conditions LOS					Platoon Conditions LOS				
		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday		Weekday			Saturday	
		Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event	Midday	PM	Evening Pre-Event	Midday	Evening Pre-Event
Route 9A and West 16th Street (south side, east sidewalk)	13.3	161	138	228	167	158	0.81	0.70	1.15	0.84	0.80	A	A	A	A	A	B	B	B	B	B
Route 9A and West 15th Street (north side, east sidewalk)	13.8	143	136	225	174	152	0.69	0.66	1.09	0.84	0.73	A	A	A	A	A	B	B	B	B	B

I. SAFETY ASSESSMENT

SAFETY AT INTERSECTIONS

Crash data for the study area intersections were obtained from NYCDOT for the three-year time period between January 1, 2008, and December 31, 2010. The data obtained quantify the total number of reportable crashes (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related crashes at each location. According to the *CEQR Technical Manual*, a high crash location is one with more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes during any consecutive 12 months of the most recent three-year period for which data is available.

During this three-year period, 255 total crashes, including 44 pedestrian-related crashes and 18 bicycle-related crashes, occurred at the study area intersections. Based on the crash data, only the intersection of Eighth Avenue and West 14th Street would be classified as high pedestrian/bicycle crash locations as per the *CEQR Technical Manual*. At this location, there were six pedestrian/bicycle injury crashes in each of the consecutive 12-month periods of 2008, 2009, and 2010. **Table 14-40** depicts total crash characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

Table 14-40
Crash Data

	Crashes by Year											
	Total Crashes			Pedestrian			Bicycle			Combined Ped/Bike		
Intersection	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
Route 9A/W 24th Street	7	8	7	0	0	0	0	0	0	0	0	0
Route 9A/11th Avenue/W 22nd Street	2	3	5	1	0	1	0	1	0	1	1	1
Route 9A/W 18th Street	10	7	1	1	0	0	1	0	0	2	0	0
Route 9A/W 17th Street	2	5	8	1	0	0	0	3	0	1	3	0
Route 9A/W 16th Street	4	1	0	0	0	0	0	0	0	0	0	0
Route 9A/W 15th Street	3	3	7	1	0	0	0	0	0	1	0	0
Route 9A/W 14th Street	2	6	3	0	0	0	0	0	0	0	0	0
Route 9A/10th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
10th Avenue/W 17th Street	3	3	4	1	0	0	0	0	0	1	0	0
10th Avenue/W 16th Street	3	0	2	0	0	1	0	0	0	0	0	1
10th Avenue/W 15th Street	10	8	5	3	2	1	0	0	0	3	2	1
10th Avenue/W 14th Street	0	6	3	0	0	0	0	0	0	0	0	0
9th Avenue/W 17th Street	6	8	6	1	2	1	1	0	0	2	2	1
9th Avenue/W 16th Street	3	1	3	0	0	1	0	0	1	0	0	2
9th Avenue/W 15th Street	1	3	6	1	2	3	0	0	1	1	2	4
9th Avenue/W 14th Street	7	3	9	1	1	2	0	1	0	1	2	2
8th Avenue/W 17th Street	8	3	4	1	0	0	1	0	1	2	0	1
8th Avenue/W 14th Street	11	11	9	5	4	2	1	2	4	**6**	**6**	**6**
14th Street/Washington Street	3	3	6	1	1	2	0	0	0	1	1	2

Note: Intersections that are bolded reflect the occurrence of 48 or more total reportable and non-reportable crashes and/or five or more pedestrian/bicyclists injury crashes in a twelve-month period.

Source: NYSDOT January 1, 2008 to December 31, 2010 crash data.

Under the With Action scenario, pedestrian activity would be generated at the intersection of Eighth Avenue and West 14th Street primarily due to the access to the A, C, E, and L subway lines at this intersection. Although the majority of the subway trips would use the subway stairs on the west side of Eighth Avenue, the project would increase the number of pedestrians crossing both Eighth Avenue and West 14th Street. The addition of pedestrian trips at this high-accident location could result in increasingly unsafe conditions.

The following measures are recommended at this location to address potential safety issues at the intersection of Eighth Avenue and West 14th Street and are shown in **Appendix C-3**:

- Install high-visibility crosswalks across Eighth Avenue

- Install signage on the westbound approach of the intersection to alert motorists to yield to pedestrians in the crosswalk.
- Install signage on the northbound approach of the intersection to alert motorists to yield to pedestrians in the crosswalk.

The provision of leading pedestrian intervals for pedestrians crossing Eighth Avenue and/or 14th Street is an additional improvement that can be considered.

SAFETY ALONG THE BIKEWAY AND WATERSIDE ESPLANADE

Pedestrian and bicyclist safety on the project frontage, the bikeway, and the esplanade was also considered. To improve the visibility of the bikeway and provide advanced warning to both pedestrians and cyclists, the site access plan includes advanced signing and striping along the project frontage, as shown in Figure 14-1.

Additionally, there are several design features included as part of project access plan that would create a safe, inviting, and functional frontage for pedestrians, cyclists, and motorists. These include:

- Overwater platforms from the northern edge of the building to West 17th Street (20 feet wide) and from the southern edge of the building to West 14th Street (24 feet wide). These platforms would connect to the walkway along the perimeter of the pier and to the esplanade and would increase overall pedestrian space.
- A wide sidewalk along the project frontage to encourage pedestrians to walk adjacent to the project frontage rather than on the bikeway.
- No on-site public parking facilities which would limit the number of vehicles coming onto the site and crossing the bikeway and sidewalk.
- All movements into and out of the site would be controlled by traffic signals, the phasing of which would eliminate conflicts between motorists and cyclists.
- The taxi-drop off on the east side of Route 9A between West 14th and West 15th streets would help minimize the number of vehicles accessing the frontage road and crossing the bikeway.

Particularly during the post-event condition, high volumes of pedestrians would be exiting the project site and would need to cross Route 9A. A TMP would be implemented during typical higher-volume times and event conditions to address potential safety issues. A preliminary TMP is provided below.

TRAFFIC MANAGEMENT PLAN (TMP)

A TMP would be implemented that would include active management of the frontage road and other transportation elements by project staff. The objectives of the TMP are to ensure operational efficiency and enhance pedestrian/traffic safety. There are expected to be two TMP configurations—one for the typical conditions and one for rooftop events of 1,000 persons or more. The three management zones are discussed below. The TMP would be refined over time as warranted based on actual, live operational experience following opening. The lease between HRPT and the applicant would include a requirement for the implementation of a TMP.

Pier 57 Building Frontage

Under both typical higher-volume times and event conditions, the building frontage would be staffed from 5:00 PM to 12:00 AM (midnight) on all weekdays and from 12:00 PM to 12:00 AM on weekend days. Traffic management staff objectives are to minimize vehicle drop-off/pick-up times, control vehicle/pedestrian conflicts on the frontage road, and provide information to visitors (e.g., parking entrance location, on-site destinations, etc). One person would be required under typical conditions, and at least two persons would be required for event conditions. At all times, this building frontage would also be under continuous security video monitoring and patrol. In addition, as there would be freight loading access from this location, building staff (non-TMP) would also be on-site as needed between 8:00 AM and 6:00 PM on weekdays.

Service Road/Esplanade Frontages North and South of Pier 57 Frontage

Under typical conditions, there would be no anticipated need to actively manage the frontage road sections that are north and south of the building frontage from a traffic flow perspective. However, the Pier 57 security personnel would continuously video monitor, and periodically patrol, these spaces to control random vehicle parking/stopping and other occurrences. In good weather conditions, traffic management would also be in place beginning at 12:00 PM on weekends and 5:00 PM on weeknights.

For event conditions, each section (north/south) would be controlled by one person from 6:00 PM to 12:00 AM. The section to the north (West 16th Street to West 17th Street) could accommodate any spillback from the section of the frontage road in front of the pier. The primary objective of TMP staff would be to prevent any lane blockages while allowing for drop-offs in front of the pier. The block of the frontage road to the south (West 14th Street to West 15th Street) would also be a managed space. Tour buses could be accommodated in the segments of the frontage road either north and/or south of the pier.

Crosswalks/Bikeway

Traffic signals would control all locations where vehicular flows cross with the bikeway. However, under heavy pedestrian flow conditions during events, pedestrian platooning on the bikeway is likely while pedestrians wait to cross Route 9A. As such, between 6:00 PM and 12:00 AM on event days, at least one TMP staffperson would be assigned to the west side of the north and south crosswalks of Route 9A/West 15th Street to monitor and manage uncontrolled pedestrian/bike conflicts. In good weather conditions, traffic management staff would also be in place on weekends beginning at 12:00 PM and on weeknights beginning at 5:00 PM.

Table 14-41 provides a summary of the TMP staffing requirements, which would be in addition to normal security staffing for the proposed Pier 57 project.

Other general recommendations to improve access to the bikeway and waterfront esplanade include:

- Installing pedestrian-countdown signal heads at the intersections along Route 9A.
- Updating the "walk" and "flashing don't walk" splits for the pedestrian crosswalks across Route 9A. The current timing provides adequate crossing time, but is not allotted in accordance with the *CEQR Technical Manual* guidelines.

These improvements would provide pedestrians with information to help them decide when to start crossing the street, and how much time they have before the signal changes.

Table 14-41
TMP Staffing Plan

TMP Personnel Location	Typical[1]	Additional During Events (> 1,000 persons)[2]
Pier 57 Frontage (W. 15th-W.16th St)	1	1
Service Road (W.16th- W.17th St)	1	1
Service Road (W.14th- W.15th St)	1	1
Crosswalks/Bikeway	1	2
Total	4	5

Notes:
[1]5:00 PM-Midnight weekdays, Noon-Midnight weekend days
[2]5:00 PM-Midnight only

✶

Chapter 15: Air Quality

A. INTRODUCTION

This chapter examines the potential for air quality impacts from the proposed project. The proposed project would redevelop the vacant and historic Pier 57 structure with public open space; retail, restaurant and other commercial uses; a marina; and educational and cultural uses.

The proposed project would create new sources of air pollutant emissions, both mobile (emissions from project generated vehicle trips and motorized boat trips) and stationary (such as exhaust from fossil fuel-fired heating and hot water systems). With respect to the analysis of mobile sources, quantified assessments of the potential impacts on air quality due to carbon monoxide (CO) and particulate matter ($PM_{2.5}$) emissions from traffic generated by the proposed project were conducted. As the proposed project would include an accessory parking garage, a quantified analysis was conducted to evaluate potential future CO concentrations in the vicinity of the ventilation outlets for the proposed garage. In addition, a quantified analysis was conducted to evaluate potential future pollutant concentrations on the proposed walkway along the marina.

With respect to the analysis of stationary sources, the potential for impacts on air quality from the proposed heating system was analyzed, following the 2012 *City Environmental Quality Review (CEQR) Technical Manual* guidance. Furthermore, because the proposed project would result in open space, commercial, and institutional uses near an area zoned for manufacturing, a site survey and air emission permit search was conducted to determine whether any businesses within the manufacturing zone are sources of emissions that could have the potential for air quality impacts on the proposed uses.

PRINCIPAL CONCLUSIONS

A detailed assessment found that the proposed project would not result in significant adverse impacts from mobile source emissions. Vehicle emissions inside the proposed parking garage would be mechanically vented, and the concentrations resulting from the emissions within the parking garage and from on-street traffic would be in compliance with the applicable standards and thresholds. Based on a screening analysis of motorized boat emissions and dispersion at the proposed marina and water taxi landing there would be no potential for significant adverse impacts. Based on stationary source screening analyses, there would be no potential for significant adverse air quality impacts from the heat and hot water systems of the proposed project.

The nearby area zoned for manufacturing uses was surveyed to identify potential sources of emissions that could affect the proposed project. There are no existing permitted sources of manufacturing use emissions within the study area that could affect the proposed project. Therefore, there would be no potential for significant adverse impacts on air quality due to industrial sources.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of CO are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide, NO, and nitrogen dioxide, NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non-road diesel such as diesel trains, marine engines, and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs. These pollutants are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act, and are referred to as 'criteria pollutants'.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

During most of the peak hours considered in Chapter 14, "Transportation," the proposed project would result in new vehicle trips that would be greater than the *CEQR Technical Manual* screening threshold for the study area of 170 trips. Therefore, a quantified assessment of on-street CO emissions was performed for the peak hours with the highest number of project generated vehicle trips. A parking garage analysis was conducted to evaluate future CO concentrations with the operation of the proposed parking garage.

Marine engines are a source of CO emissions. Therefore, an analysis was conducted to evaluate future CO concentrations with the operation of the proposed marina and water taxi landing.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are principally of concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions. The proposed project would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x

emissions or on ozone levels is predicted. A regional analysis of emissions of these pollutants from mobile sources associated with the proposed project was therefore not warranted.

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated criteria pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and not a local concern from mobile sources. (NO_x emissions from fuel combustion consist of approximately 90 percent NO and 10 percent NO_2 at the source.) However, with the promulgation of the 2010 1-hour average standard for NO_2, discussed further below, local sources such as vehicular emissions may become of greater concern for this pollutant.

The traffic associated with the proposed project is not expected to change NO_2 concentrations appreciably, since the vehicular traffic associated with the proposed project would be a very small percentage of the total number of vehicles in the area. The amount of NO emitted that would rapidly transform to NO_2 in the immediate vicinity of roadways and intersections with project-generated traffic would be very small. It is not known whether conditions in the future condition without the proposed project will be within or in excess of the NAAQS in these near-road areas.

Potential impacts on local NO_2 concentrations from the fuel combustion in the proposed project heating systems, as well as from motorized boat activity at the proposed marina and water taxi landing were evaluated.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the Clean Air Act. No significant sources of lead are associated with the proposed project and, therefore, analysis is not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}, which includes $PM_{2.5}$). $PM_{2.5}$ has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere. $PM_{2.5}$

is mainly derived from combustion material that has volatilized and then condensed to form primary PM (often soon after the release from a source exhaust) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a major source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel powered vehicles. During most peak periods analyzed in Chapter 14, the proposed project would result in traffic exceeding the $PM_{2.5}$ vehicle emission screening analysis thresholds as defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, the potential impacts from vehicle $PM_{2.5}$ emissions were analyzed, using traffic data for the peak periods during which the greatest project generated $PM_{2.5}$ emissions would occur.

Similarly, diesel-powered marine engines are a source of respirable PM. An analysis was performed to determine the potential for impacts from marine vessel emissions at the proposed marina and water taxi landing.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). Monitored SO_2 concentrations in New York City do not exceed national standards. SO_2 is also of concern as a precursor to $PM_{2.5}$ and is regulated as a $PM_{2.5}$ precursor under the New Source Review permitting program for large sources. Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles and marine engines, no significant quantities are emitted from vehicular or motorized boat sources. These sources of SO_2 are not significant and therefore, analysis of SO_2 from mobile sources and marine vessels was not warranted.

The proposed project would use natural gas as fuel for the heating system. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO_2 with the proposed project's heating system.

NONCRITERIA POLLUTANTS

In addition to the criteria pollutants discussed above, noncriteria pollutants may be of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources. These pollutants are sometimes referred to as hazardous air pollutants (HAP) and when emitted from mobile sources, as Mobile Source Air Toxics (MSATs). Emissions of noncriteria pollutants from industries are regulated by EPA. The existing uses within the area zoned for manufacturing were surveyed as potential sources of noncriteria pollutant emissions that could affect the project.

C. AIR QUALITY STANDARDS, REGULATIONS AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and

secondary standards are the same for NO_2 (annual), ozone, lead, and PM, and there is no secondary standard for CO and the 1-hour NO_2 standard. The NAAQS are presented in **Table 15-1**. The NAAQS for CO, annual NO_2, and 3-hour SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), 24-hour and annual SO_2, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide (H_2S).

Table 15-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m^3	ppm	µg/m^3
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean	NA	15	NA	15
24-Hour Average [5]	NA	35	NA	35
Sulfur Dioxide (SO_2) [6]				
1-Hour Average [7]	0.075	197	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:
ppm – parts per million
µg/m^3 – micrograms per cubic meter
NA – not applicable
All annual periods refer to calendar year.
PM concentrations (including lead) are in µg/m^3 since ppm is a measure for gas concentrations. Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in µg/m^3 are presented.

(1) Not to be exceeded more than once a year.
(2) EPA has lowered the NAAQS down from 1.5 µg/m^3, effective January 12, 2009.
(3) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
(4) 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
(5) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(6) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
(7) 3-year average of the annual 99th percentile daily maximum 1-hr average concentration.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

EPA revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective as of May 2008.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span.

EPA established a 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a 1-hour average SO_2 standard of 0.075 ppm, replacing the 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

Federal ambient air quality standards do not exist for noncriteria pollutants; however, as mentioned above, the New York State Department of Environmental Conservation (NYSDEC) has issued standards for three noncriteria compounds. NYSDEC has also developed a guidance document, DAR-1 (October 2010), which contains a compilation of annual and short term (1-hour) guideline concentrations for numerous other noncriteria compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure.

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the Clean Air Act.

In 2002, EPA re-designated New York City as in attainment for CO. The Clean Air Act requires that a maintenance plan ensure continued compliance with the CO NAAQS for former non-attainment areas. New York City is also committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, EPA took final action designating the five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties as a $PM_{2.5}$ non-attainment area under the Clean Air Act due to exceedance of the annual average standard. Based on recent monitoring data (2006-2009), annual average concentrations of $PM_{2.5}$ in New York City no longer exceed the annual standard.

In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area originally designated as nonattainment with the 1997 annual $PM_{2.5}$ NAAQS. Based on recent monitoring data (2007-2009), 24-hour average concentrations of $PM_{2.5}$ in this area no longer exceed the standard. New York has submitted a "Clean Data" request to the USEPA. Any requirement to submit a SIP is stayed until EPA acts on New York's request.

The five New York City counties, Nassau, Rockland, Suffolk, Westchester, and Lower Orange County Metropolitan Area (LOCMA) counties had been designated as a severe non-attainment

area for ozone (1-hour average standard). In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007.

On April 15, 2004, EPA designated the five New York City counties, Nassau, Rockland, Suffolk, and Westchester counties as moderate non-attainment for the 1997 8-hour average ozone standard. EPA revoked the 1-hour standard on June 15, 2005; however, some control measures for the 1-hour standard included in the 1-hour SIP are required to stay in place until the 8-hour standard is attained. On February 8, 2008, NYSDEC submitted final revisions to the SIP to EPA to address the 1997 8-hour ozone standard. On January 25, 2012, EPA proposed to determine that the NYMA has attained the 1997 8-hour ozone NAAQS (0.08 ppm).

In March 2008 EPA strengthened the 8–hour ozone standards. EPA designated the counties of Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester (NY portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT NAA) as a marginal nonattainment area for the 2008 ozone NAAQS, effective July 20, 2012. SIPs are due in 2015.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has designated the entire state of New York as "unclassifiable/attainment" for the new 1-hour NO_2 standard effective February 29, 2012. Since additional monitoring is required for the 1-hour standard, areas will be reclassified once three years of monitoring data are available (2016 or 2017).

EPA has established a 1-hour SO_2 standard, replacing the former 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA planned to make final attainment designations in June 2012, based on 2008 to 2010 monitoring data and refined modeling, although designations have not yet been issued. SIPs for nonattainment areas will be due by June 2014.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table 15-1**) would be deemed to have a potential significant adverse impact. Similarly, for non-criteria pollutants, predicted exceedance of the DAR-1 guideline concentrations would be considered a potential significant adverse impact.

In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the

[1] *CEQR Technical Manual*, Chapter 17, section 400, January 2012; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in 8-hour average CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

$PM_{2.5}$ INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim guidance for evaluating $PM_{2.5}$ impacts[1]. This policy applies only to facilities applying for permits or major permit modifications under SEQRA that emit 15 tons of PM_{10} or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold are required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

In addition, New York City uses interim guidance criteria for evaluating the potential $PM_{2.5}$ impacts for projects subject to CEQR. The interim guidance criteria currently employed to determine the potential significant adverse $PM_{2.5}$ impacts under CEQR are as follows:

- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 5 $\mu g/m^3$ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 2 $\mu g/m^3$ but no greater than 5 $\mu g/m^3$ would be considered a significant adverse impact on air quality depending on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or

[1] CP33/Assessing and Mitigating Impacts of Fine Particulate Emissions, NYSDEC 12/29/2003.

- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete receptor location (elevated or ground level).

Actions under CEQR predicted to increase $PM_{2.5}$ concentrations by more than the above interim guidance criteria will be considered to have a potential significant adverse impact.

The annual emissions of PM_{10} associated with the proposed project are estimated to be well below the 15-ton-per- year threshold under NYSDEC's $PM_{2.5}$ policy guidance. The above CEQR interim guidance criteria were used to evaluate the significance of predicted impacts of the proposed project on $PM_{2.5}$ concentrations and determine the need to minimize particulate matter emissions from the proposed project.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

The number of project-generated trips would exceed the CO screening threshold of 170 peak hour vehicle trips at intersections in the study area, and the particulate matter emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, the mobile source analysis was conducted for both CO and particulate matter. The proposed parking garage was analyzed for its effects on CO levels.

ON STREET SOURCES

The prediction of vehicle-generated emissions and their dispersion in an urban environment incorporates meteorological phenomena, traffic conditions, and physical configuration. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and physical configuration combine to affect pollutant concentrations. The mathematical expressions and formulations contained in the various models attempt to describe an extremely complex physical phenomenon as closely as possible. However, because all models contain simplifications and approximations of actual conditions and interactions, and since it is necessary to predict the reasonable worst-case condition, most dispersion analyses predict conservatively high concentrations of pollutants, particularly under adverse meteorological conditions.

The mobile source analysis for the proposed project employs a model approved by EPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed project. The assumptions used in the analysis are based on the *CEQR Technical Manual* guidance.

Emissions

Vehicular CO and PM engine emission factors were computed using the EPA mobile source emissions model, MOBILE6.2.[1] This emissions model is capable of calculating engine emission

[1] EPA, User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model, EPA420-R-03-010, August 2003.

factors for various vehicle types, based on the fuel type (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway types, number of starts per day, engine soak time, and various other factors that influence emissions, such as inspection maintenance programs. The inputs and use of MOBILE6.2 incorporate the most current guidance available from NYSDEC and NYCDEP.

Vehicle classification was based on data collected in the field. The general categories of vehicle types for specific roadways were further categorized into subcategories based on their prevalence within the fleet.[1]

Appropriate credits were used to accurately reflect the State inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system comply with emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

All taxis were assumed to be in hot stabilized mode (i.e. excluding any start emissions). The general categories of vehicle types for specific roadways were further categorized into subcategories based on their relative breakdown within the fleet.

An ambient temperature of 50.0° Fahrenheit was used. Since ambient temperature mostly affects CO emissions, this temperature, calculated based on the latest guidance from EPA and NYSDEC, represents the average temperature measured during the 10 highest 8-hour CO events measured at NYSDEC monitoring stations.

In accordance with the *CEQR Technical Manual* guidance, $PM_{2.5}$ emission rates also include fugitive road dust to account for their impacts in local microscale analyses.[2] However, fugitive road dust was not included in the neighborhood scale $PM_{2.5}$ microscale analysis, because NYCDEP considers it to have an insignificant contribution on that scale.

Traffic Data

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the proposed project. Traffic data for the future without and with the proposed project were employed in the respective air quality modeling scenarios. The weekday midday (12:00 to 1:00 PM), weekday evening event (7:00 to 8:00 PM), and Saturday midday (12:45 to 1:45 PM) peak hour traffic volumes were analyzed, because these periods are predicted to have the highest number of project-generated emissions from mobile sources. Off-peak traffic volumes in the future without the proposed project, and off-peak increments from the proposed project, were determined by adjusting these peak period volumes by the 24-hour distributions of actual vehicle counts collected at appropriate locations.

[1] The MOBILE6.2 emissions model utilizes 28 vehicle categories by size and fuel. Traffic counts and predictions are based on broader size categories, and then broken down according to the fleet-wide distribution of subcategories and fuel types (diesel, gasoline, or alternative).

[2] EPA, Compilations of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Ch. 13.2.1, NC, http://www.epa.gov/ttn/chief/ap42, December 2003.

Dispersion Model for Microscale Analyses

Maximum CO concentrations at locations along Route 9A, resulting from vehicle emissions, were predicted using the CAL3QHC model Version 2.0.[1] The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts emissions and dispersion of CO from idling and moving vehicles. The queuing algorithm includes site-specific traffic parameters, such as signal timing and delay calculations (from the 2000 *Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately predict the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. This refined version of the model, CAL3QHCR, is employed if maximum predicted future CO concentrations are greater than the applicable ambient air quality standards or when *de minimis* thresholds are exceeded using the first level of CAL3QHC modeling and in the analysis of dispersion of particulate matter emissions from mobile sources.

To determine motor vehicle generated $PM_{2.5}$ concentrations on sidewalks within the study area, the CAL3QHCR model was applied. The CAL3QHCR model can utilize hourly traffic and meteorology data, and is therefore appropriate for calculating 24-hour and annual average concentrations.

Meteorology

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the direction in which pollutants are dispersed, and atmospheric stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the concentration at a particular prediction location (receptor).

Tier I Analyses—CAL3QHC

In applying the CAL3QHC model, the wind angle was varied to determine the wind direction resulting in the maximum concentrations at each receptor.

Following the EPA guidelines[2], CAL3QHC computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.79 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen. At each receptor location, concentrations were calculated for all wind directions, and the highest predicted concentration was reported, regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate impacts.

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[1] EPA, User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections, Office of Air Quality, Planning Standards, Research Triangle Park, North Carolina, EPA-454/R-92-006.

[2] *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, EPA Office of Air Quality Planning and Standards, Publication EPA-454/R-92-005.

Tier II Analyses—CAL3QHCR

Using the CAL3QHCR model, hourly concentrations were predicted based on hourly traffic data and five years (2005–2009) of monitored hourly meteorological data. The data consist of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York. All hours were modeled, and the highest resulting concentration for each averaging period is presented.

Analysis Year

The microscale analyses were performed for 2015, the year by which the proposed project is expected to be completed. The analysis was performed both without the proposed project (No Action condition) and with the proposed project (With Action condition).

Background Concentrations

Background concentrations are those pollutant concentrations originating from distant sources that are not directly included in the modeling analysis, which directly accounts for vehicular emissions on the streets within 1,000 feet and in the line of sight of the analysis site. Background concentrations are added to modeling results to obtain total pollutant concentrations at an analysis site. $PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ interim guidance criteria. Therefore, a background concentration for $PM_{2.5}$ is not included.

The 8-hour average background CO concentration used in the analysis was 1.8 ppm, which is based on the highest second-highest 8-hour measurements over the most recent four-year period for which complete monitoring data are available (2008-2011). The 1-hour CO background concentration used in the analysis was 2.7 ppm and was obtained using the same procedure as the 8-hour average background. The monitored values were obtained at the CCNY monitoring station, which is the currently operating monitoring station nearest to the proposed site.

Analysis Sites

Two analysis sites were selected for microscale analysis (see **Table 15-2**). These sites were selected because they are the locations in the study area where the largest levels of project-generated traffic are expected, and, therefore, where the greatest air quality impacts and maximum changes in concentrations would occur. Both of these intersections were analyzed for CO. In addition, the intersection of Route 9A and West 17th Street was analyzed for $PM_{2.5}$ emissions because the greatest number of project generated truck trips would pass through the intersection. Trucks, which typically run on diesel fuel, are the main source of $PM_{2.5}$ emissions from vehicles. Therefore, if the intersection that would experience the greatest increase in truck traffic with the proposed project would not result in a significant adverse impact on air quality, it can be concluded that other intersections with a smaller increase in truck volumes would also not result in a significant adverse impact on air quality.

Table 15-2
Mobile Source Analysis Sites

Analysis Site	Location	Pollutants Analyzed
1	Route 9 A and West 14th Street	CO
2	Route 9 A and West 17th Street	CO, $PM_{2.5}$

Receptor Placement

Multiple receptors (i.e., locations at which concentrations are predicted) were modeled at the selected sites; receptors were placed along the approach and departure links at spaced intervals. Receptors were placed near the intersections at sidewalk or roadside locations with continuous public access. Receptors in the analysis model for predicting annual average neighborhood-scale $PM_{2.5}$ concentrations were placed at a distance of 15 meters from the nearest moving lanes, based on the NYCDEP procedure for neighborhood-scale corridor $PM_{2.5}$ modeling.

PARKING GARAGE

The proposed project would include a below-grade accessory parking garage with an entrance from the new access road developed as part of the proposed project. The garage would be mechanically ventilated and would be designed to accommodate up to approximately 75 vehicles. Emissions from vehicles using the garage could potentially affect future ambient levels of CO in the vicinity of the garage exhaust vents. Therefore, an analysis was conducted to determine the potential for significant adverse impacts on air quality from the proposed garage.

The analysis of emissions from the outlet vents and their dispersion in the environment was performed to calculate pollutant levels in the surrounding area, using the methodology set forth in the *CEQR Technical Manual*. Emissions from vehicles entering, parking, and exiting the garage were estimated using the EPA MOBILE6.2 mobile source emission model and an ambient temperature of 50°F, as referenced in the *CEQR Technical Manual*. For all arriving and departing vehicles, an average speed of 5 miles per hour was conservatively assumed for travel within the parking garage. In addition, all departing vehicles were assumed to idle for 1 minute before proceeding to the exit. The speed and idling time modeled are conservative analysis assumptions provided in the *CEQR Technical Manual.* The concentration of CO within the garage was calculated assuming a minimum ventilation rate, based on New York City Building Code requirements, of 1 cubic foot per minute of fresh air per gross square foot of garage area. The mechanical designs for the proposed parking garage have not been finalized. Therefore, it was conservatively assumed that the proposed garage would have one vent that would exhaust towards the new access road in order to account for emissions from maximum on-road traffic. Maximum 8-hour average and 1-hour average CO concentrations were predicted. Locations where CO concentrations were modeled included sidewalk locations to the east and west of the access road near the proposed garage entrance, and on the façade of the proposed project building.

To determine CO concentrations, the outlet vent was analyzed as a "virtual point source" using the methodology in EPA's *Workbook of Atmospheric Dispersion Estimates, AP-26*. This methodology estimates CO concentrations at various distances from an outlet vent by assuming that the concentration in the garage is equal to the concentration leaving the vent, and determining the appropriate initial horizontal and vertical dispersion coefficients at the vent faces.

The CO concentrations were determined for the time periods when overall garage usage would be the greatest. The weekday evening event (7 to 8 PM) peak period and weekend evening event (7 to 8 PM) peak period were therefore analyzed. Departing vehicles were assumed to be operating in a "cold-start" mode, emitting higher levels of CO than arriving vehicles. Vehicle trip generation analysis data were used.

A persistence factor of 0.79 was used to convert the calculated 1-hour average maximum concentrations to 8-hour averages, accounting for meteorological variability over the average 8-hour period. The background CO 1-hour and 8-hour concentrations and concentrations resulting from peak period on-street traffic along the access road were added to the parking garage modeling results to obtain the total ambient CO levels.

MARINA AND WATER TAXI LANDING

The proposed project would include the development of a new marina to the north and south of the pier and may include a water taxi landing. The marina would be designed to accommodate up to 141 slips for a range of boat sizes. Emissions from boats using the marina and the water taxis using the landing could potentially affect future ambient pollutant levels in the vicinity of the marina and along the proposed perimeter walkway. Therefore, an analysis was conducted to determine the potential for significant adverse impacts on air quality from the proposed marina.

The analysis of emissions and their dispersion in the environment was performed to calculate pollutant levels in the surrounding area. Emissions from boats entering, berthing, and exiting the marina area were estimated using NONROAD engine exhaust emission rates[1] assuming typical engine sizes for various boat lengths. For all arriving and departing boats, an average speed of 5 nautical miles per hour was conservatively assumed for travel within the marina. In addition, all departing boats were assumed to idle for 1 minute before proceeding to exit. Water taxis were assumed to idle for 3 minutes before proceeding to their next landing. Maximum 8-hour average and 1-hour average CO concentrations, 24-hour average total PM concentrations, and 1-hour average NO_2 concentrations were predicted. It was conservatively assumed that total PM concentrations would be representative for $PM_{2.5}$ concentrations. Pollutant concentrations were predicted at locations on the perimeter walkway along the pier, as it would be the closest receptor to the marina. NO_2 and $PM_{2.5}$ annual concentrations were not estimated because the short term standards for these pollutants are more protective and because the usage of the marina is expected to be seasonal.

Maximum hourly emissions were based on projected peak hour motorized boat traffic for the marina slips and water taxi landing. Concentrations were determined for the perimeter walkway along the north side of the pier, in order to conservatively account for both water taxi and marina boat traffic.

A persistence factor of 0.79 was used to convert the calculated 1-hour average maximum concentrations to 8-hour averages, accounting for meteorological variability over the average 8-hour period. The background CO 1-hour and 8-hour concentrations were added to the marina modeling results to obtain the total ambient CO levels. In order to calculate 24-hour PM concentrations, a persistence factor of 0.60 was used to convert the calculated 1-hour average maximum concentrations to 24-hour averages, accounting for meteorological variability over the average 24-hour period.

[1] *Exhaust Emission Factors for Nonroad Engine Modeling – Spark-Ignition*, EPA Office of Transportation and Air Quality, Publication EPA-420/R-10-019

The 0.80 default ambient ratio of NO_2 to NO_x average hourly concentrations[1] was used to convert maximum 1-hour average NO_x concentrations to 1-hour NO_2 results. The ambient background NO_2 1-hour concentration of 126.8 µg/m^3 was used for the analysis. This represents the 2006–2010 average of the annual 98th-percentile of daily maximums monitored at Queens College. The background concentration was added to the modeled results to obtain the total ambient NO_2 levels.

STATIONARY SOURCES

A stationary source screening analysis was conducted to evaluate potential impacts from the proposed project's heating systems. In addition, an assessment was conducted to determine the potential for impacts due to industrial activities near the proposed site.

HEATING SYSTEMS

A screening analysis was performed to assess air quality impacts associated with emissions from the heating system. The cooling and hot water systems would use electricity and would not result in on-site air pollutant emissions.

The heating system would have low-NOx emissions and would use exclusively natural gas as fuel. When information on the emissions from heating systems from a project is available, an emissions-based screening analysis procedure included in the *CEQR Technical Manual* can be used. Using the heating system emissions and the exhaust height, the screening analysis determines the closest distance to a building or sensitive use of similar or greater height beyond which there would be no significant impact. In other words, the analysis considers the amount of pollutants emitted from the stack and the distance beyond which the pollutant levels are not significant. Due to dispersion of pollutants in the air, pollutant levels decrease as the distance from the source increases. Under typical conditions, the plume rises from the source and has the potential to affect sources at a similar or greater height. Therefore, if the nearest building or sensitive use of similar or greater height is beyond this threshold distance from the heating system, the source passes the emissions-based screening analysis, and no further analysis is warranted.

INDUSTRIAL SOURCES

The proposed site is located in an area zoned for manufacturing. Some manufacturing and industrial uses emit air pollutants and therefore warrant an environmental assessment. The first step in assessing the potential for impact on air quality from industrial and manufacturing uses on a proposed project is to perform a field survey and permit search to identify any processing or manufacturing facilities located within 400 feet of the project site and large emissions sources, such as power plants and asphalt and concrete plants, within 1,000 feet of the project site. Once identified, information regarding the release of air contaminants from these facilities is obtained from NYCDEP, Bureau of Environmental Compliance (BEC). A comprehensive search is also performed to identify NYSDEC Title V permits and permits listed in the U.S. Environmental

[1] *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard*, EPA Air Quality Modeling Group, C439-01, Mar 01, 2011, http://www.epa.gov/region7/air/nsr/nsrmemos/appwno2_2.pdf

Protection Agency (USEPA) Envirofacts database.[1] In the next step, if there are emission sources of concern, the potential ambient concentrations of each air toxic contaminant are determined using the *CEQR Technical Manual* screening procedures or the AERMOD dispersion model and compared to applicable guideline concentrations established by NYSDEC and applicable federal air quality standards.

E. EXISTING CONDITIONS

Representative criteria pollutant concentrations measured in recent years at NYSDEC air quality monitoring stations nearest to the project site are presented in **Table 15-3**. The values presented are consistent with the NAAQS format. For example, the 8-hour ozone concentration shown is the 3-year average of the 4th highest daily maximum 8-hour average concentrations. The concentrations were obtained from the 2011 New York State Ambient Air Quality Report, the most recent report available. The recently monitored levels did not exceed the NAAQS. It should be noted that these values are somewhat different from the background concentrations used in the mobile source and parking garage analyses. The concentrations presented in **Table 15-3** provide a comparison of the air quality in the project area with the NAAQS, while background concentrations are obtained from several years of monitoring data, and represent a conservative estimate of the highest concentrations for future ambient conditions.

Table 15-3
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	CCNY, Manhattan	ppm	8-hour	1.7	9
			1-hour	2.7	35
SO_2	Queens College 2, Queens[1]	µg/m^3	3-hour	78	1,300
			1-hour	79	196
PM_{10}	PS 19, Manhattan	µg/m^3	24-hour	40	150
$PM_{2.5}$	PS 19, Manhattan	µg/m^3	Annual	12	15
			24-hour	27	35
NO_2	Queens College 2, Queens[2]	µg/m^3	Annual	36	100
			1-hour	126	188
Lead	Morrisania, Bronx	µg/m^3	3-month	0.008	0.15
Ozone	CCNY, Manhattan	ppm	8-hour	0.072	0.075

Source: NYSDEC, New York State Ambient Air Quality Report, 2011.

F. THE FUTURE WITH THE PROPOSED PROJECT

MOBILE SOURCES

ON STREET SOURCES

CO concentrations for future 2015 No Action and With Action conditions were predicted using the methodology previously described. **Table 15-4** shows the future maximum predicted 8-hour average CO concentrations at the two intersections studied. (No one-hour values are shown,

[1] EPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air, 7/27/2011.

since no exceedances of the NAAQS would occur and the *de minimis* criteria are only applicable to eight-hour concentrations; therefore, the eight-hour values are the most critical for impact assessment.) The values shown are the highest predicted concentration for any of the time periods analyzed. The results indicate that the proposed project would not result in any violations of the eight-hour CO standard. In addition, the incremental increases in eight-hour average CO concentrations are very small, and consequently would not result in a violation of the CEQR *de minimis* CO criteria. Therefore, the proposed project mobile source CO emissions would not result in a significant adverse impact on air quality.

Table 15-4
Maximum Predicted 2015
CO Concentrations

Receptor Site	Location	Time Period	8-Hour Concentration (ppm)	
			No Action	With Action
1	Route 9A and W 14th St	Saturday Midday	3.9	4.1
2	Route 9A and W17th St	Saturday Midday	4.0	4.2
Note: 8-hour standard is 9 ppm.				

Using the methodology previously described, maximum predicted 24-hour and annual average $PM_{2.5}$ concentration increments were calculated so that they could be compared to the interim guidance criteria that would determine the potential significance of any impacts from the proposed project. Based on this analysis, the maximum predicted localized 24-hour average and neighborhood-scale annual average incremental $PM_{2.5}$ concentrations are presented in **Tables 15-5** and **15-6**. Note that $PM_{2.5}$ concentrations without the proposed project are not presented, since impacts are assessed on an incremental basis.

Table 15-5
2015 Maximum Predicted 24-Hour Average
PM2.5 Concentration

Location	Increment (µg/m^3)
Route 9A and West 17th St	0.38
Note: $PM_{2.5}$ interim guidance criteria—24-hour average, 2 µg/m^3 (5 µg/m^3 not-to-exceed value).	

Table 15-6
2015 Maximum Predicted Annual Average
$PM_{2.5}$ Concentration

Location	Increment (µg/m^3)
Route 9A and West 17th St	0.05
Note: $PM_{2.5}$ interim guidance criteria—annual (neighborhood scale), 0.1 µg/m^3.	

The results show that the annual and daily (24-hour) $PM_{2.5}$ increments are predicted to be well below the interim guidance criteria. Therefore, there would be no potential for significant adverse impacts on air quality from vehicle trips generated by the proposed project.

PARKING GARAGE

The CO levels from the proposed parking garage were predicted using the methodology set forth in the *CEQR Technical Manual*. Based on projected parking demand developed for the proposed

project, the number of vehicles entering the garage would be greatest during the 7 PM to 8 PM hours on weekdays and weekends when there are events and these peak periods were considered in the analysis of the 1-hour average CO concentrations. The peak 8-hours of garage usage (2 PM to 10 PM during weekdays with event conditions and 1 PM to 9 PM during weekends with event conditions) were considered in the analysis of the 8-hour average CO concentrations. Over the weekday event peak 8-hours of garage usage, an average of 36 vehicles per hour would enter the proposed garage, while an average of 44 vehicles per hour would exit. During the weekend event peak 8- hours, an average of 33 and 38 vehicles per hour would enter and exit the garage, respectively. The vent was modeled at a height of 10 feet above ground level, along the new access road. Pollutant levels were predicted at the height of the vents at a distance of 15 feet, accounting for the minimum vent to window distance requirements specified by the New York City Mechanical Code. Receptors (locations where CO levels were predicted) were also modeled on the access road walkway and Route 9A bikeway locations near the proposed garage entrance.

The maximum predicted CO concentration, with ambient background, and on-street traffic levels would be 3.4 ppm for the 1-hour period and 2.2 ppm for the 8-hour period. The maximum 1- and 8-hour contributions from the parking garage alone would be 0.60 ppm and 0.36 ppm, respectively. These maximum predicted CO levels are below the CO NAAQS and the City's CO *de minimis* criteria. As these results show, the proposed parking garage would not result in a significant adverse air quality impact based on the reasonable worst-case assumptions regarding the location of the garage exhaust vent. Therefore, there would be no potential for significant adverse impacts on air quality with other parking garage exhaust locations that comply with applicable codes.

MARINA AND TAXI LANDING

Pollutant levels from the motorized boat activity at the proposed marina and water taxi landing were predicted using a methodology similar to the *CEQR Technical Manual* methodology for a surface parking lot. Based on information from other marinas, it was estimated that the maximum number of boats moving within the marina in the peak hour would be 5 percent of the total number of slips and 25 percent of the boats would be sailboats equipped with low horsepower engines for use within the marina. It was conservatively assumed that the number of hourly marina boat trips would persist at this maximum throughout the day. For analysis purposes, it was also assumed that there would be a maximum of 3 water taxi trips within an hour, and that the water taxi would operate at this maximum for 8 hours a day. These assumptions were based on other water taxi schedules.

The maximum 1- and 8-hour CO contributions from the marina and water taxi landing without the ambient background would be 1.2 ppm and 0.8 ppm, respectively. With the ambient background, the predicted CO concentrations would be 3.9 ppm for the 1-hour averaging period and 2.6 ppm for the 8-hour period. These maximum predicted CO levels are below the CO NAAQS and the City's CO *de minimis* criteria. The maximum predicted 24-hour $PM_{2.5}$ increment would be 0.3 $\mu g/m^3$. This would fall below the interim guidance criteria. The maximum NO_2 1-hour concentration increase from the marina and the water taxi landing would be 49.3 $\mu g/m^3$. The maximum total NO_2 concentration, with the ambient background, would be 176.1 $\mu g/m^3$. The maximum predicted NO_2 level would be below the 1-hour NO_2 NAAQS.

Based on these results, the proposed marina and water taxi landing would not result in significant adverse air quality impacts based on the reasonable worst case conditions. Therefore, there would be no potential for significant adverse impacts on air quality due to the marina and water taxi.

STATIONARY SOURCES

HEATING SYSTEM

A screening analysis was performed to evaluate the potential for significant adverse impacts to air quality from the operation of heating system at the proposed project. As described in Chapter 1, "Project Description," the building has been designed to allow natural ventilation and passive cooling as much as possible.

For heating, low-NO_x boilers with flue gas recirculation that would run on natural gas exclusively would be specified. The pollutant of concern when using natural gas is NO_2, therefore NO_2 was considered in the screening analysis. Based on the expected fuel use and the AP-42 emission factor[1], average annual NO_x emissions would be 0.011 grams per second. The NO_x emissions were conservatively assumed to be 100 percent NO_2. It is expected that the exhaust stack would be located on the central portion of the upper headhouse rooftop (i.e., the portion of the roof that is directly east of the pier shed), at least 10 feet above any open space or accessible uses. Based on Figure 17-9 in the *CEQR Technical Manual Air Quality Appendix*, the distance beyond which there would be no potential for significant air quality impacts from NO_2 emissions would be 43 feet. There would be no buildings or sensitive uses (such as publicly accessible open space) of similar or greater height within 43 feet of the heating system exhaust location and no other buildings are proximate. Therefore, the proposed project would not result in any significant adverse air quality impacts from the heating system, and no further analysis is required.

Alternative mechanical system designs that would also not result in a significant adverse air quality impact are possible. For example, a stack whose elevation would be 20 feet greater than the elevation of any open space or accessible use (with no restriction on lateral distance to the open space/accessible use) would also not result in any significant adverse air quality impacts from the heating system, and no further air quality analysis would be required.

Moreover, other mechanical system designs could also avoid significant adverse air quality impacts. For instance, with a stack whose elevation would be more than 10 feet greater than the elevation of any open space or accessible use, less than 43 feet of distance between the stack and the accessible/open space use may be sufficient. Future analyses could be performed to demonstrate that an alternative stack location and/or stack height would avoid significant adverse impacts.

INDUSTRIAL SOURCES

A field survey was conducted on July 27, 2011 to identify existing industrial emission sources or manufacturing uses in the proposed project study area that might have NYCDEP air emission permits. No emission sources of concern were observed in the field visit. A request for information on emission sources within 400 feet of the proposed site was sent to NYCDEP to verify the field visit observation. NYCDEP confirmed that there are no active sources with NYCDEP air emission permits on file. No sources of concern were identified through the search of the NYSDEC and Envirofacts databases. Therefore, there is no potential for significant adverse impacts on air quality from industrial sources. ✷

[1] Environmental Protection Agency, AP 42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Chapter 1: External Combustion Sources.

Chapter 16: Greenhouse Gases and Climate Change

A. INTRODUCTION

As discussed in the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, increased concentrations of greenhouse gases (GHGs) in the atmosphere are changing the global climate, resulting in wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. Through PlaNYC, the City has established sustainability initiatives and goals for both greatly reducing GHG emissions and adapting to climate change. The goal to reduce citywide GHG emissions to 30 percent below 2005 levels by 2030 was codified by Local Law 22 of 2008, known as the New York City Climate Protection Act (the "GHG reduction goal").[1] The *CEQR Technical Manual* requires that a project resulting in 350,000 square feet of development or more and other energy-intense projects quantify project-related GHG emissions and assess the project's consistency with the citywide GHG reduction goal. The City is also engaged in several initiatives to assess potential local effects of global climate change and develop strategies to make existing and proposed infrastructure and development citywide more resilient to the effects of climate change.

The proposed project would involve the reuse of an existing pier structure rather than new ground-up construction. Specifically, the proposed project would redevelop the vacant and historic Pier 57 structure with approximately 428,000 gross square feet (gsf) of commercial, educational, and cultural space, and additional public open space, a parking facility and a marina. Accordingly, a GHG consistency assessment is provided. The GHG emissions that would be generated as a result of the proposed project—and measures that would be implemented to limit those emissions—are presented in this chapter, along with an assessment of the proposed project's consistency with the citywide GHG reduction goal. The chapter also identifies measures that would be taken to increase the resilience of the proposed project to the potential effects of climate change.

PRINCIPAL CONCLUSIONS

The proposed project would result in annual GHG emissions of approximately 16,790 metric tons of carbon dioxide equivalent (CO_2e). Of that amount, approximately 4,141 metric tons of CO_2e would be emitted by the proposed project as a result of grid electricity use and fuel consumption in on-site energy systems. The proposed project would facilitate the reuse of an existing structure, situated in an area that already supports walking and biking. The proposed project's design includes many other features aimed at reducing energy consumption and GHG emissions, and would be consistent with the City's citywide GHG reduction goal.

[1] Administrative Code of the City of New York, §24-803.

The proposed project's design would also accommodate sea level rise due to climate change, which is projected for the end of the century by the New York City Panel on Climate Change to be up to 2 feet (excluding the rapid ice melt scenario). The proposed project would include provisions for installing 4 to 5 foot flood barriers around the perimeter of the pier on an as needed basis (i.e. before predicted storm events). The flood barriers would extend more than 2 feet above the existing 100-year flood elevation and would therefore make the structure resilient to likely sea level rise due to climate-change (i.e. up to 2 feet).

B. POLICY, REGULATIONS, STANDARDS, AND BENCHMARKS FOR REDUCING GHG EMISSIONS

Countries around the world have undertaken efforts to reduce emissions by implementing both global and local measures addressing energy consumption and production, land use, and other sectors. In a step toward the development of national climate change regulation, the U.S. has committed to reducing emissions to 17 percent lower than 2005 levels by 2020 and to 83 percent lower than 2005 levels by 2050 (pending legislation) via the Copenhagen Accord.[1] Without legislation focused on this goal, the U.S. Environmental Protection Agency (USEPA) is required to regulate GHGs under the Clean Air Act (CAA), and has already begun issuing regulations. The U.S. Department of Transportation (USDOT) and USEPA have established GHG emissions standards for vehicles that will reduce vehicular GHG emissions over time.

There are also regional, state, and local efforts to reduce GHG emissions. In 2009, Governor Paterson issued Executive Order No. 24, establishing a goal of reducing GHG emissions in New York by 80 percent, compared to 1990 levels, by 2050, and creating a Climate Action Council tasked with preparing a climate action plan outlining the policies required to attain the GHG reduction goal (that effort is currently under way[2]).

New York State has also developed regulations to cap and reduce CO_2 emissions from power plants to meet its commitment to the Regional Greenhouse Gas Initiative (RGGI). Under the RGGI agreement, the governors of 10 northeastern and mid-Atlantic states have committed to regulate the amount of CO_2 that power plants are allowed to emit. The regional emissions cap for power plants will be held constant through 2014, and then gradually reduced to 10 percent below the initial cap through 2018. Each power source with a generating capacity of 25 megawatts or more must purchase a tradable CO_2 emission allowance for each ton of CO_2 it emits. The ten RGGI states and Pennsylvania have also announced plans to reduce GHG emissions from transportation, through the use of biofuel, alternative fuel, and efficient vehicles.

Many local governments worldwide, including New York City, are participating in the Cities for Climate Protection campaign and have committed to adopting policies and implementing quantifiable measures to reduce local GHG emissions, improve air quality, and enhance urban livability and sustainability. New York City's long-term sustainability program, PlaNYC 2030, includes GHG emissions reduction goals, specific initiatives that can result in emission reductions and initiatives targeted at adaptation to climate change impacts. The PlaNYC 2030 goal to reduce citywide GHG emissions to 30 percent below 2005 levels by 2030 was codified by

[1] Todd Stern, U.S. Special Envoy for Climate Change, letter to Mr. Yvo de Boer, UNFCCC, January 28, 2010.

[2] http://www.nyclimatechange.us/

Local Law 22 of 2008. Projects that require a GHG assessment under CEQR are evaluated in light of this goal.

A number of benchmarks for energy efficiency and green building design have also been developed. For example, the LEED system is a benchmark for the design, construction, and operation of high performance green buildings that includes energy efficiency components.

USEPA's *Energy Star* is a voluntary labeling program designed to identify and promote the construction of new energy efficient buildings, facilities, and homes and the purchase of energy efficient appliances, heating and cooling systems, office equipment, lighting, home electronics, and building envelopes.

C. METHODOLOGY

Although the contribution of any single project to climate change is infinitesimal, the combined GHG emissions from all human activity are believed to be having a severe adverse impact on global climate. While the increments of criteria pollutants and toxic air emissions are assessed in the context of health-based standards and local impacts, there are no established thresholds for assessing the significance of a project's contribution to climate change. As required by the *CEQR Technical Manual*, this chapter presents the total GHG emissions potentially associated with the proposed project and identifies the measures that would be implemented and measures that are still under consideration to limit the emissions.

The analysis of GHG emissions that would be generated by the proposed project is based on the methodology presented in the *CEQR Technical Manual*. Emissions of GHGs associated with the proposed project have been quantified, including off-site emissions associated with on-site use of electricity, on-site emissions from heat and hot water systems, and emissions from vehicle use attributable to the proposed project. GHG emissions that would result from construction of the proposed project are discussed as well.

POLLUTANTS OF CONCERN

GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic (i.e., caused or produced by humans), that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. This property causes the general warming of the Earth's atmosphere, or the "greenhouse effect."

Carbon dioxide (CO_2) is the primary pollutant of concern from anthropogenic sources. Although not the GHG with the strongest effect per molecule, CO_2 is by far the most abundant and, therefore, the most influential GHG. CO_2 is emitted from any combustion process (both natural and anthropogenic), from some industrial processes such as the manufacture of cement, mineral production, metal production, and the use of petroleum-based products, from volcanic eruptions, and from the decay of organic matter. CO_2 is removed ("sequestered") from the lower atmosphere by natural processes such as photosynthesis and uptake by the oceans. CO_2 is included in any analysis of GHG emissions.

Methane and nitrous oxide also play an important role in climate change because the removal processes for these compounds are limited and these compounds have a relatively high impact on global climate change as compared to an equal quantity of CO_2. Emissions of these compounds, therefore, are included in GHG emissions analyses when the potential for substantial emission of these gases exists.

The *CEQR Technical Manual* lists six GHGs that could potentially be included in the scope of an environmental impact statement (EIS): CO_2, nitrous oxide (N_2O), methane, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride (SF_6). This analysis focuses mostly on CO_2, N_2O, and methane. There are no significant direct or indirect sources of HFCs, PFCs, or SF_6 associated with the proposed project.

To present an inventory of all GHGs, component emissions are added together and presented as CO_2 equivalent (CO_2e) emissions—a unit representing the quantity of each GHG weighted by its effectiveness using CO_2 as a reference. This is achieved by multiplying the quantity of each GHG emitted by a factor called global warming potential (GWP). GWPs account for the lifetime and the radiative forcing of each chemical over a period of 100 years (e.g., CO_2 has a much shorter atmospheric lifetime than SF_6, and therefore has a much lower GWP). The GWPs for the main GHGs discussed here are presented in **Table 16-1**.

Table 16-1
Global Warming Potential (GWP) for Major GHGs

Greenhouse Gas	100-year Horizon GWP
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310
Hydrofluorocarbons (HFCs)	140 to 11,700
Perfluorocarbons (PFCs)	6,500 to 9,200
Sulfur Hexafluoride (SF_6)	23,900

Source: IPCC, Climate Change 1995—Second Assessment Report.

BUILDING OPERATIONAL EMISSIONS

Emissions from electricity and on-site fossil fuel use were calculated using the "carbon intensity factors" provided in the *CEQR Technical Manual* (Table 18-3) by use type and the approximate floor areas for the various components of the proposed project, as shown in **Table 16-2**). For most of the proposed project components the carbon intensity factor for commercial uses was applied. The institutional carbon intensity factor was applied to calculate operational emissions from the proposed technical art school and ancillary facilities. For the indoor parking area, since no emission intensity is provided in the 2012 *CEQR Technical Manual*, the annual energy intensity of 27,400 British Thermal Units (Btu) per gsf was assumed (provided in the 2001 *CEQR Technical Manual* Table 3N-1). The electricity emission factor of 87.8 kg CO_2e per gigajoule (GJ) was used to calculate GHG emissions from the energy use associated with the parking space in the existing caisson.[1] As discussed in Chapter 1, "Project Description," the building would be designed to allow natural ventilation as much as possible, in order to create the sense that the pier is an extension of the existing urban street network and to give visitors the sense that they are outside on the water, rather than within a traditional sealed retail enclosure. The use of natural ventilation would also allow the structure to be passively cooled, reducing energy use. Natural ventilation would be provided by the reopening of a number of the existing vertical lift doors along the pier shed in good weather. The GHG emissions resulting from the factors presented in **Table 16-2** are therefore conservatively high, as they do not account for energy savings due to natural ventilation and passive cooling.

[1] PlaNYC, Inventory of New York City Greenhouse Gas Emissions, September 2011.

Table 16-2
Building Floor Area and Type for GHG Analysis

	Approximate Size (gsf)	Use Type	Carbon Intensity (kg CO_2e/sf)
Retail and Restaurant Space	261,900	Commercial	9.43
Museum/Exhibit Space (Caissons)	40,000	Commercial	9.43
Technical Art School	32,700	Institutional	11.41
Cultural Use	11,000	Commercial	9.43
Circulation	82,400	Commercial	9.43
Parking	15,600	Other	2.54

Notes: sf = square feet
Retail and Restaurant Space includes the following uses: work/sell marketplace, food market and restaurants, restaurant terrace, flexible retail space, and general retail.

Sources: The GHG intensity for parking space was calculated based on an energy intensity of 27,400 Btu/gsf/year (provided in the earlier version of the *CEQR Technical Manual*, 2001, Table 3N-1) and assuming all energy use is electricity, with an emission rate of 87.8 kg CO_2e per GJ (PlaNYC, Inventory of New York City Greenhouse Gas Emissions, September 2011). All other GHG Intensities were obtained from the 2012 *CEQR Technical Manual*, Table 18-3.

MOBILE SOURCE EMISSIONS

The number of annual motorized vehicle trips by mode (cars, taxis, trucks) that would be generated by the proposed project was calculated using the transportation planning assumptions developed for the analysis presented in Chapter 14, "Transportation." The assumptions used in the calculation include average daily weekday person trips and delivery trips, the percentage of vehicle trips by mode, and the average vehicle occupancy. Travel distances for Manhattan shown in Table 18-4 and Table 18-5 of the *CEQR Technical Manual* were used to calculate annual vehicle miles traveled by cars and taxis. The average one-way truck trip was assumed to be 38 miles, as per the *CEQR Technical Manual*. Table 18-6 of the *CEQR Technical Manual* was used to determine the percentage of vehicle miles traveled by road type and the mobile GHG emissions calculator was used to obtain an estimate of car, taxi, and truck GHG emissions attributable to the proposed project.

USEPA estimates that the well-to-pump GHG emissions of gasoline and diesel are approximately 22 percent of the tailpipe emissions.[1] Although upstream emissions (emissions associated with production, processing, and transportation) of all fuels can be substantial and are important to consider when comparing the emissions associated with the consumption of different fuels, as per the *CEQR Technical Manual* guidance, the well-to-pump emissions are not considered in the analysis for the proposed project.

The projected annual vehicle miles traveled form the basis for the GHG emissions calculations from mobile sources and are presented in **Table 16-3**.

[1] Environmental Protection Agency, *MOVES2004 Energy and Emission Inputs*, Draft Report, EPA420-P-05-003, March 2005.

Table 16-3
Annual Vehicle Miles Traveled

Use	Car	Taxi	Truck
Retail and Restaurant Space	2,138,870	1,291,599	3,676,278
Museum/Exhibit Space (Caissons)	80,536	40,999	19,836
Technical Arts School	55,533	33,822	13,606
Cultural Use	27,322	5,920	41,610
Marina	632,108	65,177	52,706
Rooftop Open Space	254,800	60,665	251,709
Total	**3,189,170**	**1,498,183**	**4,055,745**

Notes: The Retail and Restaurant Space includes the vehicle miles traveled for the following uses discussed in Chapter 14, "Transportation": destination retail, quality restaurant, and food counter, which correspond to the work/sell marketplace, food market and restaurants, restaurant terrace, flexible retail space, and general retail uses. The vehicle miles traveled associated with the Rooftop Open Space include exhibit, event, and open space uses on the rooftop. Numbers may not sum to total due to rounding.

CONSTRUCTION EMISSIONS

Unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of construction activity emissions. In addition, construction of the proposed project would result in a moderate number of construction-related vehicle trips and a need for new construction materials primarily for interior work. Therefore, GHG emissions associated with construction (both direct emissions and emissions embedded in the production of materials, including on-site construction equipment, delivery trucks, and upstream emissions from the production of steel, rebar, aluminum, and cement used for construction) would not be substantial and have not been estimated explicitly.

EMISSIONS FROM SOLID WASTE MANAGEMENT

The proposed project would not change the City's solid waste management system. Therefore, as per the *CEQR Technical Manual*, the GHG emissions from solid waste generation, transportation, treatment, and disposal are not quantified.

D. PROJECTED GHG EMISSIONS FROM THE PROPOSED PROJECT

BUILDING OPERATIONAL EMISSIONS

The GHG emissions from each component of the proposed project are presented in detail in **Table 16-4**.

Table 16-4
Building Operational Emissions

Use	GHG Emissions (metric tons of CO_2e)
Retail and Restaurant Space	2,470
Museum/Exhibit Space (Caissons)	377
Technical Art School	373
Cultural Use	104
Circulation	777
Parking	40
Total	**4,141**

MOBILE SOURCE EMISSIONS

The detailed mobile-source-related GHG emissions from each component of the development that would occur as a result of the proposed project are presented in detail in **Table 16-5**.

Table 16-5
Mobile Source Emissions (metric tons CO_2e)

Use	Car	Taxi	Truck	Total
Retail and Restaurant Space	1,488	806	8,400	10,694
Museum/Exhibit Space (Caissons)	56	26	45	127
Technical Arts School	39	21	31	91
Cultural Use	19	4	95	118
Marina	440	41	120	601
Rooftop Open Space	177	38	804	1,019
Total	**2,219**	**935**	**9,496**	**12,649**

Notes: Numbers may not sum to total due to rounding.

SUMMARY

The proposed project would result in annual GHG emissions of approximately 16,790 metric tons of CO_2e. Of that amount, approximately 4,141 metric tons of CO_2e would be emitted by the proposed project as a result of grid electricity use and fuel consumption in on-site energy systems. The remaining emissions would result from vehicle trips and deliveries to and from the proposed site.

The operational emissions from building energy use include on-site emissions from fuel consumption as well as emissions associated with the production and delivery of the electricity to be used on site. These operational emissions are conservatively high, as they do not account for the energy efficiency and emissions savings of natural ventilation, passive cooling, and daylighting. The proposed project would include uses and density appropriate for a developed urban area, and would reuse an existing site and building thereby not requiring the use undeveloped land.

E. ELEMENTS OF THE PROPOSED PROJECT THAT WOULD REDUCE GHG EMISSIONS

The proposed project would include many sustainable design features that would lower GHG emissions. These features are discussed in this section and the consistency of the proposed project with the GHG reduction goal as outlined in the *CEQR Technical Manual* is assessed.

BUILD EFFICIENT BUILDINGS

The proposed project would rehabilitate and redevelop an existing historic building. Due to the requirements related to preserving the historic structure (described in more detail in Chapter 7, "Historic and Cultural Resources,") the options to improve efficiency would be limited. Nonetheless, the proposed project would be highly energy efficient and would:

- Maximize interior daylighting using operable exterior gates (i.e., opening of the vertical lift doors on the pier shed facade), weather permitting.
- Maximize opportunities for natural ventilation and passive cooling.

- Incorporate motion sensors and lighting and climate control.
- Use water conserving fixtures that exceed building code requirements.
- Create a partial roof lawn, planting areas, and shade structures on the roof. Vegetated rooftop areas would remove heat from the air through evapotranspiration, reducing the building energy needs and providing other environmental benefits.

Other measures likely to be part of the design include high-albedo roofing materials and permanently raising vertical lift doors on the pier shed and placing glass behind them to allow for continued daylighting options. The roof and the existing historic vertical lift doors will be insulated to minimize heat loss. Efficient lighting, elevators and Energy Star appliances would likely be used.

USE CLEAN POWER

The proposed project would maximize daylighting, which would reduce electricity requirements for lighting, and would maximize natural ventilation and passive cooling. It would also likely include high-efficiency heating, ventilation, and air conditioning (HVAC) systems or generators, overall minimizing the project's energy needs. The HVAC systems would use natural gas; natural gas has lower carbon content per unit of energy than other fuels, and thus its use generates lower GHG emissions.

ENHANCE AND USE TRANSIT-ORIENTED DEVELOPMENT AND SUSTAINABLE TRANSPORTATION

With its proximity to the Route 9A bikeway and existing Hudson River Park waterfront esplanade, the proposed project would encourage the use of non-vehicular transportation (walking and bicycling). Traffic signalization and coordination to improve traffic flow and support pedestrian and bicycle safety would be implemented and traffic flow would be optimized through roadway adjustments. Bicycle storage would likely be provided, and the provision of showers and changing rooms for cyclists would be considered. In addition, the project, in consultation with New York City Transit, may provide a bus stop along the access drive in front of the pier, as noted in Chapter 1, "Project Description." The on-site parking capacity would be accessory only and would not exceed parking required by zoning, therefore not encouraging visitors to travel by car.

REDUCE CONSTRUCTION OPERATION EMISSIONS

As discussed, the proposed project would not involve extensive long-term construction activity and would therefore not generate substantial GHG emissions during construction. The limited construction that would take place would include a diesel emissions reduction program including diesel particle filters for large construction engines and other measures, such as the use of ultra-low sulfur diesel for diesel engines and the use of electric engines where practicable. These measures would reduce particulate matter emissions; while particulate matter is not included in the list of standard greenhouse gases (sometimes referred to as "Kyoto gases"), recent studies have shown that black carbon—a constituent of particulate matter—may play an important role in climate change.

USE BUILDING MATERIALS WITH LOW CARBON INTENSITY

The proposed project would involve the rehabilitation and redevelopment of an existing historic structure, and would not require a substantial amount of new material. The primary concern in rehabilitating the structure would be long-term stabilization and historic preservation. Because

the proposed project involves the rehabilitation of a historic structure rather than new ground-up construction, opportunities to select construction materials with low embedded GHG emissions (emissions from material production and transport) may be limited. Nonetheless, the use of cement replacements, such as slag, fly ash, and calcined clay would be considered and other building materials with recycled content, as well as materials that are extracted and/or manufactured within the region would likely be used. In addition, repurposed shipping containers would be used in the pier shed. These containers would be stacked inside of the structure to create new retail spaces and first and second floor mezzanine levels, and may be placed on the rooftop to create seating areas around the rooftop pavilion. By "upcycling" these containers, which would otherwise be waste materials, the consumption of new raw materials to make interior retail spaces would be reduced. Reducing the use of new raw materials reduces energy use and GHG emissions.

F. ADAPTATION TO CLIMATE CHANGE

Currently, standards and a framework for analysis of the effects of climate change on a proposed project are not included in CEQR guidance. However, since the project site is on the waterfront, the potential effects of global climate change on the proposed project are considered.

DEVELOPMENT OF POLICY TO IMPROVE CLIMATE CHANGE RESILIENCE

In recognition of the important role that the federal government has to play to address adaptation to climate change, a federal executive order signed October 5, 2009 charged the Interagency Climate Change Adaptation Task Force, composed of representatives from more than 20 federal agencies, with recommending policies and practices that can reinforce a national climate change adaptation strategy. A recent report by the Task Force included recommendations to build resilience to climate change in communities by integrating adaptation considerations into national programs that affect communities, facilitating the incorporation of climate change risks into insurance mechanisms, and addressing additional cross-cutting issues, such as strengthening resilience of coastal, ocean, and Great Lakes communities.[1]

The New York State Sea Level Rise Task Force was created to assess potential impacts to the state's coastlines from rising seas and increased storm surge. The Task Force has prepared a final report of its findings and recommendations including protective and adaptive measures.[2] The recommendations are to provide more protective standards for coastal development, wetlands protection, shoreline armoring, and post-storm recovery; to implement adaptive measures for habitats; integrate climate change adaptation strategies into state environmental plans; and amend local and state regulations or statutes to respond to climate change. The Task Force also recommended the formal adoption of projections of sea level rise. The New York State Climate Action Plan will also include strategies for adapting to climate change. The Climate Action Plan Interim Report identified a number of policy options and actions that could increase the climate change resilience of natural systems, the built environment, and key economic sectors—focusing on agriculture, vulnerable coastal zones, ecosystems, water resources, energy infrastructure, public health, telecommunications and information infrastructure, and transportation.[3]

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[1] The White House Council on Environmental Quality, *Progress Report of the Interagency Climate Change Adaptation Task Force: Recommended Actions in Support of a National climate Change Adaptation Strategy*, October, 2010.

[2] New York State Sea Level Rise Task Force, *Report to the Legislature*, December 2010.

[3] NYSERDA, *New York State Climate Action Plan Interim Report*, November, 2010.

In New York City, the Climate Change Adaptation Task Force is tasked with securing the city's critical infrastructure against rising seas, higher temperatures, and fluctuating water supplies projected to result from climate change. The Task Force is composed of over 35 New York City and State agencies, public authorities, and companies that operate, regulate, or maintain critical infrastructure in New York City. The approaches suggested for the City to create a city-wide adaptation program include ways to assess risks, prioritize strategies, and examine how standards and regulations may need to be adjusted in response to a changing climate.

To assist the task force, the New York City Panel on Climate Change (NPCC), has prepared a set of climate change projections for the New York City region and has suggested approaches to create an effective adaptation program for critical infrastructure.[1] The NPCC includes leading climatologists, sea-level rise specialists, adaptation experts, and engineers, as well as representatives from the insurance and legal sectors. The climate change projections include a summary of previously published baseline and projected climate conditions throughout the 21st century including heat waves and cold events, intense precipitation and droughts, sea level rise, and coastal storm levels and frequency. The NPCC projects that sea levels are likely to increase by 12 to 23 inches by the end of the century, with a possible increase up to 55 inches in the event of rapid ice melt. In general, the probability of higher sea levels is characterized as "extremely likely", but there is high uncertainty regarding the probability of a rapid ice melt scenario. Intense hurricanes are characterized as 'more likely than not' to increase in intensity and/or frequency, and the likelihood of changes in other large storms ("Nor'easters") are characterized as unknown. Therefore, the projections for future 1-in-100 coastal storm surge levels for New York City include only sea level rise at this time (excluding the rapid ice melt scenario), and do not account for changes in storm frequency. Based on the above NPCC data, it is reasonable to assume that the existing 1-in-100 flood elevation would increase by up to 2 feet by the end of the century.

The New York City Green Code Task force has also recommended strategies for addressing climate change resilience in buildings and for improving stormwater management.[2] Some of the recommendations call for further study, while others could serve as the basis for revisions to building code requirements. Notably, one recommendation was to develop flood maps that reflect projected sea-level rise and increases in coastal flooding through 2080 and to require new developments within the projected future 100-year floodplain to meet the same standards as buildings in the current 100-year flood zone. The City is currently working with the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Rate Maps (FIRMs) using the recently acquired detailed Light Detection and Ranging (LiDAR) data.

The New York City Department of Environmental Protection is evaluating adaptive strategies for City water and wastewater infrastructure. The City has already developed a *New York City Green Infrastructure Plan*[3], and a *Sustainable Stormwater Management Plan.*[4] Many of the strategies discussed in these plans would improve the City's resilience to climate change.

Overall, strategies and guidelines for addressing the effects of climate change are rapidly being developed on all levels of government. Currently, standards and a framework for analysis of the

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[1] New York City Panel on Climate Change, *Climate Change Adaptation in New York City: Building a Risk Management Response*, Annals of the New York Academy of Sciences, May 2010.

[2] New York City Green Codes Task Force, *Recommendations to New York City Building Code*, February 2010.

[3] New York City, *New York City Green Infrastructure Plan,* September 2010.

[4] New York City, *Sustainable Stormwater Management Plan*, December 2008.

effects of climate change on a proposed project are not included in the *CEQR Technical Manual*. While qualitative guidance on addressing the effect of climate change is in the process of being developed at the national, state, and local levels, no specific requirements for development projects are available at this time. Climate change considerations may be incorporated into state and local laws prior to the completion of the proposed project, and any future work on the site would meet or exceed the codes in effect at the time of construction.

RESILIENCE TO CLIMATE CHANGE

Because the proposed project involves the rehabilitation and reuse of an existing historic structure, the opportunities to incorporate measures to address potential sea level rise are limited. In particular, the proposed project cannot change the elevation of the pier structure, and alterations must preserve the building's historic integrity. Nonetheless, flood protection measures for the historic structure would be implemented, accounting for the projected effects of climate change. Specifically, the proposed project would include provisions for installing flood barriers around the perimeter of the pier on an as needed basis (i.e. before predicted storm events). These flood barriers would be approximately 4 to 5 feet in height. In addition, the proposed project has been designed to locate mechanical space and other critical infrastructure on the roof of the headhouse, well above current as well as any anticipated future flood levels.

The platform elevations for historic Pier 57 are above the existing 100-year flood elevation by approximately 0.03 feet for a small portion of the headhouse, 3 feet for the remainder of the headhouse, and 2 feet for the platform under the pier shed. The three caissons and other components of the pier substructure are below the existing 100-year flood elevation. Due to the projected sea level rise by up to approximately 2 feet by the end of the century, based on NPCC data (excluding the rapid ice melt scenario) a similar rise in the existing floodplain is considered in planning for climate resilience. The lower portions of the Pier 57 platform that are less than 2 feet above the existing 100-year flood plain could be vulnerable to flooding with the projected 2 feet of sea level rise. However, with the 4 to 5 foot flood barriers these and all other portions of the project currently above the water would be resilient to more than 2 feet of sea level rise due to climate change. ✷

Chapter 17: Noise

A. INTRODUCTION

This chapter assesses the potential for the proposed project to result in significant adverse noise impacts. The analysis determines whether the proposed project would result in increases in noise levels that could have a significant adverse impact on nearby sensitive receptors and also considers the effect of existing noise levels at the project site on proposed uses. The proposed project would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of Noise passenger car equivalents [PCEs] which would be necessary to cause a 3 dBA increase in noise levels). However, noise generated by events on the proposed rooftop open space would have the potential to result in elevated noise levels at nearby receptors. Furthermore, ambient noise levels adjacent to the project site must be considered in order to examine whether the proposed publicly accessible open space would meet City Environmental Quality Review (CEQR)'s noise level guidelines for open space as well as address CEQR noise abatement requirements for buildings associated with the proposed project. These considerations are presented below.

PRINCIPAL CONCLUSIONS

The analysis concludes that traffic generated by the proposed project would not be expected to result in any significant increases in noise levels. While achieving an interior noise level of 50 dBA $L_{10(1)}$ for commercial uses as prescribed by CEQR interior noise level criteria may not be attainable in this case due to the nature of the proposed project, this would not constitute a significant adverse impact, because the specific uses included in the proposed project, especially the retail component, would be substantially different from the commercial office or meeting room uses for which the CEQR criteria are intended to apply.

Noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$prescribed by CEQR criteria, and would therefore constitute a significant adverse impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the open space would be comparable to other parks around New York City.

B. ACOUSTICAL FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called "decibels" ("dB"). The particular character of the sound that we hear (a whistle compared with a French horn, for example) is determined by the speed, or "frequency," at which the air pressure fluctuates, or "oscillates." Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as 1 Hertz ("Hz"). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernible and therefore more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

"A"-WEIGHTED SOUND LEVEL (DBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or "dBA," and it is the descriptor of noise levels most often used for community noise. As shown in **Table 17-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (as in a library, for example) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

Table 17-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources: Cowan, James P. *Handbook of Environmental Acoustics,* Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, background noise at 50 dBA is perceived as twice as loud as at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

EFFECTS OF DISTANCE ON SOUND

Sound varies with distance. For example, highway traffic 50 feet away from a receptor (such as a person listening to the noise) typically produces sound levels of approximately 70 dBA. The same highway noise measures 66 dBA at a distance of 100 feet, assuming soft ground conditions. This decrease is known as "drop-off." The outdoor drop-off rate for line sources, such as traffic, is a decrease of approximately 4.5 dBA (for soft ground) for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 3 dBA for line sources). Assuming soft ground, for point sources, such as amplified rock music, the outdoor drop-off rate is a decrease of approximately 7.5 dBA for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}.

For purposes of the Proposed Project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in this noise impact evaluation. $L_{eq(1)}$ is the noise descriptor recommended for use in the *CEQR Technical Manual* for vehicular traffic and construction noise impact evaluation, and is used to provide an indication of highest expected sound levels. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* sets external noise exposure standards; these standards are shown in **Table 17-2**. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The noise level specified for outdoor areas requiring serenity and quiet is 55 dBA $L_{10(1h)}$.

The *CEQR Technical Manual* also defines attenuation requirements for buildings based on exterior noise level (see **Table 17-3**, "Required Attenuation Values to Achieve Acceptable Interior Noise Levels"). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 50 dBA or lower for commercial uses and are determined based on exterior $L_{10(1)}$ noise levels.

IMPACT DEFINITION

As recommended in the *CEQR Technical Manual*, this study uses the following criteria to define a significant adverse noise impact:

- An increase of 5 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors (including residences, play areas, parks, schools, libraries, and houses of worship) over those calculated for the No Build condition, if the No Build levels are less than or equal to 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.

Table 17-2
Noise Exposure Guidelines For Use in City Environmental Impact Review[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------	NA	---------- 60 < Ldn ≤ 65 dBA ----------	NA	(i) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn	NA	---------- Ldn ≤ 75 dBA ----------
Hospital, nursing home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq$ 65 dBA		65 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
Residence, residential hotel, or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq$ 70 dBA		70 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq$ 70 dBA		70 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, outpatient public health facility		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
Commercial or office		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more; (ii) *CEQR Technical Manual* noise criteria for train noise are similar to the above aircraft noise standards: the noise category for train noise is found by taking the L_{dn} value for such train noise to be an L^{y}_{dn} (L_{dn} contour) value.

Table Notes:

[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need, and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.

[3] One may use FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

Source: New York City Department of Environmental Protection (adopted policy 1983).

Table 17-3
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Action	70 < $L_{10} \leq$ 73	73 < $L_{10} \leq$ 76	76 < $L_{10} \leq$ 78	78 < $L_{10} \leq$ 80	80 < L_{10}
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	36 + (L_{10} – 80)[B] dB(A)

Notes:

[A] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces, retail, and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.

[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.

Source: New York City Department of Environmental Protection.

- An increase of 4 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the No Build levels are 61 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the No Build levels are greater than or equal to 62 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors over those calculated for the No Build condition, if the analysis period is a nighttime period (defined by the *CEQR Technical Manual* criteria as being between 10 PM and 7 AM).

D. NOISE PREDICTION METHODOLOGY

Noise generated by events on the proposed rooftop open space would have the potential to result in elevated noise levels at nearby receptors. The analysis of events on the proposed rooftop open space consisted of the following procedure:

- A noise measurement was made at a comparable public event space in East River State Park in Brooklyn during an event with amplified, live rock music;
- At noise sensitive locations near the site of the proposed event space, existing noise levels were measured during various time periods when events may take place;
- Noise levels due to the event space were calculated at the nearby noise sensitive locations based on the measured levels from the comparable public event space adjusted based on acoustical fundamentals for sound attenuation with distance; and
- Existing and calculated, event-related noise levels were combined to determine future noise levels with the proposed project for purposes of impact determination.

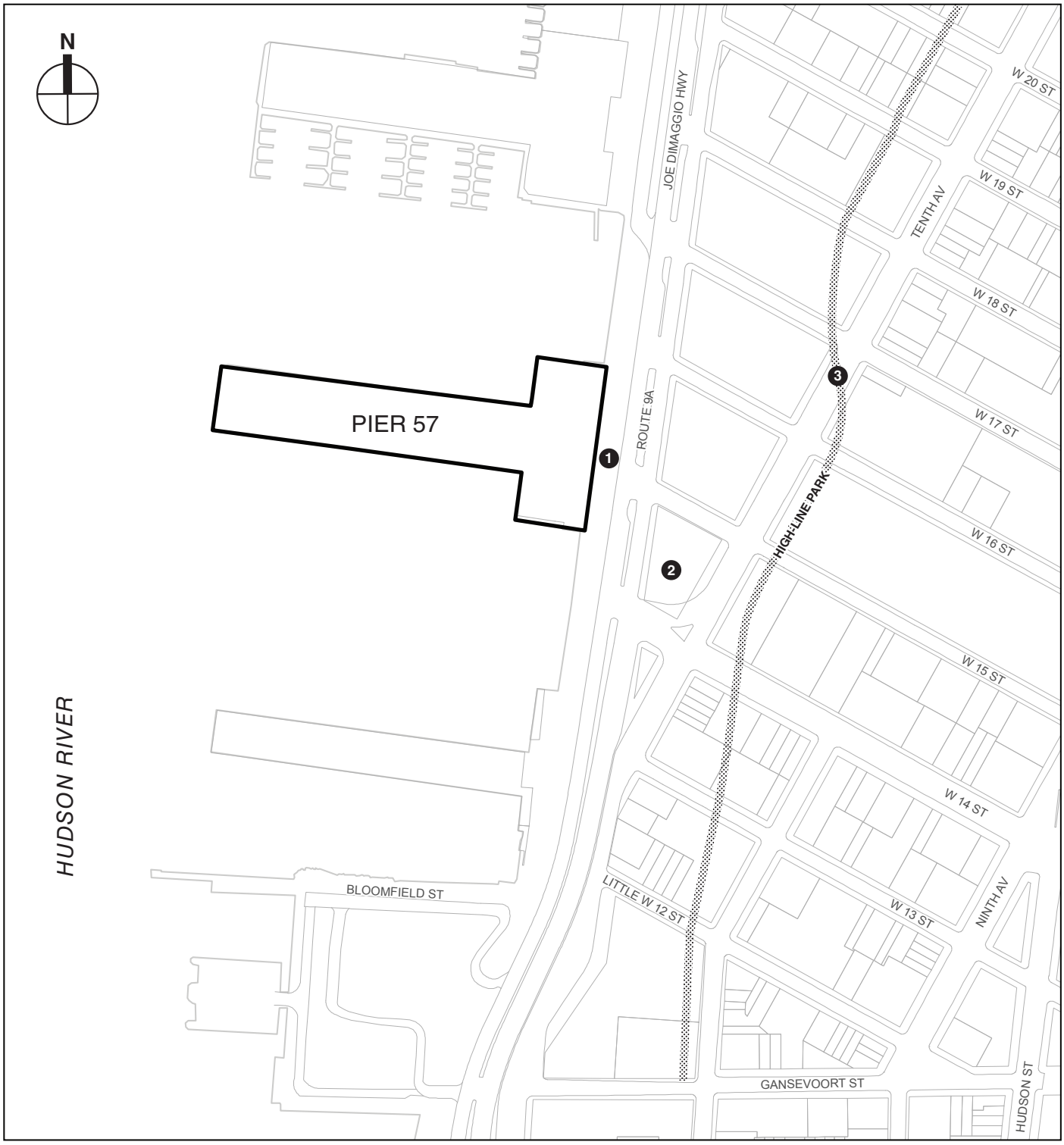
PUBLIC EVENT SPACE NOISE MEASUREMENT

A noise measurement was performed near the East River State Park event space in Brooklyn, during a concert at that space on September 24, 2011. While the proposed event space at Pier 57 would not be expected to primarily feature live music, it would include amplified sound and/or music as well as crowds of spectators, so the East River State Park event space, having these same features, would conservatively represent the proposed event space at Pier 57.

A measurement was taken on North 7th Street at the corner of North 6th Street, approximately 180 feet away from the main stage at East River State Park, which is immediately west of Kent Avenue between North 7th and North 8th Streets. (The equipment and procedures used for the measurement are the same as those described below in Section E, "Existing Noise Levels.") During the measurement, amplified music from the event at East River State Park was the dominant noise source. The L_{eq} measured at this location 180 feet from the source was 76.5 dBA. This value was used as a reference for the proposed event space at Pier 57.

E. EXISTING NOISE LEVELS

Existing noise levels were measured at three (3) locations near the project site (see **Figure 17-1**). **Table 17-4** lists the receptor site locations and their representative uses. Receptor site 1 was used to evaluate existing noise levels at the project site with respect to CEQR guidelines for noise levels at publically accessible open space areas and to determine CEQR building attenuation requirements for the proposed project, and all three receptors were used to evaluate potential noise impacts due to the proposed event space. These three receptors, due to their proximity to



Noise Receptor Locations

Figure 17-1

the project site, represent the nearby sensitive noise receptors with the greatest potential to experience significant noise increases as a result of the proposed project. Sensitive receptors further from the project site would be less likely to experience significant noise increases as a result of the proposed project.

Table 17-4
Noise Receptor Locations

Receptor	Location	Representation
1	Pier 57 at West 15th Street and 11th Avenue	Project Site and Nearby Open Space
2	14th Street Park (Between 10th and 11th Avenues)	Nearby Open Space
3	Highline Park (above West 16th Street and 10th Avenue)	Nearby Open Space, Residences at 450 West 17th Street

At Receptor Sites 1, 2, and 3, existing noise levels were measured for 20-minute periods during four weekday periods—midday (MD) (12:00 PM to 1:00 PM), PM (5:30 to 6:30 PM), Pre-Event (7:00 PM to 8:00 PM), and Event (9:00 PM to 10:00 PM)—as well as three Saturday periods—midday (MD) (12:45 PM to 1:45 PM), Pre-Event (7:00 PM to 8:00 PM), and Event (9:00 PM to 10:00 PM). These time periods, with the exception of the Event time period, correspond with the peak hours of traffic generation for the project and the time periods analyzed in Chapter 14 "Transportation." The Event time period represents the time when events would be most likely to be occurring on the proposed rooftop event space. Measurements were taken on September 10, 13, and 17, 2011.

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260 (S/N 2384814), a Brüel & Kjær ½-inch microphone Type 4189 (S/N 2385722), and a Brüel & Kjær Sound Level Calibrator Type 4231 (S/N 2688762). The SLM has a laboratory calibration date of August 3, 2011 which is valid through July of 2012. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). For all receptor sites the instrument/microphone was mounted on a tripod at a height of approximately 5 feet above the ground. Microphones were mounted at least approximately 5 feet away from any large reflecting surfaces. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, L_{90}, and 1/3 octave band levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

RESULTS

The results of the existing noise level measurements are summarized in **Table 17-5**.

At all three measurement locations, vehicular traffic noise on adjacent roadways was the dominant noise source. Measured levels were moderate to relatively high and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels are in the "marginally unacceptable" category at all three locations.

Table 17-5
Existing Noise Levels (in dBA)

Site	Measurement Location			L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Pier 57 at West 15th Street and 11th Avenue	Weekday	MD	74.4	79.9	77.3	74.2	65.3
			PM	75.1	80.4	77.9	75.1	64.9
			Pre-Event	74.6	80.0	77.3	74.7	64.8
			Event	76.0	83.1	78.8	75.3	64.3
		Saturday	MD	73.1	79.9	76.2	72.4	63.8
			Pre-Event	74.1	79.9	77.3	73.0	62.4
			Event	73.8	79.6	77.6	72.6	61.6
2	14th Street Park (Between 10th and 11th Avenues)	Weekday	MD	73.4	81.1	76.2	72.2	66.5
			PM	70.2	76.0	73.1	69.8	61.0
			Pre-Event	70.6	75.5	73.1	70.6	61.5
			Event	70.8	77.6	74.0	69.8	60.1
		Saturday	MD	69.9	75.9	72.8	68.9	63.5
			Pre-Event	68.0	73.1	71.6	67.1	59.1
			Event	69.1	73.8	72.3	68.4	61.6
3	Highline Park (above West 16th Street and 10th Avenue)	Weekday	MD	70.4	78.1	72.5	68.7	66.9
			PM	69.3	75.2	71.3	68.3	65.6
			Pre-Event	68.6	75.8	70.9	67.0	65.2
			Event	68.6	76.3	70.6	67.2	65.4
		Saturday	MD	68.4	74.4	71.4	66.9	64.2
			Pre-Event	67.6	74.0	69.6	66.4	64.1
			Event	68.3	74.9	69.8	66.3	63.1

Notes: Field measurements performed by AKRF, Inc. on September 10, 13, and 17, 2011.

F. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, or No Action condition, noise levels at and adjacent to the project site would be comparable to those in the existing conditions, and there would be no requirements for building attenuation on the pier structure or noise exposure at project-generated open space.

G. FUTURE WITH THE PROPOSED PROJECT

NOISE DUE TO TRAFFIC GENERATED BY THE PROPOSED PROJECT

A detailed mobile source noise analysis is not required because the proposed project would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs] which would be necessary to cause a 3 dBA increase in noise levels). Therefore, there would be no significant adverse noise impacts due to traffic generated by the proposed project.

NOISE DUE TO THE PROPOSED ROOFTOP OPEN SPACE PROGRAMMING

Using the methodology previously described, future noise levels with the proposed project were calculated for the three receptor sites. As noted above, the existing open space areas at receptors 1, 2, and 3, and the residence at receptor 3 would have the greatest potential to be impacted by noise due to events on the proposed rooftop open space. Receptors located further away would experience lower noise levels due to the project. The predicted noise levels are presented in **Table 17-6**.

Table 17-6
Predicted Noise Levels Due to Proposed Event Space (in dBA)

Site	Time		Existing $L_{eq(1)}$	Measured Event-Generated $L_{eq(1)}$ at 180 Feet	Distance to Event Space (feet)	Noise Attenuation due to Distance (assuming a 6 dB decrease per doubling of distance)	Event-Generated $L_{eq(1)}$ at Receptor	Total Build $L_{eq(1)}$ at Receptor	Noise Level Increment	Total Build $L_{10(1)}$ at Receptor
	Weekday	MD	74.4					75.2	0.8	78.1
		PM	75.1					75.8	0.7	78.6
		Pre-Event	74.6					75.4	0.8	78.1
		Event	76.0		505	9.0	67.5	76.6	0.6	79.4
	Saturday	MD	73.1					74.2	1.1	77.3
		Pre-Event	74.1					75.0	0.9	78.2
1		Event	73.8					74.7	0.9	78.5
	Weekday	MD	73.4					73.9	0.5	76.7
		PM	70.2					71.2	1.0	74.1
		Pre-Event	70.6					71.5	0.9	74.0
		Event	70.8	76.5	738	12.3	64.2	71.7	0.9	74.9
	Saturday	MD	69.9					70.9	1.0	73.8
		Pre-Event	68.0					69.5	1.5	73.1
2		Event	69.1					70.3	1.2	73.5
	Weekday	MD	70.4					70.8	0.4	72.9
		PM	69.3					69.9	0.6	71.9
		Pre-Event	68.6					69.2	0.6	71.5
		Event	68.6		1121	15.9	60.6	69.2	0.6	71.2
	Saturday	MD	68.4					69.1	0.7	72.1
		Pre-Event	67.6					68.4	0.8	70.4
3		Event	68.3					69.0	0.7	70.5

At all locations and during all time periods, the increase in $L_{eq(1)}$ noise levels with amplified sound from events at the proposed project as compared to the existing noise levels would be less than 2.0 dBA, which would be barely perceptible, and insignificant based upon CEQR criteria. The rooftop open space would generally operate without extensive programming and would be used for public events only on limited occasions, primarily for movie screenings, and the design of the sound system during events would direct amplified sound west towards the Hudson River rather than east towards the sensitive receptors as much as possible. Therefore, the proposed project would not result in any significant adverse noise impacts on nearby sensitive receptors as a result of events on the proposed rooftop open space.

In terms of CEQR noise exposure guidelines, future noise levels with the proposed project would remain in the "marginally unacceptable" category for all receptor sites.

NOISE LEVELS AT OPEN SPACE AREAS

The new open space areas created on-site as part of the proposed project would experience a range of noise levels at various locations, with higher levels closer to Route 9A and lower levels closer to the Hudson River. The portion of the proposed open spaces associated with the proposed project that would experience the greatest noise levels would be represented by receptor site 1, and would therefore be expected to experience $L_{10(1)}$ values up to 79.4 dBA. During non-event conditions, the noise levels in the new open space would be somewhat lower, especially at locations further from Route 9A, and would be comparable to existing noise levels. Noise levels at the open space, both during event and non-event conditions, would be expected to exceed the 55 dBA $L_{10(1)}$ noise level guideline for outdoor areas requiring serenity and quiet

provided in the *CEQR Technical Manual* noise exposure guidelines (see Table 17-2). In addition, noise associated with the operation of the proposed project's marina and water taxi landing could potentially result in increased noise levels at the proposed open space.

Noise levels in these new open space areas would be above the 55 dBA $L_{10(1)}$ guideline noise level due to a combination of high existing noise levels generated by traffic on Route 9A, amplified sound from events at the proposed project, and operation of the proposed project's marina and water taxi landing, and would therefore constitute a significant adverse impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. The 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet; however, due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) this relatively low noise level is often not achieved.

NOISE ATTENUATION MEASURES

As shown in Table 17-3, the *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 50 dBA or lower for commercial uses. The results of the building attenuation analysis, based on the maximum exterior L_{10} noise level at the project site, are summarized in **Table 17-7**.

Table 17-7
CEQR Attenuation Requirements

Site	Maximum Exterior L_{10} (in dBA)	Attenuation Required (in dBA)
1	79.4	30

Notes:
(1) The L_{10} value for site 1 includes the measured L_{10} values combined with the contribution from the proposed event space.
(2) CEQR attenuation requirements do not apply to loading, parking, mechanical space, etc.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade consists of the wall, glazing, and any vents or louvers for heating, ventilation, and air conditioning (HVAC) units in various ratios of area.

With the proposed project, the existing building façade along Route 9A would not provide sufficient attenuation in spaces along that façade to achieve noise levels considered acceptable for interior commercial uses according to CEQR criteria. Typically, a project involving the reuse of an existing structure would meet the attenuation requirements by replacing existing windows with well-sealed double-glazed windows and alternate means of ventilation. However, Pier 57 is listed on the State/National Registers of Historic Places, and the windows on the façade along Route 9A are a significant element of the structure's design. Thus, the removal and replacement of the windows on this facade would adversely affect one of the pier's essential physical features that convey its historic identity (i.e., its integrity). Furthermore, the project is seeking federal historic preservation tax credits, and to receive the credits the pier must be rehabilitated to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. The Secretary of the Interior's Standards for Rehabilitation of Historic Properties state that "the removal of

distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided." Removal of the pier's existing windows would not conform to the Secretary's Standards, and therefore an alteration of the building's façade elements (i.e., by replacing the existing windows) to provide the required amount of attenuation would affect the project's ability to receive federal historic preservation tax credits. To the extent practicable, the proposed project would undertake measures to improve the noise attenuation of the existing structure while preserving the building's historic integrity. All existing windows requiring replacement would be replaced with well-sealed windows, and all existing windows to remain would be repaired/resealed to be weather-tight. Other openings in the façade would be tightly sealed as required.

The use of other measures to meet the attenuation requirements, such as interior storm windows, would not be practicable because the proposed project has been designed to allow natural ventilation as much as possible, in order to create the sense that the pier is an extension of the existing urban street network and to give visitors the sense that they are outside on the water, rather than within a traditional sealed retail enclosure. The use of natural ventilation would also require less rooftop space for mechanical equipment, maximizing the amount of rooftop public open space, and would allow the structure to be passively cooled, reducing energy use. Natural ventilation would be provided by the reopening of a number of the existing vertical lift doors along the pier shed in good weather, which would limit the effectiveness of other attenuation measures.

Moreover, the nature of the specific uses introduced by the proposed project, especially the retail component, would be substantially different from the typical commercial office or meeting room uses for which the CEQR guideline is intended. Future users of the proposed project would be attracted by the active, vibrant retail experience and the design suggestive of an open air urban street on the Hudson River. Therefore, an interior noise level in excess of the 50 dBA $L_{10(1)}$ CEQR guideline would not constitute a significant adverse impact in this case.

The building mechanical system (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed project would not result in a significant adverse noise impact related to the building mechanical system. ✷

Chapter 18: Neighborhood Character

A. INTRODUCTION

This chapter considers the effects of the proposed project on neighborhood character. According to the 2012 *City Environmental Quality Review* (*CEQR) Technical Manual*, neighborhood character is an amalgam of various elements that give neighborhoods their distinct "personality." These elements may include a neighborhood's land use, socioeconomic conditions, open space, historic and cultural resources, urban design, visual resources, shadows, transportation, and/or noise. Not all of these elements affect neighborhood character in all cases; a neighborhood usually draws its distinctive character from a few defining elements. According to the *CEQR Technical Manual,* ordinarily, in the absence of a significant adverse impact in any of the relevant technical areas, a combination of moderate effects to the neighborhood would not result in a significant adverse impact to neighborhood character. Moreover, a significant impact identified in one of the technical areas that contribute to a neighborhood's character is not automatically equivalent to a significant impact on neighborhood character.

As described in detail in Chapter 1, "Project Description," the proposed project would result in the redevelopment of the currently vacant, historic Pier 57 site with public open spaces uses; retail, restaurant and other commercial uses; educational and cultural uses; and a marina. The proposed project would preserve and enhance the historic integrity of the pier structure while adding compatible uses to an area with a growing residential population. The proposed project's design seeks to reutilize the existing historic structure as a successful public space and commercial venue. The neighborhood character analysis relies on the analyses of all of the contributing elements of neighborhood character as analyzed elsewhere in this environmental impact statement (EIS).

PRINCIPAL CONCLUSIONS

The surrounding neighborhood is a former manufacturing area characterized by prominent open space uses such as Hudson River Park and the High Line as well as a mix of residential, commercial, and industrial uses. The neighborhood character of the area is shaped by these open space destinations, as well as its proximity to the waterfront and the nearby art galleries, high end boutiques, restaurants and bars, and food retail that have developed in former manufacturing and meatpacking facilities. The proposed project would preserve and restore the existing historic pier, while enlivening it with new public open space and complementary commercial, educational, and cultural uses that would serve to activate street life along this portion of the waterfront. The proposed uses would add to the open space amenities of Hudson River Park and would be compatible with existing art galleries, restaurants, boutiques, and food-related retail that define the area.

This assessment of neighborhood character concludes that the proposed project would not have a significant adverse impact on neighborhood character in the study area. Rather, it is anticipated that the proposed project would reactivate a vacant and historic structure with a dramatic change

in use, creating a new cultural, commercial, and open space destination, while enhancing the essential character of the area and adding to the open space amenities of Hudson River Park.

B. METHODOLOGY

The *CEQR Technical Manual* states that an assessment of neighborhood character is needed when a proposed project has the potential to result in significant adverse impacts in any of the following technical areas: land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; or noise. An assessment may also be appropriate if the project would result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. According to the *CEQR Technical Manual*, a "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area.

As described in the relevant chapters of this EIS, the proposed project would not result in significant adverse impacts in the areas of land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; or shadows. It would also not result in effects considered reasonably close to the significant adverse impact thresholds in those technical areas. However, the proposed project would result in significant adverse impacts in the areas of transportation and noise. Therefore, a preliminary assessment of neighborhood character impacts from the proposed project is provided below. This preliminary assessment describes the defining features of the neighborhood and then assesses the potential for the proposed project to affect these defining features. As recommended in the *CEQR Technical Manual*, the study area for the neighborhood character analysis is consistent with the study areas in the relevant technical areas assessed under CEQR that contribute to the defining elements of the neighborhood.

C. PRELIMINARY ASSESSMENT

DEFINING FEATURES

In general, the surrounding neighborhood is defined by the prominent open spaces of Hudson River Park and the High Line, the mix of former industrial buildings and new, modern buildings that house concentrations of art galleries, boutiques, restaurants and nightclubs, and increasing residential development in West Chelsea, and the historic residential and industrial buildings in the West Village. The study area is also in large part defined by its proximity to the waterfront, which adds to the character of the area as a historic commercial shipping hub and provides views along Hudson River Park and of New Jersey.

As described in Chapter 2, "Land Use, Zoning, and Public Policy," the study area is a former manufacturing area that has experienced a trend toward the conversion of industrial uses to residential and commercial uses, developing into a mixed use neighborhood. Former industrial uses in the northern portion of the study area have been converted to art galleries and studios. In the south, former food wholesaling facilities now house high end retail, restaurants, and night clubs that comprise the Meatpacking District. New construction has added modern offices, residential buildings, and hotels throughout the area. Some industrial uses remain in the study area, along with parking and automotive related uses.

Chelsea Market and Chelsea Piers are two notable commercial uses that contribute to the defining character of the neighborhood. Chelsea Market, an indoor market place occupying a former factory building, houses food wholesalers with retail businesses that are supported by the foot traffic in the area and from the office tenants in the floors above the market. Chelsea Piers, a prominent land use in the area and along the waterfront, is a sports facility and event center that occupies Piers 59, 60, and 61 just north of the project site.

The surrounding neighborhood is also characterized by major open space uses, most notably Hudson River Park along the waterfront and the High Line Park to the east. The project site is surrounded to the north and south by Hudson River Park, a major open space destination in the city. The West Chelsea neighborhood is bisected by the High Line, a prominent open space which cuts through the area west of Ninth Avenue along an elevated former freight line. The High Line is a notable visual resource from ground level views and provides extensive views of the study area not typically available to pedestrians. Providing views of the Hudson River and surrounding architecture, the High Line is an important open space and historic feature that draws a substantial number of visitors through the study area.

As a historic resource itself, Pier 57 contributes to the character of the neighborhood. The project site consists of a vacant, art deco headhouse and pier shed, supported by three underwater hollow, concrete boxes called caissons. The caissons were an innovative mechanism in pier engineering when the pier was constructed, and they contribute to the pier's historic significance. The east elevation of the headhouse is clad in brick and is notable for its bank of tall window openings in the central section. The north and south elevations of the pier shed are lined with vertical lift doors providing access to bays on the first and second floors, which allowed ships to be loaded and unloaded by trucks. The roof edges on the north and south façades are metal frameworks or "burtons" that were originally used for cargo handling. The project site is visible from multiple vantage points throughout the surrounding area, and is therefore a significant visual resource in the neighborhood. Other than the project site, there are four known historic resources in the study area that reinforce the area's importance as a historic center for production, storage, shipping, and commerce and contribute to the area's existing character. As discussed in Chapter 7, "Historic Resources," these resources are the Hudson River Bulkhead, the Merchants Refrigerating Company Warehouse, the Gansevoort Market Historic District, and the High Line.

In terms of urban design, the study area is roughly divided by West 14th Street, which separates the portion characterized by the typical Manhattan street grid pattern in the north, and the irregular, older street pattern of The West Village in the south. In the northern portion, the study area is characterized by tall commercial buildings with full lot coverage. Many of these commercial uses occupy former industrial and manufacturing buildings, such as the Chelsea Market facility in the former National Biscuit Company factory and the Merchants Refrigerating Company Warehouse. In West Chelsea, also north of West 14th Street, modern buildings with curved and glass facades provide a contrast to the older manufacturing buildings. South of West 14th Street, the West Village is defined by historic, low-scale buildings. These two areas both feature remnants of the meatpacking and industrial era, with aerial pedestrian bridges and the High Line in the north, and loading docks and broad metal canopies in the south. Pedestrian activity in the study area is centered on retail and restaurant uses in the inland areas, as well as Hudson River Park and the High Line, which provide views throughout the study area and are also significant visual elements themselves.

Like many neighborhoods in New York City, the character of the study area is defined by a wide range of travel modes, with moderate foot traffic on most of the area's sidewalks and crosswalks, a mix of auto/taxi/service traffic on the streets, and bus transit services nearby with subway service further away, along Eighth Avenue. The foot traffic patterns and timing for pedestrian activity associated with residents, workers, and visitors are consistent with the mix of office, retail, and residential uses in the area. The street system consists primarily of one-way streets, generally carrying one lane of moving traffic on the east west streets and three or four lanes on the north-south streets. Route 9A, a state highway adjacent to the Hudson River waterfront and the Route 9A Bikeway and Hudson River Park waterfront esplanade, separates the project site from the surrounding street network. Route 9A carries the highest volumes of traffic in the study area, and in general the greatest volume of and most visible travel in the area pertains to vehicular traffic during commuter and weekend peak periods.

Due to the proximity of the project site to Route 9A and the level of traffic on the roadway, vehicular traffic is the dominant noise source in the study area and noise levels are classified as "marginally unacceptable" according to the *CEQR Technical Manual*. In addition, noise levels in the portions of Hudson River Park adjacent to the project site exceed CEQR guidelines for outdoor areas requiring serenity and quiet, but are comparable to other open spaces around New York City.

POTENTIAL TO AFFECT THE DEFINING FEATURES OF THE NEIGHBORHOOD

Overall the proposed project would have a positive effect on neighborhood character by reutilizing a vacant but historically significant structure with compatible new uses and contributing to the existing network of open space in the study area. As described in Chapter 1, "Project Description," the proposed project would result in new public open space; retail, restaurant and other commercial uses; educational and cultural space; and a marina. The program and the design of the proposed project would reflect the neighborhoods in which the pier is located and draw from the design and history of the existing structure of the pier itself. The proposed public marketplace, technical arts school, restaurants and food-retail would draw specific inspiration from existing businesses in the study area in the realms of fashion, design, art, and food. The proposed project would be consistent with zoning in the study area and would contribute to the completion and financial support of Hudson River Park as well as revitalizing an underutilized portion of the waterfront. This would in turn enliven the streetscape along this portion of the waterfront, providing visitors with access to new open spaces and commercial uses.

As described in Chapter 2, "Land Use, Zoning, and Public Policy," the proposed project would develop a vacant site with new uses that would complement the existing and future mix of uses in the area. The proposed project would serve the neighborhood's growing population of residents and office workers, as well as visitors attracted to the area by art galleries, bars and restaurants, retail and hotels. In general, the uses included in the proposed project would complement the surrounding arts- and food-related commercial uses, as well as residential and open space uses, and would contribute to the character of the area. The proposed project would improve an underutilized component of Hudson River Park, opening a new portion of the waterfront to the public, and would contribute to the network of waterfront open space that is a defining component of the neighborhood's character. In terms of open space, the proposed project would have a positive impact on this defining component of neighborhood character.

As described above, there are several known architectural resources in the study area, including the existing pier structure on the project site. The proposed project would result in the restoration

of the pier's historic headhouse and foothouse, and would make this historic resource an accessible component of Hudson River Park. The proposed project would change the visual relationship between the pier and surrounding architectural resources—specifically the Gansevoort Market Historic District and the High Line—by providing a view of an active use, rather than a vacant structure. As discussed in Chapter 7, "Historic Resources," while the proposed project would result in changes to the historic structure on the project site and the relationship of that structure to the surrounding area, these changes would not be adverse. Therefore, the proposed project would not result in any significant adverse neighborhood character impacts related to historic or cultural resources.

Similar to historic resources, the urban design character of the neighborhood would be improved by the proposed project's reactivation of Pier 57 through preserving its historic integrity, improving its appearance, and providing new views for pedestrians from the proposed rooftop open space. The restored headhouse would provide a new entrance into Hudson River Park from Chelsea and the Meatpacking District. The alterations to the pier would not noticeably change the scale of the existing structure. The new rooftop open space and perimeter walkways, as well as the new uses within the pier, would enhance the pedestrian experience along this portion of Hudson River Park. In addition, new views would be made accessible from the new rooftop open space and perimeter walkways. Therefore, as discussed in Chapter 8, "Urban Design and Visual Resources," the proposed project would enhance the existing urban design character and improve the pedestrian experience. The proposed project would also not result in any significant adverse shadows impacts and therefore would not adversely affect neighborhood character as a result of shadows.

The proposed project would introduce a variety of specialty retail goods, food retail, and eating and drinking establishments to the study area. As the study area has become a destination for visitors to Chelsea Market, the High Line, Hudson River Park, and the restaurants and bars in the Meatpacking District, the additional retail introduced by the proposed project would not introduce a new trend in the study area and the proposed project would not result in any significant adverse socioeconomic impacts. The proposed project would complement the surrounding food-related retail, art galleries, high-end boutiques, and bars and nightclubs that define the character of the neighborhood.

The proposed project would add vehicle and pedestrian trips in the study area, resulting in significant adverse vehicular and pedestrian traffic impacts at several locations. However, the neighborhood is in part defined by the traffic along major roadways like West 14th Street and Route 9A, and the study area would continue to be characterized by high traffic volumes in the future without the proposed project. In addition, as described in Chapter 22, "Mitigation," all of the traffic and pedestrian impacts could be fully mitigated. Therefore the proposed project would not alter the character of the neighborhood due to significant adverse traffic and pedestrian impacts.

While noise levels in the proposed project's open space areas would exceed *CEQR Technical Manual* noise level guidelines for outdoor areas, these levels would be comparable to the existing noise levels in Hudson River Park and other open spaces that are also located adjacent to heavily trafficked roadways. Therefore, the noise levels in the proposed open space would not adversely affect neighborhood character. In addition, noise levels within the structure would be consistent with the active, vibrant retail experience of the proposed project and would not adversely affect neighborhood character.

As discussed above, the proposed project's significant adverse impacts in the areas of transportation and noise would not adversely affect neighborhood character. However, according to the *CEQR Technical Manual*, additional analysis of neighborhood character may be warranted based on the potential for a project to result in a combination of moderate effects in more than one technical area. A "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area. As discussed above and throughout this EIS, the proposed project would not result in moderate effects that would be reasonably close to the impact thresholds in the other technical areas. Therefore, the proposed project would not have the potential to affect neighborhood character through a combination of moderate effects. Overall, the proposed project would benefit the neighborhood character of the surrounding area by reutilizing a vacant historic pier structure with commercial, cultural, and educational uses that reflect the surrounding neighborhoods and adding to the open space amenities of Hudson River Park. ✷

Chapter 19: Construction Impacts

A. INTRODUCTION

This chapter summarizes the construction program for the proposed project and considers the potential for adverse impacts to occur during construction of the proposed project. The construction phasing and schedule for the proposed project are described, followed by a description of the types of activities likely to occur during the repair and rehabilitation of Pier 57's historic pier structure, including its caissons, as well as activities associated with construction of the proposed marina. An assessment of potential impacts from construction activity is conducted and the methods that may be employed to avoid significant adverse construction-related impacts are then presented.

PRINCIPAL CONCLUSIONS

Although there would be localized, temporary disruptions due to construction activity, as is the case with any construction activity, this analysis finds that the proposed project would not result in any significant adverse impacts due to construction activities. This finding is based on an analysis of the types of construction activities and their intensity, the location of sensitive receptors that could be affected by the proposed project's construction, and the overall construction duration.

The overall construction duration of the proposed project would be short-term (less than two years), with the majority of the activities occurring within the existing Pier 57 structure. During interior work, the walls of the building would act as barriers to the transport of air pollutants and would provide acoustical shielding for noise sources, thus limiting potential impacts from construction activity. Unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of noise and air emissions. In terms of air emissions and noise levels, the most intense construction activity would be pile driving, but this task would be limited in duration (only 12 weeks), would involve piles of small size (predominantly 18-inch diameter steel pipe piles), and is expected to utilize vibratory hammers (which create less intrusive noise levels) rather than impact hammers to the greatest extent possible. With the exception of adjacent portions of Hudson River Park (which consists primarily of an esplanade with limited seating and portions of the publicly accessible Pier 54) and the walkway and seating area around the perimeter of Chelsea Piers, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. In fact, the nearest residences are located approximately 550 feet from the project site, at 450 West 17th Street. In addition, construction of the proposed project would only result in a small number of construction-related vehicle, pedestrian, and transit trips. Therefore, after taking into account the short duration of construction tasks, the relatively low intensity of construction activities and the fact that much of the activity would be interior work, and the very limited number of nearby sensitive receptors (such as residences), the analysis concludes that the proposed project would not result in any significant adverse construction-

related impacts. The results of the construction analyses for each technical area are discussed in more detail below.

TRANSPORTATION

No significant adverse transportation impacts would be expected due to construction of the proposed project. As discussed below, construction of the proposed project would be short-term (less than two years) and would result in a small number of construction-related vehicle, pedestrian, and transit trips.

Construction of the proposed project would result in a maximum of approximately 73 peak hour vehicle trips (passenger car equivalents [PCEs]) during the construction peak period. However, when distributed to various roadways near the project site, the project construction trip increments would not be expected to result in 50 or more vehicle trips through any intersection.

Construction of the proposed project would result in a maximum of approximately 102 peak hour transit trips during the construction peak period. Since the project site is well served by mass transit including the A, C, E, and L subway lines and various bus routes, only nominal increases in transit demand would be experienced along each of those routes and at each of the transit access locations (fewer than the 2012 *City Environmental Quality Review* [*CEQR] Technical Manual* analysis threshold of 200 trips. Therefore, there would not be a potential for significant adverse transit impacts during construction. In addition, 200 pedestrian trips would be expected during the peak hour during the construction peak period. Because these pedestrian trips would primarily occur outside of the typical commuter peak hours (8–9 AM and 5–6 PM) and would originate from several nearby transit services and a number of area parking facilities, they would be distributed among numerous sidewalks and crosswalks in the area, and therefore there would not be a potential for significant adverse pedestrian impacts attributable to the projected construction worker pedestrian trips.

AIR QUALITY

The quantity of air pollutants emitted during the construction period would likely vary over time. Unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of air emissions. Instead, the majority of the construction activities would occur within the Pier 57 structure, and the walls of the building would act as barriers to the transport of air pollutants to nearby areas. Indoor work would also curtail emissions of fugitive (wind-blown) dust, and heavy diesel equipment such as excavators and pile drivers would not be needed during interior work. Without typical demolition or foundation activities for the proposed project, one of the most intense exterior activities in terms of air emissions would be pile driving, but this task would be limited in duration (only 12 weeks). Moreover, there are very few sensitive receptors near the project site, and the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A.

In addition, the duration of the proposed project's construction is expected to be short-term (less than two years) and an emissions control program would be implemented to minimize potential construction-period effects on air quality. To ensure that the construction of the proposed project would result in the lowest practicable diesel particulate matter (DPM) emissions, the project would implement an emissions reduction program for all construction activities, including diesel equipment reduction; clean fuel; best available tailpipe reduction technologies; utilization of

newer equipment; dust control; and restrictions on vehicle idling. Therefore, construction of the proposed project would not result in any significant adverse air quality impacts.

NOISE

Noise associated with the proposed project's construction activities would not result in any significant adverse impacts. The duration of the proposed project's construction is expected to be short-term (less than two years), and therefore any potentially intrusive noise levels generated by construction activities would be of limited duration. In addition, there are very few noise sensitive receptors near the project site. With the exception of adjacent portions of Hudson River Park (which consists primarily of an esplanade with limited seating and portions of the publicly accessible Pier 54) and the walkway and seating area around the perimeter of Chelsea Piers, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. During construction, most of the construction activities would be interior work, where the walls of the building would provide acoustical shielding for noise sources, and the proposed project does not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest noise levels. The nosiest construction activity associated with the proposed project—pile driving—would be of very limited duration, would involve piles of small size (predominantly 18-inch diameter steel pipe piles), and is expected to utilize vibratory hammers rather than impact hammers to the greatest extent possible. Therefore, based on these factors, no significant adverse noise impacts would be expected at any sensitive receptor locations from the proposed construction activities.

OTHER TECHNICAL AREAS

Historic and Cultural Resources

Since the proposed project would result in new construction and renovation activities within and abutting the Pier 57 structure, which is listed on the State/National Registers of Historic Places (S/NR), the proposed project would comply with the New York City Landmarks Preservation Commission's (LPC) *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in the New York City Department of Building's (DOB) *Technical Policy and Procedure Notice (TPPN) #10/88*. This includes preparation of a Construction Protection Plan (CPP), to be prepared prior to construction activities and submitted to LPC and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) for review and approval.

The proposed project would result in construction activities within 90 feet of the S/NR-eligible Hudson River bulkhead. Therefore, the CPP to be prepared for the proposed project would include measures to ensure that the bulkhead is not affected by potential construction-related issues. None of the other architectural resources in the study area are close enough to experience direct, physical impacts from construction of the proposed project.

Therefore, the proposed project would not result in significant adverse construction-related impacts to historic and cultural resources.

Hazardous Materials

The *Phase I Environmental Site Assessment* (ESA) and Phase II Subsurface Investigation for the site revealed the potential for subsurface contamination and hazardous materials (such as

asbestos-containing materials and lead-based paint) on the project site. Renovation and rehabilitation of Pier 57 would be conducted in accordance with applicable Federal, State, and local regulatory requirements. Excavation work would be performed in accordance with a New York City Department of Environmental Protection (NYCDEP)-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP). The RAP would specify requirements for items such as: installation of two feet of clean fill as a "site cap" in unpaved areas; handling of contaminated or potentially contaminated soil, groundwater or treated wood (e.g., pilings); soil stockpiling, soil disposal and transportation; dust control; air monitoring in the work zone and the community; dewatering procedures; quality assurance; and contingency measures (including reporting and registration requirements) should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment. All excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur during construction at the site.

Natural Resources

The construction activities associated with the proposed project would not cause any significant adverse environmental impacts on terrestrial or aquatic resources. Pile-driving and other in-water construction activities associated with the redevelopment of Pier 57 and construction of the marina would not result in significant adverse impacts to floodplains, wetlands, water quality, or aquatic biota. Increases in suspended sediment resulting from construction activities would be temporary and localized and would be expected to dissipate quickly. Aquatic threatened or endangered species or species of concern that are known to occur in the vicinity of Pier 57—shortnose sturgeon and Atlantic sturgeon—would only occur in the area as occasional transient individuals and would prefer the deeper water habitat of the navigation channel, which would not be affected by the proposed project. The prohibition of in-water pile driving activities from November through April to protect overwintering striped bass would minimize potential impacts to striped bass and other fish overwintering within the vicinity of Pier 57. Turbidity curtains would be used during pile driving activities. Upon completion of the timeline for in-water, exterior and interior activities, coordination would be conducted with the New York State Department of Environmental Conservation (NYSDEC) to develop and implement measures to minimize the potential for adverse impacts to the state-listed endangered peregrine falcon pair seasonally nesting on the pier. Coordination activities may include attempting to relocate the nest in concert with NYSDEC, staging construction to avoid sensitive periods, or use of monitoring cameras. Seals and the four species of threatened or endangered sea turtles that may be present in the Harbor Estuary would only be expected to be present in the vicinity of Pier 57 as occasional transient individuals and would likewise not be significantly impacted by construction activities.

B. OVERVIEW OF CONSTRUCTION ACTIVITIES

INTRODUCTION

The following section describes the expected schedule and methods and means of construction. While the methods and means described below are commonly used in New York City, the

discussion is illustrative as other means and methods may be chosen at the time of construction. The described means and methods are conservatively chosen to serve as the basis of the analyses in this chapter and are representative of the reasonable worst case for potential impacts.

This section of the chapter first gives an overview of the anticipated construction phasing and schedule of the proposed project. General construction practices are then presented, including those associated with deliveries and access, hours of work, and traffic lane closures. Finally, a detailed description of each type of construction activity is provided.

CONSTRUCTION PHASING AND SCHEDULE

Construction of the proposed project is expected to begin in 2013 with the renovated Pier 57 complete and operational in 2015. **Table 19-1** shows the anticipated construction schedule for the proposed project. It would proceed in several stages, some of which would overlap: selective interior demolition; structure rehabilitation and redevelopment; interior fit-outs; in-water activities (including in-water marina work) and non-water marina installation.

Table 19-1
Construction Schedule

Task	Month																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Selective Interior Demolition																		
Structure Rehabilitation and Redevelopment																		
Interior Fit-outs																		
In-Water Activities[1]																		
Marina Installation (Non-water)[2]																		

Notes: All pile-driving activities associated with the marina would be completed within one pile-driving season (May 1 to October 31); in-water pile-driving activities are prohibited from November through April.
[1] In-water activities include all in-water work associated with the marina and wave screens, pier repairs, and perimeter walkways and walkway extensions. These activities include approximately 12 weeks for all in-water pile driving followed by approximately 10 weeks for other in-water activities not involving pile driving. These activities would include assembly of the wave screens; placement of riprap for scour protection; repairs to the caissons; construction of new stairways, elevator shafts and utility shafts between the ground floor of the pier building and caisson level; pile jacketing and repair work; repairs to girders supporting the apron walkway; completion of fendering; and installation of the floating docks.
[2] Non-water marina installation would include utility connections and gangway installation. This activity would occur following the driving of the marina piles.
Source: Young Woo & Associates.

For the purposes of a conservative analysis, it is assumed that the marina construction would occur concurrently with the other in-water work. This generally provides for a more conservative analysis because it assumes a greater concentration of construction activity in a shorter period of time. However, it is possible that construction of the marina may not occur concurrently with the other in-water work. If this occurs, the overall construction duration of the proposed project could exceed two years. Even in that circumstance, the conclusions of the analysis would remain that there would be no potential for significant adverse impacts related to construction activities. The most intense activity associated with the marina would be pile driving, but this activity is expected to last for only 10 weeks for the marina and would utilize

vibratory hammers rather than impact hammers to the greatest extent possible.[1] Pile driving associated with the marina would be an intermittent activity consisting of approximately 20 minutes of driving followed by an interval of an hour when no driving occurs, followed by tapping down to the final elevation. In addition, except for adjacent portions of Hudson River Park and the walkway and seating area around the perimeter of Chelsea Piers, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. Due to the distance to sensitive receptors, the short duration, and the low intensity of marina construction, such activities would not have the potential to result in significant adverse construction impacts even if conducted beyond the construction schedule presented above.

GENERAL CONSTRUCTION PRACTICES

Certain activities would be on-going throughout the project construction. A field representative would serve as the contact point for the community and local leaders, and would be available to meet and work with the community to resolve concerns or problems that arise during the construction process. New York City maintains a 24-hour-a-day telephone hotline (311) so that concerns can be registered with the City.

GOVERNMENTAL COORDINATION AND OVERSIGHT

The following describes construction oversight by government agencies, which in New York City involves a number of City, State, and Federal agencies. **Table 19-2** shows the main agencies involved in construction oversight and the agencies' areas of responsibilities. Primary responsibilities lie with the DOB, which ensures that the construction meets the requirements of the Building Code and that the buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both the workers and the public. The areas of oversight include installation and operation of the equipment, such as cranes and lifts, sidewalk sheds, and safety netting and scaffolding. In addition, the DOB, with LPC and New York State Office of Parks, Recreation and Historic Preservation (OPRHP) concurrence, approves the CPP used when the construction is in proximity to historic structures. NYCDEP enforces the Noise Code, regulates water disposal into the sewer system, and reviews and approves the Remedial Action Plans (RAPs)/Construction Health and Safety Plans (CHASPs). The Fire Department of New York City (FDNY) has primary oversight for compliance with the Fire Code. LPC, along with OPRHP, approves studies, the CPP, and monitoring to prevent damage to historic structures.

[1] If the marina construction is delayed, pile driving activities would likely occur in two separate pile driving seasons, with the installation of fender piles in the first season followed by the installation of marina and wave fence piles in a later season. Under the construction schedule presented above, these activities would occur concurrently in one season.

Table 19-2
Construction Oversight in New York City

Agency	Areas of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering RAPs/CHASPs
Fire Department	Compliance with Fire Code
Landmarks Preservation Commission	Archaeological and architectural protection
New York State	
Department of Transportation	Route 9A lane closures
Department of Labor	Workers/Asbestos workers
Department of Environmental Conservation	Hazardous materials and tanks
Office of Parks, Recreation and Historic Preservation	Archaeological and architectural protection
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials
Occupational Safety and Health Administration	Worker safety

NYSDOT reviews and approves any Route 9A traffic lane closures. The New York City Department of Labor (NYCDOL) licenses asbestos workers. NYSDEC regulates disposal of hazardous materials, and construction and operation of bulk petroleum and chemical storage tanks. On the federal level, the United States Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, and hazardous materials. Much of the responsibility is delegated to the state level. The U. S. Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

In addition to the above oversight, the Hudson River Park Trust, consistent with the conditions of the NYSDEC and United States Army Corps of Engineers (USACE) permits issued for the development of Hudson River Park, prohibits in-water pile-driving in the park between November 1 and April 30. Consistent with established practice with respect to other construction activity in Hudson River Park, the Trust will work closely with the applicant to designate appropriate staging areas and to install public safety measures such as fencing around the construction site.

DELIVERIES AND ACCESS

Access to the construction site would be controlled. The work areas would be fenced off, and limited access points for workers and trucks would be provided. Private worker vehicles would not be allowed into the construction area. Security guards and flaggers would be posted, and all persons and trucks would have to pass through security points. Workers or trucks without a need to be on the site would not be allowed entry. After work hours, the gates would be closed and locked. Security guards would patrol the construction site after work hours and over the weekends to prevent unauthorized access.

Materials would be delivered to the project site either through trucks or barges. Specifically, prefabricated containers would be delivered to the project site via barges while all other materials would be delivered via trucks. All deliveries to the site would be controlled and scheduled. Unscheduled or haphazard deliveries would be minimized. To aid in adhering to the truck delivery schedules, as is normal for construction in New York City and Hudson River Park, flaggers would be employed where needed, including at the Route 9A bikeway. The

flaggers could be supplied by the subcontractor on-site at that time or by the construction manager. The flaggers would control trucks entering and exiting the site under standards established by the Trust and NYSDOT, so that they would not interfere with one another. In addition, they would provide an additional traffic aid as the trucks enter and exit the on-street traffic streams.

Hours of Work

Construction activities would take place in accordance with New York City laws and regulations, which allow construction activities to take place between 7:00 AM and 6:00 PM. Construction work would begin at 7:00 AM on weekdays, with most workers arriving between 6:00 AM and 7:00 AM. Typically, work would end at 3:30 PM, but could be extended until 5:00 PM to 6:00 PM for some time-sensitive tasks such as concrete pouring. Extended workday activities would not include all construction workers on site, but only those involved in the specific task. Limited extended workdays could occur on weekdays over the course of construction.

At limited times over the course of construction, weekend work would be required. In such cases, appropriate work permits from DOB would be obtained. The weekend construction work would involve entrance reconfiguration, and the hoisting of materials to the roof via a large crane barge. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would begin at 9:00 AM and end at 5:00 PM.

Traffic Lane, Bikeway, and Esplanade Closures

During the course of construction, the Hudson River Park waterfront esplanade immediately to the north and south of the project site (between West 14th Street and West 17th Street) and traffic lanes on Route 9A may be closed or protected for varying periods of time. Traffic lane closures on southbound Route 9A would be required on limited weekends or nighttime periods during entrance reconfiguration work. Construction of the proposed project may also require temporarily either narrowing or diverting portions of the Route 9A bikeway onto the construction site. For example, during the construction of the access road, which would take approximately three to four months, the Route 9A bikeway may either be narrowed or shifted. However, the Route 9A bikeway would remain open at all times during the entire construction period. In addition, as in other periods of construction in Hudson River Park, pedestrians may at times be diverted to a shared bikeway and pedestrian path to maintain safe pedestrian movement through the area at all times. Any esplanade, bikeway, and traffic lane closures would be coordinated with and approved by HRPT and NYSDOT.

GENERAL CONSTRUCTION TASKS

Aside from standard site preparation work, construction of the proposed project would generally involve five main stages, which would overlap at certain times: selective interior demolition, structure rehabilitation and redevelopment, interior fit-outs, in-water activities, and marina construction. Each of the construction stages is described below.

SITE PREPARATION

The staging and laydown of materials would be done from mostly the associated eastern frontage area of Pier 57, portions of the Hudson River Park waterfront esplanade immediately to the north and south, and/or from barges. Typical construction startup work prepares a site for construction and involves the installation of public safety measures, such as fencing, sidewalk sheds, and Jersey barriers. The site is fenced off, typically with solid fencing, to minimize interference with the persons passing by the site. In this case, the fencing is expected to extend as far south as West 14th Street and as far north as West 17th Street. Separate gates for workers and for trucks are installed, and sidewalk/bikeway sheds and Jersey barriers are erected, if required. Trailers for the construction engineers and managers are hauled to the site and installed. For the proposed project, these trailers could be placed within the fence line or the interior of the pier. Also, portable toilets, dumpsters for trash, and water and fuel tankers are brought to the site and installed. Construction startup tasks are normally completed within weeks.

SELECTIVE INTERIOR DEMOLITION

As described in Chapter 10, "Hazardous Materials," the Phase I ESA and Phase II Subsurface Investigation for the site revealed that the pier contains asbestos-containing materials (ACM), lead-based paint (LBP), and possible polychlorinated biphenyls (PCB)-containing items. Renovation and rehabilitation of the project site would be conducted in accordance with applicable Federal, State, and local regulatory requirements. Stained areas would be cleaned and sealed as necessary. During this stage of construction, non-structural elements and interior partitions are disassembled and any economically salvageable materials are removed. The equipment used would include forklifts, loaders, bobcats, and various hand tools. Approximately 75–85 workers would be employed for this task, and about 10 to 15 truckloads of materials would be removed per day.

STRUCTURE REHABILITATION AND REDEVELOPMENT

This stage of construction would include the restoration of the pier structure, including the headhouse, pier shed, foothouse, and building façades. The rooftop of the pier shed would be redeveloped as approximately 1.8 acres of open space with an observation pavilion, shade structures, and seating. On the north side of the lower headhouse rooftop, a new enclosure would be built to provide retail space. In the center of the upper headhouse rooftop, another enclosure would be built to provide additional space for retail. At the center of the pier shed roof, a new pavilion would be developed to provide a public observation area as well as space for retail, circulation, and mechanical space. This pavilion would incorporate repurposed shipping containers in its construction.

The structure rehabilitation and redevelopment task would involve the use of cranes, compressors, loaders, container handlers, welding machines, and hand tools. A barge crane would also be used to hoist materials to the rooftop. Trucks would be used to deliver materials and remove construction debris. During the end of this stage, prefabricated containers would be delivered to the project site. This analysis conservatively assumes that the containers would be delivered by truck, although barges may be used instead. About 100 to 150 workers would be on site at any given time and about 10 to 15 trucks would be required each day.

INTERIOR FIT-OUTS

This stage would include the construction of interior partitions, installation of lighting fixtures, interior finishes (flooring, painting, etc.), and mechanical and electrical work. Shipping containers would be repurposed and stacked inside the structure to create new retail spaces in the first- and second-floor mezzanine levels. These containers would be prefabricated off site and transported to the project site. As noted above, this analysis conservatively assumes that the containers would be delivered by truck, although barges may be used instead. The delivery of the containers would begin during the end of the structure rehabilitation and redevelopment stage and would be completed during the beginning of the interior fit-outs stage.

Interior fit-outs would employ the greatest number of construction workers, with about 150 to 200 per day. In addition, 10 to 15 truck deliveries would also be expected for this task per day. Equipment used during interior construction would include container handlers, pneumatic equipment, delivery trucks, and a variety of small, hand-held tools.

IN-WATER ACTIVITIES

The proposed project would require a number of in-water construction activities related to the marina and wave screens, pier repairs, perimeter walkways and walkway extensions, and construction of new stairways, elevator shafts and utility shafts between the ground floor of the pier building and caisson level. These activities are discussed in more detail below.

As discussed in Chapter 1, "Project Description," some aspects of the work to be conducted at Pier 57 were previously assessed in the Final Environmental Impact Statement (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to the Hudson River Park Trust (HRPT). U.S. Army Corps of Engineers (USACE Permit 1998-00290) and New York State Department of Environmental Conservation (NYSDEC Permit 2-6299-00004/00001) permits issued to HRPT authorize the repair of the existing perimeter walkway and its extension to connect with the public esplanade to the east of the pier; the development of new public walkways parallel to the existing bulkhead; and pile jacketing and repair work. While this work was evaluated in the FEIS for Hudson River Park and has been permitted, the cumulative effects of these activities with the proposed project were not addressed and have been included for this analysis.

In terms of worker and truck trips associated with the in-water activities, about 20 workers and about two to three truck deliveries would be required per day for the pier repair and perimeter walkway construction activities and the new stairways, elevator shafts, and utility shafts to the caisson level. In addition, approximately 20 workers and about two to three truck deliveries would be required per day for the marina construction activities.

Pier Repairs

The project would require a number of in-water construction activities related to the pier. These would include repairs to the caissons; repairs to girders supporting the apron walkway; pile jacketing and repair work; and repairs to the timber fender system attached to the pier apron, including pile driving for fender piles along the periphery of the pier. As described in Chapter 1, "Project Description," Pier 57 has three underwater caissons that support the pier structure. These caissons are concrete boxes that form most of the pier's substructure. Caisson repairs would include the placement of riprap for scour protection at the base of the westernmost caisson and repairs to cracks in the caissons.

Perimeter Walkway and Walkway Extensions

The proposed project would repair the existing perimeter walkway, extend it to connect with the Hudson River Park waterfront esplanade to the east of the pier, and create new public walkways parallel to the existing bulkhead, extending the currently limited public circulation space along the bulkhead. As noted above, these activities were previously approved and permitted. This construction activity would include pile driving for the perimeter walkway extensions and the new public walkways parallel to the existing bulkhead.

Marina Construction

The project design is expected to include a marina of up to 141 slips located on the north and south sides of Pier 57. As currently envisioned, the marina would include four wave screens (located north and south of the western end of the pier and along the edge of the existing pile fields adjacent to the north and south sides of the pier) and may include a vessel pumpout station within the portion of the marina south of Pier 57. Provision would be made in the design of the marina to accommodate mooring of up to two transient or long-term historic vessels and a non-motorized boat launch. A 30-by-60-foot water taxi landing may be located on the northwest corner of the pier. The proposed development of a marina would not include dredging of the Hudson River or refueling facilities. Construction of the marina would involve installation of guide piles, walkways, and fingerfloats, and the piles and panels associated with the wave screen structures and potential water taxi landing. Non-water marina installation activities would include utility connections and gangway installation, which would occur following the driving of the marina piles.

Other In-Water Construction

The proposed project would include the construction of new stairways, elevator shafts, and utility shafts between the ground floor and caisson level. As described in Chapter 1, "Project Description," these structures would involve construction activities in the open water areas below the ground floor of the pier shed.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

Absent the proposed project, the existing Pier 57 structure will remain vacant. The existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Construction of the proposed project, as is the case with any construction activities, may be disruptive to the surrounding area, in particular, to nearby residential, commercial, and open space uses. However, with the exception of the Hudson River Park, which consists primarily of an esplanade with limited seating near the project site, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. In addition, unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of noise and air emissions. During interior work, the walls of the building would act as barriers to the transport of air pollutants and would provide acoustical shielding for noise sources, thus limiting disruptions in the vicinity of the construction activity.

The following analysis describes the overall temporary effects on transportation, air quality, noise, historic and cultural resources, hazardous materials, natural resources, open space, socioeconomic conditions, community facilities, land use and public policy, and rodent control.

TRANSPORTATION

Construction of the proposed project would generate trips from workers traveling to and from the site, as well as from the movement of materials and equipment, and removal of construction waste. With the proposed project, the estimated number of daily construction workers on site would vary between 75 and 250, depending on the stage of construction, as follows:

- The selective interior demolition stage would require about 75 to 85 workers on site.
- The structure rehabilitation and redevelopment work would require approximately 100 to 150 workers, depending on the task.
- Workers required for the interior fit-out stage would range from 150 to 200 workers.
- In-water activities would require about 20 workers on site.
- Marina construction would also require about 20 workers on site.

Truck movements would generally be distributed throughout the day with peak activities occurring in the early morning. The estimated trucks per day for the construction of the proposed project are as follows:

- The selective interior demolition stage would require about 10 to 15 trucks.
- The structure rehabilitation and redevelopment work would require approximately 10 to 15 trucks, depending on the task.
- The interior fit-outs stage would require 10 to 15 trucks.
- In-water activities would require about two to three trucks.
- Marina construction would require about two to three trucks.

CONSTRUCTION WORKER VEHICLE AND TRUCK TRIPS

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, the majority (80 percent) of the arrival and departure trips would take place during the hour before and after each shift (6–7 AM for arrival and 4-5 PM for departure on a regular day shift). Based on U.S. Census Reverse-Journey-to-Work data, it is expected that approximately 49 percent of construction workers would commute to the project site via auto. For construction trucks, deliveries would occur throughout the day when the construction site is active. Truck movements would be spread throughout the day and would generally occur between the hours of 6 AM and 3 PM, depending on the stage of construction. Construction truck deliveries typically peak during the hour before the normal work day (25 percent of daily total), overlapping with construction worker arrival traffic. Therefore, the early morning 6–7 AM construction peak hour is generally considered the most critical hour for a construction traffic analysis. Since construction activities vary among different construction stages and tasks, representative daily construction traffic is typically summarized using quarterly averages. **Table 19-3** presents the monthly breakdown of the average construction vehicle trips (including the worker and truck trips in PCEs) for the 6–7 AM construction peak hour. The construction of the proposed project would result in peak construction trips during month 11 to month 14 of

construction, with a maximum of 73 PCEs during the construction AM peak hour during those months. On average, construction of the proposed project would result in 54 PCEs during the AM peak hour.

Table 19-3
Average Peak Hour Construction Vehicle Trips in PCEs (Monthly)

Month	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
	31	31	56	44	48	48	48	48	55	55	73	73
Month	**M13**	**M14**	**M15**	**M16**	**M17**	**M18**	**Average**					
	73	73	53	53	53	53	54					

Notes: Numbers of construction worker vehicles were calculated using a 49-percent auto split based on the U.S. Census Reverse-Journey-to-Work data; an auto-occupancy of 2.04 was used based on a survey conducted by AKRF, Inc. at the construction site of the New York Times Building in 2006.

It is not expected that there will not be any worker parking available on-site and therefore workers would park at various facilities in the surrounding area. Distributed to various roadways near the project site, these incremental construction vehicle trips would not result in more than 50 vehicle-trips (the *CEQR Technical Manual's* threshold for a detailed analysis) at any intersection. In addition, the proposed project's construction activities would be short-term, as discussed above. Therefore, the traffic increase due to construction activities for the proposed project is not expected to result in significant adverse impacts.

Traffic Lane, Bikeway, and Esplanade Closures

There could be traffic lane and/or esplanade closures associated with the project's construction activities. During the course of construction, approximately 10 weekends or nighttime periods would require a traffic lane closure on Route 9A to accommodate the entrance reconfiguration construction work. No rerouting of traffic is anticipated and, as mentioned above, moving lanes of traffic are expected to be available at all times. It is anticipated that the Hudson River Park waterfront esplanade immediately adjacent to the project site would also be closed to accommodate heavy loading areas for at least several months of the construction period. NYSDOT would be consulted to determine the appropriate protective measures for ensuring pedestrian safety around the project site.

As noted above, construction of the proposed project may require temporarily either narrowing or diverting portions of the Route 9A bikeway onto the construction site, but the bikeway would remain open at all times during the entire construction period. As in other periods of construction in Hudson River Park, pedestrians may at times be diverted to a shared bikeway and pedestrian path to maintain safe pedestrian movement through the area at all times.

PARKING

The construction activities would generate an estimated daily parking demand of up to 60 parking spaces during peak construction. This parking demand could be fully accommodated by the parking facilities available within a ¼-mile radius, where an estimated 390 public parking spaces are currently available during the peak midday parking utilization period, as shown in Chapter 14, "Transportation."

TRANSIT AND PEDESTRIAN

With approximately 49 percent of the construction workers predicted to commute via auto, the remaining 51 percent are expected to travel to and from the project site via transit and walking.

During the peak month of construction, up to approximately 250 workers could be at the project site on a given day. This would result in approximately 102 construction-related transit trips. Since the project location is well served by mass transit including the A, C, E, and L subway lines and various bus routes near the project site (M11, M14A, and M14D), only nominal increases in incremental transit demand would be experienced along each of those routes and at each of the transit access locations (fewer than the *CEQR Technical Manual* analysis threshold of 200 trips). Therefore, there would not be a potential for any significant adverse transit impacts during construction. In addition, 200 pedestrian trips would be expected during the peak hour. Because these pedestrian trips would primarily occur outside of the typical commuter peak hours (8–9 AM and 5–6 PM) and would originate from several nearby transit services and a number of area parking facilities, they would be distributed among numerous sidewalks and crosswalks in the area; therefore, there would not be a potential for significant adverse pedestrian impacts attributable to the projected construction worker pedestrian trips.

AIR QUALITY

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust generating activities, have the potential to affect air quality. In general, much of the heavy equipment used in construction has diesel-powered engines and produces relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM). Gasoline engines produce relatively high levels of carbon monoxide (CO). Fugitive dust generated by construction activities is composed of particulate matter. As a result, the primary air pollutants of concern for construction activities include nitrogen dioxide (NO_2), particulate matter with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}), particulate matter with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and CO.

The main component of diesel exhaust that has been identified as having an adverse effect on human health is $PM_{2.5}$. As described above, the duration of the proposed project's construction is expected to be short-term (less than two years); would not involve extensive demolition, foundation, or superstructure construction activities; and would occur largely within the existing Pier 57 structure. Nevertheless, in order to minimize the project's potential to have construction-period impacts on air quality, the following measures would be implemented, to the extent commercially feasible:

- *Diesel Equipment Reduction.* Construction of the proposed project would minimize the use of diesel engines and use electric engines, to the extent practicable. This would reduce the need for on-site generators, and require the use of electric engines in lieu of diesel where practicable.
- *Clean Fuel.* Ultra-low sulfur diesel (ULSD) would be used exclusively for all diesel engines throughout the construction site.
- *Best Available Tailpipe Reduction Technologies.* Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract, such as concrete mixing and pumping trucks) would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed on the engine by the original equipment manufacturer (OEM) or a retrofit DPF verified by the United States Environmental Protection Agency (USEPA) or the California Air Resources Board, and may

include active DPFs,[1] if necessary; or other technology proven to reduce DPM by at least 90 percent. This measure is expected to reduce site-wide tailpipe PM emissions by at least 90 percent.

- *Utilization of New Equipment.* In addition to the tailpipe control commitments, the project's construction program would mandate the use of construction equipment rated Tier 2[2] or higher for all nonroad diesel engines with a power output of 50 hp or higher. The use of newer engine models with lower PM emissions is expected to reduce the likelihood of DPF plugging due to soot loading (i.e., clogging of DPF filters by accumulating particulate matter). Additionally, while all engines undergo some deterioration over time, newer and better maintained engines will emit less PM than their older Tier or unregulated counterparts. Therefore, restricting site access to equipment with lower tailpipe emission values would enhance this emissions reduction program and implementation of DPF systems as well as reduce maintenance frequency due to soot loading (i.e., less downtime for construction equipment to replace clogged DPF filters).
- *Dust Control.* Fugitive dust control plans will be required as part of contract specifications. For example, stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction site. Truck routes within the site would be watered as needed to avoid the re-suspension of dust. All trucks hauling loose material will be equipped with tight fitting tailgates and their loads securely covered prior to leaving the site. In addition to regular cleaning by the City, streets adjacent to the site would be cleaned as frequently as needed by the construction contractor. Chutes would be used for material drops during structure rehabilitation. Water sprays will be used for all transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air.
- *Restrictions on Vehicle Idling.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

As described above, the duration of the proposed project's construction is expected to be short-term (less than two years) and, as detailed above, an emissions control program would be implemented to minimize potential construction-period effects on air quality. Overall, this emissions control program is expected to significantly reduce DPM emissions by a similar

[1] There are two types of DPFs currently in use: passive and active. Most DPFs currently in use are the "passive" type, which means that the heat from the exhaust is used to regenerate (burn off) the PM to eliminate the buildup of PM in the filter. Some engines do not maintain temperatures high enough for passive regeneration. In such cases, "active" DPFs can be used (i.e., DPFs that are heated either by an electrical connection from the engine, by plugging in during periods of inactivity, or by removal of the filter for external regeneration).

[2] The first federal regulations for new nonroad diesel engines were adopted in 1994, and signed by USEPA into regulation in a 1998 Final Rulemaking. The 1998 regulation introduces Tier 1 emissions standards for all equipment 50 hp and greater and phases in the increasingly stringent Tier 2 and Tier 3 standards for equipment manufactured in 2000 through 2008. In 2004, USEPA introduced Tier 4 emissions standards with a phased-in period of 2008 to 2015. The Tier 1 through 4 standards regulate the USEPA criteria pollutants, including particulate matter (PM), hydrocarbons (HC), oxides of nitrogen (NO_x) and carbon monoxide (CO). Prior to 1998, emissions from nonroad diesel engines were unregulated. These engines are typically referred to as Tier 0.

reduction level that would be achieved by applying the currently defined best available control technologies under New York City Local Law 77, which are required only for publically funded City projects.

In addition, the nature of the proposed project would serve to minimize the potential for significant adverse air quality impacts during construction activities. Unlike typical ground-up construction, the proposed project would not involve extensive demolition, foundation, or superstructure construction activities, which often generate the highest levels of air emissions. Instead, the majority of the construction activities would occur within the Pier 57 structure, and the walls of the building would act as barriers to the transport of air pollutants to nearby areas. Indoor work would also curtail emissions of fugitive (wind-blown) dust, and heavy diesel equipment such as excavators and pile drivers would not be needed during interior work. Without typical demolition or foundation activities for the proposed project, one of the most intense exterior activities in terms of air emissions would be pile driving, but this task would be limited in duration (only 12 weeks). Moreover, there are very few sensitive receptors near the project site, and the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. Therefore, the construction of the proposed project would not result in any significant adverse impact on air quality.

NOISE

Impacts on community noise levels during construction would include noise from the operation of construction equipment and noise from construction and delivery vehicles traveling to and from the site. Noise and vibration levels at a given location are dependent on the type and quantity of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels of typical construction equipment are shown in **Table 19-4**. Noise levels caused by construction activities would vary widely, depending on the phase of construction (i.e., structure rehabilitation, interior fit-outs, etc.) and the location of the construction activities relative to noise-sensitive receptor locations. As noted above, there are very few noise sensitive receptors near the project site. With the exception of adjacent portions of Hudson River Park (which consists primarily of an esplanade with limited seating and portions of the publicly accessible Pier 54) and the walkway and seating area around the perimeter of Chelsea Piers, all of the sensitive receptor locations including the nearest residences are located more than 100 feet away from the project site and are separated from the site by Route 9A. In fact, the nearest residences are located approximately 550 feet from the project site, at 450 West 17th Street.

Typically, increased noise levels caused by construction activities can be expected to be greatest during the stages of construction where impact equipment (i.e., pile drivers) would be employed. However, the duration of pile driving activities for the proposed project would be very limited in duration—approximately 12 weeks—and in many cases the piles would be left to sink into the sediment under their own weight, followed by a brief driving period to the final elevation. For each pile, the actual driving time would be short, on the order of 45 minutes. Within this driving period, driving may be intermittent, with 20 minutes of driving followed by an interval of an hour when no driving occurs, followed by tapping down to the final elevation. Moreover, pile driving activities would involve small diameter piles (predominantly 18-inch diameter steel pipe piles) and are expected to utilize vibratory hammers rather than impact hammers to the greatest extent possible. In general, vibratory hammers produce less intrusive noise levels than impact hammers (vibratory hammers produce continuous noise versus impulsive noise from an impact

hammer). Aside from pile driving, a majority of the construction activities for the proposed project would occur within the Pier 57 structure, where impact equipment would not be needed and the walls of the building would provide acoustical shielding for noise sources, thus limiting noise disruptions to nearby sensitive locations.

Construction noise is regulated by the requirements of the New York City Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113), the NYCDEP Notice of Adoption of Rules for Citywide Construction Noise Mitigation (also known as Chapter 28), and the EPA's noise emission standards. These local and federal requirements mandate that specific construction equipment and motor vehicles meet specified noise emission standards; that construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction materials be handled and transported in such a manner as not to create unnecessary noise. As described above, if weekend or after hour work is necessary, permits would be required to be obtained, as specified in the New York City Noise Control Code. As part of the New York City Noise Control Code, a site-specific noise mitigation plan would be developed and implemented that may include source controls, path controls, and receiver controls.

In terms of source controls (i.e., reducing noise levels at the source or during most sensitive time periods), the following measures for construction would be implemented as required by the New York City Noise Control Code:

- The contractors would use equipment that meets the sound level standards for equipment (specified in Subchapter 5 of the New York City Noise Control Code) from the start of construction activities and use a wide range of equipment, including construction trucks, which produce lower noise levels than typical construction equipment.
- As early in the construction period as practicable, electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification), would be used.
- All contractors and subcontractors would be required to properly maintain their equipment and have quality mufflers installed.

In terms of path controls (e.g., placement of equipment and implementation of barriers between equipment and sensitive receptors), the following measures for construction would be implemented as required by the New York City Noise Control Code:

- Perimeter noise barriers would be constructed that satisfy New York City Noise Control Code requirements.
- To the extent feasible, noisy equipment, such as generators, cranes, trailers, concrete pumps, concrete trucks, and dump trucks, would be located away from and shielded from sensitive receptor locations.

For impact determination purposes, significant adverse noise impacts are based on whether maximum predicted incremental noise levels at sensitive receptor locations off-site would be greater than the impact criteria suggested in the *CEQR Technical Manual* for more than two years. The duration of the proposed project's construction is expected to be short-term (less than two years), and while noise associated with the proposed construction activities may be considered noisy and intrusive, potential increases in noise levels as a result of construction-related activities would therefore be of limited duration. In addition, there are very few noise sensitive receptors near the project site and, as explained above, most of the construction activities would be interior work, which would provide acoustical shielding for noise sources.

Although the nosiest construction activity—pile driving—would not be shielded by the existing structure, it would be of very limited duration (only approximately 12 weeks), would involve small diameter piles, and is expected to utilize vibratory hammers rather than impact hammers to the greatest extent possible. Due to distance and existing noise levels generated by traffic on Route 9A and the other factors described above, no significant adverse noise impacts would be expected at sensitive receptor locations due to the construction of the proposed project.

Table 19-4
Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 ft. (dBA)
Backhoe	80
Bar Bender	80
Chain Saw	85
Compactor (ground)	80
Compressor (air, less than or equal to 350 cfm)	53
Compressor (air, greater than 350 cfm)	58
Concrete Mixer Truck	85
Concrete Pump Truck	82
Concrete Saw	90
Crane	85
Drill Rig	84
Drum Mixer	80
Dump Truck	84
Dumpster/Rubbish Removal	78
Excavator	85
Flat Bed Truck	84
Front End Loader	80
Generator	82
Impact Pile Driver	95
Jackhammer	73
Man Lift	85
Mounted Impact Hammer (Hoe Ram)	90
Pavement Scarafier	85
Paver	85
Pickup Truck	55
Pneumatic Tools	85
Pumps	77
Refrigeration Unit	82
Rivet Buster / Chipping Gun	85
Rock Drill	85
Roller	85
Sand Blasting	85
Soil Mix Drill Rig	80
Tractor	84
Vacuum Excavator (Vac-truck)	85
Vacuum Street Sweeper	80
Vibrating Hopper	85
Vibratory Pile Driver	95
Warning Horn	85
Welder / Torch	73

Source: *CEQR Technical Manual*, Chapter 22, section 330, Table 22-1, January 2012.

OTHER TECHNICAL AREAS

HISTORIC AND CULTURAL RESOURCES

The proposed project would result in the rehabilitation and redevelopment of the historic Pier 57 structure, which is S/NR-listed. As described in Chapter 7, "Historic Resources," the proposed project would comply with LPC's *Guidelines for Construction Adjacent to a Historic Landmark*

as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in DOB's TPPN #10/88. This includes preparation of a CPP, to be prepared prior to construction activities and submitted to LPC and OPRHP for review and approval.

The proposed project would result in construction activities within 90 feet of the Hudson River bulkhead. The Hudson River bulkhead between Battery Place and West 59th Street has been determined eligible for listing on the S/NR. Therefore, the CPP to be prepared for the proposed project would include measures to ensure that the bulkhead is not affected by potential construction-related issues. Furthermore, any bulkhead work required for the proposed project would be relatively minor—such as assuring that coping stones are capable to support railing attachments—and would be undertaken in a manner consistent with bulkhead activities in the rest of Hudson River Park and in conformance with relevant stipulations in the Hudson River Park Programmatic Agreement. As noted above, the repair and extension of the existing perimeter walkways and development of the new public walkways would be conducted pursuant to the existing USACE and NYSDEC permits. None of the other architectural resources in the study area are close enough to experience direct, physical impacts from construction of the proposed project.

Therefore, the proposed project would not result in any significant adverse construction-related impacts to historic and cultural resources.

HAZARDOUS MATERIALS

Construction of the proposed project would entail renovation and rehabilitation of the existing structure along with the addition of several new rooftop structures. Based on the findings of the *Phase I Environmental Site Assessment* (ESA) and Phase II Subsurface Investigation, the pier contains ACM, LBP and possible PCB-containing items. Some concrete staining in the vicinity of petroleum tanks was also observed. Renovation and rehabilitation of Pier 57 would be conducted in accordance with applicable Federal, State, and local regulatory requirements including those relating to ACM, LBP, and PCB-containing items. Any remaining stored chemicals would be properly removed and disposed of off-site. Stained areas would be cleaned and sealed as necessary.

Limited shallow subsurface disturbance upland of the pier, within Hudson River Park, would be required for construction of the proposed project. This work would consist primarily of construction of driveways to the pier structure and the realignment of the Route 9A bikeway, and no buildings, piles, or deep disturbance are anticipated in this area. Based on the findings of the Phase I ESA and Phase II Subsurface Investigation, petroleum-contaminated soil could be encountered, especially in the vicinity of the known historical spill near the northeast corner of the pier. In 2002, NYCT addressed the residual contamination using bioremediation but further monitoring and sampling indicated that residual contamination still remained. Since 2007, quarterly groundwater and soil samples have been collected on behalf of New York City Transit (NYCT) as part of a NYSDEC-approved Monitored Natural Attenuation (MNA) Work Plan. If remediation of this spill has not been completed to the satisfaction of NYSDEC (i.e., the spill still has an "open" status) when the subsurface disturbance occurs, coordination with NYCT and NYSDEC would be performed to ensure that construction for the proposed project would not exacerbate the spill or prevent it from being properly addressed during or following construction. Petroleum-contaminated groundwater is not expected to be encountered, as construction is not expected to extend to the water table. In this and other areas, historical urban fill materials are known to be present and the presence of unexpected tanks or other unexpected

sources of contamination cannot be ruled out. Since excavation would disturb any such materials and potentially increase pathways for human exposure, impacts would be avoided by performing the work in accordance with a NYCDEP-approved RAP and CHASP. The RAP would specify requirements for items such as: installation of two feet of clean fill as a "site cap" in unpaved areas; handling of contaminated or potentially contaminated soil, groundwater or treated wood (e.g., pilings); soil stockpiling, soil disposal and transportation; dust control; air monitoring in the work zone and the community; dewatering procedures; quality assurance; and contingency measures (including reporting and registration requirements) should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment. The measures included in the CHASP would include oversight by a trained Health and Safety Officer (HSO), training for workers, personal protective equipment, air monitoring requirements including community air monitoring, and emergency response procedures. Following any excavation, the area would be backfilled with clean soil. Most of the area east of the pier structure would also be paved.

Additionally, all excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements, and, as necessary, tested in accordance with the requirements of the intended receiving facility. Transportation of all material leaving the site would be in accordance with applicable requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. Should dewatering be required for construction of the proposed project, testing would be performed to ensure that the discharged water would meet applicable NYCDEP sewer discharge and/or NYSDEC SPDES requirements. If necessary, the water would be pretreated prior to discharge, as required by NYCDEP or NYSDEC permit/approval requirements.

With the implementation of the above procedures, no significant adverse impacts due to the potential presence of any hazardous materials would be expected to occur either during or following construction at the project site.

NATURAL RESOURCES

The construction activities associated with the proposed project would not cause any significant adverse environmental impacts on terrestrial or aquatic resources, as discussed in greater detail in Chapter 9, "Natural Resources." Pile-driving and other in-water construction activities associated with the redevelopment of Pier 57 and construction of the marina would not result in significant adverse impacts to floodplains, wetlands, water quality, or aquatic biota. Increases in suspended sediment resulting from construction activities would be temporary and localized and would be expected to dissipate quickly. Furthermore, with the use of the vibratory hammer to the greatest extent possible, the short overall duration of pile driving activity (approximately 12 weeks), and the intermittent nature of pile driving for each pile, the proposed pile driving activities would not result in significant adverse impacts to fish within the lower Hudson River. Aquatic threatened or endangered species or species of concern that are known to occur in the vicinity of Pier 57—shortnose sturgeon and Atlantic sturgeon—would only occur in the area as occasional transient individuals and would prefer the deeper water habitat of the navigation channel, which would not be affected by the proposed project. The prohibition of in-water construction activities from November through April to protect overwintering striped bass would minimize potential impacts to striped bass and other fish overwintering within the vicinity of Pier 57. Turbidity curtains would be used during pile driving activities. Coordination would be

conducted with the New York State Department of Environmental Conservation (NYSDEC) to develop and implement measures to minimize the potential for adverse impacts to the state-listed endangered peregrine falcon pair nesting on the pier. Coordination activities may include attempting to relocate the nest in concert with NYSDEC, staging construction to avoid sensitive periods, or use of monitoring cameras. Seals and the four species of threatened or endangered sea turtles that may be present in the Harbor Estuary would only be expected to be present in the vicinity of Pier 57 as occasional transient individuals and would likewise not be significantly impacted by construction activities.

OPEN SPACE

The project site consists of Pier 57 (Block 662, Lot 3), adjacent lands underwater, and associated frontage area, all located within Hudson River Park at approximately West 15th Street. To the east of the pier is a paved apron area containing a portion of the Hudson River Park waterfront esplanade and the adjacent Route 9A bikeway; south of the project site is the publicly accessible Pier 54 and east of the site across Route 9A is the Hudson River Park area known as 14th Street Park. At limited times, activities such as structure rehabilitation may generate noise that could impair the enjoyment of nearby open space users, but such noise effects would be temporary. Construction fences around the project site and/or the walls of the existing structure would shield the park from noise generated by most construction activities except for those associated with marina construction and other in-water activities. During the course of construction, the Hudson River Park waterfront esplanade immediately to the north and south of the project site (between West 14th Street and West 17th Street) may be closed or protected for varying periods of time, but this closure would be temporary and would not affect the overall use of Hudson River Park. As discussed above, bike and pedestrian movement through the area would be maintained at all times. The proposed project would result in the construction of permanent walkway extensions along the bulkhead and around Pier 57, and the creation of publicly accessible rooftop open space. Construction activities would be conducted with the care mandated by the close proximity of an open space to the project site. Air emissions control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with the New York City Air Pollution Control Code, which regulates construction-related dust emissions. Therefore, construction of the proposed project would not result in significant adverse impacts on open space.

SOCIOECONOMIC CONDITIONS

Construction activities on the site would result in some interruptions to activities in the surrounding area and would include various lane and/or esplanade closures for different stages of construction. However, such closures would be limited to the area immediately adjacent to the project site, and would not be expected to affect socioeconomic conditions within the surrounding area. In addition, because lane and/or esplanade closures would be short-term and limited to the immediately adjacent area, they would not affect the operations of any nearby businesses, including Chelsea Piers Sports and Entertainment Complex—a sports facility and event center—just north of the site. The proposed project would coordinate with the Chelsea Piers Sports and Entertainment Complex to minimize any potential disruptions due to construction of the proposed project, including the driveways that would extend north and south of Pier 57. As discussed above, construction of the proposed project would not result in significant adverse air quality or noise impacts that could be detrimental to nearby business

activities. Overall, construction activities associated with the proposed project would not result in any significant adverse impacts on surrounding businesses.

Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the direct activity. Construction also would contribute to increased tax revenues for the City and State, including those from personal income taxes.

COMMUNITY FACILITIES

No community facilities are located near the construction site. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care facilities. Construction of the proposed project would not block or restrict access to any facilities in the area, and would not materially affect emergency response times. New York Police Department (NYPD) and FDNY emergency services and response times would not be materially affected due to the geographic distribution of the police and fire facilities and their respective coverage areas.

LAND USE AND NEIGHBORHOOD CHARACTER

Construction activities would affect land use on the project site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the site. There would also be noise, sometimes intrusive, from construction work as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature and would have minimal effects on land uses within the study area, particularly as most construction activities would take place within the project site or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to the project site. Overall, while the construction at the site would be evident to the local community, the limited duration of construction would not result in significant or long-term adverse impacts on local land use patterns or neighborhood character in the area.

The project site is located within the Coastal Zone boundary of the City's Waterfront Revitalization Program (WRP), as discussed in Chapter 2, "Land Use, Zoning, and Public Policy." Construction of the proposed project would be consistent with Coastal Zone policies.

RODENT CONTROL

Construction contracts would include provisions for a rodent (mouse and rat) control program. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be utilized, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife. ✷

Chapter 20: Public Health

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* defines as its goal with respect to public health "to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects."

According to the *CEQR Technical Manual*, for most proposed actions, a public health analysis is not necessary. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, no public health analysis is warranted. If an unmitigated significant adverse impact is identified in one of these analysis areas, the lead agency may determine that a public health assessment is warranted for that specific technical area.

As described in the relevant analyses of this environmental impact statement (EIS), the proposed project would not result in significant unmitigated adverse impacts to air quality, water quality, or hazardous materials. The proposed project would result in an unmitigated significant adverse impact with respect to noise. Specifically, noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$ guideline prescribed by CEQR criteria, and would therefore constitute a significant adverse impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the project-created open spaces would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. Due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) the 55 dBA $L_{10(1)}$ guideline noise level is often not achieved. Because park users already experience similar noise levels in Hudson River Park and other urban open space areas, the unmitigated significant adverse noise impact would not constitute a significant adverse public health impact.

Therefore, an assessment of potential impacts on public health is not necessary, and the proposed project would not result in any significant adverse impacts on public health. ✷

Chapter 21: Alternatives

A. INTRODUCTION

In accordance with the City Environmental Quality Review (CEQR), this chapter presents and analyzes alternatives to the proposed project. Alternatives selected for consideration in an environmental impact statement (EIS) are generally those which are feasible and have the potential to reduce, eliminate, or avoid adverse impacts of a proposed action while meeting some or all of the goals and objectives of the action. In addition to a comparative impact analysis, the alternatives in this chapter are assessed to determine to what extent they would meet the goals and objectives of the proposed project, which include: 1) the reuse of this portion of the Hudson River waterfront for the public benefit; 2) increased public access to the waterfront and the creation of additional public open space resources and cultural space within Hudson River Park; 3) the generation of funds to contribute to the operation and maintenance of Hudson River Park; and 4) the restoration and adaptive reuse of the historic Pier 57 structure (see Chapter 1, "Project Description"). This chapter considers:

- A No Action Alternative, which is mandated by the State Environmental Quality Review Act (SEQRA), and is intended to provide the lead and involved agencies with an assessment of the consequences of not selecting the proposed project. This chapter examines a No Action Alternative, which is the same as the No Action condition presented in the technical chapters of this EIS and which forms the basis to assess the potential impacts of the proposed project. Under the No Action Alternative, the proposed project would not be built, and the project site would remain a vacant and underutilized component of Hudson River Park.
- A Pedestrian Bridge Alternative that would be identical to the proposed project, except that it would include a pedestrian bridge to provide access to the project site over Route 9A.
- A No Unmitigated Impact Alternative that would avoid the unmitigated significant adverse impacts associated with the proposed project.

PRINCIPAL CONCLUSIONS

The conclusion of the alternatives analysis is that the No Action Alternative and the No Unmitigated Impact Alternative would not substantively meet the goals and objectives of the proposed project. The remaining alternative, the Pedestrian Bridge Alternative, would include the same development as the proposed project, but would also include a pedestrian bridge over Route 9A south of West 15th Street. This alternative would meet the goals and objectives of the proposed project, if funding can be identified to implement it. Each of the alternatives is summarized briefly below, followed by a more detailed analysis in the following sections.

NO ACTION ALTERNATIVE

The No Action Alternative assumes the proposed discretionary actions would not be adopted, and the proposed project would not be constructed. The project site would remain occupied by the existing Pier 57 structure, which would remain vacant. The existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure, assuming funding is available. This alternative would avoid the proposed project's significant adverse impacts relating to transportation (traffic and pedestrians) and noise. In this alternative, no new public access to the waterfront would be provided on Pier 57, and no new public open space or cultural uses would be created. This alternative would also not generate funds to contribute to the operation and maintenance of Hudson River Park. In summary, this alternative would fail to meet the goals and objectives of the proposed project.

PEDESTRIAN BRIDGE ALTERNATIVE

The Pedestrian Bridge Alternative would be identical to the proposed project, except that it would include a pedestrian bridge to provide access to the project site over Route 9A. Although no specific designs have been developed for the pedestrian bridge, it was assumed that it would be located south of West 15th Street and would extend over Route 9A. On the east side of Route 9A, the pedestrian bridge would touch down within the 14th Street Park section of Hudson River Park. On the west side of Route 9A, the bridge would provide access to the project site, connecting to the second story of the headhouse through the south façade. This design would provide an option for pedestrians to cross Route 9A and enter directly at the second floor of the proposed project. It is also assumed that the bridge would provide a staircase down to the proposed walkway extensions along the bulkhead and the Hudson River Park waterfront esplanade on the west side of Route 9A. The staircases from the pedestrian bridge to the waterfront esplanade and 14th Street Park on the east and west sides of Route 9A would result in a slight narrowing of the public space along the esplanade and a slight reduction in the amount of usable space provided within 14th Street Park. This alternative would otherwise rehabilitate and redevelop the Pier 57 structure with the same development program and mix of uses anticipated with the proposed project. It would result in the same environmental impacts as the proposed project in all technical areas except historic resources and cultural, urban design and visual resources, and transportation. With respect to historic and cultural resources and urban design and visual resources, depending on the size, design, and scale of the pedestrian bridge, this alternative could result in impacts to these technical areas that would not occur under the proposed project. Depending on whether at-grade crosswalks are provided at Route 9A and West 15th Street, this alternative could eliminate the significant adverse traffic and crosswalk impacts at this intersection that would occur with the proposed project. Overall, the Pedestrian Bridge Alternative would satisfy the goals of the proposed project, if funding can be identified to implement it.

NO UNMITIGATED IMPACTS ALTERNATIVE

The No Unmitigated Impact Alternative considers modifications to the proposed project to avoid the unmitigated significant adverse impact related to noise in the proposed public open space. Eliminating this impact would require the development of an alternative with no public open space, which would not meet the goals and objectives of the proposed project.

B. NO ACTION ALTERNATIVE

Throughout the earlier chapters of this EIS, the No Action condition is considered as the baseline for determining the impacts of the proposed project. Under the No Action Alternative, the proposed discretionary actions would not be adopted, and the proposed project would not be constructed. The project site would remain occupied by the existing Pier 57 structure, which would remain vacant. Conditions resulting from the No Action Alternative as compared with the proposed project are summarized below.

LAND USE, ZONING, AND PUBLIC POLICY

In the No Action Alternative, the project site would remain a vacant and underutilized component of Hudson River Park. None of the public open space, retail, restaurant and other commercial uses, or educational and cultural uses associated with the proposed project would be created under the No Action Alternative. Under the No Action Alternative the zoning of the project site would remain M2-3.

Unlike the proposed project, the public policy goals relating to the project site would not be met. The goals of Hudson River Park Plan would not be realized in this section of the park should the site remain vacant, and other waterfront and general development policies of the City including PlaNYC, the *Comprehensive Waterfront Plan*, the waterfront action agenda, etc., would not be supported by the site remaining in an underutilized condition. In addition, unlike the proposed project, this alternative would not be consistent with several applicable Waterfront Revitalization Program policies, including the policies to support and facilitate commercial and residential development in areas well-suited to such development and to provide public access to and along New York's coastal waters.

Neither the proposed project nor the No Action Alternative would result in significant adverse impacts to land use, zoning, or public policy, but only the proposed project would rehabilitate the project site, introduce complementary land uses that would enliven the site, and advance various public policy goals.

SOCIOECONOMIC CONDITIONS

The No Action Alternative, like the proposed project, would not result in any significant adverse impacts to socioeconomic conditions. Neither the proposed project nor the No Action Alternative would result in any direct residential displacement, direct business displacement, indirect residential displacement, or adverse effects on specific industries. Under the No Action Alternative, no new commercial uses would be introduced to the project site and therefore there would be no potential for indirect business displacement due to increased rents or competition. Under the proposed project, the new commercial uses would not result in any significant adverse impacts due to indirect business displacement and would serve to enliven the site and provide new, complementary retail serving the surrounding area, the city as a whole, and the region.

COMMUNITY FACILITIES

Neither the proposed project nor the No Action Alternative would add any residential population that would place additional demands on the service delivery of any community facility or result in direct effects on a community facility. Therefore, neither the No Action Alternative nor the proposed project would result in significant adverse impacts on public schools, child care facilities, police protection, fire protection, health care, or library services.

OPEN SPACE

The No Action Alternative would not introduce new workers and visitors that would create additional demand for passive open space resources within the surrounding area, but it would also not create any new open space on the project site. Therefore, this alternative would not result in the improved open space conditions that would be realized with the proposed project. The proposed project would improve open space conditions in the study area by creating 2.5 acres of new public open space on the project site rooftop and restored perimeter and bulkhead walkways, would enliven an underutilized portion of Hudson River Park, and generate funds to contribute to the operation and maintenance of the park.

SHADOWS

Under the No Action Alternative, the project site would remain unchanged, and therefore there would be no change with respect to shadows. The proposed project would result in modest rooftop additions to the Pier 57 structure and thus would result in new shadows on Hudson River and Hudson River Park, but these shadows would be small in extent and of short duration. Neither the No Action alternative nor the proposed project would result in significant adverse shadow impacts on any sun-sensitive resource.

HISTORIC AND CULTURAL RESOURCES

Unlike the proposed project, under the No Action Alternative the historic Pier 57 structure would remain vacant. The pier's headhouse and foot house would not be restored, and other aspects of the proposed project's renovation of the pier structure—the restoration of closed and obscured windows, the repair and cleaning of the façade cladding materials, the removal of non-original façade elements, and the replacement of missing modular vertical doors—would not occur. The No Action Alternative would also not result in the repair and extension of the existing perimeter walkway as a component of Hudson River Park.

Instead, under the No Action Alternative, the historic Pier 57 structure and overwater platform would continue to experience some level of deterioration over time, and would require repairs to preserve the historic structure, assuming funding is available. Unlike the proposed project, no new elements would be added to the existing structure and no interior or exterior alterations would be made. The pedestrian view of the project site would be of a vacant and underutilized structure, rather than an active use, as it would with the proposed project.

Unlike the proposed project, the No Action Alternative would not result in construction activities within 90 feet of the Hudson River bulkhead (State- and National Register- eligible). However, neither the proposed project nor the No Action Alternative would result in significant adverse impacts to historic and cultural resources.

URBAN DESIGN AND VISUAL RESOURCES

Like the proposed project, the No Action Alternative would not result in significant adverse impacts on the urban design, view corridors, or visual resources in the area. However, unlike the proposed project, the No Action Alternative would not result in improvements to the pedestrian experience or to the visual connection between Hudson River Park and inland communities. The proposed project would reactivate the vacant structure, improving the appearance of the historic pier. In addition, the No Action Alternative would not improve the walkways around the project site or provide new open space on the rooftop of the pier structure. The No Action would

therefore not provide any new views for pedestrians that would be provided by the proposed rooftop and perimeter open space. Overall, compared to the proposed project, the No Action Alternative would not enhance the existing streetscape and pedestrian environment in Hudson River Park and along Route 9A.

NATURAL RESOURCES

Under the No Action Alternative, the existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure. Some of the previously approved in-water work, including the pile jacketing and pile repair work may be undertaken, if funding is available. The wildlife habitat and natural resources currently found within the project area would remain unchanged from the existing condition.

The construction and operational activities associated with the proposed project would not occur under the No Action Alternative. Specifically, the No Action Alternative would not result in pile driving, placement of riprap along the western base of the outermost of the three caissons, or other in-water construction activities associated with the proposed project, nor would it result in the development and operation of a marina and water taxi landing. As such, this Alternative would not have the potential to result in any sediment disturbance or contamination that would be associated with the construction and operation of the proposed project. The No Action Alternative would not result in any of the temporary adverse impacts to aquatic biota that would be associated with the proposed project's in-water construction activities, including temporary and localized increases in suspended sediment, pile driving, and alterations to bottom habitat and benthic macroinvertebrates. However, as discussed in Chapter 9, "Natural Resources," these effects would not result in significant adverse impacts with the proposed project, and therefore neither the proposed project nor the No Action Alternative would result in significant adverse impacts to natural resources.

HAZARDOUS MATERIALS

Like the proposed project, the No Action Alternative would not result in any significant adverse impacts with respect to hazardous materials. Under the No Action Alternative, the pier structure would remain vacant, NYCT would continue to address the petroleum spill immediately upland of the pier with oversight by NYSDEC, and there would be no significant risks to people or the environment.

WATER AND SEWER INFRASTRUCTURE

The No Action Alternative would not result in any increased demand on New York City's water supply, wastewater and sanitary sewage treatment systems compared to the proposed project. Neither the proposed project nor the No Action Alternative would result in any significant adverse impacts on the City's water supply, wastewater or stormwater conveyance and treatment infrastructure.

SOLID WASTE

Unlike the proposed project, the No Action Alternative would not generate additional solid waste. Neither the No Action Alternative nor the proposed project would result in significant adverse impacts on solid waste and sanitation services.

ENERGY

Unlike the proposed project, the No Action Alternative would not increase demand for electricity. However, the increase in electricity demand generated by the proposed project would be insignificant relative to the capacity of the City's power supply and transmission systems and the current levels of service in the Con Edison service area. Therefore, neither the No Action Alternative nor the proposed project would result in significant adverse impacts with respect to the transmission or generation of energy.

TRANSPORTATION

Under the No Action Alternative, the project site would remain vacant. The No Action Alternative would not result in constructing the new road and intersection improvements, new overwater platform walkway, new lay-by lane, pedestrian walkway, or crosswalk widening that would result from the proposed project. However, unlike the proposed project, the No Action Alternative would not result in the significant adverse traffic impacts at five intersections caused by the proposed project. In addition, the significant adverse pedestrian impacts anticipated for the proposed project at three crosswalks would not occur with the No Action Alternative.

AIR QUALITY

The No Action Alternative would not result in emissions from vehicle trips generated by the proposed project or the proposed parking garage. The No Action Alternative would also not result in incremental emissions from new heat and hot water systems associated with the proposed project. However, with the proposed project, any incremental emissions from mobile sources would be below the corresponding guidance thresholds and ambient air quality standards, and there would be no potential for significant adverse air quality impacts from heating and hot water systems for the proposed project. Therefore, neither the No Action Alternative nor the proposed project would result in significant adverse air quality impacts.

GREENHOUSE GAS EMISSIONS

Unlike the proposed project, the No Action Alternative would not result in an increase in energy use, fuel consumption, or vehicle trips, and would therefore not result in the greenhouse gas emissions that would result from the proposed project. The proposed project would be consistent with PlaNYC GHG emissions reduction goals.

NOISE

Like the proposed project, the No Action Alternative would not generate sufficient traffic to have the potential to cause a significant adverse noise impact.

Under the No Action Alternative, no new public open space would be created on the project site. Therefore, the significant adverse impact that would occur under the proposed project due to elevated noise levels in the proposed open spaces would not occur under the No Action Alternative. However, although the noise levels in the proposed project's open spaces would be greater than the 55 dBA $L_{10(1)}$prescribed by CEQR criteria as acceptable, the noise levels would be similar to existing noise levels in Hudson River Park, which are comparable to noise levels in other open space areas located adjacent to heavily trafficked roadways.

NEIGHBORHOOD CHARACTER

Like the proposed project, the No Action Alternative would not result in any significant adverse impacts to neighborhood character. However, the No Action Alternative would not result in the restoration of the historic pier, nor would it add new public open space or complementary commercial, educational, and cultural uses to the study area. Unlike the proposed project, the No Action Alternative would not activate street life along this portion of the waterfront. The benefits to neighborhood character that would result from the proposed uses and design of the proposed project would not be realized under the No Action Alternative.

CONSTRUCTION IMPACTS

Under the No Action Alternative, no construction would occur on the project site. The existing pier structure and overwater platform would remain in their current condition with some level of deterioration over time and would require repairs to preserve the historic structure, assuming funding is available.

The No Action Alternative would not result in the additional vehicle trips, traffic lane and/or esplanade closures, narrowing or diversions of the Route 9A bikeway, or increased parking demand generated by the proposed project's construction activities. The No Action Alternative would also not result in any air pollutant emissions or increased noise levels that would be associated with the construction of the proposed project. Unlike the proposed project, the No Action Alternative would not result in the potential for temporary adverse impacts to terrestrial or aquatic resources that would be associated with the proposed project's in-water construction activities. However, neither the proposed project nor the No Action Alternative would result in any significant adverse construction impacts.

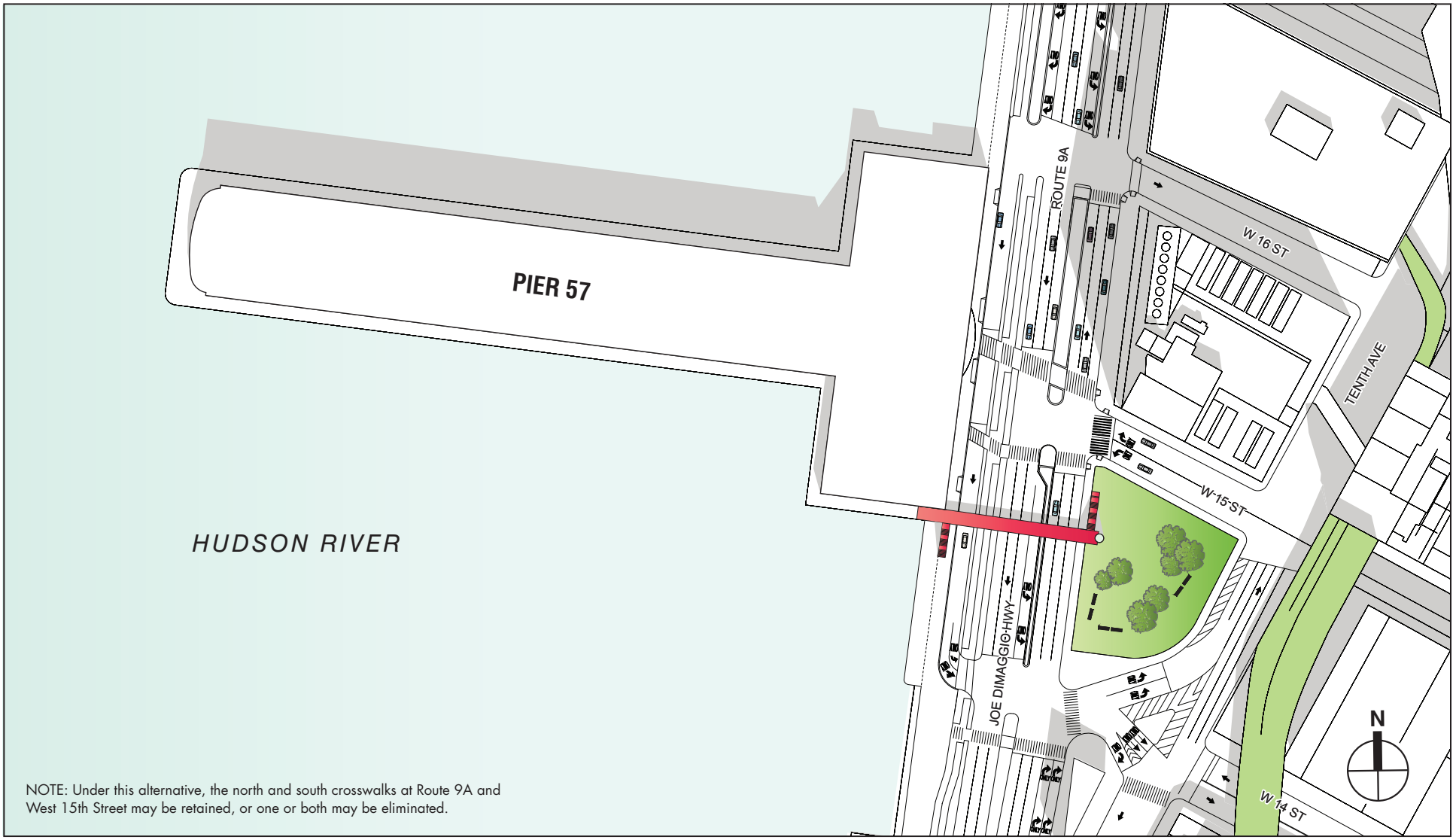
PUBLIC HEALTH

The No Action Alternative, like the proposed project, would not result in any significant adverse public health impacts associated with construction or operation of the project site.

C. PEDESTRIAN BRIDGE ALTERNATIVE

The Pedestrian Bridge Alternative would be identical to the proposed project, except that it would include a pedestrian bridge to provide access to the project site over Route 9A. Although no specific designs have been developed for the pedestrian bridge, it was assumed that it would be located south of West 15th Street and would extend over Route 9A. On the east side of Route 9A, the pedestrian bridge would touch down within the 14th Street Park section of Hudson River Park. On the west side of Route 9A, the bridge would provide access to the project site, connecting to the second story of the headhouse through the south façade (see **Figure 21-1**). This design would provide an option for pedestrians to cross Route 9A and enter directly at the second floor of the proposed project. It is also assumed that the bridge would provide a staircase down to the proposed walkway extensions along the bulkhead and the Hudson River Park waterfront esplanade on the west side of Route 9A. The staircases from the pedestrian bridge to the waterfront esplanade and 14th Street Park on the east and west sides of Route 9A would result in a slight narrowing of a portion of the esplanade and a slight reduction in the amount of usable space provided within 14th Street Park. This alternative would otherwise rehabilitate and redevelop the Pier 57 structure with the same development program and mix of uses anticipated with the proposed project.

8.29.12



Pedestrian Bridge Alternative Concept Plan

Figure 21-1

This section assesses and compares the potential impacts of the Pedestrian Bridge Alternative to the proposed project. This alternative would otherwise rehabilitate and redevelop the Pier 57 structure with the same development program and mix of uses anticipated with the proposed project. As such, this alternative would result in the same environmental impacts as the proposed project in all technical areas except for open space, historic resources, urban design, shadows, transportation (traffic and pedestrians), and construction. Like the proposed project, this alternative would result in an unavoidable significant adverse impact due noises levels in the proposed project's open spaces.

Under this alternative, at-grade pedestrian access across Route 9A at West 15th Street would be modified slightly as compared to the proposed project. The New York State Department of Transportation (NYSDOT) and the New York City Department of Transportation (NYCDOT) would be involved in the review and design of the pedestrian access to the pedestrian bridge. For the purposes of the transportation analysis presented below, three scenarios are analyzed for the Pedestrian Bridge Alternative. The first considers a Pedestrian Bridge Alternative in which the south crosswalk at Route 9A and West 15th Street is eliminated but the north crosswalk is retained. The second considers a Pedestrian Bridge Alternative in which both the south and north crosswalks at Route 9A and West 15th Street are eliminated. The third considers a Pedestrian Bridge Alternative in which both the south and north crosswalks at Route 9A and West 15th Street are retained. These scenarios would not affect the analyses in any other technical area and thus are only assessed in the transportation analysis.

OPEN SPACE

Like the proposed project, the Pedestrian Bridge Alternative would create approximately 2.5 acres of new public open space on the project site rooftop and restored perimeter and bulkhead walkways, would enliven an underutilized portion of Hudson River Park, and would generate funds to contribute to the operation and maintenance of the park. As noted above, it was assumed that the pedestrian bridge would be located south of West 15th Street, connecting the 14th Street Park section of Hudson River Park to Pier 57, and that staircases would be provided down to the proposed walkway extensions along the bulkhead and the Hudson River Park waterfront esplanade on the west side of Route 9A, and into 14th Street Park on the east side of Route 9A. It is assumed that this alternative would require modifications to the design of Hudson River Park's 14th Street Park to address access to the pedestrian bridge, and as a result there would be a slight reduction in the amount of usable space provided within 14th Street Park. In addition, the staircase on the west side of Route 9A would result in a slight narrowing of a portion of the esplanade. These modifications in open space would not materially affect the conclusions of the open space analysis and this alternative, like the proposed project, would not result in any significant adverse impacts to open space.

SHADOWS

Under the Pedestrian Bridge Alternative, the pedestrian bridge over Route 9A would result in a small amount of additional shadow on 14th Street Park, the Hudson River, the Hudson River Park waterfront esplanade, and Route 9A bikeway. However, these new shadows would be limited in extent and duration. The Pedestrian Bridge Alternative would include the same rooftop structures and marina as the proposed project, and therefore would result in the same new shadows from these structures as the proposed project. Like the proposed project, the Pedestrian Bridge Alternative would not result in any significant adverse shadow impacts.

HISTORIC AND CULTURAL RESOURCES

As in the proposed project, the pier's headhouse would be rehabilitated under this alternative. However, under this alternative the pedestrian bridge connection would be inserted at the south façade of the headhouse (see **Figure 21-1**, above). While this façade was historically attached to the headhouses of adjacent piers along the Hudson River, and thus was not originally intended to be seen, the new opening in the façade for the pedestrian bridge connection would require the demolition of original building material, and the bridge itself could significantly alter the pier structure's setting and visual relationship with the streetscape. It is possible that the pedestrian bridge and its connection to the headhouse would be found to be inconsistent with the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Depending on its size and scale, it is also possible that the pedestrian bridge could alter the visual prominence of the headhouse, or could introduce an incompatible visual element to the setting of the other architectural resources in the surrounding area. Thus, it is possible that the Pedestrian Bridge Alternative, in comparison to the proposed project, could have a significant adverse impact on historic architectural resources.

In terms of archaeological resources, while construction of the pedestrian bridge would require subsurface disturbance, this disturbance would occur in areas that have already been determined (through the environmental impact analyses for the Hudson River Park and Route 9A projects) to have no potential archaeological sensitivity. Therefore, the Pedestrian Bridge Alternative, like the proposed project, would not result in any significant adverse impacts on historic archaeological resources.

URBAN DESIGN AND VISUAL RESOURCES

The Pedestrian Bridge Alternative, unlike the proposed project, would create a new, notable streetscape element above Route 9A and connecting to the Hudson River Park. The pedestrian bridge would include a staircase down to the proposed walkway extensions along the bulkhead and the Hudson River Park waterfront esplanade. It is possible that this alternative could also include the elimination of the south and/or north crosswalks at Route 9A and West 15th Street.

In this alternative, the pedestrian bridge and staircases would become a notable—though not unique—new element in surrounding views to Pier 57 and the High Line Park, which are visual resources, and in views along Route 9A and the Hudson River Park, which are significant view corridors. Views from the south on Route 9A and the Hudson River Park, views west on West 14th and 15th Streets, and elevated views from the High Line Park would be most affected. While the pedestrian bridge would not obstruct views of the resources, it could—depending on its size and design—change urban design features so that the context of the surrounding visual resources is altered. Therefore, unlike the proposed project, it is possible that the Pedestrian Bridge Alternative could have a significant adverse impact on urban design and visual resources.

TRANSPORTATION

Under the Pedestrian Bridge Alternative, the land uses and scale of development would be the same as the proposed project. Therefore, the traffic, pedestrian, and transit trips generated by this alternative would be consistent with the trip generation estimates shown in Tables 14-24 and 14-25. As described above, the pedestrian bridge would be located south of West 15th Street. The presence of a pedestrian bridge would result in modified pedestrian assignments through the Route 9A and West 15th Street intersection. Three scenarios of the pedestrian bridge/intersection configuration were considered for the analysis of this alternative:

- Scenario 1:
  - Construct pedestrian bridge across the south leg of the intersection
  - Retain the at-grade crosswalk across the north leg of the intersection
  - Eliminate the at-grade crosswalk across the south leg of the intersection
- Scenario 2:
  - Construct pedestrian bridge across the south leg of the intersection
  - Eliminate both at-grade crosswalks across Route 9A
- Scenario 3:
  - Construct pedestrian bridge across the south leg of the intersection
  - Retain both at-grade crosswalks across Route 9A

Each of these design configurations was analyzed to determine the impacts to traffic, parking, transit, and pedestrian operations.

TRAFFIC

The Pedestrian Bridge Alternative would result in improved traffic operations at the intersection of Route 9A and West 15th Street. The presence of the pedestrian bridge would reduce the number of pedestrians crossing at-grade and would therefore reduce the number of conflicts between pedestrians crossing Route 9A and vehicles turning from westbound West 15th Street onto Route 9A. The results for each of the pedestrian bridge/intersection configurations are described below:

- Scenario 1: The traffic operations under this scenario would be similar to the proposed project. The difference is that the pedestrian bridge would reduce the number of pedestrians crossing the south crosswalk of the Route 9A and West 15th Street intersection. However, the pedestrian bridge would not change the number of pedestrians crossing the north crosswalk because (a) some pedestrians would divert from the south side crossing to the north side crossing so that they could cross at-grade, which would be more convenient for some pedestrians when compared to using the pedestrian bridge and (b) it was assumed that only 5 percent of pedestrians on the north side of West 15th Street would divert from their path to use the pedestrian bridge south of the intersection. The vehicular delay for the westbound right-turn associated with the pedestrians in the north crosswalk would result in similar delay and levels of service (LOS) to the proposed project and the Route 9A and West 15th Street intersection would still have significant adverse impacts during three peak hours.

  To mitigate the significant adverse impacts that would be experienced at this intersection green time could be allocated from the northbound/southbound phase to the westbound phase, as proposed for the proposed project: three seconds during the Weekday PM peak, five seconds during the Weekday Evening Pre-Event peak, and two seconds during the Saturday Midday peak. Similarly to the proposed project, pedestrian impacts that are projected for the north side crosswalk at this intersection during the Weekday Evening Pre-Event peak hour would warrant the presence of police control at this location; provision of police control would eliminate the need to reallocate signal timing during this peak hour.
- Scenario 2: Under this scenario, which would not provide any at-grade crosswalks across Route 9A at West 15th Street, all pedestrians crossing Route 9A at this intersection would use the pedestrian bridge. Unlike the proposed project, this scenario would eliminate the

vehicular and pedestrian conflicts at-grade and would not result in significant adverse traffic impacts at this intersection.

- Scenario 3: Under this scenario, which would retain both at-grade crosswalks across Route 9A at West 15th Street, traffic operations would be improved compared to the proposed project. The pedestrian bridge would reduce the number of pedestrians crossing the south and north crosswalks of the Route 9A and West 15th Street intersection. The vehicular delay for the westbound right-turn associated with the pedestrians in the north crosswalk would result in similar delay and levels of service (LOS) to the proposed project and the Route 9A and West 15th Street intersection would still have significant adverse impacts during three peak hours.

  To mitigate the significant adverse impacts that would be experienced at this intersection, green time could be allocated from the northbound/southbound phase to the westbound phase, as proposed for the proposed project: three seconds during the Weekday PM peak, four seconds during the Weekday Evening Pre-Event peak, and two seconds during the Saturday Midday peak.

PARKING

The Pedestrian Bridge Alternative would not affect the parking demand generated by the proposed project or the on-site/off-site parking supply. Therefore, as was determined for the proposed project, the Pedestrian Bridge Alternative would not result in any significant adverse parking impacts.

TRANSIT

The Pedestrian Bridge Alternative would not affect the transit analysis, as transit usage and associated traffic volumes at the transit study locations would not change. Therefore, as with the proposed project, the Pedestrian Bridge Alternative would not result in any significant adverse transit impacts.

PEDESTRIAN

The Pedestrian Bridge Alternative would modify pedestrian operations at the intersection of Route 9A and West 15th Street compared to the proposed project. The presence of the pedestrian bridge would reduce the number of pedestrians crossing Route 9A at-grade. Pedestrian volumes projected to use the pedestrian bridge were based on data collected at the pedestrian bridge across Route 9A at Vesey Street. The Vesey Street Bridge was referenced as a source because of the presence of a pedestrian bridge and an at-grade crossing. Data was collected in October 2005 and March 2007 and showed that 60 percent of pedestrians used the Vesey Street pedestrian bridge, while 40 percent crossed at-grade. These percentages were applied to analyses for each of the pedestrian bridge/intersection configurations described below:

- Scenario 1: Applying the Vesey Street pedestrian bridge survey data results, 60 percent of the pedestrians leaving the Pier 57 site and crossing Route 9A were assigned to the pedestrian bridge. Of the pedestrians approaching the project site from the southeast corner of Route 9A and West 15th Street, 60 percent were assigned to the pedestrian bridge. The remaining 40 percent were assigned to the north crosswalk. Given the option of an at-grade crossing at the north leg of the intersection, only five percent of pedestrians approaching the site from the northeast corner of Route 9A and West 15th Street were assigned to divert from the northeast corner of the intersection to the south side pedestrian bridge.

Under this scenario, a significant adverse impact is still expected at the north crosswalk at the Route 9A and West 15th Street intersection during the Weekday Evening Pre-Event peak hour. As described for the proposed project, Traffic Enforcement Agents (TEAs) would mitigate this impact by overriding traffic signal operations when necessary and directing traffic and control vehicular and pedestrian movements to facilitate safe and efficient traffic and pedestrian flows.

- Scenario 2: With no-at grade crosswalks across Route 9A, all pedestrians crossing Route 9A at the West 15th Street intersection were assigned to use the pedestrian bridge. There would be no significant adverse impacts at the crosswalks at Route 9A and West 15th Street under this scenario because these crosswalks would not exist.
- Scenario 3: Similar to Scenario 1, 60 percent of the pedestrians leaving the Pier 57 site and crossing Route 9A were assigned to the pedestrian bridge. Of the pedestrians approaching the project site from the southeast corner of Route 9A and West 15th Street, 60 percent were assigned to the pedestrian bridge. The remaining 40 percent were assigned to the south crosswalk, as it would be retained under this scenario. Given the option of an at-grade crossing at the north leg of the intersection, only five percent of pedestrians approaching the site from the northeast corner of Route 9A and West 15th Street were assigned to divert from the northeast corner of the intersection to the south side pedestrian bridge.

  Under this scenario, there would be no significant adverse impacts at the crosswalks at Route 9A and West 15th Street.

For all three scenarios, there would be no changes to the other two crosswalk locations that are forecasted to experience significant adverse impacts with the proposed project:

- The north crosswalk at Ninth Avenue and West 15th Street is projected to operate with significant adverse impacts during all five peak hours.
- The north crosswalk (west side of median) at Ninth Avenue and West 14th Street is projected to operate with significant adverse impacts during the Saturday Midday peak hour.

CONSTRUCTION

Compared to the proposed project, the Pedestrian Bridge Alternative would result in additional construction activities associated with the pedestrian bridge. Nonetheless, because this alternative would result in the same development program and mix of uses anticipated with the proposed project, it is expected that the overall construction activities, duration, and schedule would be similar. It is expected that the pedestrian bridge structure would likely be manufactured offsite and transported to the project site for assembly, and thus would not result in extensive new construction activity (e.g., demolition, foundation, or superstructure construction). Under this alternative, 14th Street Park may be used as a temporary staging area for construction materials and equipment related to the pedestrian bridge. Under both the proposed project and this alternative, traffic lane closures on southbound Route 9A would be required on limited weekends or nighttime periods during entrance reconfiguration work. With this alternative, additional closures would also be required for construction of the pedestrian bridge. Like the proposed project, the Pedestrian Bridge Alternative would not result in any significant adverse impacts related to construction activities.

D. NO UNMITIGATED IMPACTS ALTERNATIVE

As discussed in Chapter 22, "Mitigation," the proposed project could result in unmitigated significant adverse impacts related to noise. Therefore, an alternative that would eliminate the unmitigated noise impact was considered and assessed for feasibility.

Noise impacts resulting from the proposed project were identified for the proposed public open space itself: by developing any public open space in a high noise area there would be an unmitigated noise impact. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. Therefore, eliminating this impact would require the development of an alternative with no public open space, which would not meet the goals and objectives of the proposed project. Moreover, noise levels within the proposed open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. ✷

Chapter 22: Mitigation

A. INTRODUCTION

The preceding chapters of this Environmental Impact Statement (EIS) discuss the potential for significant adverse impacts to result from the proposed project. Where such potential impacts have been identified—in the areas of transportation (traffic and pedestrians) and noise—measures are examined to minimize or eliminate the anticipated impacts to the fullest extent practicable. These mitigation measures are discussed below. Areas in which the proposed project would result in significant adverse impacts that cannot be fully mitigated through reasonably practicable measures are discussed in Chapter 23, "Unavoidable Adverse Impacts."

B. TRANSPORTATION

OVERVIEW

The analysis of the proposed project's transportation impacts accounted for a number of proposed traffic improvements as part of the With Action Condition. These improvements were developed for locations along and adjacent to the project frontage as part of the project design process to address site access, traffic circulation, and pedestrian and bicyclist movements. This section discusses other measures that would mitigate significant adverse traffic and pedestrian impacts identified in the EIS.

As described in Chapter 14, "Transportation," a number of elements in the study area would experience significant adverse traffic and pedestrian impacts as a result of the proposed project under the reasonable worst-case transportation development scenarios. The transportation analyses provide a conservative assessment of the With Action Conditions. The discussion below outlines readily implementable mitigation measures (e.g., revised signal timings, lane restriping, etc.) that would fully mitigate the identified impacts. The implementation of these measures would be conducted in coordination with the New York City Department of Transportation (NYCDOT), New York State Department of Transportation (NYSDOT), and New York Police Department (NYPD) as development proceeds.

As detailed in the "Operational Analysis Methodology" section of Chapter 14, the operation of an intersection is defined in terms of control delay per vehicle and the corresponding level-of-service (LOS) and volume-to-capacity (v/c) ratio. The criteria used for defining significant adverse impacts are based on a sliding scale for various LOS and delay measures. A significant adverse impact is considered to be fully mitigated when the projected delay for an intersection lane group or movement under the With Action Condition is brought back to within an acceptable range of its No Action Condition level or to marginally acceptable mid-LOS D (45.0 seconds for signalized intersections). In some cases, viable mitigation measures for a particular movement could result in additional delay or LOS deterioration for other movements. Such increases in delay and deterioration in LOS do not constitute a significant adverse impact as long

as the mid-LOS D threshold is not exceeded, or the increase in delay does not exceed the limits of the sliding scale mentioned above.

Similarly, the operation of pedestrian crosswalk elements is defined in terms of pedestrian space, measured as square-foot per pedestrian (ft^2/p) and the corresponding LOS. The criteria used for defining significant adverse impacts are based on a sliding scale for various LOS and space per pedestrian. A significant adverse impact is fully mitigated when the projected space per pedestrian under the With Action Condition is brought back to within an acceptable range of its No Action Condition level or to marginally acceptable mid-LOS D (19.5 ft^2/p).

TRAFFIC OPERATIONS

The proposed project would introduce public open space; retail, restaurant and other commercial uses; a marina; and educational and cultural uses to the pier structure. A flexible-use rooftop space would be created that would primarily serve as a public park/exhibit space and would occasionally be used to host events, as described in Chapter 1, "Project Description." The transportation analysis considered two scenarios to examine the potential transportation-related impacts of the rooftop space. For the "Typical" scenario, the rooftop was assumed to operate as public open space, with a small area intended for art installations and exhibits. For the evening "Pre-Event" scenario, the rooftop was conservatively assumed to operate as an event space with a 2,500-person event, although events would generally not exceed 1,500 people and would not occur on a regular basis. Events would include the Tribeca Film Festival and other special interest programming. The Typical Scenario represents the reasonable worst-case scenario for the Weekday Midday (12:00 to 1:00 PM), Weekday PM (5:30 PM to 6:30 PM), and Saturday Midday peak hours (12:45 to 1:45 PM), while the Pre-Event Scenario represents the reasonable worst-case scenario for the Weekday Evening and Saturday Evening peak hours (7:00 to 8:00 PM).

In 2015, five locations in the study area are forecast to experience significant adverse traffic impacts attributable to the proposed project during one or more of the analyzed peak periods:

- *Route 9A and West 17th Street*, during the Weekday Evening Pre-Event peak hour.
- *Route 9A and West 15th Street*, during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours.
- *Tenth Avenue and West 14th Street*, during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours.
- *Eighth Avenue and West 17th Street*, during the Saturday Evening Pre-Event peak hour.
- *Eighth Avenue and West 14th Street*, during the Weekday Evening Pre-Event, Saturday Midday, and Saturday Evening Pre-Event peak hours.

Each of the above significant adverse impacts could be fully mitigated as outlined below. A comparison of the analysis results is presented in **Tables 22-1** to **22-4** for each of the study periods following the discussions of each intersection below.

ROUTE 9A AND WEST 17TH STREET

This intersection would experience a significant impact in the westbound direction for the Weekday Evening Pre-Event peak hour. To mitigate the potential impact, one second of green time would be reallocated from the northbound/southbound phase to the westbound phase.

ROUTE 9A AND WEST 15TH STREET

Due to increases in pedestrian volumes on the north crosswalk, this intersection would experience a significant impact for the westbound right-turn movement during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours. To mitigate the potential impacts, green time could be reallocated from the northbound/southbound phase to the westbound phase as follows: three seconds during the Weekday PM peak, five seconds during the Weekday Evening Pre-Event peak, and two seconds during the Saturday Midday peak. However, during the Weekday Evening Pre-Event peak, pedestrian impacts that are projected for the north side crosswalk at this intersection would warrant the presence of police control at this location; as described below; provision of police control would mitigate the significant adverse traffic impact and eliminate the need to reallocate signal timing during this peak hour.

TENTH AVENUE AND WEST 14TH STREET

Increases in traffic would result in significant impacts to the westbound approach during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peaks and to the eastbound right turn during the Weekday Evening Pre-Event peak. To mitigate the potential impacts, green time would be reallocated from the eastbound left-turn phase to the eastbound/westbound phase as follows: three seconds during the Weekday PM and Weekday Evening Pre-Event peaks and four seconds during the Saturday Midday peak.

EIGHTH AVENUE AND WEST 17TH STREET

This intersection would experience a significant impact in the westbound direction during the Saturday Evening Pre-Event peak hour. To mitigate the potential impact, one second of green time would be reallocated from the northbound through phase to the westbound phase.

EIGHTH AVENUE AND WEST 14TH STREET

This intersection would experience a significant impact in the westbound direction during the Saturday Evening Pre-Event peak hour. To mitigate the potential impact, green time would be reallocated from the northbound through/right phase to the eastbound/westbound phase as follows: one second during the Weekday Evening Pre-Event peak and three seconds during the Saturday Midday and Saturday Evening Pre-Event peaks.

Table 22-1
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Weekday PM Peak Hour

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
6	**Route 9A and West 15th Street**														
	WB	L	0.42	52.2	D	L	0.49	54.8	D		L	0.45	51.2	D	
		R	0.60	59.1	E	R	0.74	69.4	E	+	R	0.69	62.4	E	Shift 3 seconds from N/S phase to WB phase.
	NB	T	0.71	5.2	A	T	0.73	5.5	A		T	0.75	7.5	A	
	SB	T	0.79	6.4	A	T	0.79	6.4	A		T	0.81	8.7	A	
		Intersection		9.2	A	Intersection		9.9	A		Intersection		11.6	B	
12	**Tenth Avenue and West 14th Street**														
	EB	L	0.58	18.7	B	L	0.59	19.1	B		L	0.61	21.1	C	
		T	0.31	39.2	D	T	0.34	39.7	D		T	0.32	37.4	D	
		R	0.16	37.5	D	R	0.28	41.2	D		R	0.26	38.4	D	Shift 3 seconds from EB Left phase to E/W phase.
	WB	LR	0.61	53.0	D	LR	0.68	61.5	E	+	LR	0.63	54.9	D	
		R	0.70	53.7	D	R	0.81	61.8	E	+	R	0.76	55.4	E	
		Intersection		31.3	C	Intersection		33.8	C		Intersection		32.9	C	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

Table 22-2
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Weekday Evening Pre-Event Peak Hour

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
	Route 9A and West 17th Street														
	EB	L	0.15	53.6	D	L	0.17	54.0	D		L	0.17	54.0	D	
		LR	0.24	55.3	E	LR	0.26	55.8	E		LR	0.26	55.8	E	
		R	0.09	52.9	D	R	0.09	52.9	D		R	0.09	52.9	D	
4	WB	LR	0.94	117.2	F	LT	0.99	131.9	F	+	LT	0.93	114.5	F	Shift 1 second from the N/S phase to WB phase.
						R	0.62	81.1	F		R	0.59	77.2	E	
	NB	T	0.75	12.9	B	T	0.77	13.4	B		T	0.78	14.2	B	
	SB	T	0.80	14.3	B	T	0.82	14.9	B		T	0.83	16.0	B	
		Intersection		18.2	B	Intersection		20.3	C		Intersection		20.6	C	
	Route 9A and West 15th Street														
	WB	L	0.39	51.6	D	L	0.49	55.2	E		L	0.43	49.3	D	Traffic Enforcement Agents to control traffic and pedestrians (LOS results represent a shift of 5 seconds from N/S phase to WB phase.).
6		R	0.56	57.4	E	R	0.76	71.5	E	+	R	0.66	59.6	E	
	NB	T	0.68	4.9	A	T	0.70	5.1	A		T	0.74	8.4	A	
	SB	T	0.77	6.0	A	T	0.77	6.0	A		T	0.81	9.8	A	
		Intersection		8.5	A	Intersection		9.5	A		Intersection		12.2	B	
	Tenth Avenue and West 14th Street														
	EB	L	0.49	17.0	B	L	0.51	17.4	B		L	0.53	19.2	B	
		T	0.36	40.1	D	T	0.42	41.3	D		T	0.40	38.8	D	
12		R	0.20	38.3	D	R	0.40	46.2	D	+	R	0.36	42.4	D	Shift 3 seconds from EB Left phase to E/W phase.
	WB	LR	0.76	63.0	E	LR	0.84	77.2	E	+	LR	0.78	64.4	E	
		R	0.83	63.7	E	R	0.94	78.5	E	+	R	0.87	65.2	E	
		Intersection		36.2	D	Intersection		41.3	D	0	Intersection		37.6	D	
	Eighth Avenue and West 14th Street														
	EB	LT	0.75	31.5	C	DefL	0.81	49.2	D	+	DefL	0.78	44.7	D	
						T	0.72	32.1	C		T	0.70	30.3	C	
16	WB	TR	0.46	22.2	C	TR	0.50	22.9	C		TR	0.49	22.0	C	Shift 1 second from NB Thru/Right phase to E/W phase.
	NB	L	0.33	32.2	C	L	0.35	32.5	C		L	0.35	32.5	C	
		TR	0.7	7.9	A	TR	0.71	7.9	A		TR	0.72	8.9	A	
		Intersection		15.9	B	Intersection		18.0	B		Intersection		17.8	B	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

Table 22-3
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Saturday Midday Peak Hour

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
	Route 9A and West 15th Street														
	WB	L	0.29	34.4	C	L	0.38	36.5	D		L	0.36	34.5	C	
6		R	0.55	41.1	D	R	0.71	49.4	D	+	R	0.67	45.4	D	Shift 2 seconds from N/S phase to WB phase.
	NB	T	0.68	9.4	A	T	0.71	9.8	A		T	0.73	11.5	B	
	SB	T	0.76	10.8	B	T	0.76	10.8	B		T	0.79	12.7	B	
		Intersection		12.3	B	Intersection		13.3	B		Intersection		14.6	B	
	Tenth Avenue and West 14th Street														
	EB	L	0.61	21.0	C	L	0.63	21.5	C		L	0.67	24.9	C	
		T	0.35	27.1	C	T	0.39	27.9	C		T	0.36	24.8	C	
12		R	0.14	24.8	C	R	0.24	27.6	C		R	0.21	24.4	C	Shift 4 seconds from EB Left phase to E/W phase.
	WB	LR	0.74	47.4	D	LR	0.84	65.4	E	+	LR	0.75	49.7	D	
		R	0.83	47.4	D	R	0.96	65.1	E	+	R	0.88	49.2	D	
		Intersection		30.7	C	Intersection		36.6	D		Intersection		32.5	C	
	Eighth Avenue and West 14th Street														
	EB	LT	0.94	49.0	D	LT	1.05	77.2	E	+	LT	0.96	50.4	D	
16	WB	TR	0.46	22.3	C	TR	0.50	23.0	C		TR	0.46	20.3	C	Shift 3 seconds from NB Through-Right phase to E/W phase.
	NB	L	0.53	37.7	D	L	0.54	38.0	D		L	0.54	38.0	D	
		TR	0.56	6.4	A	TR	0.57	6.4	A		TR	0.61	9.0	A	
		Intersection		23.1	C	Intersection		32.2	C		Intersection		24.9	C	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

Table 22-4
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Saturday Evening Pre-Event Peak Hour

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
15	**Eighth Avenue and West 17th Street**														
	WB	TR	0.82	41.4	D	TR	0.90	49.6	D	+	TR	0.87	44.5	D	Shift 1 second from NB Through phase to WB phase.
	NB	L	0.31	27.4	C	L	0.34	27.9	C		L	0.34	27.9	C	
		T	0.71	4.9	A	T	0.71	5.0	A		T	0.73	5.9	A	
		Intersection		12.6	B	Intersection		14.8	B		Intersection		14.5	B	
16	**Eighth Avenue and West 14th Street**														
	EB	LT	0.95	49.9	D	LT	1.07	80.9	F	+	LT	0.97	51.9	D	Shift 3 seconds from NB Through-Right phase to E/W phase.
	WB	TR	0.61	25.5	C	TR	0.65	26.7	C		TR	0.60	23.2	C	
	NB	L	0.44	34.6	C	L	0.45	34.9	C		L	0.45	34.9	C	
		TR	0.86	11.7	B	TR	0.86	11.9	B		TR	0.93	19.0	B	
		Intersection		23.9	C	Intersection		32.2	C		Intersection		28.4	C	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service.														

ROUTE 9A AND WEST 15TH STREET: WITHOUT MEDIAN WALKWAY

There is the potential that the proposed walkway in the Route 9A median between West 15th and West 16th Streets would not be constructed as part of the proposed project. Under this potential scenario, the Route 9A and West 15th Street intersection is forecast to experience significant adverse traffic impacts attributable to the proposed project in 2015 during the Weekday PM, Weekday Evening Pre-Event, and Saturday Midday peak hours. These impacts would be similar to those identified in these same peak periods with the proposed median walkway.

To mitigate the potential impacts, green time could be reallocated from the northbound/south-bound phase to the westbound phase as follows: four seconds during the Weekday PM peak, five seconds during the Weekday Evening Pre-Event peak, and three seconds during the Saturday Midday peak. However, as described below, during the Weekday Evening Pre-Event peak, pedestrian impacts that are projected for the north side crosswalk at this intersection would warrant the presence of police control at this location; the provision of police control would mitigate the significant adverse traffic impact and eliminate the need to reallocate signal timing during the Weekday Evening Pre-Event peak hour. These mitigation measures would be similar to those identified to mitigate the traffic impacts with the proposed median walkway.

A comparison of the analysis results is presented in **Tables 22-5** through **22-7** for each of the study periods.

Table 22-5
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Weekday PM Peak Hour
Without Median Pedestrian Walkway

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
6	**Route 9A and West 15th Street**														
	WB	L	0.42	52.2	D	L	0.49	54.8	D		L	0.44	50.1	D	
		R	0.60	59.1	E	R	0.77	72.1	E	+	R	0.69	61.9	E	Shift 4 seconds from N/S phase to WB phase.
	NB	T	0.71	5.2	A	T	0.73	5.5	A		T	0.76	8.2	A	
	SB	T	0.79	6.4	A	T	0.79	6.4	A		T	0.82	9.6	A	
		Intersection		9.2	A	Intersection		10.0+	B	+	Intersection		12.2	B	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

Table 22-6
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Weekday Evening Pre-Event Peak Hour
Without Median Pedestrian Walkway

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
6	Route 9A and West 15th Street														
	WB	L	0.39	51.6	D	L	0.49	55.2	E		L	0.43	49.3	D	Traffic Enforcement Agents to control traffic and pedestrians (LOS results represent a shift of 5 seconds from N/S phase to WB phase).
		R	0.56	57.4	E	R	0.76	71.5	E	+	R	0.66	59.6	E	
	NB	T	0.68	4.9	A	T	0.70	5.1	A		T	0.74	8.4	A	
	SB	T	0.77	6.0	A	T	0.77	6.0	A		T	0.81	9.8	A	
		Intersection		8.5	A	Intersection		9.5	A		Intersection		12.2	B	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

Table 22-7
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Saturday Midday Peak Hour
Without Median Pedestrian Walkway

	Int.	No Action				With Action					With Action with Mitigation				Notes
		Ln Grp	v/c	Delay (sec)	LOS	Ln Grp	v/c	Delay (sec)	LOS		Ln Grp	v/c	Delay (sec)	LOS	
6	Route 9A and West 15th Street														
	WB	L	0.29	34.4	C	L	0.38	36.5	D		L	0.35	33.6	C	Shift 3 seconds from N/S phase to WB phase.
		R	0.55	41.1	D	R	0.73	51.3	D	+	R	0.68	45.0	D	
	NB	T	0.68	9.4	A	T	0.71	9.8	A		T	0.74	12.4	B	
	SB	T	0.76	10.8	B	T	0.76	10.8	B		T	0.80	13.7	B	
		Intersection		12.3	B	Intersection		13.4	B		Intersection		15.4	B	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service. "+" implies a significant adverse impact														

PEDESTRIAN OPERATIONS

In 2015, three pedestrian crosswalks in the study area are forecast to experience significant adverse impacts attributable to the proposed project during one or more of the analyzed peak periods:

- *North crosswalk at Route 9A and West 15th Street*, during the Weekday Evening Pre-Event peak hour.
- *North crosswalk at Ninth Avenue and West 15th Street*, during all five peak hours.
- *North crosswalk (west side of median) at Ninth Avenue and West 14th Street*, during the Saturday Midday peak hour.

Each of the above significant adverse impacts could be fully mitigated as outlined below. A comparison of the analysis results is presented in **Table 22-8**.

Table 22-8
Comparison of 2015 No Action, With Action, and Mitigated Conditions
Level of Service Analysis—Pedestrian Crosswalks

Location	Crosswalk	No Action Condition			With Action Condition			With Action with Mitigation		
		Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)	Crosswalk Circulation LOS	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)	Crosswalk Circulation LOS	Crosswalk Width (feet)	Available Crosswalk Circulation Space (ft^2/p)	Crosswalk Circulation LOS
Weekday Midday										
Ninth Avenue and West 15th Street	North	9.9	14.3	E	9.9	10.4	E	13.2	14.8	E
Weekday PM										
Ninth Avenue and West 15th Street	North	9.9	17.1	D	9.9	12.1	E	13.2	17.1	D
Weekday Evening Pre-Event										
Route 9A and West 15th Street	North	15.3	787.1	A	23.8	10.2	E	n/a	n/a	n/a
Ninth Avenue and West 15th Street	North	9.9	35.6	C	9.9	14.0	E	13.2	19.6	D
Saturday Midday										
Ninth Avenue and West 15th Street	North	9.9	33.1	C	9.9	18.7	D	13.2	26.1	C
Ninth Avenue and West 14th Street (west side of intersection)	North	15.4	25.6	C	15.4	19.0	D	15.8	19.6	D
Saturday Evening Pre-Event										
Ninth Avenue and West 15th Street	North	9.9	34.5	C	9.9	16.5	D	13.2	23.0	D

NORTH CROSSWALK AT ROUTE 9A AND WEST 15TH STREET

To mitigate the impacts for the Weekday Evening Pre-Event peak hour, the north crosswalk at this intersection would have to be widened to 41.8 feet, which is beyond what is geometrically feasible. Therefore, the recommended strategy to mitigate this impact, which is only projected for the intermittent condition of the Weekday Evening Pre-Event peak as events would not occur on a regular basis, would be to implement police control by deploying traffic enforcement agents (TEAs) before weekday evening events at Pier 57. To facilitate safe and efficient traffic and pedestrian flows, TEAs would override traffic signal operations when necessary and would direct traffic and control vehicular and pedestrian movements. As such, the use of TEAs would eliminate the conflict between pedestrians crossing Route 9A and vehicles turning from West 15th Street that results in this significant adverse impact at this location, and would make it unlikely that the physical widening of the existing crosswalk would be necessary.

The applicant would work with the Hudson River Park Trust, NYCDOT, NYSDOT and the NYPD to determine the hours and TEA staffing level and locations needed for a given event.

For the potential scenario in which the walkway in the Route 9A median between West 15th and West 16th Streets would not be constructed and the crosswalk across northbound Route 9A at West 16th Street would be eliminated from the project design, the same mitigation measure for the Weekday Evening Pre-Event peak hour would mitigate the significant adverse impact at this location.

NORTH CROSSWALK AT NINTH AVENUE AND WEST 15TH STREET

Due to increased pedestrian traffic, the north crosswalk at this intersection would be significantly impacted during all five peak hours. To mitigate the potential impacts for all analysis periods, the crosswalk would need to be widened by 3.3 feet, which would increase the width of the crosswalk from 9.9 feet to 13.2 feet.

NORTH CROSSWALK (WEST SIDE OF MEDIAN) AT NINTH AVENUE AND WEST 14TH STREET

Due to increased pedestrian traffic, the north crosswalk at this intersection would be impacted during the Saturday Midday peak hour. This north crosswalk is bisected by a median plaza, and only the segment of the crosswalk west of this median would experience the impact. To mitigate the potential impact, this segment of the crosswalk would need to be widened by 0.4 feet (5 inches), which would increase the width of the crosswalk from 15.4 feet to 15.8 feet.

C. NOISE

As discussed in Chapter 17, "Noise," noise levels at the proposed project's open space, both during event and non-event conditions, would exceed the 55 dBA $L_{10(1)}$ noise level guideline for outdoor areas requiring serenity and quiet provided in the 2012 *City Environmental Quality Review (CEQR) Technical Manual* noise exposure guidelines. Noise levels in these new open space areas would be above the 55 dBA $L_{10(1)}$ guideline noise level due to a combination of high existing noise levels generated by traffic on Route 9A, amplified sound from events at the proposed project, and operation of the proposed project's marina and water taxi landing, and would therefore constitute a significant adverse impact.

To reduce the noise levels below the 55 dBA $L_{10(1)}$ guideline within the proposed project's open space areas, typical noise abatement measures, such as the use of noise barriers along Route 9A, would not be practicable, since the barriers would isolate the new public walkways along the bulkhead behind a wall, making them unappealing and potentially unsafe. Therefore, there are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. However, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. The 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet; however, due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) this relatively low noise level is often not achieved. Since there are no practicable measures to fully mitigate the noise conditions, the high noise levels in the park would be considered an unmitigated significant adverse impact. ✷

Chapter 23: Unavoidable Adverse Impacts

A. INTRODUCTION

According to the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, unavoidable significant adverse impacts are defined as those that meet the following two criteria:

- There are no reasonably practicable mitigation measures to eliminate the proposed project's impacts; and
- There are no reasonable alternatives to the proposed project that would meet its purpose and need, eliminate its impacts, and not cause other or similar significant adverse impacts.

As described in Chapter 22, "Mitigation," the proposed project's potential impacts to transportation (traffic and pedestrians) could be fully mitigated. However, as described below, the potential impacts related to noise in the proposed project's open space areas could not be mitigated with practicable measures.

B. NOISE

As discussed in Chapter 17, "Noise," and Chapter 22, "Mitigation," noise levels in proposed project's new open space areas would be above the 55 dBA $L_{10(1)}$ *CEQR Technical Manual* guideline noise level due to a combination of high existing noise levels generated by traffic on Route 9A, amplified sound from events at the proposed project, and operation of the proposed project's marina and water taxi landing, and would therefore constitute a significant adverse impact. As discussed in Chapter 22, "Mitigation," there are no practical and feasible mitigation measures that could be implemented to reduce noise levels to below the 55 dBA $L_{10(1)}$ guideline within the open space areas. Therefore, the noise levels in the park would be considered an unavoidable significant adverse impact.

Nonetheless, noise levels within the open space would be comparable to the existing noise levels in Hudson River Park, and noise levels in a number of open space areas that are also located adjacent to heavily trafficked roadways, including Brooklyn Bridge Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas. The 55 dBA $L_{10(1)}$ guideline is a worthwhile goal for outdoor areas requiring serenity and quiet; however, due to the level of activity present at most New York City open space areas and parks (except for areas far away from traffic and other typical urban activities) this relatively low noise level is often not achieved. ✷

Chapter 24: Growth-Inducing Aspects of the Proposed Project

The term "growth-inducing aspects" generally refers to the potential for a proposed project to trigger additional development in areas outside the project site that would otherwise not have such development without the proposed project. The 2012 *City Environmental Quality Review* (*CEQR) Technical Manual* indicates that an analysis of the growth-inducing aspects of a proposed project is appropriate when the project:

- Adds substantial new land use, new residents, or new employment that could induce additional development of a similar kind or of support uses, such as retail establishments to serve new residential uses; and/or
- Introduces or greatly expands infrastructure capacity.

The proposed project would not induce additional development in the surrounding area and would not expand infrastructure capacity. As described in Chapter 1, "Project Description," the proposed project would be limited to the project site, where it would result in the redevelopment of Pier 57 with retail, public open space, restaurant, and other commercial uses; a marina; and educational and cultural and uses. As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," these new uses would be compatible with other trends in the study area that include new residential, cultural uses, retail, and commercial development in place of former industrial and manufacturing uses. The proposed uses would not introduce a substantial new land use, residential population, or employment base. The proposed project would utilize existing infrastructure; it would not introduce new infrastructure or result in the expansion of infrastructure capacity. Furthermore, as part of Hudson River Park, the project site is governed by the Hudson River Park Act of 1998, which controls the extent of development within the park and defines permissible land uses.

Therefore, the proposed project would not "induce" new growth in the surrounding area. ✷

Chapter 25: Irreversible and Irretrievable Commitment of Resources

There are a number of resources, both natural and built, that would be expended in the construction and operation of the proposed project. These resources include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation of the proposed development; and the human effort (i.e., time and labor) required to develop, construct, and operate various components of the proposed project.

The resources are considered irretrievably committed because their reuse for some purpose other than the proposed project would not be possible. The land use changes associated with the development of the proposed project site may be considered a resource loss. The proposed project constitutes an irreversible and irretrievable commitment of the development site as a land resource, thereby rendering land use for other purposes infeasible, at least in the near term.

These commitments of land resources and materials are weighed against the benefits of the proposed project. The proposed project would introduce a variety of uses, including public open space, to a site that would remain vacant and underutilized without the proposed project. These uses would be compatible with the surrounding mixed-use character of the neighborhood, would reactivate a portion of the waterfront, and would contribute to the completion and financial support of Hudson River Park. ✷

Chapter 26: Response to Comments on the DEIS[1]

A. INTRODUCTION

This chapter summarizes and responds to all substantive comments on the Draft Environmental Impact Statement (DEIS) for the Pier 57 Redevelopment Project made during the public review period. Comments on the DEIS include spoken or written testimony submitted at the public hearing held by the Hudson River Park Trust (HRPT) in conjunction with the City Planning Commission's (CPC) Uniform Land Use Review Procedure (ULURP) public hearing on January 23, 2013 as well as written comments submitted during the public comment period, which ended on February 4, 2013. Written comments received on the DEIS are included in **Appendix E-1**. A transcript of the public hearing can be found in **Appendix E-2**.

Section B lists the elected officials, city planning commissioners, community boards, government agencies, organizations, and individuals who commented on the DEIS. Section C summarizes and responds to the substance of these comments on the DEIS. The organization and/or individual that commented are identified after each comment. These summaries convey the substance of the comments but do not necessarily quote the comments verbatim. Comments are organized by subject matter and generally parallel the chapter structure of the DEIS. Where more than one commenter expressed a similar view, the comments have been grouped and addressed together.

Where relevant and appropriate, edits related to the comments below, as well as other substantive changes to the DEIS, have been incorporated into the Final Environmental Impact Statement ("FEIS").

B. LIST OF OFFICIALS AND INDIVIDUALS WHO COMMENTED ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

ELECTED OFFICIALS

1. New York State Senator Brad Hoylman, oral comments delivered on his behalf by Jared Chausow, January 23, 2013. (Hoylman)
2. New York State Assemblymember Richard N. Gottfried, written comments dated January 23, 2013. (Gottfried)
3. Manhattan Borough President Scott Stringer, recommendation dated January 16, 2013 and oral comments delivered on his behalf by Lin Zeng, January 23, 2013. (Stringer)

[1] This chapter is new to the FEIS.

COMMUNITY BOARD

4. Community Board 4 recommendation and written comments, dated December 18, 2012. (CB4)

CITY PLANNING COMMISSIONERS

5. Commissioner Irwin Cantor, oral comments delivered January 23, 2013. (Cantor)
6. Commissioner Michelle De La Uz, oral comments delivered January 23, 2013. (De La Uz)
7. Commissioner Anna Levin, oral comments delivered January 23, 2013. (Levin)

ORGANIZATIONS AND INTERESTED PUBLIC

8. Karen Binder, on behalf of Chelsea Piers, written comments dated January 8, 2013 and February 4, 2013. (CP/Binder)
9. Mike Braito, Chelsea Piers, oral comments delivered January 23, 2013. (CP/Braito)
10. Noah Budnick, Transportation Alternatives, oral comments delivered January 23, 2013. (Budnick)
11. Jerry Gluck, on behalf of Chelsea Piers, Principal Traffic Engineer, AECOM, oral comments delivered January 23, 2013, and written comments dated December 11, 2012 and January 31, 2013. (CP/Gluck)
12. Robert Hammond, Friends of the High Line, written comments dated January 22, 2013. (Hammond)
13. Sean Kelliher, written comments dated February 3, 2013. (Kelliher)
14. Jesse Masyr, on behalf of Chelsea Piers, oral comments delivered January 23, 2013. (CP/Masyr)
15. Eldon Scott, President, Urban Space Management, oral comments delivered January 23, 2013. (Scott)
16. David Tewksbury, Executive Vice President, Chelsea Piers, written comments dated February 4, 2013. (CP/Tewksbury)
17. Pamela Wasserstein, Tribeca Enterprises, oral comments delivered January 23, 2013. (Wasserstein)

Appendix E-3 includes two alternative access plans submitted by Chelsea Piers (on September 26, 2012 and February 4, 2013) to HRPT and the applicant for their review and consideration. These alternative access plans are discussed below in Comment 28. The summary below also includes questions from correspondence between Department of City Planning staff (DCP) and HRPT during the CPC's review of the proposed project.

C. RESPONSE TO DEIS COMMENTS

PROJECT DESCRIPTION

Comment 1: The proposed project supports sound city policies, incorporates community input, and promotes goals defined in the Hudson River Park Trust Act. The current plan for a public marketplace, as well as the other proposed uses on the site, are highly appropriate and carry significant public benefits. The addition and improvement of park space around the perimeter and on the roof of the Pier create accessible community spaces for public events and performances, as well as passive recreation and enjoyment of scenic views of the waterfront. (Stringer)

The proposal to convert Pier 57 into a new and noteworthy cultural and commercial destination will be a benefit to Hudson River Park and the surrounding communities. I wholeheartedly support the plan. (Gottfried)

We believe that the redevelopment of Pier 57 is a crucial element in the ongoing revitalization of the Hudson River Park and is an appropriate and excellent addition to the park and the community. Further, we believe that the uses proposed at Pier 57—cultural, food, recreation, and small and mid-sized retail—are complementary to the High Line, and will only enhance the experience of those visitors to the High Line, Hudson River Park, and Manhattan's West Side. (Hammond)

The Board strongly supports the redevelopment of Pier 57 and believes that the proposed project would be an excellent addition to Hudson River Park and to the community. (CB4)

I strongly support the proposed Pier 57 redevelopment. (Hoylman)

Response: Comments noted.

Comment 2: I urge the CPC to approve these applications, subject to the conditions set forth in Manhattan Community Board 4's December 18th, 2012 letter to the Commission. However, I am concerned the development envelope and uses that would be permitted if the discretionary actions were approved would enable as-of-right development perhaps by a future developer that would have significant adverse impacts on the surrounding community. I am also concerned that M1-5 zones allow hotel and "big box" retail uses. And while the Hudson River Park Act does not currently allow such uses, I echo CB4's stated desire for an additional measure of protection from such uses in the future. Likewise, while the aforementioned restriction on "big box" retailers included in the lease is a positive step, there must be an additional restriction on this use that is not predicated on occupancy of the site by the applicant. (Hoylman)

CB4 strongly supports the redevelopment of Pier 57 and believes the project would be an excellent addition to Hudson River Park and to the community.

However, we request the following controls to protect against bulk, height, and uses allowed as-of-right under the proposed M1-5 zoning district:

1) A deed restriction or similar device to limit the floor area ratio (FAR) to the 2.23 the applicants are requesting for the proposed development. (CB4)

2) A deed restriction or similar device to preclude hotel uses. We understand that the current proposal does not include a hotel and that the Hudson River Park Act currently does not permit hotels, but since the proposed M1-5 zoning permits hotels as-of-right we would greatly prefer one more safeguard against this use that the community strongly opposes on pier in Hudson River Park. (CB4)

3) A deed restriction or similar device should be placed on Pier 57 to preclude "big box" retailers or discounters. (CB4)

While I support the redevelopment project at Pier 57, the community has expressed concerns on density and potential hotel and big box uses permitted under the proposed M1-5 zoning district. If hotel and big box uses and greater density are realized, then they would certainly detract from the park's open space and recreation purposes, and should be discouraged. Pier 57 fortunately is governed by several regulatory safeguards that will prevent any significant changes to what is currently being proposed. (Stringer)

Could you address for us the reassurances that will be available in the arrangements between the Trust and the developer on the points that concern the community board; specifically FAR, hotels, and big box retail? (Levin)

I am satisfied with HRPT's promise to not allow a big box store, which will be achieved via the lease with the applicant. (Gottfried)

Response: With respect to the FAR allowed on the site under the proposed zoning, the potential for the proposed project to achieve substantially more than 2.23 FAR is limited by the historic character of the structure. Because the pier is listed on the State and National Register of Historic Places (S/NR), the review process with the State Historic Preservation Office (SHPO) greatly restricts the height and bulk of any additions on the building. In addition, the project is seeking federal historic preservation tax credits to rehabilitate Pier 57, which are subject to a stricter standard of review by the National Parks Service.

Land uses on the project site are governed both by the underlying zoning and the Hudson River Park Act. With respect to hotel use, such use is not permissible under the Hudson River Park Act. Although HRPT is exploring the possibility of amending the Hudson River Park Act to allow a wider range of commercial uses, HRPT and the applicant have no intention of including a hotel in the development of Pier 57, in part because the historic structure does not lend itself to hotel use. Moreover, the 49 year lease between HRPT and the applicant would prohibit hotel use. With respect to big box use, such use is

prohibited by the Memorandum of Understanding (MOU) between the applicant and HRPT, and that prohibition would be contained in the lease.

Comment 3: What signage is proposed as part of the project? (Levin, DCP)

Response: A signage plan has not yet been developed. However, all planned exterior signage would comply with applicable regulations and would be subject to review by HRPT and the New York State Historic Office of Parks, Recreation and Historic Preservation (OPRHP). As stated in Chapter 7, "Historic Resources," the proposed project would include a new sign at the headhouse entrance and would also preserve the existing sign on the building's façade.

Comment 4: While the DEIS states there is a 141 slip marina, it totally fails to describe the intended operation of the marina. Will it only be used for private boats, will there be charter boats, will there be dinner boats? (CP/Masyr)

Response: There is no intention to have large passenger, dinner boat, or charter vessel operations in the proposed project's marina. The size of boats at the marina would be limited by the existing shallow water depths and any future proposal for such vessels would require environmental review by HRPT.

Comment 5: The upland area of Pier 58 is now being slated for use as an access road leading to the circulation road in front of Pier 57. This land, located between two commercial uses, could be a beautiful green park space; instead, it's a two-lane asphalt roadway. (CP/Masyr)

Response: In addition to including a circulation road along the Hudson River Park waterfront esplanade from West 17th Street to West 14th Street, the project would add approximately 2.5 acres of open space to Hudson River Park on the pier's rooftop and around its perimeter. In particular, new public walkways parallel to the existing bulkhead would extend to the north and south of the headhouse, substantially expanding the currently limited public circulation space along the bulkhead. The new public walkways would be designed with treatments compatible with Hudson River Park.

Comment 6: We understand that Spirit is in discussions with Pier 57 to relocate Spirit's four dinner cruises to Pier 57. These four vessels have a total capacity of 1,700 guests. One of these vehicles or large charter boats could generate five to ten times the peak marina volumes claimed in the DEIS. (CP/Braito)

Response: As stated by counsel for the applicant at the public hearing and confirmed in writing to the CPC, the applicant has not had any discussions with Spirit Cruises regarding their becoming a tenant at Pier 57; such an operation is not part of the project and therefore is not assessed.

Comment 7: We need to understand what other uses are proposed, or if there are potential events that can take place, public or private. (CP/Braito)

Response: Chapter 1, "Project Description," provides a table summarizing the proposed program and descriptive text about the proposed uses and the expected nature of the events at the proposed project.

Comment 8: The ultimate lease with the developer should specifically prohibit transient public parking and mandate that any operator of the parking facility be required to post a sign stating, "No transient parking permitted, accessory use only." (CB4)

Response: Public parking is not allowed at Pier 57 under the Hudson River Park Act. The applicant has agreed to install a sign that would be prominently displayed at the garage's entrance to discourage public parking. The sign would indicate that parking is reserved only for the owners, occupants, employees, customers, or visitors of the pier.

Comment 9: Chelsea Piers supports the development of Pier 57. However, the scope of the project has still not been adequately defined to assess the potential adverse impacts. Will there be banquets, special events, large passenger or charter boats? Unlike the prohibition on big box stores, there is no lease restriction being proposed to prevent such uses, which are potentially significant traffic generators. (CP/Binder)

Response: As stated above, Chapter 1, "Project Description," provides a table summarizing the proposed program and descriptive text about the proposed uses and the expected nature of the events at the proposed project. A maximum size special event is accounted for in the EIS analyses. As noted in the response to Comment 4, there is no intention to have large passenger, dinner boat, or charter vessel operations in the proposed project's marina. The EIS analyzes and discloses the impacts of the reasonable worst case program and event scenario for public review. With respect to banquet uses, such use is prohibited by the MOU between the applicant and HRPT, and that prohibition would be contained in the lease. The lease, like the MOU would also prohibit tenancies or uses that consist primarily of trade shows and event businesses.

Comment 10: Will there be a bus stop serving Metropolitan Transportation Authority (MTA) buses or tour buses? (CP/Binder)

Response: There is no New York City Transit (NYCT) bus stop proposed at Pier 57. With respect to tour buses, the frontage road has been designed to accommodate intermittent tour bus activity.

Comment 11: We enthusiastically support this project and look forward to the opportunity to create and facilitate a retail community marketplace for small business owners and entrepreneurs to thrive in Manhattan. (Scott)

Response: Comment noted.

Comment 12: We are very proud to support the Pier 57 Redevelopment project, and we look forward to participating in the establishment of what we believe will be an important cultural hub for the neighborhood and for New York. (Wasserstein)

Response: Comment noted.

HISTORIC AND CULTURAL RESOURCES

Comment 13: We are concerned that the head house roof is to be raised over the north end and that the existing light structure there, clearly visible from highway and the park walkway to the north, is to be replaced by a banal modern one. The light structure is significant in that it is the only remaining feature that recalls that the pier did not stand alone but was part of a group of major passenger and freight piers, especially the present Chelsea Piers to the north. (CB4)

Response: The "light structure" on the north headhouse rooftop is not original to the pier and was not identified in the S/NR nomination form as an element contributing to the historic character of the pier. However, portions of this structure may be retained as part of the proposed project, and the west façade of the structure would be restored. As discussed in Chapter 7, "Historic and Cultural Resources," modifications to the Pier 57 structure require consultation with OPRHP, and the project is seeking federal tax credits to rehabilitate Pier 57 to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. While the pier would undergo some alterations as part of the project, these changes would not adversely affect the characteristics that make the pier eligible for listing on the S/NR.

WATER AND SEWER INFRASTRUCTURE

Comment 14: We believe that some amount of stormwater capture retention should occur in this project for use in heating, ventilation, and air conditioning (HVAC) equipment, gardening, and cleaning, as that would diminish the project's reliance on the city's drinking water supply. (CB4)

Response: The applicant intends to incorporate a number of green design initiatives into the proposed project, including stormwater reuse for landscaped areas on the building's rooftop areas and throughout the project where feasible. The applicant also intends to explore ways to re-use retained stormwater for cleaning purposes and in the planned HVAC equipment.

SOLID WASTE AND SANITATION SERVICES

Comment 15: The DEIS does not say anything about recycling within the project or specific areas in which collected recyclable materials could be stored before being picked up. Nor does it mention composting for garden materials and possibly for food. (CB4)

Response: The proposed project would comply with the New York City Recycling Law, which requires that both the Department of Sanitation (DSNY) and commercial carters collect certain designated recyclable materials and deliver them to material recovery facilities for sorting and recycling. The proposed project would include waste management areas for the sorting and storage of solid waste and recyclables within the easternmost caisson and ground-floor. The proposed project would incorporate a number of green design initiatives, most notably, the re-purposing of shipping containers and other reclaimed industrial objects as design elements throughout the property. The applicant would also work with its future tenant partners to facilitate recyclables management and to develop and adopt composting and responsible organic waste handling programs.

ENERGY

Comment 16: The project should study the possibility of installing solar voltaic collection devices on the roof possibly instead of the wisteria clad trellises currently in the design, as this would reduce the projected demand for energy. (CB4)

Response: Because Pier 57 is listed on the S/NR and is seeking federal tax credits, the project would be required to be built to the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Therefore, the design intent for the rooftop additions, including the proposed shade structures, is to create minimally intrusive new elements and provide for an attractive public open space. The proposed project would incorporate several energy efficiency measures, including the use of high efficiency HVAC systems, efficient lighting and appliances, and high efficiency fixtures, as well as maximizing interior daylighting using the existing operable vertical lift doors and maximizing opportunities for natural ventilation and passive cooling.

TRANSPORTATION

Comment 17: The proposed vehicular access plan will improve flow of traffic and increase safety in and around the Pier. Proposed speed tables, lights, and a new pedestrian walkway will increase efficiency and help reduce potential conflicts between vehicles, pedestrians, and cyclists. Locating the taxi stand in a separate

area than the Pier's frontage further adds to the circulation efficiency and safety around the project site. (Stringer)

Response: Comment noted.

Comment 18: Has a traffic study been conducted? (Cantor)

We respectfully request a full and honest evaluation of the traffic volumes and the real impacts before allowing this project to proceed. (CP/Gluck)

Response: The Transportation Chapter of the EIS includes detailed analyses of the project's potential traffic, parking, pedestrian, transit, and safety impacts. The analyses were performed in accordance with the *City Environmental Quality Review* (CEQR) *Technical Manual* guidelines and have been reviewed by New York State Department of Transportation (NYSDOT) and New York City Department of Transportation (NYCDOT).

Comment 19: The traffic issues associated with the redevelopment of Pier 57 have been among the most difficult to resolve. CB4 believes that the current transportation proposal successfully addresses the community's concerns and is grateful for the applicant's diligent attention to these issues. (CB4)

Response: Comment noted.

Comment 20: We recommend that the intersection of Tenth Avenue and West 15th Street, a dangerous intersection that exposes pedestrians crossing West 15th Street on the west side of Tenth Avenue to cars arriving at high speed from the West Side Highway, be addressed by the equipping of the westbound turning movements from Tenth Avenue onto West 15th Street with a split phase signal. (CB4)

Response: Community Board 4 suggested a "split phase" at the Tenth Avenue and West 15th Street intersection that would include a leading pedestrian interval (LPI) for the west crosswalk across West 15th Street, which conflicts with Tenth Avenue traffic turning left onto West 15th Street to access Route 9A. An LPI would allow pedestrians to start crossing the street in advance of turning vehicles, giving pedestrians a partially protected crossing. This "head start" also can increase the likelihood that motorists would yield to pedestrians in the crosswalk.

While the proposed development would not result in any significant adverse traffic impacts at this intersection, in response to Community Board 4's request, the Trust's transportation consultant has initiated discussions with NYCDOT regarding the suggested improvement.

Comment 21: The intersection at West 17th Street and Route 9A, the principal entrance to Pier 57, is already operating at a failed level of service, and even with the project improvements the traffic flow still fails. (Masyr)

Chelsea Piers is concerned about the 17th Street intersection, which is the sole exit from Chelsea Piers and the proposed principal entry for Pier 57. It should be noted that the existing 17th Street intersection gets an "F" service rating. Adding Pier 57 traffic to this intersection is not going to improve the level of service for the Pier 57 development. (CP/Tewksbury)

Failing traffic operations conditions are projected for the westbound West 17th Street approach to Route 9A. Long delays on the westbound West 17th Street approach (more than two minutes) could adversely affect safety and operations on Route 9A and the bikeway and constrain the egress movement from Chelsea Piers and the entry movement to Pier 57. Long delays on the westbound West 17th Street approach could result in drivers entering the intersection at the end of the yellow phase and proceeding across Route 9A even when storage space in the circulation road does not allow. As a result, there is the real potential for backups in the entrance to the circulation road that could block traffic on Route 9A and Chelsea Piers egress. The operational analysis is really a theoretical analysis and really doesn't fully reflect the safety implication of this type of situation. (CP/Gluck)

It is important to note a statement in the 2000 *Highway Capacity Manual*—the methodology used in the DEIS for traffic analysis. It indicates that "when delay is already high, and demand is near or over capacity…, the delay may increase rapidly with small changes in demand." This confirms that any underestimation of Pier 57 traffic volumes could result in a significant worsening of projected traffic condition that would affect Route 9A, West 17th Street, Chelsea Piers egress, and Pier 57 entry. (CP/Gluck)

How would Chelsea Pier traffic be impacted by Pier 57 traffic—is it possible that peak volumes would be staggered? (DCP)

Response: Projected conditions at the Route 9A/West 17th Street intersection during the five analysis peak hours are summarized in Chapters 14 and 22 of the EIS. The northbound, eastbound, and southbound approaches of this intersection would operate at acceptable levels of service under the With Action condition and would not require mitigation. The westbound approach of this intersection would operate at Level of Service (LOS) E or F under the Existing and No Action condition; however, with the addition of an exclusive westbound right-turn lane as a project improvement and implementation of proposed signal timing mitigation, the westbound approach on West 17th Street would operate with less delay in the With Action/Mitigated condition (with the project) than in the No Action condition (without the project).

The analysis results for the 2015 With Action Condition and 2015 Mitigated Condition of the Route 9A and West 17th Street intersection are compared to the 2015 No Action Condition in Tables 14-28 and 22-2 of the EIS. The tables show the following:

- During the Weekday Midday peak hour, the westbound West 17th Street approach would improve from LOS F in the No Action condition to LOS E as a result of the proposed project.
- During the Weekday PM peak hour, the westbound West 17th Street approach would remain at LOS F but delay would be decreased by 55.2 seconds.
- During the Weekday Evening Pre-Event peak hour (with the proposed mitigation), the westbound West 17th Street approach would remain at LOS F but delay would be decreased by 2.7 seconds with the proposed project.
- During the Saturday Midday peak hour, the westbound West 17th Street approach would remain at LOS F but delay would be decreased by 19.2 seconds.
- During the Saturday Evening Pre-Event peak hour, the westbound West 17th Street approach would remain at LOS E but delay would be decreased by 2.7 seconds.

Also, the analysis results show that the LOS for the Chelsea Piers exit driveway would remain unchanged for all peak hours as a result of the proposed project. All Highway Capacity Software (HCS) files for the analyzed intersections, including this one, were reviewed by NYCDOT.

Comment 22: What assumptions does the EIS make about use of the marina and the generation there, and what assumptions are made about special events? And what assumptions were made about marina use that was not dinner cruises? (Levin)

Does the worst-case scenario in terms of peak traffic times account for the potential for dinner cruises or any use that would be high demand like that? (De La Uz)

Events and dinner boats regularly generate hundreds of vehicles per event or cruise. One event and two dinner cruises could attract over 2,000 people on-site within a 60-minute arrival window. This could mean more than 500 to 1,000 more vehicles, both parking and dropping off, than is suggested in the DEIS. (CP/Braito)

One question is the intended operation of the marina—would it be used by private or charter boats? The trip generation for charter boats would be expected to have significantly higher trip generation rates. (CP/Gluck)

A realistic multiple events scenario should be analyzed. (CP/Gluck)

We request more information about anticipated use of the marina. What types of users would there be? How would traffic be impacts during peak usage? Would limiting the marina to private users alleviate traffic impacts? (DCP)

How would max visitor Tribeca Film Festival event impact traffic? (DCP)

Response: With respect to the marina uses, the trip generation and travel demand assumptions included in the EIS for the marina were based on marina land use assumptions from other certified EIS documents, including the *Hudson River Park FEIS* and *Brooklyn Bridge Park FEIS*. With respect to special events, the transportation analysis considers a reasonable worst case development scenario, assuming a rooftop event size of 2,500 people on weekday and Saturday evenings, although the physical limitations of the rooftop would not actually permit 2,500 attendees. In fact, according to Tribeca Film Festival, events would generally not exceed 1,500 people, and would not occur on a frequent basis. The transportation impacts of the proposed project during the typical condition (no rooftop event) and prior to a 2,500-person event are described in Chapter 14 of the EIS. There is no proposal for any large passenger, dinner boat, or charter vessel operations at Pier 57 (see response to Comment 4). The number of marina slips has been reduced from the 190 slips analyzed in the EIS to 141 slips, further reflecting the conservatism of the travel demand estimates.

Comment 23: If the proposed access plan fails, the only exit from Chelsea Piers will be blocked and consequently the only entrance to Chelsea Piers will be blocked by the backup on [Route] 9A. Traffic problems are going to have a huge negative impact on our businesses, and directly impact critical response time for the New York Fire Department (FDNY) and Emergency Medical Service (EMS) to respond to Chelsea Piers and Chelsea Cove Park. (CP/Braito)

The traffic and circulation analyses describe a project that will disrupt the traffic on Route 9A and likely cause gridlock at the West 17th Street and Route 9A intersection, which is the sole egress point for Chelsea Piers. (CP/Binder)

A principal overriding issue is that any failure of the Pier 57 access plan would cause gridlock at Route 9A and West 17th Street, blocking Chelsea Piers egress and Pier 57 entry. For the Pier 57 circulation road the DEIS does not address projected traffic operations. Is there sufficient storage available on the circulation road to avoid vehicle queues that would block Route 9A and Chelsea Piers, as well as impede emergency vehicle access? (CP/Gluck)

Any conflicts (bike-car, pedestrian-taxi, etc.) at either Pier 57 entrance will block the sole exit from Chelsea Piers and will cause immediate back up on Route 9A. Problems on the Pier 57 access driveway will quickly jam up driveway and restrict entrance from 9A, thus causing more backups onto 9A. (CP/Tewksbury)

I urge the Trust and its traffic consultants to continue to work with Chelsea Piers, NYSDOT, and NYCDOT, as appropriate, to avoid to the extent possible a backup of traffic within Chelsea Piers due to vehicles entering Pier 57. This might be accomplished with the adjustment of the traffic lights as well as an addition of traffic enforcement agents to ensure traffic departure from Chelsea Piers during events. (Gottfried)

Response: The transportation analysis concluded that the project, with the proposed project improvements and mitigation measures, would not result in any significant adverse traffic impacts along Route 9A or at the project driveways. The HCS analysis for the intersection of Route 9A and West 16th Street shows that the estimated maximum (95th-percentile) queue length for the southbound right-turn to Pier 57 at this intersection would be adequately accommodated by the proposed 140-foot turn bay. Additionally, the Pier 57 frontage road has been designed to accommodate the projected traffic volumes associated with the project. A frontage road analysis, described below, shows that the curbside space provided by the Pier 57 frontage road would accommodate the peak hour curbside volumes. As such, queues are not expected to extend back to the West 17th Street intersection with Route 9A, and the Chelsea Piers exit driveway would not be adversely affected.

The analysis was performed as follows:

- The proposed Pier 57 frontage road is approximately 725 feet long.

- As there is the potential for buses to be present on the frontage road, the potential worst-case scenario was assumed in which 175 feet of the frontage road curb frontage (i.e., the entire distance between West 16th and West 17th streets) would be reserved for bus use.

- Another 100 feet of the curbside frontage was subtracted for curb cuts and crosswalks, resulting in a total of 450 feet of usable curbside length, the linear equivalent of more than two city blocks, which would remain for pick-up and drop-off activity.

- Assuming a conservative 25 feet per vehicle, 18 vehicle positions could be accommodated by 450 feet of available frontage.

- As shown in the EIS, the highest total peak traffic volume entering the frontage road would be 148 vehicles during the Weekday Evening Pre-Event peak hour (assuming a 2,500-person rooftop event), and no trucks would be

arriving during a Weekday evening hour. This volume includes some vehicles entering the parking garage without stopping curbside.

- Assuming a conservative 2 minutes of stopped time per pick-up/drop-off, each vehicle space would turnover 30 times in a one-hour period. Therefore, with 18 vehicle positions and each one having the ability to turnover 30 times per hour, there is a curbside capacity of 540 vehicles over a one-hour period. Since the conservative capacity of the frontage road is 540 vehicles per hour, and the maximum entering volume is only 148 vehicles per hour, the proposed frontage road has more than enough capacity to handle the highest projected peak curbside demand.

- As it is possible that there would be a surge of vehicles arriving before an event, the analysis also conservatively considers an additional scenario where half the entering vehicles would arrive in a 15-minute period. The 15-minute capacity of the curbside would be one quarter of the hourly capacity, or 135 vehicles per 15-minutes. If half of the peak hour entering vehicles, or 74 vehicles, all arrived in one 15-minute period, the curbside would still have more than enough capacity to handle the projected peak curbside demand.

HRPT and the applicant have met with NYCDOT, NYSDOT, and Chelsea Piers during the planning process, have reviewed and discussed alternative access plans and have committed to implement a Traffic Management Plan (TMP) which would include active management of the frontage road by project staff. A preliminary TMP is provided in the FEIS. Traffic enforcement agents (TEAs) and signal timing changes are proposed as mitigation.

Comment 24: Does the analysis account for a water taxi? (De La Uz)

The DEIS indicates that a new water taxi landing at Pier 57 potentially would serve as a possible alternative mode of travel that could replace other models of travel to and from the Pier 57 site. As a result, the water taxi landing is not reflected in the trip generation estimate in the DEIS with respect to its potential to introduce additional pedestrian trips through the study area that are not originating from, or destined to, Pier 57. The inclusion of the water taxi landing suggests a potential for attracting/generating higher volumes of pedestrian (walk) trips that are not destined to Pier 57, but rather pass by the proposed site on their way to and from other locations. Additional pedestrian trips have implications on both the pedestrian capacity analyses and the vehicular capacity analyses (i.e., conflicting pedestrian volumes for vehicle turning movements). (CP/Gluck)

How would the water taxi impact pedestrian volumes? (DCP)

Response: The potential water taxi is discussed on page 14-46 of the EIS:

There is the potential for a water taxi landing to be constructed on Pier 57. The landing could become a stop along the Hudson River water taxi route that currently stops at various locations including Pier 45 at Christopher Street and Pier 84 at West 44th Street. As a stand-alone use, it is expected that the water taxi landing would primarily attract pedestrians from along the esplanade. However, it would also provide an alternative mode for visitors to travel to and from the site and would therefore result in a modal shift that would reduce the number of pedestrians coming from subway stations, bus stops, and taxis on the local streets. Since the presence of the water taxi would likely reduce the transportation impact of the project, the transportation planning analysis conservatively did not account for the water taxi landing.

While some additional pedestrian trips might be generated through the study area by the presence of a water taxi, this potential increase would be offset by a reduction in pedestrian trips due to some site visitors choosing to travel via water taxi rather than coming from the landside of the pier.

Comment 25: The TMP needs further detail and examination. (Gottfried)

Chelsea Piers has been a presence in the area for over 18 years and during that time has developed a traffic and parking management plan. We urge HRPT and the developer to provide a more robust commitment to manage the circulation road. (CP/Binder)

It appears from a review of the DEIS that the TMP will be critical for the proposed access arrangement to operate safely and efficiently. The DEIS provides only a very brief and general description of the plan. The full extent to the TMP needs to be documented and the means for commitment to implement it formalized. The DEIS recommends dealing with the "intermittent condition" adverse impact on pedestrian operations in the north crosswalk at Route 9A and West 15th Street by using traffic enforcement agents. This should be detailed in the TMP along with additional conditions, such as blockage of Chelsea Piers egress that would trigger its implementation. The TMP should include actions that would be implemented to avoid queuing from the southbound right-turn lane at West 16th Street and along the circulation road (to prevent congestion that blocks Route 9A and Chelsea Piers egress) as well as to "control and manage crowds and conflict points along the bikeway." The commitment of Pier 57 to implement the TMP would need to be formalized. (CP/Gluck)

Response: HRPT and the applicant agree that traffic management during event conditions is an important consideration. A preliminary TMP is provided in Chapter 14 of the FEIS and includes active staff traffic control efforts. As is typical and common for other projects in New York City, the TMP would be refined over time and would be designed to accommodate the needs of the site based on event size and type. It should be noted that the proposed TMP and access plan

address the proposed uses specific to Pier 57, which are notably different in scale and character from those at Chelsea Piers.

Comment 26: Currently classified as an area of failing traffic intersections at times, the DEIS reflects low estimates of vehicular traffic accessing Pier 57 and using its circulation road (including private vehicles and taxis) due to some of the assumptions regarding trip generation, modal split and traffic assignments. For example, the low estimates for Pier 57 vehicular traffic reflect assumptions related to taxi drop-offs/pick-ups and to Pier 57 customers parking at off-site facilities. The majority of taxis destined for Pier 57 were assumed to use the drop-off location on the east side of Route 9A. In addition, no portion of Pier 57 traffic that is assigned to off-site parking facilities was assigned to Pier 57 entry/egress. Are these reasonable assumptions on a cold stormy night? We urge HRPT and the developer to reassess the traffic models using traffic inputs from Chelsea Piers. (CP/Binder)

The DEIS does not indicate the assumption used for allocating the taxi movements among the three possible locations identified in the DEIS: along the Pier 57 circulation road, at a designated off-site taxi stand located on northbound Route 9A between West 14th and West 15th Streets, or on the north side of West 15th Street between Tenth Avenue and Route 9A (also off-site). There are concerns that many of the taxi movements assumed in the DEIS to use an external (i.e., off-site) location would actually end up on the Pier 57 circulation road. Both external locations would require taxi users to walk a longer distance and cross Route 9A traffic. During evening hours and poor weather conditions this would appear to be unlikely. As a result, the turning volumes at the nearby intersections could be under-reported in the DEIS. In addition, there would be greater need for stacking along the circulation road to accommodate the additional taxis. (CP/Gluck)

How will taxis be encouraged to use the West 14/15th Street drop-off rather than accessing the circulation road in front of Pier 57? (DCP)

Response: For purposes of the transportation impact studies, taxi trips were routed to and from the site, the off-site taxi stand on northbound Route 9A between West 14th and West 15th streets, and the north side of West 15th Street between Tenth Avenue and Route 9A based on logical assumptions regarding travel behavior. The commenter is incorrect in asserting that the majority of taxis destined for the project were assumed to use the drop off location on the east side of Route 9A. In fact, the majority of total project-generated taxi trips (56 to 68 percent, depending on the peak hour) were assigned to the on-site frontage road. The taxi drop-off/pick-up lane proposed for Route 9A northbound between West 14th Street and West 15th Street would minimize the number of taxis using the frontage road, and its use would be encouraged by providing appropriate curbside signage. Furthermore, the proposed taxi lane provides a safety benefit,

as it would tend to reduce the existing taxi behavior of stopping in the right travel lane on Route 9A northbound to drop off and pick up passengers. Northbound taxis that do not use this lay-by lane would instead have to travel through five additional traffic signals (four on 10th Avenue and one at Route 9A and West 17th Street) in order to access the Pier 57 frontage road, so it is reasonable to assume that they would be attracted to the Route 9A lay-by lane. Westbound arrivals were split between off-site taxi drop-off locations and the frontage road, while all taxis traveling southbound on Route 9A were assigned to enter the project site.

Additionally, few private autos are expected on-site given the limited number of on-site parking spaces. While poor weather conditions may exist and modify travel behaviors, they do not represent the typical condition, and are generally not considered as part of a transportation analysis. Moreover, rooftop event conditions are expected to occur primarily during good weather conditions, and it is also likely that fewer people would visit the site during inclement weather.

Comment 27: Assuming the traffic plan is accepted as proposed, it is therefore critical that the uses be clearly delineated and that a one year post-opening study be performed in consultation with NYCDOT and NYSDOT. (CP/Binder)

Response: The EIS defines the project program and the expected uses. It is expected that ongoing monitoring would occur during project startup and NYCDOT and NYSDOT could participate at their discretion. Because Route 9A is an important arterial roadway, it is anticipated that NYCDOT and NYSDOT would remain interested and active in Pier 57 operations. Likewise, the bikeway is also NYSDOT property, and therefore NYSDOT would remain interested and involved in its oversight.

Comment 28: We urge you to consider the alternative access plans Chelsea Piers has provided to HRPT and its consultants to help reduce the need for complicated, high volume access driveways and park-side circulation roadways (The preliminary plan represents an alternative approach to handling large volumes of traffic. It need not be adopted wholesale and elements, such as the location of the bikeway, can be re-configured. The important point is that the plan has an access configuration that is streamlined and less likely to break down). (CP/Binder)

Response: HRPT received two alternative access plans from Chelsea Piers (see **Appendix E-3**). Fatal flaws were identified with each plan. The first was received on September 26th, 2012. HRPT responded to Chelsea Piers on October 22, 2012 with the following comments:

1. Narrow Bikeway and Pedestrian System: The overall distance between Route 9A and Pier 57 does not permit adequate width for both the Hudson

River Bikeway and the park's pedestrian system under the Chelsea Piers plan. The Chelsea Piers proposal provides only an 8-foot bikeway plus 2-foot buffers, including railings, on each side. By comparison, the proposed plan provides a 14 foot bikeway plus a planter buffer and a two foot buffer with railing. The bikeway configuration proposed by Chelsea Piers is one-half the size of the 16-foot-wide standard Hudson River Bikeway width. In addition to the very narrow bikeway, the Chelsea Piers plan also narrows the Hudson River pedestrian corridor along the face of the Pier 57 building. At the north end, the sidewalk would be approximately 13 feet (versus approximately 18 feet for the proposed project) and at the south end, an approximately 10-foot-wide pedestrian space would remain (versus approximately 15-foot for the proposed project.)

2. Infeasible Drop-Off Location: The Chelsea Piers plan would restrict all drop-offs and pickups to a lay-by lane south of Pier 57 that would be approximately 135 feet in length. The short length and remote location of the proposed drop-off (several hundred feet south of the main entrance to Pier 57), would cause uncontrolled drop-offs in front of the pier. The proposed project provides significantly more and convenient curbside space for drop-offs and pickups safely and unobstructed by the bikeway. The proposed project's drop-off/pickup length is approximately 800 feet.

3. Uncontrolled Bikeway/Vehicle Conflicts: Placing the Hudson River Bikeway between the access roadway and the pier creates several uncontrolled hazardous vehicle/bicycle conflicts. Cars entering and exiting the garage would cross the bikeway, with poor sight lines. In addition, trucks backing into the loading docks and departing trucks would have to cross the bikeway. Any hand-carted freight for small shipments with trucks at curbside, would also be required to traverse the bikeway.

4. Deficient Pedestrian Crossing of Route 9A. The basis for design of the proposed project is to maximize pedestrian accessibility by closing the existing Pier 57 vehicle entrance/exit at West 15th Street and maximizing this as a pedestrian corridor. The Chelsea Piers plan closes one (south) of the two pedestrian crosswalks at the intersection of Route 9A/West 15th Street. This closure would require a significant concentration of pedestrian flow on only one crosswalk (north) resulting in heavy traffic delays for right-turners from West 15th Street onto Route 9A. Further, it is likely that inbound pedestrians would attempt to cross along this southern path anyway, yielding to unsafe conditions.

The second access plan proposed by Chelsea Piers was received on February 4, 2013. The following comments on this plan are provided below.

1. Hazardous entrance movement: The alternative access plan (AAP) proposes that southbound Route 9A traffic make a right turn into the frontage road without providing an exclusive southbound right-turn bay. Speed change lanes, such as right-turn lanes, are provided so that deceleration can be accomplished outside of the travel lanes in a safe manner. This minimizes interference with through traffic and reduces crash potential—most notably rear-end collisions. Right-turn lanes are consistently provided along Route 9A for southbound right turns exiting the roadway, including at Chelsea Piers. Not providing a right-turn bay would force vehicles exiting Route 9A to decelerate in the rightmost travel lane and present a potentially hazardous condition. Also, the movements at the proposed entrance on the AAP would occur at a much higher speed than in the proposed Pier 57 access plan given the angle of the turning movement and the elimination of the entrance speed table.

2. Infeasible walkway location: The AAP proposes to relocate all pedestrian traffic in front of Pier 57 into the Pier 57 building itself. An alteration to the headhouse would require approval from SHPO and is highly unlikely due to the historic nature of the building. Therefore, the pedestrian walkway/sidewalk along the Pier 57 frontage must be provided adjacent to the building façade, and providing a sidewalk with appropriate width would require significant alterations to the AAP and drastically reduces space for vehicles and/or bicyclists. It is not feasible to provide a direct north-south pedestrian walkway inside of the headhouse of the Pier 57 structure. This is due to the numerous ramps within the building, including the two vehicular ramps to the caisson level of the structure (located near the northern and southern edges of the headhouse) and the vehicular ramp to the second level of the structure (located in the center of the headhouse). North-south pedestrian connections would be provided in Pier 57, but these connections would be located west of the headhouse, due to the existing ramp elements.

3. Hazardous bikeway location: The AAP proposes to place the bikeway adjacent to the Pier 57 building façade without any buffer area separating the bikeway and the pedestrian space. This would force the high volume of pedestrians exiting the Pier 57 doorways to step directly across the bikeway, with no warning to bicyclists. It would also allow pedestrians to penetrate the bikeway from either direction at any location along the Pier 57 frontage, creating bicycle-pedestrian conflict points along the full frontage. A buffer area between the bikeway and the Pier 57 façade is required to avoid this condition. Also, trucks backing in and out of the loading docks would be required to cross the bikeway, and any hand-carted freight for small shipments with trucks at curbside would traverse the bikeway at uncontrolled locations. Also, the drop-off areas shown as a “hatched

orange" color in the AAP would result in all drop-offs stepping directly into the bikeway, and all pick-ups having to stand in the bikeway before entering the vehicle.

4. Inefficient Drop-Off/Pick-Up Operations. It is presumed that the AAP proposes that pick-up/drop-off activity would be permitted to occur within the two right-most travel lanes of the three-lane frontage road. (This presumption is based on the AAP only providing 180 feet of curbside pick-up/drop-off space, which is colored in "hatched orange" and designated as "Drop-Off/Delivery Sidewalk" in the legend, and since this is significantly less that the 725 feet of curbside space being provided in the proposed Pier 57 access plan, the AAP must be expecting that visitors would also use the middle frontage road lane for drop-offs and pick-ups). This is problematic on two fronts. First, vehicles dropping visitors off in the middle lane would be letting pedestrians out into a second, active pick-up/drop-off lane, which presents a potentially hazardous condition. Pedestrians walking out to the middle lane to be picked-up would be penetrating the rightmost lane at various points where sight lines may be blocked by other vehicles. Second, vehicle stoppages in the middle lane would create inefficiencies in the use of the curbside lane, as they would block the ability for curbside vehicles to move back into traffic and for vehicles to access the curbside lane. This is similar to the behavior exhibited at airport drop-off/pick-up areas where vehicle stoppages across multiple lanes result in inefficiencies, blockages, horn honking, vehicles stopping at angles, and the associated safety concerns.

5. Hazardous Garage Entry Maneuvers. The AAP would result in vehicles making a potentially unsafe 90-degree right turn across the bikeway into the garage ramp at the south end of the pier. Motorists would have very limited ability to see bicycles traveling southbound along the bikeway at these uncontrolled garage/bicycle conflict points.

6. Hazardous Garage Exit Maneuvers. The AAP would result in vehicles making a potentially unsafe 90-degree right turn across the bikeway out of the garage ramp onto the frontage road. Because the AAP places the bikeway right up against the façade of Pier 57, motorists would have very limited ability to see cyclists traveling northbound and southbound along the bikeway. Furthermore, vehicles exiting the garage would completely block the bikeway while waiting for gaps to enter the frontage road, and this conflict point would be uncontrolled.

7. Deficient Pedestrian Crossing of Route 9A. The AAP eliminates the south crosswalk across Route 9A at West 15th Street. This closure would result in

insufficient crosswalk space to accommodate the expected pedestrian demand crossing Route 9A, thereby causing increased traffic delays for right-turners from West 15th Street onto Route 9A. Further, it is likely that inbound pedestrians would attempt to jaywalk across the south leg of the Route 9A and West 15th Street, creating a hazardous condition.

For all of the above reasons, both access plans were viewed as having fatal flaws with respect to traffic flow and safety and would not provide acceptable alternatives to the proposed access plan.

Comment 29: The primary concerns are that traffic volumes in the Pier 57 DEIS may be an underestimation of the volumes that could actually result from the intended operations and that, when there is a major weekday event, there are key intersections that are projected to operate with little or no capacity available to handle any additional traffic. Therefore, additional volume above the DEIS projections would result in traffic operational failures of elements of the roadway network to a significantly greater extent than documented in the DEIS. (CP/Gluck)

We are concerned that the proposed impacts from Pier 57 are not being adequately studied, and its potential to create significant adverse impacts, particularly as it relates to traffic, have been underestimated and will severely affect the operation of both Chelsea Piers and Route 9A. (Masyr)

Response: The transportation analysis presented in the EIS is based on the following conservative assumptions:

1. The transportation analysis considers a 190-slip marina, whereas the application now contemplates a 141-slip marina.
2. The transportation analysis considers a rooftop event of 2,500 people, which is substantially larger than the number of people that could be physically accommodated on the roof given the proposed design and fire egress requirements.

Therefore, the results of the transportation analysis presented in the EIS are an overestimation of the volumes that would be generated by the proposed project.

Comment 30: The short storage length of the signal-controlled southbound Route 9A right-turn lane could result in vehicle backups that block traffic on Route 9A, West 17th Street, the Chelsea Piers egress, and the Pier 57 entry. The 140-foot storage length of the southbound Route 9A right-turn lane may be insufficient to accommodate the traffic demand. There are potential operational problems that will limit the throughput of the southbound right-turn lane, including the conflicting movements and transportation modes, traffic control, design (e.g., geometry and speed table), proximity to the Pier 57 garage egress, and loading zone. A review of the analysis results from the DEIS indicates that, during the

weekday evening pre-event peak hour, the 95th-percentile queue of this right-turn movement to Pier 57 would be between 5 and 6 vehicles. This would allow for little or no available capacity to handle additional traffic entering Pier 57. These results confirm that any underestimation of Pier 57 traffic volumes could result in a significant worsening of projected traffic conditions and queuing that would impact Route 9A, Chelsea Piers, and Pier 57. (CP/Gluck)

There are no traffic analysis results provided for the operation of the two-lane circulation road in the DEIS. With the right lane identified in the DEIS as being used for multiple curbside activities, the circulation road would operate as a single lane much of the time with disruptions relating to the vehicles entering/exiting the curbside lane. Also, the DEIS identifies: large volumes of pedestrians crossing the circulation road at STOP-sign controlled crossings, a traffic signal on the circulation road at the southbound right-turn lane at West 16th Street, and truck loading and unloading operations at the north end of the Pier 57 building. Whether there is sufficient capacity available along the circulation road to avoid backups that extend across West 17th Street and impede Route 9A and Chelsea Piers egress has not been addressed in the DEIS. (CP/Gluck)

Analysis results for how the circulation road is projected to operate and the vehicle queue lengths for the proposed conditions should be provided. This includes projected traffic (vehicles and pedestrians) volumes/flow maps for the circulation road. Vehicular volumes should distinguish between cars, vans, taxis, buses, and trucks. The volumes should reflect all the activities along the circulation road, including vehicle traffic, truck deliveries, passenger loading/unloading, turns at the driveways, taxis, buses, etc., and pedestrian volumes crossing the circulation road. (CP/Gluck)

We have been provided the intersection capacity analysis reports for the intersection of West 16th Street and Route 9A (related to the southbound Route 9A right-turn lane to Pier 57). However, further discussion is needed regarding how well the traffic analysis reflects the dynamics at that location, including the speed table, conflicts with bikeway users, alignment of the turn on to the circulation road, etc. Further information is needed regarding the intersection of the right-turn lane and the two-lane circulation (frontage) road that could operate as only one lane under many conditions that are identified in the DEIS. (CP/Gluck)

Response: The HCS analysis results show that the maximum (95th percentile) queue length for the southbound right-turn movement at the intersection of Route 9A and West 16th Street would not result in queues exceeding the storage capacity of the right-turn lane. The right-turn lane is proposed to be 140 feet long, which can hold up to 7 queued vehicles assuming 20 feet per vehicle. The HCS analysis for the With Action conditions calculates the maximum (95th percentile) queue lengths as 3.1, 4.0, 5.1, 3.3, and 2.1 vehicles for the Weekday

Midday, Weekday PM, Weekday Evening Pre-Event, Saturday Midday, and Saturday Evening Pre-Event peak hours, respectively. Note that HCS calculates traffic conditions for the peak 15-minute period of the peak hour; therefore, for the majority of the peak hour, queue lengths would be shorter than what is reported by HCS.

An analysis of the frontage road itself is provided in response to Comment 23.

The southbound right-turn at the Route 9A and West 16th Street intersection is proposed as a skewed right-turn to provide improved visibility between the bikeway and turning vehicles. To counteract the possible higher turning speeds that could result from the skewed right-turn alignment, a speed table is recommended at this location. The higher turning speeds that would result from the skewed right turn and the slower turning speeds that would result from the speed table would offset each other and result in a turning speed similar to that of a 90-degree standard right turn.

Comment 31: One issue is the lack of information in the Pier 57 DEIS regarding the usage and operation of the Pier 57 circulation road. One of the missing items is the projected number of drop-offs related to both private vehicles and taxis for each of the analysis hours.

A comparison of vehicle trip projections and actual traffic volumes showed that the volumes entering and exiting the Pier 57 site during a peak hour do not match the vehicular trip generation for that peak hour. This is unexplained in the DEIS, but may be related to the assignment of site-generated traffic directly to/from external parking facilities without a drop-off or pick-up at Pier 57.

The question is what proportion of the vehicle trips assigned to off-site parking were estimated in the DEIS to first stop at Pier 57 to discharge passengers before parking externally. A similar situation could exist after a visit/event when a driver who was parked at an external facility would return to Pier 57 to pick-up passengers.

Since it is reasonable to expect there would be at least some drop-offs at Pier 57 before parking externally, vehicles dropping off passengers should have been estimated and assigned to Pier 57 access/egress points. The DEIS preparers need to identify what proportion, if any, of the vehicles parking externally was assigned to Pier 57 for drop-offs and what proportion was assigned directly to the external parking facilities.

As a result of how the vehicles destined to external parking facilities were assigned to the roadway network, the traffic analysis may underestimate the operational impacts of the proposed site including Route 9A at West16th Street and at West 17th Street. (CP/Gluck)

The number and type of activities proposed on the circulation road curb frontage and the associated vehicle stacking needs may be underestimated in the DEIS. For example, during the weekday evening pre-event peak hour the DEIS projects a rooftop event would generate 1,717 person trips. Applying modal split and other assumptions, the DEIS projects this type of event would generate only 79 vehicle trips, representing less than 5 percent of the estimated person trips. Furthermore, it appears that of the 79 vehicle trips, only an estimated 45 vehicle trips were assigned in the DEIS to Pier 57 entry/egress locations (or circulation road). The remaining 24 vehicle trips (79–45) were routed directly to off-site parking without accounting for site drop-offs and pick-ups. Implications of higher actual traffic volumes than those estimated in the DEIS include worse operational and safety conditions than indicated in the DEIS, including at the Pier 57 entry and egress points. (CP/Gluck)

Modal splits used in the DEIS (car/taxi vs. other modes) are artificially low. The DEIS projections that most car/taxis will drop off or park east of Route 9A is not realistic. (CP/Tewksbury)

Response: As the comment correctly points out, not all vehicular trips generated by the proposed project were assigned to the site, as there would be limited parking available on-site. As such, vehicle trips were assigned to off-site parking facilities located within a ¼ mile of Pier 57, which is a reasonable distance for people to walk from their cars to the project site. The trip assignment for vehicular traffic followed the methodology described on Page 16-15 of the *2012 CEQR Technical Manual*: "A proposed project may have multiple parking facilities available to it, both on-site and off-site. In this case, the assessment considers how specific arrival routes could link up with the different parking sites via a reasoned judgment as to where motorists coming from different directions are likely to park. If a site has multiple parking facilities available to it, more cars cannot be assigned to any of them than its capacity can accommodate." Due to the time it would take for drivers to drop off passengers, travel through multiple traffic signals and find off-site parking, and then walk back to the site, the number of on-site drop-offs would be minimal. An analysis of the frontage road itself is provided in response to Comment 23**.**

The modal split for the rooftop event was based on survey data collected for a similar event within Hudson River Park at Pier 54. This modal split, as well as the modal splits for all land uses included in the proposed project, are included in the EIS and were reviewed by NYCDOT.

Comment 32: Regarding circulation road usage and projected volumes at intersections near Pier 57, there is also a concern related to bus usage and stops (both MTA/NYCT and tour buses). The DEIS indicates there is the possibility of "providing an on-site bus stop for the NYCT M14 bus route" on the circulation roadway north of the Pier 57 building. The DEIS also indicates the "potential for tour bus activity

to be generated by the proposed project…" on the circulation roadway. Although the DEIS states that "…the access plan would accommodate such activities, if needed," the bus volumes are not projected and are not reflected in any of the analyses. (CP/Gluck)

The traffic plans in the DEIS describe bus transportation but no buses seem to be factored into actual traffic counts and operations. (CP/Tewksbury)

Response: There is no NYCT bus stop proposed at Pier 57. The EIS indicates that there is a potential to use the section of frontage road between West 16th and West 17th streets for a possible bus stop location. City and tour buses would potentially stop here to load/unload passengers, but would not be permitted to use this area for layovers. The segment of the frontage road where the potential bus stop might be located is approximately 175 feet long, enough to accommodate one articulated city bus and two tour buses. Additionally, the analysis of the frontage road, provided in response to Comment 23, shows that the curbside pick-up and drop-off is more than sufficient to handle even the highest project demands. Therefore, additional buses could be accommodated along the frontage road if necessary, even during peak hours.

The transportation analysis in the DEIS did not consider that there would be a city bus stop along frontage road because if buses were to stop on-site, the bus modal share would increase with a concomitant reduction in the number of pedestrians that would cross at study intersections. The analysis conservatively assumed buses would stop off-site so that a greater number of pedestrians would be crossing at the study intersections.

Comment 33: The trip generation for Pier 57 estimates sites two sources for the Marina trip rates: the *Hudson River Park FEIS* (1998) and the *Brooklyn Bridge Park FEIS* (2005). While the higher rate of 6.23 trips/slip from the *Brooklyn Bridge Park FEIS* is used to estimate the weekday trips (as compared with 5.9 trips/slip in the *Hudson River Park FEIS*), the lower rate of 12.8 trips/slip from the *Hudson River Park FEIS* is used to estimate the Saturday trips (as compared with the 13.47 trips/slip rate from the *Brooklyn Bridge FEIS*). Therefore, the trip generation for Pier 57 for Saturday may be underestimated. (CP/Gluck)

Response: The DEIS cites two sources for the marina trip generation. The trip generation rates provided in the *Hudson River Park FEIS* were assumed to be more appropriate for the trip generation calculations for Pier 57, because Pier 57 is within Hudson River Park. However, NYCDOT provided comments on September 6, 2011, that specifically requested use of the trip generation rate from the *Brooklyn Bridge Park FEIS* for the weekday peak hours. Using the higher trip generation rate from the *Brooklyn Bridge Park FEIS* to estimate the number of Saturday trips would result in a difference of at most 6 trips during either Saturday peak hour, which would not change the conclusions presented in the EIS. Additionally, the trip generation estimates for the Marina land use are

significantly overstated, as a 190 slip marina was analyzed compared to the 141 slip marina that is proposed.

Comment 34: As stated on page 12-4 of the DEIS, the Marina includes "slips for one or more historic vessels." Presumably, historic vessels—whether they remain docked or actively sail—could operate as visitor attractions at Pier 57, and therefore potentially generate additional pedestrian/vehicle trips to Pier 57. The trip generation rates for this activity are not reflected in the trip generation rates for the Marina land use cited in the source documents referenced in the DEIS: the *Hudson River Park FEIS* (1998) and the *Brooklyn Bridge Park FEIS* (2005). (CP/Gluck)

Response: The historic vessels contemplated as part of the proposed project would not be of a size or character that would generate any substantial number of trips not already accounted for in the analyses.

Comment 35: The weekday and Saturday person-trip generation rates for the Food Counter land use are the same as those for the Quality Restaurant land use. Typically, high-turnover restaurants, such as those envisioned as part of the Food Counter use, have higher trip generation rates than Quality Restaurants. This conclusion is supported by data in the Institute of Transportation Engineers (ITE) *Trip Generation* manual, which indicates that average daily trip rates for a High-Turnover Restaurant (Land Use Code 932) are 41 percent higher than those for a Quality Restaurant (Land Use Code 931) on a weekday, and 68 percent higher on a Saturday. (CP/Gluck)

Response: First, the suggestion to base trip generation rates on the High-Turnover (Sit-Down) Restaurant land use is not appropriate because the ITE defines this land use as establishments with duration of stay of approximately 1 hour and where patrons wait to be seated, are served by a waitress/waiter, order from a menu, and pay for their meal after they eat. The proposed food counters do not operate with any of these characteristics.

Second, the trip generation estimates included in the EIS for the Food Counter land use are conservative. The most appropriate trip generation for food counters would be the trip generation rates for the Destination Retail land use. This is because, as described in the EIS, the majority of patrons to the food counters would also be shopping at the retail pods or other site uses, similar in operation to a "food court" within a shopping center. Furthermore, the published ITE and CEQR trip generation rates for the destination retail land use are based on source surveys performed at shopping centers with restaurants and food courts/counters. Therefore, including food counter square footage in the destination retail square footage is appropriate for trip generation purposes, as food-related trips are already captured in those rates. The trip generation rates

used in the EIS are higher than Destination Retail rates and are therefore more conservative.

Comment 36: AECOM has prepared a list of potential mitigation measures that can be further investigated to minimize adverse impacts from Pier 57 on Chelsea Piers egress based on the information currently provided in the DEIS. We urge HRPT and the developer to include these measures in a binding recorded document and to take other actions to minimize adverse traffic impacts. (CP/Binder)

The list below presents potential mitigation actions that could be further investigated to minimize adverse impacts from Pier 57 on Chelsea Piers egress. However, a fundamental question is whether the projected volumes in the Pier 57 DEIS are a reasonable estimate of the anticipated site-generated traffic.

1. Increase green time at the Route 9A and West 16th Street traffic signal only for the southbound right-turn movement into Pier 57 at West 16th Street beyond what is allowed for the southbound left-turn movement. However, this would reduce the green signal time for the bikeway.
2. Provide manual traffic control at the intersection of the southbound right-turn lane/circulation road/bikeway at West 16th Street to manage conflicts and prevent queues from the right-turn lane extending onto Route 9A and blocking Chelsea Piers egress and Pier 57 entry.
3. Provide manual traffic control along Route 9A at the intersection of West 17th Street/Chelsea Piers egress/circulation road to manage conflicts and prevent queues from the circulation road extending onto Route 9A and blocking Chelsea Piers egress and Pier 57 ingress.
4. Relocated the potential bus stop shown in the DEIS from north of West 16th Street to a location near West 15h Street to help maintain two lanes on the circulation road between West 16th and 17th Streets.
5. Implement provisions to minimize taxi drop-offs/pick-ups along the circulation road and enforce usage of the taxi zone on the east side of Route 9A between West 14th and West 15th Streets and along the north side of West 15ht Street between Route 9A and Tenth Avenue.
6. Prohibit curbside activities on the circulation road between West 16th and West 17th Streets, redirecting them further south, and enforce these prohibitions, providing manual control, if needed.
7. If there is a charter boat operation envisioned as part of the marina plan, then limit the charter operations size and times to help manage traffic volumes and conditions along the circulation road and at nearby intersections.

8. Minimize curbside activities on the circulation road in the vicinity of the West 16th Street entry during peak periods of inactivity, particularly when there is an event in order to help maintain traffic flow.
9. Detail the provisions relating to Pier 57 traffic operations in the TMP and establish as a major objective the prevention of congestion on the circulation road and southbound right-turn lane (at West 16th Street) that could impede Route 9A and the Chelsea Piers egress route.
10. Develop a comprehensive TMP to include provisions on how to avoid queuing from the southbound right-turn lane at West 16th Street and along the circulation road as well as to "control and manage crowds and conflict points along the bikeway." The TMP should be reevaluated during the first year of Pier 57 operations and then reviewed and updated in regular five-year intervals.
11. Include the requirement for implementation of the above actions in a binding document (such as the lease). (CP/Gluck)

Response: Mitigation measures to address the Chelsea Piers egress are not required, because the project would not result in any significant adverse impacts to Chelsea Piers egress. The mitigation measures described in Chapter 22 of the EIS would fully mitigate the significant adverse project impacts identified in Chapter 14 of the EIS. The preliminary TMP, which includes some of the commenter's suggested elements, is provided in the FEIS and the lease would include a requirement for its implementation.

While not required to address significant adverse traffic impacts, certain aspects of the mitigation measures proposed by Chelsea Piers may be incorporated into the design, including the relocation of the proposed bus stop.

Comment 37: Those using the bikeway will now endure horn honking and exhaust fumes on both sides; more traffic lights hindering their trip; and more risk of getting injured or killed by motorists crossing the path. I do not understand the logic of building a driveway and crossing points to accommodate all motorists at the expense of Greenway users, like you are planning to do. A "pull in" area that did not cross the Greenway, such as at the Intrepid, seems like a preferable idea. (Kelliher)

Response: The project team carefully considered multiple access and egress schemes for Pier 57. A proposal that flipped the locations of the bikeway and frontage road was considered but was not pursued. If the frontage road did not cross the bikeway as proposed, all pedestrians, taxi pick-up and drop-offs, and truck deliveries would have to cross the bikeway to access the pier, and these trips would not be concentrated at the crosswalks. Additionally, vehicles would have to cross the bikeway at uncontrolled driveways to access the on-site parking. Therefore, it was determined that it would be to the benefit of the users of the

bikeway to concentrate the vehicular and pedestrian crossing locations at a limited number of specific and controlled locations.

Comment 38: There are already a number of driveways going across the greenway. The project should look at how to make the best use of those without adding more crossings. The addition of 75 parking spaces is just a magnet for more traffic to cross the path. The project should reduce or eliminate the parking. (Budnick)

Response: The access plan proposes to utilize one existing greenway crossing and there are no other viable existing crossings that could serve the project. The project also creates two additional greenway crossings, both of which are necessary for the site access plan to function properly. Where new crossings are proposed, safety measures such as signalization, speed tables, pavement markings, signage, and bollards have been incorporated into the design. The proposed parking is necessary to serve the occupants, visitors, customers, and employees of the project and would be accessory parking only. Seventy-four accessory parking spaces (the proposed number of spaces) is a small amount of parking for a project of this size; the majority of project-generated vehicular traffic would be parking off-site and would not be crossing the greenway. Access to the proposed parking spaces would be via existing driveways within the historic pier structure.

Comment 39: Has the analysis accounted for the potential for conflicts at Tenth Avenue and West 17th Street and the existing traffic signal at that location? (Cantor)

Response: The transportation analysis in Chapter 14 of the EIS included the Tenth Avenue and West 17th Street intersection and accounted for the existing traffic signal operations.

Comment 40: Does the EIS analysis software include the overlap of people and cars which have a tendency to run a yellow and people which have a tendency to be halfway through an intersection? (Cantor)

Response: The software used to conduct the transportation analysis uses algorithms to calculate delay, level of service, queues, etc. that were developed based on actual driver/travel behavior. However, the software does not account for illegal maneuvers by pedestrians or motorists.

Comment 41: We believe it is imperative for NYCDOT to require further study of Pier 57 traffic issues, including exploring alternatives that do not use 17th Street as the primary project entrance. (CP/Tewksbury)

Response: The access to Pier 57 from West 17th Street is a critical component of the access plan. The driveway at West 17th Street provides 175 feet of curbside space along the frontage road and serves vehicles accessing the site from the south and

the east. Without the access at West 17th, the curbside space would be reduced and all vehicles would have to access the site from West 16th Street. The vehicle storage in the southbound right-turn lane at West 16th Street is limited to 140-feet, the distance between West 16th Street and West 17th Street. This storage space is adequate to accommodate vehicles accessing the site from the north, but would not be adequate to serve all vehicles accessing the site.

Comment 42: Will pedestrians and runners be able to use the segment of the greenway fronting Pier 57, from West 14th to West 17th Streets? Or exclusively bikes? (DCP)

Response: Although the bikeway is not park property, HRPT encourages segregating bikes and pedestrians when feasible and uses signage and education through Parks Enforcement Patrol officers to encourage pedestrians and runners to use the esplanade. As described in Chapter 1, "Project Description" of the EIS, a wide sidewalk would be provided along the project frontage to encourage pedestrians to walk adjacent to the project rather than on the bikeway.

Comment 43: Is anything being done to prevent drivers from Chelsea Piers' driveway entering the Pier 57 circulation road at West 17th Street? (DCP)

Response: The geometry of the curve from the Chelsea Piers egress to the entrance to the Pier 57 circulation road is designed to make it very difficult to physically make the right turn onto the circulation road. The project would reinforce the restriction on this movement with signage that would be located on the right side of the Chelsea Piers approach to West 17th Street and Route 9A near the Chelsea Piers stop line.

Comment 44: Is there a breakdown of taxis projected to use the designated drop-off between West 14th and West 15th Streets vs. entering circulation road directly in front? (DCP)

Response: The breakdown of taxis picking up/dropping off on-site vs. off-site is generally 60 percent on-site and 40 percent off-site and varies slightly by peak hour.

Comment 45: West 17th Street is being restriped from one to two lanes: how deep are these turning lanes? (DCP)

Response: The new turn-lane on West 17th Street would be approximately 165 feet long, which would provide storage for approximately 8 vehicles.

Comment 46: How will southbound drivers be prevented from turning right at West 17th Street on Route 9A? (DCP)

Response: Vehicles accessing Pier 57 via southbound Route 9A would not be allowed to make an illegal right turn at West 17th Street to access the Pier 57 frontage road

through signage, striping, and the overall design of the intersection. Specific measures could include: (1) advance signage that would direct southbound drivers to access the site via the West 16th Street entrance; (2) signage on Route 9A at West 17th Street would inform drivers that right-turns are not permitted at this intersection; and (3) large white "through only" arrows could be painted on the three southbound Route 9A travel lanes at West 17th Street to indicate that the travel lanes are for through movements only.

Comment 47: The volume-to-capacity (v/c) ratio shown for the southbound left-turn movement from Route 9A to West 14th Street ranges as high as 1.99 for existing conditions. For NYCDOT, the existing v/c ratio should not exceed 1.05. Such a high v/c ratio for this movement raises questions about how well the analysis reflects existing conditions at this location and along southbound Route 9A. The applicant should provide information as to why the high v/c ratios were retained for existing conditions and how this may affect the analysis results for the intersection of Route 9A and West 14th Street. (CP/Gluck)

Response: The high v/c ratios used in the analysis of West 14th Street and Route 9A are a result of calibrating the operations at this intersection to better match actual existing conditions. When the through movements along Route 9A are red, the southbound left-turn at West 14th Street and Route 9A has a dedicated green phase with the pedestrian phase for the south crosswalk. This phase is 41 seconds long. However, the southbound left-turn lane cannot take advantage of the full phase length, because southbound traffic is held up at the red light at the West 15th Street intersection. Not accounting for the metering of traffic at West 15th Street would result in a better LOS for the southbound left turn than what is experienced in the field; to calibrate HCS to account for the unused portion of the green time, the HCS file for West 14th Street and Route 9A was modified to reduce the green time for the southbound left-turn phase by 22 seconds and add it to the red time. This resulted in the southbound left-turn lane group having v/c ratios in excess of 1.05.

GREENHOUSE GASES AND CLIMATE CHANGE

Comment 48: The applicant and the HRPT should continue giving sufficient consideration of the impact of rising sea levels on this project. (CB4)

Response: Comment noted. In addition to the sea level rise resilience measures described in the EIS (the use of flood barriers for predicted storm events), the applicant has also designed the proposed project to locate mechanical space and other critical infrastructure on the roof of the headhouse, well above current as well as any anticipated future flood levels.

CONSTRUCTION

Comment 49: There should be some benefit to the community during the extended construction period of the project, perhaps mitigation and enhancement of pathways around the site, and limiting of construction take-over of lanes on major traffic artery. (CB4)

Response: As discussed in Chapter 1, "Project Description," and Chapter 19, "Construction," the proposed project would repair the existing perimeter walkway, extend it to connect with the Hudson River Park waterfront esplanade to the east of the pier, and create new public walkways parallel to the existing bulkhead, thereby enlarging the currently limited public circulation space along the bulkhead. Bikeway and traffic lane closures on southbound Route 9A would be limited and would only occur on selective weekends and/or nighttime periods during the project site's entrance reconfiguration work.

Comment 50: We recommend that a construction task force be established, with representatives of all stakeholders, which will meet at least monthly throughout the construction phase of the project and must be in place prior to the commencement of demolition. (CB4)

Response: As discussed in Chapter 19, "Construction," a field representative would serve as the contact point for the community and local leaders, and would be available to meet and work with the community to resolve concerns or problems that may arise during the construction process. ✷

Appendix A
Socioeconomic Conditions

Table A-1
Retail Survey
1/4-Mile Local Trade Area

Category	Establishments No.	Percent
SHOPPING GOODS	**73**	**39.2%**
General Merchandise		
Department (except discount)		
Discount department		
Warehouse clubs and supercenters		
All other general merchandise		
Clothing and Clothing Accessories		
Men's clothing	2	
Women's clothing	17	
Children's clothing		
Family clothing	12	
Accessories		
Other clothing	1	
Shoes	2	
Jewelry	3	
Luggage and leather goods		
Furniture, Home Furnishings, Equipment		
Furniture	3	
Floor covering		
Window treatment		
All other home furnishings	2	
Electronics and Appliance		
Appliance, television, and other electronics		
Computer and software	1	
Camera and photographic supplies		
Sporting Goods, Hobby, Books, Music		
Sporting goods	2	
Hobby, toy, and games		
Sewing, needlework, and piece		
Musical instrument and supplies		
Books	1	
Tape, compact disc, and record		
Miscellaneous Store Retailers		
Optical goods		
Office supplies and stationary		
Gift, novelty, and souvenier	1	
Used merchandise		
Art dealers	25	
Other miscellaneous shopping goods	1	
BLDING MTR'LS & GARDEN SUPPLY	**2**	**1.1%**
Home centers		
Paint and wallpaper		
Hardware		
Other building material dealers	2	
Lawn and garden equipment & supplies		
VACANT STOREFRONTS	**21**	**11.3%**
Boarded-up	20	
Under renovation, no tenant specified	1	
Under renovation, future tenant specified		

Category	Establishments No.	Percent
CONVENIENCE GOODS	**18**	**9.7%**
Food and Beverage		
Supermarkets and other grocery	2	
Convenience stores		
Meat markets	1	
Fish and seafood markets		
Fruit and vegetable markets		
Other specialty food stores	7	
Beer, wine, and liquor stores	3	
Health and Personal Care		
Pharmacies and drug stores		
Beauty supplies and perfume	3	
Other health and personal care		
Other Convenience Goods		
Florists	1	
Tobacco stores		
Newsdealers and newsstands	1	
Pet and pet supplies stores		
Other miscellaneous convenience goods		
NEIGHBORHOOD SERVICES	**12**	**6.5%**
Taxi and limousine services		
Banks		
Check cashing		
Pawn shops		
Video tape and disc rentals		
Photocopy stores		
Fitness and recreational sports centers	2	
Electronics repair (computer, stereo, etc.)		
Personal & household goods repair (appliance, garden equipment, footwear, etc.)		
Hair, nail, and skin services	5	
Funeral homes and funeral services		
Laundromats		
Drycleaning and laundry services		
Photofinishing		
Parking lots and garages	4	
Medical or dental offices		
All other professional offices (travel, tax, etc.)	1	
Other neighborhood services (palm reading, etc.)		
EATING AND DRINKING PLACES	**56**	**30.1%**
Full-service restaurants	33	
Limited-service eating places	13	
Special food services (e.g., caterers)	1	
Drinking places (alcoholic beverages)	9	
AUTO-RELATED TRADE	**4**	**2.2%**
Automobile dealers		
Other motor vehicle dealers (motorcycle, boat, etc)		
Automotive parts, accessories, and tires		
Gasoline stations	1	
Car rental		
Automotive repair and maintenance	3	

STOREFRONT SUMMARY

Total Storefronts	**186**	**100.0%**	Neighborhood Services	12	6.5%
Shopping Goods	73	39.2%	Eating and Drinking Places	56	30.1%
Blding Mtr'ls & Garden Supply	2	1.1%	Auto-Related Trade	4	2.2%
Convenience Goods	18	9.7%	Vacant Storefronts	21	11.3%

Source: AKRF, Inc. field surveys conducted in December 2011.

Table A-2
Retail Survey
Chelsea Market

Category	Establishments No.	Establishments Percent	Category	Establishments No.	Establishments Percent
SHOPPING GOODS	**4**	**11.4%**	**CONVENIENCE GOODS**	**13**	**37.1%**
General Merchandise			**Food and Beverage**		
Department (except discount)			Supermarkets and other grocery	1	
Discount department			Convenience stores		
Warehouse clubs and supercenters			Meat markets	1	
All other general merchandise			Fish and seafood markets		
Clothing and Clothing Accessories			Fruit and vegetable markets		
Men's clothing			Other specialty food stores	7	
Women's clothing	1		Beer, wine, and liquor stores	2	
Children's clothing			**Health and Personal Care**		
Family clothing			Pharmacies and drug stores		
Accessories			Beauty supplies and perfume		
Other clothing			Other health and personal care		
Shoes			**Other Convenience Goods**		
Jewelry			Florists	1	
Luggage and leather goods			Tobacco stores		
Furniture, Home Furnishings, Equipment			Newsdealers and newsstands	1	
Furniture			Pet and pet supplies stores		
Floor covering			Other miscellaneous convenience goods		
Window treatment			**NEIGHBORHOOD SERVICES**	**0**	**0.0%**
All other home furnishings	1		Taxi and limousine services		
Electronics and Appliance			Banks		
Appliance, television, and other electronics			Check cashing		
Computer and software			Pawn shops		
Camera and photographic supplies			Video tape and disc rentals		
Sporting Goods, Hobby, Books, Music			Photocopy stores		
Sporting goods			Fitness and recreational sports centers		
Hobby, toy, and games			Electronics repair (computer, stereo, etc.)		
Sewing, needlework, and piece			Personal & household goods repair (appliance, garden equipment, footwear, etc.)		
Musical instrument and supplies			Hair, nail, and skin services		
Books	1		Funeral homes and funeral services		
Tape, compact disc, and record			Laundromats		
Miscellaneous Store Retailers			Drycleaning and laundry services		
Optical goods			Photofinishing		
Office supplies and stationary			Parking lots and garages		
Gift, novelty, and souvenier	1		Medical or dental offices		
Used merchandise			All other professional offices (travel, tax, etc.)		
Art dealers			Other neighborhood services (palm reading, etc.)		
Other miscellaneous shopping goods			**EATING AND DRINKING PLACES**	**18**	**51.4%**
BLDING MTR'LS & GARDEN SUPPLY	**0**	**0.0%**	Full-service restaurants	5	
Home centers			Limited-service eating places	12	
Paint and wallpaper			Special food services (e.g., caterers)	1	
Hardware			Drinking places (alcoholic beverages)		
Other building material dealers			**AUTO-RELATED TRADE**	**0**	**0.0%**
Lawn and garden equipment & supplies			Automobile dealers		
VACANT STOREFRONTS	**0**	**0.0%**	Other motor vehicle dealers (motorcycle, boat, etc)		
Boarded-up			Automotive parts, accessories, and tires		
Under renovation, no tenant specified			Gasoline stations		
Under renovation, future tenant specified			Car rental		
			Automotive repair and maintenance		

STOREFRONT SUMMARY					
Total Storefronts	**35**	**100.0%**	Neighborhood Services	0	0.0%
Shopping Goods	4	11.4%	Eating and Drinking Places	18	51.4%
Blding Mtr'ls & Garden Supply	0	0.0%	Auto-Related Trade	0	0.0%
Convenience Goods	13	37.1%	Vacant Storefronts	0	0.0%

Source: AKRF, Inc. field surveys conducted in December 2011.

Table A-3
Retail Survey
Meatpacking District (bounded by West 14th Street, Ninth Avenue, Gansevoort Street, and West Street)

Category	Establishments No.	Establishments Percent	Category	Establishments No.	Establishments Percent
SHOPPING GOODS	**42**	**47.2%**	**CONVENIENCE GOODS**	**3**	**3.4%**
General Merchandise			**Food and Beverage**		
Department (except discount)			Supermarkets and other grocery		
Discount department			Convenience stores		
Warehouse clubs and supercenters			Meat markets		
All other general merchandise			Fish and seafood markets		
Clothing and Clothing Accessories			Fruit and vegetable markets		
Men's clothing	1		Other specialty food stores		
Women's clothing	16		Beer, wine, and liquor stores		
Children's clothing			**Health and Personal Care**		
Family clothing	13		Pharmacies and drug stores		
Accessories			Beauty supplies and perfume	3	
Other clothing	1		Other health and personal care		
Shoes	2		**Other Convenience Goods**		
Jewelry	3		Florists		
Luggage and leather goods			Tobacco stores		
Furniture, Home Furnishings, Equipment			Newsdealers and newsstands		
Furniture	3		Pet and pet supplies stores		
Floor covering			Other miscellaneous convenience goods		
Window treatment			**NEIGHBORHOOD SERVICES**	**5**	**5.6%**
All other home furnishings	1		Taxi and limousine services		
Electronics and Appliance			Banks		
Appliance, television, and other electronics			Check cashing		
Computer and software	1		Pawn shops		
Camera and photographic supplies			Video tape and disc rentals		
Sporting Goods, Hobby, Books, Music			Photocopy stores		
Sporting goods			Fitness and recreational sports centers		
Hobby, toy, and games			Electronics repair (computer, stereo, etc.)		
Sewing, needlework, and piece			Personal & household goods repair (appliance, garden equipment, footwear, etc.)		
Musical instrument and supplies			Hair, nail, and skin services	4	
Books			Funeral homes and funeral services		
Tape, compact disc, and record			Laundromats		
Miscellaneous Store Retailers			Drycleaning and laundry services		
Optical goods			Photofinishing		
Office supplies and stationary			Parking lots and garages	1	
Gift, novelty, and souvenier			Medical or dental offices		
Used merchandise			All other professional offices (travel, tax, etc.)		
Art dealers	1		Other neighborhood services (palm reading, etc.)		
Other miscellaneous shopping goods			**EATING AND DRINKING PLACES**	**21**	**23.6%**
BLDING MTR'LS & GARDEN SUPPLY	**1**	**1.1%**	Full-service restaurants	14	
Home centers			Limited-service eating places		
Paint and wallpaper			Special food services (e.g., caterers)		
Hardware			Drinking places (alcoholic beverages)	7	
Other building material dealers	1		**AUTO-RELATED TRADE**	**2**	**2.2%**
Lawn and garden equipment & supplies			Automobile dealers		
VACANT STOREFRONTS	**15**	**16.9%**	Other motor vehicle dealers (motorcycle, boat, etc)		
Boarded-up	14		Automotive parts, accessories, and tires		
Under renovation, no tenant specified	1		Gasoline stations	1	
Under renovation, future tenant specified			Car rental		
			Automotive repair and maintenance	1	

STOREFRONT SUMMARY					
Total Storefronts	**89**	**100.0%**	Neighborhood Services	5	5.6%
Shopping Goods	42	47.2%	Eating and Drinking Places	21	23.6%
Blding Mtr'ls & Garden Supply	1	1.1%	Auto-Related Trade	2	2.2%
Convenience Goods	3	3.4%	Vacant Storefronts	15	16.9%

Source: AKRF, Inc. field surveys conducted in December 2011.

Appendix B
Historic and Cultural Resources

NYC Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: HUDSON RIVER PARK / 11HRP001M
Project: PIER 57 HUDSON RIVER PARK
Address: 25 11 AVENUE, **BBL:** 1006620003
Date Received: 4/27/2011

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[x] No architectural significance

[X**] No archaeological significance**

[x] radius Designated New York City Landmark or Within Designated Historic District

[x] radius Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

Comments: In the radius: Gansevoort Historic Districts, LPC and S/NR listed.

Cc: SHPO

Gina Santucci 5/6/2011

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 27643_FSO_GS_05062011.doc

Hudson River Park Programmatic Agreement

United States Army Corps of Engineers
New York State Historic Preservation Officer
Advisory Council on Historic Preservation
Hudson River Park Trust

March 31, 2000

Noreen- here's your original copy back Thx Andrea

March 31, 2000

PROGRAMMATIC AGREEMENT
AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE
DEVELOPMENT OF THE HUDSON RIVER PARK ALONG
MANHATTAN'S WEST SIDE
IN NEW YORK CITY, NEW YORK

WHEREAS, pursuant to Section 10 of the Rivers and Harbors Act (33 U.S.C. §403) and Section 404 of the Clean Water Act (33 U.S.C. §1344), the United States Army Corps of Engineers ("USACE") has been requested to issue permits to facilitate the construction of the Hudson River Park by the Hudson River Park Trust ("Trust"); and

WHEREAS, as set forth in Chapter 592 of the (New York State) Laws of 1998 (the "Hudson River Park Act," annexed hereto as Exhibit 1), the Trust has been designated as the successor in interest to the Hudson River Park Conservancy ("HRPC") and the Empire State Development Corporation and is charged with the continued planning, design, construction and operation of the Hudson River Park project ("Project") ; and

WHEREAS, pursuant to Section 106 of the National Historic Preservation Act, the USACE has determined that the Project along the Hudson River on Manhattan's West Side between Battery Place and West 59th Streets, as described in the Joint Permits Application submitted in March 1998 and as modified and described in the Supplemental Public Notice issued by the USACE on February 18, 1999, may have an effect on properties listed in or eligible for inclusion in the National Register of Historic Places; and

WHEREAS, the USACE has consulted with the State Historic Preservation Officer ("SHPO") and the Advisory Council on Historic Preservation ("ACHP") in accordance with Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), and its implementing regulations, "Protection of Historic and Cultural Properties" (36 C.F.R Part 800), and USACE regulations at 33 C.F.R Part 325, Appendix C; and

WHEREAS, the permit area under Appendix C (1) (g) to 33 C.F.R. §325 and the Area of Potential Effect (APE) as defined by USACE under 36 C.F.R. Part 800 are within the Hudson River, bounded on the south by the north bulkhead of the Battery Park City neighborhood, on the north by a project limit line extending into the river from the foot of West 59th Street, on the west by the U.S. Pierhead Line, and on the east by (and including) the existing bulkhead or the Mean High Water line where no bulkhead is present (Annexed hereto as Exhibit 2 is a map of the APE); and

WHEREAS, the Project's construction is to be phased over an estimated five-year period and only construction in Segments 3, 4, 5, 6 and 7 is within USACE regulatory permitting jurisdiction; and

WHEREAS, identification and evaluation of historic properties within the area of the Project was initially completed by the SHPO during the Section 106 Review for the Route 9A Reconstruction Project; and

WHEREAS, the determination of historic properties for the Route 9A Reconstruction Project ("Route 9A") was memorialized in a March 23, 1994 Programmatic Agreement signed by the ACHP, the Federal Highway Administration, the SHPO and Route 9A Reconstruction Project of the New York State Department of Transportation and annexed hereto as Exhibit 3; and

WHEREAS, the SHPO updated the identification and evaluation of historic properties set forth in the Route 9A Programmatic Agreement for the Project herein by conducting a site inspection and review of the following documentation:

- Scoping document for the preparation of an environmental impact statement for the Project pursuant to the State Environmental Quality Review Act ("SEQRA") and City Environmental Quality Review ("CEQR") and their implementing regulations, issued on June 19, 1996
- Report of Historical Perspectives Incorporated: Existing Conditions Report, Archeological Resources, Hudson River Park Project (seven volumes)

- The Building/Structure Inventory Form for the New York City Hudson River Bulkhead dated March 1997
- Draft Environmental Impact Statement for the Project, dated April 1997, prepared pursuant to both SEQRA and CEQR
- New York City Landmarks Preservation Commission Environmental Review of the Project, dated April 1997
- The *Draft Design Guidelines Master Plan* and *Appendix* for the Project
- The Final Environmental Impact Statement for the Project, dated May 1998 prepared pursuant to both SEQRA and CEQR; and

WHEREAS, the SHPO has identified and the USACE has concurred that the following properties within the Project's APE are listed on or eligible for the National Register of Historic Places (Annexed hereto as Exhibit 4 is a map showing the locations of these properties):

- New York City Hudson River Bulkhead from Battery Place to West 59th Street
- Intrepid Aircraft Carrier
- U.S.S. Edson
- Lincoln Tunnel Ventilator Structure
- Baltimore and Ohio Railroad Float Transfer Bridge
- the Lightship *Frying Pan*
- Piersheds of Piers 60 and 61
- Pier 57
- Holland Tunnel Ventilator Structure
- the *Yankee* (former *Machigonne*); and

WHEREAS, the USACE and SHPO have determined that the Project does not include any activities for Piers 60 and 61, the Lincoln or Holland Tunnel ventilator structures, or any rehabilitation of historic vessels, and further that the Project will have no effect on these historic properties; and

WHEREAS, the USACE and SHPO have determined that with regard to archeological resources in the APE, the Project will have no effect on such resources based upon the documented depth of fill within the APE in relation to the depth of excavation proposed for Project construction; and

WHEREAS, the Trust, the SHPO and USACE have determined that failure to rehabilitate the bulkhead will result in the further deterioration of this resource; and

WHEREAS, the Project includes a number of beneficial activities including:

- Rehabilitation of the Hudson River Bulkhead,
- Repair, rehabilitation and interpretation of the Baltimore and Ohio Railroad Float Transfer Bridge,
- Preservation of the Pier 54 arch,
- Incorporation of available bollards and cleats in Park design,
- Beautification and improvement of pedestrian access in the area around the *Intrepid* Sea-Air-Space Museum and the *U.S.S. Edson*,
- Establishment of three mooring locations for other historic vessels at Piers 25, 54 and 97,
- Installation of interpretive signage and information at major entrances to the Project (identified on page 1-13 of the Project's Final Environmental Impact Statement prepared pursuant to both SEQRA/CEQR) and other areas,
- Facilitation of public access to historic properties within the Project area identified on page 3 of this Agreement, including improved pedestrian crossings of Route 9A; and

WHEREAS, the USACE and SHPO have determined that while the Project is in proximity to the Greenwich Village, Tribeca North, and Chelsea Historic Districts, it is not contiguous to these Districts, and further, that Route 9A represents a significant barrier separating these Districts from the APE; and

WHEREAS, based on the criteria specified in 36 C.F.R. §800.9, and as a consequence of comments made during and subsequent to the consultation meeting held on August 19, 1999, the USACE and SHPO further analyzed the potential for direct and indirect effects on the Greenwich Village, Tribeca North and Chelsea Historic Districts, and as set forth in the SHPO letter dated December 30, 1999 (annexed hereto as Exhibit 5), have determined that no historic properties will be affected within or immediately adjacent to those districts, nor will any individually listed historic properties within those districts be affected; and

WHEREAS, the Project has been designed in coordination with the Route 9A Reconstruction Project, and the location and designs for pedestrian crossings of Route 9A including several pedestrian bridges to be built by the New York State Department of Transportation as part of the Route 9A Reconstruction Project ("Route 9A") will be developed in a manner that will adhere to the Route 9A Programmatic Agreement of March 23, 1994, and the USACE and SHPO have reviewed the 1994 Programmatic Agreement and have determined that that document will govern the location and design of any such bridges; and

WHEREAS, the USACE issued a Public Notice for the Project on June 16, 1998; held two public hearings on the Project's permit applications on July 16, 1998; issued a Supplemental Public Notice on February 18, 1999; and has received written comments and oral testimony as part of its public review and historic preservation processes; and

WHEREAS, prior to the Hudson River Park Act, the State of New York and the City of New York entered into a Memorandum of Understanding in 1992 which created HRPC and established an Advisory Board consisting of local communities, parks and environmental organizations, civic and public interest groups, labor and business organizations, elected officials and other interested citizens to ensure public participation and review; and

WHEREAS, in addition, a voluntary Advisory Historical Working Group was formed and began meeting in 1993 to provide guidance to the project on historical matters, and has over the course of the succeeding six years met for that purpose; and

WHEREAS, HRPC engaged in an extensive community outreach and public participation program, which included the Advisory Board, the Advisory Historical Working Group, and the local Community Boards adjacent to the project and held over 150 community meetings and hosted a month-long Open House and published advertisements in community newspapers to solicit input on the Project and give the public the opportunity to review Project plans as they have progressed, including consideration of historic resources; and

WHEREAS, consistent with the 1992 Memorandum of Understanding, professional landscape architects were selected by each Community Board and engaged by HRPC to serve as the local communities' liaisons to the Project's design process; and

WHEREAS, the public was provided with multiple opportunities to comment on the Project and on the following Project documents, and the public will hereafter be provided with further opportunities to comment on the project pursuant to Stipulation VI of this Agreement:

- *Concept and Financial Plan* for Hudson River Park prepared in 1995
- Scoping document for the preparation of an environmental impact statement for the Project pursuant to SEQRA and CEQR and their implementing regulations, issued on June 19, 1996
- Draft Environmental Impact Statement for the Project, dated April 1997, prepared pursuant to SEQRA and CEQR
- *Draft Design Guidelines Master Plan* and *Appendix* for the Project, prepared pursuant to SEQRA and CEQR
- Final Environmental Impact Statement for the Project, dated May 1998, prepared pursuant to SEQRA and CEQR
- Initial Public Notice for the Project issued by the USACE on June 16, 1998
- Supplemental Public Notice for the Project issued by the USACE on February 18, 1999; and

WHEREAS, in addition to the above, the Project was the subject of public hearings on the draft scoping document, the Draft Environmental Impact Statement prepared pursuant to

SEQRA and CEQR, the General Project Plan, the Zoning Text Amendment, and the application for permits from the New York State Department of Environmental Conservation; and

WHEREAS, the USACE, the SHPO and the ACHP have agreed to develop this Programmatic Agreement ("Agreement") in accordance with 36 C.F.R. §800.13, with the intention of avoiding, minimizing and/or mitigating any adverse effects on historic resources from the construction of Segment 4 of the Project within the jurisdiction of the USACE; to develop guidance for the implementation of the remaining segments of the Project within the jurisdiction of the USACE; and to develop a process for SHPO review of the remaining segments of the Project; and

WHEREAS, the USACE and SHPO, in consultation with the Trust, considered alternative treatments to the proposed rehabilitation of the bulkhead which recognize its varying types of construction, conditions, materials and proposed programming, and will continue to consider alternative treatments as Segments 3, 5, 6 and 7 of the Project are further planned; and

WHEREAS, in negotiating this Agreement, the ACHP, consistent with the procedures set forth in its Summary of Council Involvement in the American Heritage Rivers Initiative, carefully considered the distinctive features and assets of the Hudson River when evaluating effects of the Project on historic properties; and

WHEREAS, the Trust (and its predecessors in interest) also participated in the consultation and the Trust was invited to concur in this Agreement; and

WHEREAS, the USACE received requests from elected officials, organizations and individuals with an interest in the Federal historic preservation process to participate in the Section 106 review process, and the USACE acknowledged these requests by inviting such interested parties to become consulting parties to this Agreement; and

WHEREAS, such parties include but are not limited to: local residents; local elected officials including Comptroller of the City of New York, State Senators, Members of the State

Assembly, and Members of the City Council; the New York City Landmarks Preservation Commission, the Municipal Art Society, the Historic District Council, the Clean Air Campaign, the Federation to Preserve the Greenwich Village Waterfront and Great Port, and the Society for the Architecture of the City; and

WHEREAS, this Agreement pertains only to Project activities conducted within the APE as defined herein and the boundaries of the APE have been concurred with by the SHPO; and

WHEREAS, this consultation also serves as consultation under §14.09 of the New York State Parks, Recreation and Historic Preservation Act of 1980; and

WHEREAS, the Section 106 review and the State Historic Preservation Process were coordinated with the following environmental review and land use processes:

- State Environmental Quality Review Act
- City Environmental Quality Review
- Zoning Text Amendment to Section 62-412 of the City Zoning Resolution
- Article 15 and Article 25, New York State Department of Environmental Conservation permits
- Certification of Coastal Zone Consistency, New York State Department of State;

WHEREAS, pursuant to 36 C.F.R. Part 800.13, following circulation of the initial Draft Programmatic Agreement, dated August 3, 1999, the USACE and ACHP convened a Section 106 consultation meeting on August 19, 1999, and provided thereafter a period for attendees at that meeting to review and comment on that Draft Agreement; and

WHEREAS, the USACE and ACHP convened a second Section 106 consultation meeting on March 23, 2000, at which time a revised Draft Agreement dated February 14, 2000, which was circulated to the consulting parties on February 14, 2000, was discussed, and such discussion led to a final revision of the Agreement; and

WHEREAS, prospective design decisions for and review of the Project and the implementation of the stipulations set forth in this Agreement shall be guided by the Project's *Design Guidelines Master Plan*, the provisions of the Hudson River Park Act, and the principles set forth in the Secretary of the Interior's Standards, recognizing that there is no specific National Park Service guidance or interpretation of the Standards as they relate to maritime structures such as the Project's bulkhead; and

WHEREAS, in the event that there is later involvement in the Project by any additional federal agency, such agency may fulfill its Section 106 compliance responsibilities by agreeing to the provisions in this Agreement;

NOW, THEREFORE, USACE, ACHP and the SHPO agree that implementation of the undertaking covered by this Agreement shall take into account effects on historic properties and shall be administered in accordance with the following Stipulations to avoid, mitigate and minimize adverse effects and to satisfy the USACE's Section 106 responsibilities. The USACE shall condition any Section 10 and Section 404 permit it may issue regarding the Project to ensure that the following measures are carried out by the Hudson River Park Trust.

STIPULATIONS

The USACE, through the inclusion of the conditions in any Section 10 and 404 Permits issued for the Project shall ensure that the following measures are carried out:

I. RECORDATION:

A. Prior to the initiation of rehabilitation of the bulkhead, the history and appearance of the Hudson River Bulkhead shall be compiled using digitally recorded photos and information provided by the Preservation Architect (described below under II.A) as well as existing documentation. All such documentation will be developed in accordance with Level II guidelines of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER), and shall be submitted to the SHPO for their review

and acceptance. The SHPO shall advise the Trust what additional recordation documentation, if any, shall be required, and the Trust shall provide such documentation to the SHPO for acceptance.

B. Upon acceptance by the SHPO of such documentation, the Trust shall also provide copies of such documentation to Community Boards 1, 2 and 4, the Landmarks Preservation Commission of the City of New York, and to appropriate local libraries.

C. The documentation submitted to the SHPO shall be utilized in the development of interpretive signage and exhibits for the Project. As described in the *Design Guidelines Master* Plan, interpretive information is to be incorporated, at a minimum, at the major entrances to the Project. Interpretation of historic events and sites for the Park shall be planned in coordination with the SHPO.

II. DESIGN AND TREATMENT OF THE BULKHEAD AND RELIEVING PLATFORMS:

The design and treatment of the bulkhead and relieving platforms as described below was guided by the Secretary of Interior's standards for rehabilitation, with due consideration given to the Trust's requirements regarding public safety, public access, cost, life term, and maintenance. The USACE, SHPO, and ACHP agree that adherence to the treatment plan described below will minimize harm to both the bulkhead's subsurface and above-ground features and preserve its overall integrity.

A. To ensure the appropriate implementation of the design and treatment plan described below, the Trust shall retain the services of a qualified Preservation Architect approved by the SHPO, whose scope of services shall be defined jointly by the Trust and SHPO. The qualifications of such Preservation Architect must be consistent with the Secretary of the Interior's Historic Preservation Professional Qualifications Standards. The Preservation Architect shall be responsible for the evaluation and assessment called for in the following stipulations. Additionally, the Preservation Architect shall be

charged with ensuring that digital photos are taken of both the bulkhead and relieving platforms prior to, during and following any construction.

B. In coordination with the Preservation Architect, the Trust shall rehabilitate the Project's Bulkhead, including both its subsurface and above-ground features, in accordance with the design principles and treatment plans approved by the SHPO. In proceeding with such planning, the Trust shall specifically consider such factors, identified during consultation with the SHPO and other consulting parties, including:

1. the integrity and condition of the resource;
2. the type and extent of existing materials;
3. the type of existing bulkhead construction;
4. the views of the bulkhead from the water;
5. the preference for repair over replacement whenever feasible; and
6. limiting the removal or demolition of bulkhead features only to areas where such activities are necessary to accomplish approved repair or replacement.

Generally, the treatment of the bulkhead shall consist of the following, recognizing that the plans for each segment shall be guided by the conditions specific to that segment:

(i) Large section/lengths of the existing granite Bulkhead coping shall be rehabilitated by using granite salvaged from other sections of the Bulkhead where the Preservation Architect determines that the wall is either in poor condition or where only a small length of the wall remains.

(ii) In areas where the Preservation Architect determines that the existing granite Bulkhead coping is either in deteriorated condition or is of a short length, repairs would be made with cast-in-place concrete.

(iii) All granite removed from the bulkhead shall be evaluated by the Preservation Architect for salvage and reuse in other areas of the Project.

(iv) Areas of the Bulkhead that are already concrete, such as where pierheads were once attached but no longer exist, would be reconstructed using similar cast-in-place concrete. In areas where piers were once located but no longer exist, the Trust shall memorialize such "ghost" piers by identifying the former pier number and any pertinent historical information to which the Trust and SHPO agree and in a manner to be approved by the SHPO.

C. (i) The Trust shall implement Segment 4 in accordance with the approach submitted to and approved by the SHPO, by letter dated April 15, 1998 and with the plans dated April 2, 1999.

(ii) Plans for segments other than Segment 4 will be provided to the SHPO, which will notify the Trust within 15 calendar days if there are any objections to such plans. No comment within these 15 calendar days shall constitute SHPO concurrence with such plans.

(iii) If in the planning for subsequent Project segments, the Trust and the Preservation Architect determine that design modifications are necessary, the Trust shall submit details of such proposed design changes to the SHPO for review and approval.

D. The Trust shall ensure that the Project's lookouts (or balconies) and "get downs" are located only in areas where the Preservation Architect determines that the existing granite Bulkhead coping is either in deteriorated condition or is of a short length. Siting and design of these elements, including massing and materials, shall be reviewed by the SHPO, with the exception of Segment 4, which design already meets this requirement, and which was approved by the SHPO, by letter dated April 15, 1998.

E. Plans for the physical installation of bulkhead railing and bulkhead lighting fixtures shall be developed consistent with code and safety requirements, the goals identified in the

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E. Plans for the physical installation of bulkhead railing and bulkhead lighting fixtures shall be developed consistent with code and safety requirements, the goals identified in the

their placement at the piers, including the requirements of the New York State Department of Environmental Conservation permit, Special Condition 10.

(ii) In identifying historic vessels and their potential locations, the Trust shall also consider issues of public access and public safety.

D. Following the Trust's selection of historic vessels to be docked at the piers designated above within the Project, the Trust shall consult with the SHPO on all aspects of the mooring activities associated with these vessels for the purpose of avoiding any adverse effects on those historic vessels.

IV. COORDINATION OF REVIEWS:

A. Upon execution of this Agreement and the receipt of a USACE permit if issued, the Trust may proceed with those elements of the construction of Segment 4 which are within the jurisdiction of the USACE.

B. The Trust shall submit design plans to the SHPO for activities within the APE with the potential to affect any of the listed or eligible historic properties identified, unless the SHPO agrees otherwise.

C. The SHPO shall provide comments respecting any Project submissions within 15 calendar days, which comments may include recommended modifications to avoid, minimize, or mitigate adverse effects to historic properties.

(i) If the Trust cannot agree to any such proposed modifications and if further consultation with the SHPO is deemed unproductive by the SHPO, then the SHPO shall adhere to the procedures detailed under Stipulation V ("Dispute Resolution.")

(ii) If the SHPO determines that an adverse effect shall result from any such proposed modification, the Trust, in accordance with 36 C.F.R. §800.5 (e) shall consult with the SHPO to explore alternatives and seek ways to avoid or reduce the effects on historic properties, with implementation of the resulting plan following approval by the SHPO.

D. SHPO comments shall be guided by the *Design Guidelines Master Plan*, the Hudson River Park Act, and the Secretary of Interior's Standards.

E. Substantial design modifications, as determined by the Preservation Architect, to approved plans for activities with the potential to affect adversely any of the listed or eligible properties within the APE identified previously must be submitted to the SHPO, unless the SHPO agrees otherwise.

F. The Trust shall ensure that designers, contractors, owners of historic vessels and any potential lessees of space under the jurisdiction of the Trust are informed of coordination procedures required for the design and treatment of each segment.

G. If, during Project implementation, the Trust, its contractors or the Preservation Architect discover or identify any additional historic properties that may be adversely affected or any unanticipated adverse effects to a historic property, the Trust shall stop such work and shall also notify SHPO and the USACE. The Trust and the SHPO shall then develop a treatment plan for such property or condition, and shall submit such plan to the USACE and ACHP as appropriate for comment within 15 calendar days. No comment within that time period shall constitute concurrence with the proposed plan. The Trust shall also make information regarding additional historic properties or unanticipated adverse effects available to the public as described under Stipulation VI.A. The SHPO must approve all recommended treatment plans; however, all project activities other than those responsible for the above-specified adverse effects may proceed while the treatment plan is being developed or reviewed.

H. Should the Trust request an amendment to its Section 10-Section 404 permit, the USACE shall consult with the SHPO and Trust to assess what, if any, additional conditions or treatment measures related to historic properties are required for any amended permit. Such consultation shall *first* attempt to determine whether the condition can be addressed through Project modifications or through a permit condition established by the USACE consistent with the terms of this Agreement. Only in the event that the USACE, SHPO and Trust fail to reach agreement will the provisions of Stipulation X below be implemented. In all such cases, the Trust shall notify the public pursuant to Stipulation VI below.

I. To the extent practicable, reviews required under this stipulation shall be coordinated with other local and state administrative reviews.

J. In the event that SHPO receives written comments from the public regarding implementation of the terms of this Agreement, the SHPO shall coordinate with the USACE and Trust, consistent with Stipulation VI.B ("Public Involvement").

V. **DISPUTE RESOLUTION:**

A. The Trust shall notify the USACE of any instance where the SHPO objects to a proposed treatment, and the Trust and SHPO cannot resolve the objection. The USACE shall consult with the SHPO and Trust to attempt to resolve the objection. If the USACE determines that the objection cannot be resolved, the USACE shall forward all documentation relevant to the dispute to the ACHP. Within 20 calendar days after receipt of such documentation, the ACHP shall either:

(i) Provide the USACE with recommendations, which the USACE shall take into account in reaching a final decision regarding the dispute; or

(ii) Notify the USACE that it shall comment pursuant to 36 C.F.R. 800.6 (b), and proceed to comment. Any ACHP comment provided in response to such a

request shall be taken into account by the USACE in accordance with 36 C.F.R. 800.6 (c)(2) with reference to the subject of the dispute.

B. Any recommendations or comment provided by the ACHP shall be understood to pertain to the subject of the dispute; the USACE's responsibility to carry out all actions under this agreement that are not the subjects of the dispute shall remain unchanged.

VI. PUBLIC INVOLVEMENT:

A. Public Notification:

The Trust shall continue to coordinate with the community consistent with the provisions of the Hudson River Park Act, including meeting regularly with the Hudson River Park Advisory Council, and providing for meaningful public notice, participation, consultation and review in the planning, development and operation of the park, which shall include, but not be limited to (i) consultation with Manhattan Community Boards One, Two and Four, elected officials representing communities neighboring the park, and appropriate community, civic and advocacy organizations and (ii) timely and reasonable notifications to such individuals and groups and appropriate news media of each meeting of the Trust and any public hearings and (iii) in the case of any proposed significant action affecting the park, holding a public hearing on not less than 30 calendar days advance public notice.

B. Public Comments:

If the Trust receives timely and substantive written public objections regarding the treatment of historic properties, or measures taken to implement the terms of this Agreement, the Trust shall consult with the objector regarding such objections.

(i) The Trust shall respond within 30 calendar days to substantive written comments. If the Trust and the objector cannot resolve the matter, or if the matter is such that the Trust believes SHPO involvement is appropriate, the Trust shall notify the

SHPO and provide copies of the objection, and the SHPO, as appropriate, shall advise the Trust of measures, if any, that could resolve the matter.

(ii) If the Trust and the SHPO cannot resolve the issue and the SHPO determines that in the absence of such resolution there would be an adverse effect on the historic resource, the SHPO shall consult with the USACE and ACHP, as appropriate.

VII. COORDINATION OF OTHER FEDERAL REVIEWS:

A. In the event that the Trust applies for federal funds in respect of the Project, the federal funding agency may satisfy its Section 106 responsibilities by agreeing in writing to the terms of this Agreement, and notifying the SHPO and ACHP accordingly.

VIII. MONITORING:

A. During Project construction, the Trust shall submit quarterly status reports to the SHPO and the ACHP to summarize measures it has taken to comply with the terms of this Agreement. Reports shall be submitted until the project is completed. Following Project construction, reports shall be submitted to the SHPO every five years with respect to the bulkhead inspections described above in Section II ("Design and Treatment of the Bulkhead and Relieving Platforms"), Section F.

IX. TERM OF THE AGREEMENT:

A. This Agreement shall remain in force for ten years following its execution unless the USACE, SHPO and ACHP agree otherwise, in accordance with the following Stipulation X or XI.

X. AMENDMENTS TO THE AGREEMENT:

A. This Agreement may be amended at the request of any of the signatories to this Agreement, after providing no less than 30 calendar days written notification to the other signatories. Upon the receipt of a request for an amendment, the USACE shall notify all persons or organizations identified as consulting parties of the request. The signatories to this Agreement shall consult to consider such amendments in a manner consistent with 36 C.F.R. Part 800.

XI. TERMINATION OF THE AGREEMENT:

A. This Agreement may be terminated at the request of any of the signatories to this Agreement, with 30 calendar days written notification to the other signatories. In the event the Agreement is terminated, the USACE, in consultation with the Trust, shall comply with 36 C.F.R. Part 800 on a case-by-case basis for each proposed project activity within the permitted area.

LIST OF EXHIBITS

Exhibit 1
Chapter 592 of the (New York State) Laws of 1998, known as the "Hudson River Park Act"

Exhibit 2
Map showing the boundaries of the Area of Potential Effect

Exhibit 3
Route 9A Programmatic Agreement of March 23, 1994

Exhibit 4
Map showing the location of historic properties with the Area of Potential Effect

Exhibit 5
SHPO letter dated December 30, 1999 regarding the potential for direct and indirect effects on the Greenwich Village, Tribeca North and Chelsea Historic Districts

EXECUTION AND IMPLEMENTATION OF THIS PROGRAMMATIC AGREEMENT EVIDENCES THAT USACE HAS SATISFIED ITS SECTION 106 RESPONSIBILITIES FOR THE HUDSON RIVER PARK PROJECT.

UNITED STATES ARMY CORPS OF ENGINEERS

By: _____ Date: 14 April 2000

NEW YORK STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 5 April '00

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: 3 May 2000

CONCUR:

HUDSON RIVER PARK TRUST

By: _____ Date: 3/31/00

Appendix C
Transportation

C-1: Chelsea Market Survey Results

C-2: Transportation Demand Factors Memo

C-3: Proposed Safety Improvements

Appendix C-1
Chelsea Market Survey Results

CHELSEA MARKET SURVEY RESULTS
FEBRUARY 2011

Conducted by Sam Schwartz Engineering
Saturday, February 12, 2011 and Wednesday, February 16, 2011

1. What was your primary mode of travel to Chelsea Market Today?

Mode 1	Mode 2	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	-	12.2%	6.6%	3.8%	14.1%
Bike	-	2.4%	1.5%	3.8%	1.3%
Bus	-	3.3%	3.6%	5.1%	1.9%
Bus	Subway	0.0%	0.0%	0.0%	0.0%
Ferry	Subway	0.8%	0.0%	0.0%	0.0%
Rail - LIRR	Subway	0.8%	0.7%	0.0%	1.3%
Rail - LIRR	-	0.0%	0.7%	0.6%	1.3%
Rail - MetroNorth	Subway	0.0%	0.0%	0.0%	0.0%
Rail - NJ Transit	-	0.8%	0.7%	1.3%	0.0%
Rail - Path	-	0.8%	0.7%	1.9%	3.2%
Subway	-	33.3%	42.3%	30.6%	28.2%
Subway	Bus	1.6%	0.0%	0.0%	0.6%
Taxi	-	5.7%	4.4%	15.3%	9.6%
Walk Only	-	38.2%	38.7%	37.6%	38.5%
Total Visitors		**100.0%**	**100.0%**	**100.0%**	**100.0%**
Sample Size		**123**	**137**	**157**	**156**

2. If you arrived via auto or taxi, how many people did you travel with, including yourself?

Vehicle Occupancy

Mode		Weekday	Saturday
Auto	Autos	22	27
	People	41	71
	Avg	**1.86**	**2.63**
Taxi	Taxis	12	38
	People	17	81
	Avg	**1.42**	**2.13**

3. Are you visiting the market or do you work in the building?

		Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Total Visitors		123	137	157	156
Total Non-Visitors		29	27	3	5
Total		**152**	**164**	**160**	**161**

4. What is the neighborhood (i.e. zip code) you traveled directly from?

Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday PM
Bronx	0.0%	0.0%	2.5%	1.9%
Brooklyn	10.6%	10.9%	5.1%	6.4%
Manhattan	68.3%	75.9%	81.5%	71.2%
Queens	7.3%	2.9%	3.2%	4.5%
Staten Island	0.0%	0.0%	1.3%	0.6%
Upstate NY	5.7%	1.5%	1.3%	1.3%
Long Island	0.8%	1.5%	0.6%	3.2%
NJ/PA	6.5%	5.8%	4.5%	10.3%
CT	0.8%	1.5%	0.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%
Sample Size	123	137	157	156

1. What was your primary mode of travel to Chelsea Market Today?

Back-Up Survey Data

Mode 1	Mode 2	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	-	15	9	6	22
Bike	-	3	2	6	2
Bus	-	4	5	8	3
Bus	Subway	0	0	0	0
Ferry	Subway	1	0	0	0
Rail - LIRR	Subway	1	1	0	2
Rail - LIRR	-	0	1	1	2
Rail - MetroNorth	Subway	0	0	0	0
Rail - NJ Transit	-	1	1	2	0
Rail - Path	-	1	1	3	5
Subway	-	41	58	48	44
Subway	Bus	2	0	0	1
Taxi	-	7	6	24	15
Walk Only	-	47	53	59	60
Total Visitors		**123**	**137**	**157**	**156**

4. What is the neighborhood (i.e. zip code) you traveled directly from?

Back-Up Survey Data

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	Bronx/Upstate/Harlem	7	1	2	6
	Midtown/Downtown	0	1	0	5
	Upper East Side	0	1	0	0
	Battery Park	0	0	0	1
	Staten Island/Jersey - Holland Tunne	1	0	0	1
	New Jersey - Lincoln Tunnel/GWB	0	3	0	2
	Queens/Long Island	1	0	1	1
	Brooklyn	3	0	1	0
	New Jersey - General	3	3	2	6
	Total Auto	**15**	**9**	**6**	**22**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Bus	Bronx	0	0	0	0
	Brooklyn	1	0	0	1
	Port Authority/Hells Kitchen	0	1	3	1
	Uptown - General	0	0	4	0
	East Village/Union Square	1	0	1	1
	Upper West Side	1	0	0	0
	Midtown	1	4	0	1
	Upper East Side	2	0	0	0
	Total Bus	**6**	**5**	**8**	**4**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Subway	Chelsea	1	3	0	1
	Chinatown - General	1	0	0	0
	East Village	1	1	4	2
	Financial District - General	2	3	3	2
	Financial District - Wall Street	0	2	0	0
	Financial District - WTC	0	0	0	0
	Greenwich Village	0	2	0	0
	Harlem General	4	2	2	1
	Hell's Kitchen	0	1	0	2
	LIRR/Amtrak - Penn Station	2	1	0	2
	Lower East Side	0	1	2	0
	MetroNorth - Grand Central	0	2	0	0
	Midtown	0	1	0	0
	Midtown East	0	2	3	1
	Midtown General	2	9	3	4
	NJ Transit - Port Authority	1	0	0	2
	NOHO	0	1	0	0
	SOHO	2	3	2	2
	Staten Island Ferry/Battery Park	1	0	4	0
	Times Square	1	3	0	0
	Upper East Side - General	0	5	1	1
	Upper West Side - General	8	2	9	9
	Uptown	1	0	0	1
	Washington Heights	1	0	0	1
	West Village	1	2	0	0
	Bronx - General	0	0	4	1
	Brooklyn - Brighton	0	0	0	0
	Brooklyn - Downtown	0	3	2	0
	Brooklyn - Flatbush	2	0	0	0
	Brooklyn - Greenpoint	1	0	0	0
	Brooklyn - Williamsburg	3	1	0	0
	Brooklyn - General	4	6	5	7
	Queens - Astoria	0	1	1	1
	Queen - General	4	1	3	6
	Queensbridge	0	1	0	0
	Total Subway	**43**	**59**	**48**	**46**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Taxi	Midtown	1	2	7	9
	Queens	1	0	0	0
	JFK	1	1	0	0
	Upper West Side	0	1	4	2
	Upper East Side	3	2	1	1
	West Village	0	0	1	0
	East Side	0	0	5	1
	Brooklyn	0	0	0	1
	New Jersey - General	0	0	0	1
	SOHO/Chinatown	1	0	3	0
	Chelsea	0	0	1	0
	Downtown	0	0	2	0
	Total Taxi	**7**	**6**	**24**	**15**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Walk	Chelsea - 15th Street	5	0	0	0
	Chelsea	16	18	37	36
	West Village	6	6	9	12
	East Village	2	4	0	0
	Brooklyn	1	4	0	1
	Midtown	2	4	6	2
	Midtown West	2	6	2	5
	Union Square	4	3	3	7
	Midtown East	1	4	2	1
	Upper West Side	1	0	0	0
	SOHO	1	1	0	2
	Chelsea 10th Ave	3	1	0	0
	Chelsea 9th Ave	1	1	1	0
	Gansvoort 9th Ave	1	0	0	0
	Gansvoort 8th Ave	1	0	0	0
	Upper East Side	0	1	0	0
	Lower East Side	0	1	1	0
	Greenwich Village	0	1	2	1
	Tribeca	0	0	1	0
	Chinatown	0	0	1	0
	Chelsea 11th Ave	2	1	0	0
	Total Walk	**49**	**56**	**65**	**67**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Bike	Harlem	1	0	0	0
	West Village	0	0	0	2
	Lower East Side	0	1	0	0
	Midtown	0	1	2	0
	Chelsea	1	0	4	0
	NJ & West	1	0	0	0
	Total Bike	**3**	**2**	**6**	**2**
Total Visitors		**123**	**137**	**157**	**156**

Appendix C-2
Transportation Demand Factors Memo

SAM SCHWARTZ
ENGINEERING

Memorandum

To:	Naim Rasheed, NYCDOT
From:	Jeffrey Smithline, PE, PTOE
Date:	June 2012
Re:	Travel Demand Factors Memorandum

Sam Schwartz Engineering (SSE) has prepared a preliminary transportation screening for an Environmental Impact Statement (EIS) for the proposed Pier 57 development located along the west side of Route 9A between West 14th Street and West 16th Street in Manhattan. This memorandum presents the Level 2 screening assessment, which is a trip assignment review to identify intersections with a net increase of 50 or more vehicle trips, pedestrian elements with a net increase of 200 or more pedestrian trips, a net increase of 50 bus trips in a single direction on a single route, or a net increase of 200 passengers at a subway station or line during any analysis peak hour. Locations that meet these thresholds may require more detailed analyses. The Level 1 screening assessment is included here as Appendix A. The responses to NYCDOT's comments on the original TDF memorandum dated July 8, 2011 are included in Appendices D and E.

Based on the preliminary trip generation and assignment assumptions, the study area generally extends from Route 9A to the west, 8th Avenue to the east, W. 24th Street to the north, and W. 14th Street to the south.

Proposed Development Program

The proposed Pier 57 development would include the following land uses:

- 24,450 square feet (SF) of quality restaurant
- 34,764 SF of food counter
- 202,686 SF of market (retail space)
- 110,000 SF rooftop (for park use and programmed events)
- 40,000 SF of art gallery/exhibit space (caisson level)
- 11,000 SF cultural use (300-seat theatre)
- 32,700 SF technical arts school
- 190-slip marina
- Potential water taxi landing

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Land Use/Analysis Scenarios

The trip generation and assignment estimates were prepared for two land use scenarios. As described in the Preliminary TDF Memorandum, the "Typical" scenario is the more common condition when the 110,000 SF rooftop will be used as a public open space with an exhibit space. Under the "Pre-Event" scenario, the rooftop space will be used for high attendance evening events. The remaining land uses will operate the same under both land use scenarios.

The following critical peak hours were considered for the "Typical" land use scenario:

- Weekday Midday (MD) peak hour: 12-1 PM
- Weekday commuter peak (PM) peak hour: 5:30-6:30 PM
- Saturday Midday (SAT MD) peak hour: 12:45-1:45 PM

The following critical peak hours were considered for the "Pre-Event" land use scenario:

- Weekday Evening Pre-Event peak (EVE) peak hour, representing the 7-8 PM pre-event time period
- Saturday Evening Pre-Event peak (SAT EVE) peak hour, representing the 7-8 PM pre-event time period

Trip Assignment Factors

Trip assignment factors were generally obtained from trip-origin surveys collected for similar land uses located on the west side of Manhattan or near West Chelsea. The survey data was used to estimate the general direction project trips would come from/go to and to determine which transit routes would be used. Engineering judgment was applied to determine the specific routes within the study area that would be used to access the site. A description of trip assignment factors considered for each land use for auto, taxi, subway, bus, and walk modes is provided below, followed by a description of general trip assignment assumptions that apply to all land uses.

Chelsea Market Survey

Weekday and Saturday surveys were conducted at Chelsea Market in February 2011 to serve as a basis for trip assignment assumptions for the retail and restaurant space at Pier 57, as well as local walk-only trips to and from the site (SSE, 2011). The survey asked visitors about their origins and which modes they used to travel to Chelsea Market. The results of the survey considered only the mode they used to enter the study area; i.e., if they traveled on a NJ TRANSIT train and transferred to a bus, the bus was considered the mode of travel for analysis purposes.

Chelsea Market is an appropriate source because it is a retail space that is primarily made up of small, boutique food shops that allow businesses to combine their manufacturing and retail assets under one roof. Pier 57 would provide similar "work-sell" spaces for food and fashion-related businesses. Furthermore, Chelsea Market is located one block from the Pier 57 site.

The Chelsea Market survey was conducted on Saturday, February 12, 2011, from 1:00 PM to 4:00 PM and from 5:00 PM to 8:00 PM and on Wednesday, February 16, 2011, from 11:30 AM to 2:30 PM and 4:30 PM to 7:30 PM. Therefore, the Chelsea Market survey data provided unique trip assignment percentages for the Weekday Midday, Weekday PM, Saturday Midday, and Saturday Evening Pre-Event peak hours. It was assumed that the Weekday Evening Pre-Event trip assignment was the same as the Weekday PM. Percentages were rounded where appropriate to account for variations in sample sizes.

The results were correlated by travel mode and origin, such that trip assignment assumptions could be developed for all travel modes to Chelsea Market. The results of the survey are summarized in Appendix B.

Market (Retail Space), Restaurant, and Food Counters

The market is retail space that is expected to primarily be made up of small retail pods. In total, the space would comprise 202,686 SF of related retail space that is expected to have both a regional and local draw. The development would also include 24,450 SF of quality restaurant space, including an outdoor terrace and 34,764 SF of food counter space. Trip assignment for the retail, restaurant, and food counter land uses was assumed to be the same.

Trip assignment assumptions for each travel mode are described below.

Auto Trip Assignment Assumptions
The Chelsea Market survey data was evaluated to determine the percentage of auto trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge
- Half of the trips to/from New Jersey would use the George Washington Bridge/Lincoln Tunnel
- Half of the trips to/from New Jersey would use the Holland Tunnel

Table 1 shows the directions of travel assumed for each peak hour.

Table 1

Market/Retail/Restaurant/Food Counter Land Use: Auto Trip Assignment

Land Use		From North	From South	From East
Destination Retail (1)	Weekday MD	60%	35%	5%
	Weekday PM	60%	20%	20%
	Weekday EVE (2)	60%	20%	20%
	Sat MD	60%	35%	5%
	Sat EVE	60%	20%	20%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).
2. Assumed Weekday Evening Pre-Event trip assignment is equivalent to the Weekday PM estimates.

Taxi Trip Assignment Assumptions

The Chelsea Market survey data was evaluated to determine the percentage of taxi trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge

Table 2 shows the directions of travel assumed for each peak hour.

Table 2

Market/Retail/Restaurant/Food Counter Land Use: Taxi Trip Assignment

Land Use		From North	From South	From East
Destination Retail (1)	Weekday MD	30%	15%	55%
	Weekday PM	30%	5%	65%
	Weekday EVE (2)	30%	5%	65%
	Sat MD	20%	25%	55%
	Sat EVE	15%	10%	75%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).
2. Assumed Weekday Evening PreEvent trip assignment is equivalent to the Weekday PM estimates.

Subway Trip Assignment Assumptions

The Chelsea Market survey data was evaluated to determine the percentage of subway trips that would use New York City Transit (NYCT) subway lines A, C, E, L, 1, 2, or 3. The following assumptions were made:

- In locations where the A, C, E, and L subway lines could be used to travel to/from the project site, two-thirds of the trips would use the A, C, and E lines, and one-third would use the L line.
- In locations where the A, C, E, L, 1, 2, and 3 subway lines could be used to travel to/from the project site, 40% were assumed to use the A, C, and E lines, 20% were assumed to use the L line, and 40% were assumed to use the 1, 2, and 3 lines.
- The percentage of trips that use the A, C, E, and L subway lines were combined since they will use the same subway station at 14th Street.

- For the 1, 2, and 3 subway lines, 15% of the trips were assumed to use the 18th Street station since it is only accessed by the local subway line (#1) and would likely only attract riders traveling to and from the north. The remaining trips were assumed to use the 14th Street station.

Table 3 shows the directions of travel assumed for each peak hour.

Table 3

Market/Retail/Restaurant/Food Counter Land Use: Subway Trip Assignment

Land Use		ACE/L Lines	123 Lines from 14th Street	1 Line from 18th Street
Destination Retail (1)	Weekday MD	90.0%	9.0%	1.0%
	Weekday PM	92.0%	6.0%	2.0%
	Weekday EVE (2)	92.0%	6.0%	2.0%
	Sat MD	85.0%	12.0%	3.0%
	Sat EVE	94.0%	5.0%	1.0%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).
2. Assumed Weekday Evening Pre-Event trip assignment is equivalent to the Weekday PM estimates.

Bus Trip Assignment Assumptions

The Chelsea Market survey data was evaluated to determine the bus routes visitors would use to travel to/from the project site. The following assumptions were made:

- Bus riders traveling to/from the project site would transfer as necessary to access bus stops closest to the project site. Ultimately, they would all use NYCT routes M11, M14A, and M14D to reach their destination.
- For bus route M14 passengers, 20% would use route M14A and 80% would use route M14D. A greater percentage would take M14D because it provides closer access to the project site.

Table 4 shows the directions of travel assumed for each peak hour.

Table 4

Market/Retail/Restaurant/Food Counter Land Use: Bus Trip Assignment

Land Use		M11	M14A and M14D
Destination Retail (1)	All Study Periods	30%	70%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).
2. Assumed Weekday Evening Pre-Event trip assignment is equivalent to the Weekday PM estimates.

Walk Trip Assignment Assumptions

Walk trips generated by the project were assigned to origins external and internal to the study area. Due to the high number of apartment, office, restaurant, and retail uses within the study area, the internally and externally generated trips were assumed to be split 50/50. The Chelsea

Market survey data was used to determine the direction of travel for visitors walking between the project site and external locations.

The following assumption was made:

- Since the survey results were similar for the four survey time periods, the results were averaged and used for all peak hours.

Table 5 shows the directions of travel assumed for each peak hour.

Table 5

Market/Retail/Restaurant/Food Counter Land Use: Walk Trip Assignment

Land Use		From the East	From the North	From the South
Destination Retail (1)	All Study Periods	42.5%	36.0%	21.5%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).

A review of the land uses on each block within the study area was used to estimate which block faces would generate project trips that would originate within the study area. The internal walk trip origins were added to the pedestrian network at the midblock location along each block face.

Cultural Use and Rooftop Event

The trip assignment assumptions for the Cultural Use were conservatively based on a 300-seat theater as it would generate the greatest number of trips for a cultural use in the space available. In general, the same trip assignment assumptions were used for the Rooftop Event. However, the Rooftop Event space would only be open during the Weekday and Saturday Evening Pre-Event peak hours and the theater would operate during additional peak hours. The trip assignment percentages for these land uses was based on a trip origin survey conducted at Pier 54 during a movie event on July 8, 2009 from 6:00 PM to 9:00 PM (AKRF, 2009). This survey data is an appropriate source because the 2009 Pier 54 event is similar to one that would be held at the project site and because it is located on Route 9A near the project site. The 2009 Pier 54 survey trip assignment percentages were applied to all peak hours.

Trip assignment assumptions for each travel mode are described below.

Auto and Taxi Trip Assignment Assumptions

The 2009 Pier 54 survey data was evaluated to determine the percentage of auto and taxi trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge
- Trips to/from Manhattan were split evenly between Route 9A to the north and south and other origins to the east.
- Half of the trips to/from New Jersey would use the George Washington Bridge/Lincoln Tunnel
- Half of the trips to/from New Jersey would use the Holland Tunnel

Table 6 shows the directions of travel assumed for each peak hour.

Table 6

Theater and Rooftop Event Land Use: Auto and Taxi Trip Assignment

Land Use		From North	From South	From East
Theater and Rooftop Event (1)	All Study Periods	32.2%	45.2%	22.7%

Notes:
1. Results based on survey at Pier 54 (AKRF, July 8, 2009 from 6:00 PM to 9:00 PM).

Subway Trip Assignment Assumptions

The 2009 Pier 54 survey data was evaluated to determine the percentage of subway trips that would use NYCT subway lines A, C, E, L, 1, 2, or 3. The following assumptions were made:

- In locations where the A, C, E, and L subway lines could be used to travel to/from the project site, two-thirds of the trips would use the A, C, and E lines, and one-third would use the L line.
- In locations where the A, C, E, L, 1, 2, and 3 subway lines could be used to travel to/from the project site, 40% were assumed to use the A, C, and E lines, 20% were assumed to use the L line, and 40% were assumed to use the 1, 2, and 3 lines.
- The percentage of trips that use the A, C, E, and L subway lines were combined since they will use the same subway station at 14th Street.
- 15% of the trips on the 1, 2, and 3 subway lines were assumed to use the 18th Street station since it is only accessed by the local subway line. The remaining trips were assumed to use the 14th Street station.
- Since the 2009 Pier 54 survey did not provide detailed information for origins within Manhattan, the average percentage breakdown from the Chelsea Market Survey for subway trips within Manhattan was applied.

Table 7 shows the directions of travel assumed for each peak hour.

Table 7

Theater and Rooftop Event Land Use: Subway Trip Assignment

Land Use		ACE/L Lines	123 Lines from 14th Street	1 Line from 18th Street
Theater and Rooftop Event (1)	All Study Periods	89.8%	8.7%	1.5%

Notes:
1. Results based on survey at Pier 54 (AKRF, July 8, 2009 from 6:00 PM to 9:00 PM). Breakdown within Manhattan obtained from survey at Chelsea Market (SSE, February 12 and 16, 2011).

Bus Trip Assignment Assumptions

The 2009 Pier 54 survey data was evaluated to determine the bus routes visitors would use to travel to/from the project site. The following assumptions were made:

- Bus trips were only generated by people with origins in Manhattan and New Jersey (transferring from NJ TRANSIT at the Port Authority).
- Bus riders traveling to/from the project site would transfer as necessary to access bus stops closest to the project site. Ultimately, they would all use NYCT routes M11, M14A, and M14D to reach their destination.
- For bus route M14 passengers, 20% would use route M14A and 80% would use route M14D. A greater percentage would take M14D because it provides closer access to the project site.

Table 8 shows the directions of travel assumed for each peak hour.

Table 8

Theater and Rooftop Event Land Use: Bus Trip Assignment

Land Use		M11	M14A and M14D
Theater and Rooftop Event (1)	All Study Periods	52.1%	47.9%

Notes:
1. Results based on survey at Pier 54 (AKRF, July 8, 2009 from 6:00 PM to 9:00 PM).

Walk Trip Assignment Assumptions

Walk trips generated by the project were assigned to origins external and internal to the study area using the same methodology as for the retail/restaurant walk trips.

Table 9 shows the directions of travel assumed for each peak hour.

Table 9
Theater and Rooftop Event Land Use: Walk Trip Assignment

Land Use		From the East	From the North	From the South
Theater and Rooftop Event (1)	All Study Periods	42.5%	36.0%	21.5%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011.)

Rooftop Open Space/Park/Marina

During the "Typical" scenario, when the 110,000 SF rooftop is not being used for events, 100,000 square feet will function as a public open space. The remaining 10,000 square feet will be used for art exhibitions. There will also be a 190-slip marina on site. The trip assignment assumptions for these recreational uses were based on a survey conducted at Nelson Rockefeller (North) Park in Battery Park City. The survey was conducted from 10:00 AM to 6:00 PM and was presented in Technical Memorandum #1 for the park component of the Hudson River Park FEIS (Philip Habib and Associates (PHA), June 1994). This survey data is an appropriate source because the recreational land use is similarly located along Route 9A. The North Park survey trip assignment percentages were applied to all peak hours.

Trip assignment assumptions for each travel mode are described below.

Auto and Taxi Trip Assignment Assumptions
The North Park survey data was evaluated to determine the percentage of auto and taxi trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south.
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge.
- Trips to/from Manhattan were split evenly between the north and south and other origins to the east.
- Half of the trips to/from New Jersey would use the George Washington Bridge/Lincoln Tunnel.
- Half of the trips to/from New Jersey would use the Holland Tunnel.

Table 10 shows the directions of travel assumed for each peak hour.

Table 10
Rooftop Open Space/Park/Marina Land Use: Auto and Taxi Trip Assignment

Land Use		From North	From South	From East
Rooftop Open Space /Marina (1)	All Study Periods	35.0%	37.0%	28.0%

Notes:
1. Results based on survey at North Park (PHA, June 1994 from 10:00 AM to 6:00 PM).

Subway Trip Assignment Assumptions

The North Park survey data was evaluated to determine the percentage of subway trips that would use NYCT subway lines A, C, E, L, 1, 2, or 3. The following assumptions were made:

- In locations where the A, C, E, and L subway lines could be used to travel to/from the project site, two-thirds of the trips would use the A, C, and E lines, and one-third would use the L line.
- In locations where the A, C, E, L, 1, 2, and 3 subway lines could be used to travel to/from the project site, 40% were assumed to use the A, C, and E lines, 20% were assumed to use the L line, and 40% were assumed to use the 1, 2, and 3 lines.
- The percentage of trips that use the A, C, E, and L subway lines were combined since they will use the same subway station at 14th Street.
- 15% of the trips on the 1, 2, and 3 subway lines were assumed to use the 18th Street station since it is only accessed by the local subway line. The remaining trips were assumed to use the 14th Street station.
- Since the survey did not provide detailed information for origins within Manhattan, the average percentage breakdown from the Chelsea Market Survey for subway trips within Manhattan was applied.

Table 11 shows the directions of travel assumed for each peak hour.

Table 11
Rooftop Open Space/Park/Marina Land Use: Subway Trip Assignment

Land Use		ACE/L Lines	123 Lines from 14th Street	1 Line from 18th Street
Rooftop Open Space /Marina (1)	All Study Periods	88.6%	9.7%	1.7%

Notes:
1. Results based on survey at North Park (PHA, June 1994 from 10:00 AM to 6:00 PM). Breakdown within Manhattan obtained from survey at Chelsea Market (SSE, February 12 and 16, 2011.)

Bus Trip Assignment Assumptions

The North Park survey data was evaluated to determine the bus routes visitors would use to travel to/from the project site. The following assumptions were made:

- Bus trips were only generated by people with origins in Manhattan and New Jersey (transferring from NJ TRANSIT at the Port Authority).
- Bus riders traveling to/from the project site would transfer as necessary to access bus stops closest to the project site. Ultimately, they would all use NYCT routes M11, M14A, and M14D to reach their destination.
- For bus route M14 passengers, 20% would use route M14A and 80% would use route M14D. A greater percentage would take M14D because it provides closer access to the project site.

Table 12 shows the directions of travel assumed for each peak hour.

Table 12
Rooftop Open Space/Park/Marina Land Use: Bus Trip Assignment

Land Use		M11	M14A and M14D
Rooftop Open Space /Marina (1)	All Study Periods	52.3%	47.7%

Notes:
1. Results based on survey at North Park (PHA, June 1994 from 10:00 AM to 6:00 PM).

Walk Trip Assignment Assumptions
Walk trips generated by the project were assigned to origins external and internal to the study area using the same methodology as for the retail/restaurant walk trips.

Table 13 shows the directions of travel assumed for each peak hour.

Table 13
Rooftop Open Space/Park/Marina Land Use: Walk Trip Assignment

Land Use		From the East	From the North	From the South
Rooftop Open Space /Marina (1)	All Study Periods	42.5%	36.0%	21.5%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).

<u>Exhibit Space (Caisson Level and Rooftop)</u>

The trip assignment assumptions for the 40,000 SF exhibit space on the caisson level and the 10,000 SF rooftop space used for art exhibits was based on a survey conducted at Pier 54 for the art installation “Ashes and Snow” (PHA, May 2005). The 2005 Pier 54 survey trip assignment percentages were applied to all peak hours. This survey data is an appropriate source because the 2005 Pier 54 event is similar to one that would be held at the project site

and because it is located on Route 9A near the project site. The 2005 Pier 54 survey trip assignment percentages were applied to all peak hours.

Trip assignment assumptions for each travel mode are described below.

Auto and Taxi Trip Assignment Assumptions

The 2005 Pier 54 survey data was evaluated to determine the percentage of auto and taxi trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge
- Half of the trips to/from New Jersey would use the George Washington Bridge/Lincoln Tunnel
- Half of the trips to/from New Jersey would use the Holland Tunnel

Table 14 shows the directions of travel assumed for each peak hour.

Table 14
Exhibit Space Uses: Auto and Taxi Trip Assignment

Land Use		From North	From South	From East
Exhibit Space (1)	All Study Periods	34.9%	33.9%	31.2%

Notes:
1. Results based on survey at Pier 54 (PHA, May 2005).

Subway Trip Assignment Assumptions

The 2005 Pier 54 survey data was evaluated to determine the percentage of subway trips that would use NYCT subway lines A, C, E, L, 1, 2, or 3. The following assumptions were made:

- In locations where the A, C, E, and L subway lines could be used to travel to/from the project site, two-thirds of the trips would use the A, C, and E lines, and one-third would use the L line.
- In locations where the A, C, E, L, 1, 2, and 3 subway lines could be used to travel to/from the project site, 40% were assumed to use the A, C, and E lines, 20% were assumed to use the L line, and 40% were assumed to use the 1, 2, and 3 lines.
- The percentage of trips that use the A, C, E, and L subway lines were combined since they will use the same subway station at 14th Street.
- 15% of the trips on the 1, 2, and 3 subway lines were assumed to use the 18th Street station since it is only accessed by the local subway line. The remaining trips were assumed to use the 14th Street station.

Table 15 shows the directions of travel assumed for each peak hour.

Table 15
Exhibit Space Uses: Subway Trip Assignment

Land Use		ACE/L Lines	123 Lines from 14th Street	1 Line from 18th Street
Exhibit Space (1)	All Study Periods	71.7%	24.1%	4.2%

Notes:
1. Results based on survey at Pier 54 (PHA, May 2005). Breakdown within Manhattan obtained from survey at Chelsea Market (SSE, February 12 and 16, 2011).

Bus Trip Assignment Assumptions

The 2005 Pier 54 survey data was evaluated to determine the bus routes visitors would use to travel to/from the project site. The following assumptions were made:

- Bus trips were only generated by people with origins in Manhattan and New Jersey (transferring from NJ TRANSIT at the Port Authority).
- Bus riders traveling to/from the project site would transfer as necessary to access bus stops closest to the project site. Ultimately, they would all use NYCT routes M11, M14A and M14D to reach their destination.
- For bus route M14 passengers, 20% would use route M14A and 80% would use route M14D. A greater percentage would take M14D because it provides closer access to the project site.

Table 16 shows the directions of travel assumed for each peak hour.

Table 16
Exhibit Space Uses: Bus Trip Assignment

Land Use		M11	M14A and M14D
Exhibit Space (1)	All Study Periods	55.2%	44.8%

Notes:
1. Results based on survey at Pier 54 (PHA, May 2005).

Walk Trip Assignment Assumptions

Walk trips generated by the project were assigned to origins external and internal to the study area using the same methodology as for the retail/restaurant walk trips.

Table 17 shows the directions of travel assumed for each peak hour.

Table 17
Exhibit Space Uses: Walk Trip Assignment

Land Use		From the East	From the North	From the South
Exhibit Space (1)	All Study Periods	42.5%	36.0%	21.5%

Notes:
1. Results based on survey at Chelsea Market (SSE, February 12 and 16, 2011).

Technical Arts School

The trip assignment assumptions for the 32,000 SF Technical Arts School were based on 2000 Census Journey-to-Work data. The census data is an appropriate source because the trips generated by the technical arts school attendees should be comparable to commute patterns, as the majority of people would likely be coming from and heading to their place of residence. The 2000 Census Journey-to-Work data was applied to all peak hours.

Trip assignment assumptions for each travel mode are described below.

Auto and Taxi Trip Assignment Assumptions
The 2000 Census data was evaluated to determine the percentage of auto and taxi trips that would come from north of the project site, south of the project site, or east of the project site. The following routing assumptions were made:

- Trips to/from Brooklyn would use various bridges/tunnels to access Route 9A from the south
- Trips to/from Queens would use the Midtown Tunnel and Queensboro Bridge
- Trips to/from Manhattan were split evenly between the north and south and other origins to the east.
- Half of the trips to/from New Jersey would use the George Washington Bridge/Lincoln Tunnel
- Half of the trips to/from New Jersey would use the Holland Tunnel

Table 18 shows the directions of travel assumed for each peak hour.

Table 18
Technical Arts School Use: Auto and Taxi Trip Assignment

Land Use		From North	From South	From East
Technical Arts School (1)	All Study Periods	55.4%	38.4%	6.2%

Notes:
1. Results based on 2000 Census Journey to Work data.

Subway Trip Assignment Assumptions

The 2000 Census data was used to determine the percentage of subway trips that would use NYCT subway lines A, C, E, L, 1, 2, or 3. The following assumptions were made:

- In locations where the A, C, E, and L subway lines could be used to travel to/from the project site, two-thirds of the trips would use the A, C, and E lines, and one-third would use the L line.
- In locations where the A, C, E, L, 1, 2, and 3 subway lines could be used to travel to/from the project site, 40% were assumed to use the A, C, and E lines, 20% were assumed to use the L line, and 40% were assumed to use the 1, 2, and 3 lines.
- The percentage of trips that use the A, C, E, and L subway lines were combined since they will use the same subway station at 14th Street.
- 15% of the trips on the 1, 2, and 3 subway lines were assumed to use the 18th Street station since it is only accessed by the local subway line. The remaining trips were assumed to use the 14th Street station.
- The 2000 Census data used was broken down to the County level; therefore, to develop trip assignment for origins from within Manhattan, the average percentage breakdown from the Chelsea Market Survey (SSE, 2011) for subway trips within Manhattan was applied.

Table 19 shows the directions of travel assumed for each peak hour.

Table 19

Technical Arts School Use: Subway Trip Assignment

Land Use		ACE/L Lines	123 Lines from 14th Street	1 Line from 18th Street
Technical Arts School (1)	All Study Periods	92.8%	6.2%	1.1%

Notes:
1. Results based on 2000 Census Journey to Work data. Breakdown within Manhattan obtained from survey at Chelsea Market (SSE, February 12 and 16, 2011).

Bus Trip Assignment Assumptions

The 2000 Census data was evaluated to determine the bus routes visitors would use to travel to/from the project site. The following assumptions were made:

- Bus trips were only generated by people with origins in Manhattan and New Jersey (transferring from NY TRANSIT at the Port Authority).
- Bus riders traveling to/from the project site would transfer as necessary to access bus stops closest to the project site. Ultimately, they would all use NYCT routes M11, M14A, and M14D to reach their destination.
- For bus route M14 passengers, 20% would use route M14A and 80% would use route M14D. A greater percentage would take M14D because it provides closer access to the project site.

Table 20 shows the directions of travel assumed for each peak hour.

Table 20
Technical Arts School Use: Bus Trip Assignment

Land Use		M11	M14A and M14D
Technical Arts School (1)	All Study Periods	66.4%	33.6%
Notes: 1. Results based on 2000 Census Journey to Work data.			

Walk Trip Assignment Assumptions
Walk trips generated by the project were assigned to origins external and internal to the study area using the same methodology as for the retail/restaurant walk trips.

Table 21 shows the directions of travel assumed for each peak hour.

Table 21
Technical Arts School Use: Walk Trip Assignment

Land Use		From the East	From the North	From the South
Technical Arts School (1)	All Study Periods	42.5%	36.0%	21.5%
Notes: 1. Results based on 2000 Census Journey to Work data.				

Potential Water Taxi Landing

There is the potential for a water taxi landing to be constructed on Pier 57. Due to the potential modal shift to the water taxi service, this land use was conservatively not considered as part of the transportation analysis.

General Trip Assignment Assumptions

After the assumptions for each individual land use discussed above were applied to determine overall trip assignment to the study area, further assumptions were made to assign trips to specific roadways and routes within the study area. The following "next level" trip assignment assumptions apply to all land uses.

Auto and Taxi Trip Assignment Assumptions
Based on engineering judgment, the following assumptions were made to assign auto and taxi trips to and from the project site:

- Inbound trips from the north were distributed 75% on Route 9A, 10% on 11th Avenue, and 15% on 9th Avenue.

- Inbound trips from the east were distributed 70% on 17th Street and 30% on 14th Street.
- Inbound trips from the south were distributed 85% on Route 9A and 15% on 8th Avenue.
- Since many of the streets in the study area are one-way, outbound trips were assigned to the most logical reverse route

Auto Trip Assignment Assumptions – Parking Off-Site

- Visitors driving to the project site would park on-site if parking is available. A parking analysis was conducted that considered the hourly parking accumulation based on the parking demand for each land use. The results of the parking accumulation analysis were used to preliminarily estimate the number of visitors that would park off-site.
- Due to limited on-street parking availability in the study area, no auto trips were assigned to on-street parking spaces. Auto-trips that could not be accommodated on-site would use off-site parking facilities along their route to the project site and would be considered "walk" trips as they travel between the parking facility and the project site.
- Auto-trips were assigned to local parking facilities that had available capacity during the peak hours based on a field review and interviews.

Truck Trip Assignment Assumptions

Based on engineering judgment, the following assumptions were made to assign truck trips to and from the project site.

- Truck trips were distributed 75% to/from the north and 25% to/from the south
- All trips from the north use Route 9A (inbound and outbound)
- All trips from the south use Route 9A (inbound and outbound)

Subway Trip Assignment Assumptions

- The A, C, E, and L subway trips would use the subway station at 14th Street and 8th Avenue, with entrances on 14th, 15th, and 16th Streets. The distribution of trips to the station entrances on the west and east side of 8th Avenue is 90%/10%, respectively. The distribution of trips to the subway entrances on the north and south side of each street is 50%/50%.
- The 1, 2, and 3 subway trips would use the 14th Street and 18th Street stations. 15% of the trips would use the 18th Street station, and the remaining trips would use the 14th Street station. The trips that use the 18th Street station would enter the study area via 16th Street, 17th Street, and 18th Street. The trips that use the 14th Street station will enter the study area at the 14th Street and 8th Avenue intersection.

Bus Trip Assignment Assumptions

- M11 passengers will use the bus stop at 14th Street and Washington Street (inbound and outbound).
- M14A passengers will use the bus stop at 14th Street and Hudson Street (inbound and outbound).

- M14D passengers will use the bus stop on Route 9A between 15th Street and 16th Street (inbound and outbound).

Walk Trip Assignment Assumptions

- Walk trip assignments were considered the same for all land uses and were based on the Chelsea Market survey and a review of the land uses on the blocks within the study area that would generate internal trips.
- Walk-only trips enter the study area from all possible external entry points along the perimeter of the study area as well as internally within the study area.
- Subway, bus, and auto "walk" trips enter the study area from subway station entrances/exits, bus stops, and off-site parking facilities.
- All walk, subway, bus, and auto trips (parking off-site) were combined to estimate the total number of walk trips in the study area. These trips were assumed to access the project site primarily along 15th Street using both crosswalks at the intersection of 15th Street and Route 9A. A smaller percentage of trips were assumed to use 14th and 16th Streets to access the project site.

Level 2 Screening Results

The application of the various assumptions for each land use scenario and peak hour result in project-trip estimates as shown in Appendix C for the "Typical" condition for the Weekday Midday, Weekday PM, and Saturday Midday peak hours and the "Pre-Event" condition for the Weekday Evening Pre-Event and Saturday Evening Pre-Event peak hours.

The results show that the project would generate more than 50 vehicle trips, 200 subway and bus riders, and 200 pedestrian trips in a peak hour at the following intersections, crosswalks, corners, sidewalks, and subway entrances/stairwells:

Intersections for Vehicular Traffic Analysis (see Figure 1)

1. Route 9A and West 24th Street
2. Route 9A / 11th Avenue and West 22nd Street
3. Route 9A and West 18th Street
4. Route 9A and West 17th Street
5. Route 9A and West 16th Street
6. Route 9A and West 15th Street
7. Route 9A and West 14th Street
8. Route 9A and 10th Avenue
9. Tenth Avenue and West 17th Street
10. Tenth Avenue and West 16th Street
11. Tenth Avenue and West 15th Street
12. Tenth Avenue and West 14th Street
13. Ninth Avenue and West 17th Street

14. Ninth Avenue and West 14th Street
15. Ninth Avenue and West 17th Street
16. Ninth Avenue and West 14th Street

Pedestrian Elements for Detailed Analysis (see Figure 2)

- Route 9A and West 17th Street (1 element)

Crosswalks	Corners	Sidewalks
South crosswalk*		

- Route 9A and West 16th Street (8 elements)

Crosswalks	Corners	Sidewalks
South crosswalk	Northeast corner	South of intersection, west side
East crosswalk	Southeast corner	South of intersection, east side
		East of intersection, south side
		East of intersection, north side

- Route 9A and West 15th Street (11 elements)

Crosswalks	Corners	Sidewalks
North crosswalk	Northeast corner	North of intersection, west side
East crosswalk	Southeast corner	North of intersection, east side
South crosswalk		East of intersection, north side
		East of intersection, south side
		South of intersection, west side
		West of intersection, within intersection

- Route 9A and West 14th Street (3 elements)

Crosswalks	Corners	Sidewalks
South crosswalk	Southeast corner	East of intersection, south side

- Tenth Avenue and West 16th Street (10 elements)

Crosswalks	Corners	Sidewalks
South crosswalk	Southeast corner	East of intersection, south side
North crosswalk	Southwest corner	West of intersection, south side
	Northeast corner	East of intersection, north side
	Northwest corner	West of intersection, north side

- Tenth Avenue and West 15th Street (11 elements)

Crosswalks	Corners	Sidewalks
North crosswalk	Northwest corner	West of intersection, north side
South crosswalk	Northeast corner	West of intersection, south side

	Southeast corner	East of intersection, north side
	Southwest corner	East of intersection, south side
		South of intersection, east side

- Tenth Avenue and West 14th Street (7 elements)

Crosswalks	Corners	Sidewalks
South crosswalk	Northeast corner	North of intersection, east side
	Southeast corner	East of intersection, north side
	Southwest corner	East of intersection, south side

- Washington Street and West 14th Street (5 elements)

Crosswalks	Corners	Sidewalks
South crosswalk	Southwest corner	West of intersection, south side
	Southeast corner	East of intersection, south side

- Ninth Avenue and West 16th Street (8 elements)

Crosswalks	Corners	Sidewalks
North crosswalk	Northeast corner	East of intersection, north side
	Northwest corner	West of intersection, north side
	Southwest corner	West of intersection, south side
	Southeast corner	

- Ninth Avenue and West 15th Street (11 elements)

Crosswalks	Corners	Sidewalks
North crosswalk	Northwest corner	West of intersection, north side
South crosswalk	Northeast corner	West of intersection, south side
	Southeast corner	East of intersection, north side
	Southwest corner	South of intersection, east side
		South of intersection, west side

- Ninth Avenue, West 14th Street, and Hudson Place (14 elements)

Crosswalks	Corners	Sidewalks
North crosswalk, west of median	Northwest corner	West of intersection, north side
North crosswalk, east of median	Northeast corner	West of intersection, south side
South crosswalk, across 9th Ave	Southeast corner	North of intersection, east side
South crosswalk, across Hudson Pl	Southwest corner	North of intersection, west side
		East of intersection, north side
		East of intersection, south side

- Eighth Avenue and West 14th Street (1 element)

Crosswalks	Corners	Sidewalks
	Northwest corner	

** Element that does not meet threshold of 200 project-generated trips, but was included because geometry is changing as part of the site access plan.*

Total: 90 elements (20 crosswalks, 31 corners, 39 sidewalks)

Bus Routes

- Bus Route M14D

Subway Stations

- ACE/L Station - West 14th Street at Eighth Avenue

In accordance with the *2012 CEQR Technical Manual*, detailed quantitative analysis will be performed at these 16 intersections, 90 pedestrian elements, 1 bus route, and 1 subway station. Subway line-haul analyses will not be performed. Subway trips will be distributed to seven subway lines in either direction and will not affect subway capacities over the course of the peak hours.

Appendix A

Level 1 Screening: Transportation Demand Factors

Sam Schwartz Engineering (SSE) has prepared a preliminary transportation screening for an Environmental Impact Statement (EIS) for the proposed Pier 57 development located along the west side of Route 9A between West 14th Street and West 16th Street in Manhattan. In accordance with the *2012 CEQR Technical Manual*, this Transportation Demand Factors (TDF) memorandum estimates the projected trips from the proposed development following a two-tiered screening process: a Level 1 screening assessment includes a trip generation analysis to determine whether the project would result in more than 50 vehicle trips, 200 subway/rail or bus riders, or 200 pedestrian trips in a peak hour; the Level 2 screening is a trip assignment review that identifies intersections with 50 or more vehicle trips, pedestrian elements with 200 or more pedestrian trips, 50 bus trips in a single direction on a single route, or 200 passengers at a subway station or line during any analysis peak hour which would require detailed analyses.

Proposed Development Program

The proposed Pier 57 development would include the following land uses:

- 24,450 square feet (SF) of quality restaurant
- 34,764 SF of food counters
- 202,686 SF of market (retail space)
- 110,000 SF rooftop (for park use and programmed events)
- 40,000 SF of art gallery/exhibit space (caisson level)
- 11,000 SF cultural use (300-seat theatre)
- 32,700 SF technical arts school
- 190-slip marina
- Potential water taxi landing

Transportation Planning Factors

The transportation planning factors used in forecasting travel demand for the proposed development are shown in Table 1, and the trip generation results are shown in Table 2A and Table 2B. Trip generation estimates were prepared for the following critical weekday peak hours:

- Weekday Midday (MD) peak hour
- Weekday commuter peak (PM) peak hour
- Weekday Evening Pre-Event peak (EVE) peak hour, representing the pre-event time period
- Saturday Midday (SAT MD) peak hour
- Saturday Evening Pre-Event peak (SAT EVE) peak hour, representing the pre-event time period

With the project located along Route 9A, transportation planning factors were generally obtained from previous studies performed for other riverfront uses and/or projects located on the west edge of Manhattan in or near West Chelsea. A description of the transportation planning factors assumed for each individual land use is provided below.

Market (Retail Space)

The market is retail space that is expected to primarily be made up of small retail pods. In total, the space would comprise 202,686 SF of related retail space that is expected to have both a regional and local draw. As such, it was assumed that the market space would operate most similar to the "destination retail" land use, and the total Weekday and Saturday daily trip generation rates were obtained from Table 16-2 of the *2012 CEQR Technical Manual.*

A survey was conducted at Chelsea Market to serve as a basis for modal split and vehicle occupancy assumptions for the retail space at Pier 57. Chelsea Market is an appropriate source because it is a retail space that is primarily made up of small, boutique food shops that allow businesses to combine their manufacturing and retail assets under one roof. Pier 57 would provide similar "work-sell" spaces for food and fashion-related businesses. Furthermore, Chelsea Market is located one block from the Pier 57 site.

This survey was conducted on Saturday, February 12, 2011, from 1:00 PM to 4:00 PM and from 5:00 PM to 8:00 PM and on Wednesday, February 16, 2011, from 11:30 AM to 2:30 PM and 4:30 PM to 7:30 PM. The results of the survey are summarized below:

Chelsea Market Mode Splits
February 2011

Mode 1	Mode 2	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	-	12.2%	6.6%	3.8%	14.1%
Bike	-	2.4%	1.5%	3.8%	1.3%
Bus	-	3.3%	3.6%	5.1%	1.9%
Bus	Subway	0.0%	0.0%	0.0%	0.0%
Ferry	Subway	0.8%	0.0%	0.0%	0.0%
Rail - LIRR	Subway	0.8%	0.7%	0.0%	1.3%
Rail - LIRR	-	0.0%	0.7%	0.6%	1.3%
Rail - MetroNorth	Subway	0.0%	0.0%	0.0%	0.0%
Rail - NJ Transit	-	0.8%	0.7%	1.3%	0.0%
Rail - Path	-	0.8%	0.7%	1.9%	3.2%
Subway	-	33.3%	42.3%	30.6%	28.2%
Subway	Bus	1.6%	0.0%	0.0%	0.6%
Total Visitors		**100.0%**	**100.0%**	**100.0%**	**100.0%**
Sample Size		**123**	**137**	**157**	**156**

Chelsea Market Vehicle Occupancies
February 2011

Mode	*Weekday*	*Saturday*
Auto	1.86	2.63
Taxi	1.42	2.13

Weekday Midday, Weekday PM, and Saturday Midday temporal distributions, directional distributions, and truck trip generation/distributions were obtained from the *2012 CEQR Technical Manual* Table 16-2. Weekday and Saturday Evenings Pre-Event temporal distributions, directional distributions, and truck trip generation/distributions were obtained from the Hudson Yards FGEIS (2004), Appendix S-1, Tables 1 and 2, from the "Destination Retail Trip Generation Transportation Planning Assumptions" memorandum. The Saturday Evening Pre-Event truck distributions were assumed to be equal to the Weekday Midday factors.

Quality Restaurant

The development would include 24,450 SF of quality restaurant space, including an outdoor terrace. For weekdays, the total daily trip generation rate was based on Table 2.3 in *Urban Space for Pedestrians* (Pushkarev & Zupan, 1975). Since Table 2.3 does not include Saturday information, the Saturday trip rate was estimated from the daily trip rate and average vehicle occupancy reported for a Quality Restaurant (Land Use Code 931) from the Institute of Transportation Engineers' (ITE) *Trip Generation, 8th Edition* manual. Specifically, the daily trip rate in the ITE manual, which was assumed to be made up of 100 percent auto trips, was divided by the average vehicle occupancy to estimate total daily person trips. For the Saturday trip rate, the proportion of Saturday trips to Weekday trips in the ITE manual was used to adjust the weekday trip rate in *Urban Space for Pedestrians*.

Modal splits and vehicle occupancies were obtained from Table II.F.7 of the Chelsea Piers FEIS for the restaurant use, and the modal splits were modified based on discussions with NYCDOT to reflect a lower bus mode share and higher walk-only and subway mode shares. Temporal splits and directional distributions were obtained from ITE's *Trip Generation, 8th Edition* for a Quality Restaurant (Land Use Code 931), and truck trip generation rates were obtained from the Hudson River Park FEIS (1998), Table 11-25, for the restaurant land use.

Food Counters

The development would include 34,764 SF of food counter space that would operate similar to the counter-service style food establishments at Chelsea Market. It is expected that most of the patrons of these food counters will also be shopping at the retail pods and, as such, are expected to have similar trip generation characteristics as the destination retail. However, to be

conservative, the total daily trip generation rates were based on daily trip rates calculated for Quality Restaurant, which provides higher rates than for destination retail.

As with the Quality Restaurant land use, modal splits and vehicle occupancies were obtained from Table II.F.7 of the Chelsea Piers FEIS for the restaurant use, and the modal splits were modified based on discussions with NYCDOT. Temporal splits and directional distributions were obtained from ITE's *Trip Generation, 8th Edition* for a High Turnover (Sit-Down) Restaurant (Land Use Code 932), and truck trip generation rates were obtained from the Hudson River Park FEIS (1998), Table 11-25, for the restaurant land use.

Rooftop

While the 110,000 SF (2.30 acres) rooftop space would typically be open to public and serve as open space, the Pier would also occasionally host evening events during the year, with approximately two weeks in late April/early May dedicated to the Tribeca Film Festival. Since events on the rooftop will only occur occasionally, trip generation estimates were performed for both a "Typical" and "Pre-Event" condition.

Typical Condition: In the typical condition, the rooftop would draw visitors to the pier to enjoy the rooftop space and the waterfront views. Also, the anticipated programming for the rooftop includes art installations and exhibits that would take up approximately 10,000 SF of the rooftop. These installations would occur three to four times per year and run for approximately two months each, with one week to set up and one week to take down the exhibits. Therefore, this condition could be considered "Typical," as four installations at 10 weeks each would comprise 40 weeks over the course of a year. To generate trips for such a condition, it was assumed that this exhibition space would operate similar to a museum, while the remaining 100,000 SF would operate with the same trip generation characteristics as open/park space.

The open space on the rooftop would be a passive use, and daily trip generation rates and temporal distribution for the rooftop space were based on the *2012 CEQR Technical Manual,* Table 16-2. The active park rate was conservatively applied. Weekday Evening Pre-Event and Saturday Evening Pre-Event temporal distributions were assumed to be half of the Weekday PM and Saturday Midday temporal distributions, respectively. Mode share, vehicle occupancy, and directional distribution assumptions were based on the Special West Chelsea District Rezoning and High Line Open Space FEIS (2010), Table 16-6, for the High Line open space land use. Saturday mode share and vehicle occupancy were assumed to be same as the Weekday. Weekday Evening Pre-Event and Saturday Evening Pre-Event directional distributions were assumed to be the same as the Weekday PM, and the Saturday Midday directional distribution was assumed to be 50% in and 50% out. Truck trip generation for the open space was assumed to be zero, consistent with the West Chelsea FEIS.

For the art installation on the rooftop, daily trip generation rates were based on the museum land use on Table 16-2 of the *2012 CEQR Technical Manual*. Modal splits and vehicle occupancies were obtained from a survey conducted in May 2005 for a temporary art and film installation called "Ashes and Show" that ran for three months on Pier 54. This was a prototype for the types of art installations envisioned for Pier 57 and, given its location, is a very relevant source for travel demand factors.

Truck trip generation and distributions for a museum were obtained from the Hudson Yards FGEIS (2004), Appendix S-1, Table 1, from the "Museum Trip Generation Transportation Planning Assumptions" memorandum.

Pre-Event Condition (Tribeca Film Festival): The Tribeca Film Festival would stage a limited number of events on the rooftop; however, to represent a worst-case scenario, trip generation estimates were performed for a Tribeca Film Festival event condition. The rooftop event space has a 2,500-person capacity; however, events would typically not exceed 1,500 people.

In addition to the Film Festival events, which would occur for two weeks in late April and early May, other special interest programming may also take place on the rooftop. The worst-case scenario of a 2,500-person event condition will be analyzed for the Weekday Evening Pre-Event and Saturday Evening Pre-Event peaks. Only these peaks will be analyzed, as a 2,500-person event would require significant set-up time that would take up most or all of the rooftop space during the day of the event.

The total daily trip generation rate was based on the Brooklyn Bridge Park FEIS (2005), Table 14-6, for the multi-use / theatre land use, and assumed a capacity of 2,500 people ("seats"). The mode share, vehicle occupancy, temporal distribution, and directional distribution rates for both a Weekday and Saturday Evening Pre-Event were based on a survey performed in June 2009 for an outdoor movie event on Pier 54. Mode share and vehicle occupancy survey data was collected between the hours of 6:00 PM and 9:00 PM, and temporal distribution observations were made between 6:00 PM and 11:30 PM. The movie event was open to the public, with people arriving and departing throughout the duration of the event. Saturday Evening Pre-Event and Weekday PM directional distributions were assumed to be the same as the Weekday Evening Pre-Event assumptions.

At the Pier 54 events, people tend to arrive early to secure a location and/or bring a picnic meal. A similar arrival/departure pattern would be expected for a Tribeca Film Festival event due to the presence of retail space, restaurants, and related exhibits that would attract people before, during, and after the event. Also, since Pier 54 is just a few blocks south of Pier 57, modal splits and vehicle occupancies were also assumed to be representative of a rooftop Tribeca Film Festival event.

The Weekday and Saturday truck trip generation rates and truck temporal and directional distributions were based on the Brooklyn Bridge Park FEIS Table 14-6, multi-use / theatre land use.

Cultural Use

The transportation planning assumptions for the Cultural Use were conservatively based on a 300-seat theatre as it would generate the greatest number of trips for a cultural use in the space available. In general, the same trip assignment assumptions were used for the Rooftop Event. However, it was assumed that the theatre could be operational during the Weekday Midday and Saturday Midday periods. The transportation planning assumptions were obtained from the Brooklyn Bridge Park FEIS, Table 14-6, for the multi-use / theatre land use.

Technical Arts School

The 32,700-SF technical arts school would be an educational facility with a specialized focus, be it cooking, fashion, photography, graphic arts, or similar area. Examples of technical arts schools in Manhattan include the Institute for Culinary Education (ICE), the Fashion Institute of Technology (FIT), and the Art Institute of New York City. Typically, these schools focus on a single technical arts area, such as the culinary arts, and also provide a recreational curriculum. Daily trip rates were obtained from the ITE *Trip Generation, 8th Edition* manual for the Junior/Community College (Land Use Code 540) land use, which is described as including "two-year junior, community, or technical colleges." It also states that a number of the institutions studied have "sizeable evening programs." Therefore, this should be an applicable source, since technical arts schools typically provide one- to two-year programs. Also, similar to junior, community, and technical colleges, technical arts schools have evening programs that are open for students with full-time jobs and have recreational and continuing education classes for the general public. Technical arts schools allow admission directly from high school.

Comparing technical arts schools to community/technical colleges is conservative, since the majority of classrooms in these schools are made up of specialized classrooms that accommodate less students per square foot than a typical college classroom (cooking schools have teaching kitchens, photography schools have darkrooms and studios, fashion schools have production rooms and machinery, etc.). At a cooking school, for example, teaching kitchens represent the majority of classrooms, and at ICE, 11 of the 14 classrooms are teaching kitchens. The three remaining regular classrooms are generally used for the culinary management and hospitality management programs.

Other sources were reviewed to develop assumptions for modal splits and vehicle occupancies. Continuing with the cooking school example, the average enrollment age at ICE, which comprises approximately 43,000 SF of space, is 26 years old; therefore, travel characteristics

were assumed to be similar to that of graduate-level students, and thus was based on the graduate/full-time student land use from the Fordham University Lincoln Center Master Plan FEIS (2009), Table 15-2. Since the mode share used in that FEIS included dorm-based trips (8.4%), this mode share was redistributed proportionally among the auto, taxi, bus, and subway mode shares. Also, the shuttle mode share (0.5% for Weekday Midday and 20.3% for Weekday PM/Evening Pre-Event) was redistributed proportionally among the bus and subway mode shares. Truck trip generation rates were based on the rates from the Fordham University Lincoln Center Master Plan FEIS (2009), Table 15-11.

Class schedules at several technical arts schools were reviewed to estimate temporal distributions. Classes at ICE run from 8 AM to 12 PM, 1 PM to 5 PM, and 6 PM to 10 PM on weekdays. There are also weekday recreational classes that generally occur from 10 AM to 2 PM (approx 1 per day) and 6 PM to 10 PM (approx 2 per day). On Saturday, classes typically run from 9 AM to 2 PM or 9 AM to 5 PM. Given this distribution, there is overlap during the Weekday Midday (12 PM to 1 PM) and Weekday PM (5 PM to 6 PM) peak hours, when some students are leaving and some are arriving. During these hours, a 20% temporal distribution was assumed, with 50% entering and 50% exiting the school. During the Weekday Evening Pre-Event, Saturday Midday, and Saturday Evening Pre-Event peak hours, there would be little entering and exiting activity, as classes do not start or end during those times. As such, a lower temporal distribution of 5% was assumed for those time periods. Directional distribution was assumed to be 50% entering and exiting during those hours.

Marina

Weekday trip generation assumptions for the proposed 190-slip marina were based on the Brooklyn Bridge Park FEIS Table 14-6 for the marina land use. The remaining travel demand assumptions were obtained from the Hudson River Park FEIS (1998), Table 11-25, for the marina land use. The Weekday Evening Pre-Event temporal and directional distributions were assumed to be same as the Weekday PM, and the Saturday Evening Pre-Event temporal and directional distributions were assumed to be same as the Saturday Midday.

Potential Water Taxi Landing

There is the potential for a water taxi landing to be constructed on Pier 57. The landing could become a stop along the Hudson River water taxi route that currently stops at various locations including Pier 45 at Christopher Street and Pier 84 at West 44th Street. As a stand-alone use, it is expected that the water taxi landing would primarily attract pedestrians from along the Hudson River Park Waterside Esplanade; some of which would be included in the Pier 57 trip generation. Additionally, water taxi access to Pier 57 would also provide an alternative mode for visitors to travel to and from the site and would therefore result in a modal shift that would reduce the number of pedestrians coming from subway stations, bus stops, and taxis on the

local streets. As such, since the presence of the water taxi would likely reduce the transportation impact of the project, the transportation planning analysis conservatively did not consider the water taxi landing.

Linked Trips

Linked trips are trips that have multiple destinations are typical for multi-use sites. The Pier 57 redevelopment plan calls for a major concentration of food-based uses surrounded by a variety of international cuisines, educational programs, broadcast venues, and retail merchandise, with the technical arts school most likely being a cooking school. This food-based theme is not unlike that of Chelsea Market, where specialty markets, food counters, restaurants, and the Food Network studios and offices are all located within a single retail experience that produce a variety of linked trips. In fact, the Chelsea Market survey showed that 15-20% of the weekday respondents were employees from within the building. Similarly, the Pier 57 site will produce linked trips with visitors traveling between the open space, retail market, restaurants, food counters, and theatre. Other linked trips will occur between the technical arts school, food market, food counters, and restaurants. Furthermore, the Tribeca Film Festival experience will draw linked trips between the restaurant, retail, and rooftop spaces. As such, a 20% linked trip credit in trip generation was taken for all land uses except for the food counters, for which a 25% linked trip credit was taken, and for the marina, for which no linked trip credit (0%) was taken.

Trip Generation Results

The results of the trip generation estimates for the Typical and Pre-Event scenarios are shown in the tables below. To represent the worst-case scenario for each of the study peak hours, the Typical condition was used for the Weekday Midday, Weekday PM, and Saturday Midday conditions, while the Pre-Event condition was used for the Weekday Evening and Saturday Evening conditions:

Peak Hour	Vehicle Trips (auto/taxi/truck)	Subway Trips	Bus Trips	Pedestrian Trips	Total Walk Trips (includes transit)
Typical Condition					
Weekday MD	367	846	110	706	1,662
Weekday PM	348	857	112	735	1,704
Saturday MD	549	882	126	970	1,979
Pre-Event Condition					
Weekday EVE	475	1,763	167	1,401	3,332
Saturday EVE	380	1,331	122	1,020	2,473

The results show that the project would generate more than 50 vehicle trips, 200 subway and bus riders, and 200 pedestrian trips in a peak hour; therefore, in accordance with the *2012 CEQR Technical Manual* a Level 2 screening will be performed to distribute the new trips to the surrounding roadway network and identify study locations for quantitative analyses.

Table 1
Pier 57 Transportation Demand Factors

		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Open Space	Rooftop Exhibit (Museum)	Rooftop Event
Project Component	Size	202,686	24,450	34,764	300	40,000	32,700	190	2.30	10,000	2,500
	Unit	gsf	gsf	gsf	Seats	gsf	gsf	slips	acres	gsf	people
Person Trip Generation Rate		(1)	Weekday (3), Saturday (5)	(16)	(6)	(1)	(11)	Weekday (6), Saturday (12)	(1)	(1)	(6)
	Weekday	78.2	173	173	2.68	27.0	30.51	6.23	139	27.0	2.68
	Saturday	92.5	181	181	2.68	20.6	12.47	12.80	196	20.6	2.68
	Unit	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf	per seat	per 1,000 gsf	per 1,000 gsf	per slip	per acre	per 1,000 gsf	per person
Truck Generation Rate		(14)	(12)	(12)	(6)	(13)	(8)	(12)	(7)	(13)	(6)
	Weekday	0.35	3.60	3.60	0.01	0.05	0.03	0.02	0.00	0.05	0.01
	Saturday	0.02	3.60	3.60	0.01	0.00	0.03	0.02	0.00	0.00	0.01
	Unit	per 1,000 gsf	per 1,000 gsf	per 1,000 gsf	per seat	per 1,000 gsf	per 1,000 gsf	per slip	per acre	per 1,000 gsf	per person
Modal Split		Weekday Saturday (2)	Weekday Saturday (18)	Weekday Saturday (18)	Weekday Saturday (9)	Weekday Saturday (4)	Weekday MD Weekday PM/EVE (8)	Weekday Saturday (12)	Weekday Saturday (7)	Weekday Saturday (4)	Weekday Saturday (9)
	Auto	9.2% 10.5%	25.0% 25.0%	25.0% 25.0%	9.0% 9.0%	19.5% 19.5%	7.5% 2.4%	75.0% 75.0%	5.0% 5.0%	19.5% 19.5%	9.0% 9.0%
	Taxi	5.0% 14.2%	20.0% 20.0%	15.0% 15.0%	2.0% 2.0%	10.0% 10.0%	6.3% 3.6%	10.0% 10.0%	1.0% 1.0%	10.0% 10.0%	2.0% 2.0%
	Subway	40.0% 29.6%	30.0% 30.0%	35.0% 35.0%	49.0% 49.0%	33.0% 33.0%	61.6% 59.9%	5.0% 5.0%	3.0% 3.0%	33.0% 33.0%	49.0% 49.0%
	Bus	4.2% 3.7%	5.0% 5.0%	5.0% 5.0%	3.0% 3.0%	7.0% 7.0%	7.5% 8.6%	5.0% 5.0%	4.0% 4.0%	7.0% 7.0%	3.0% 3.0%
	Walk/Other	41.6% 42.0%	20.0% 20.0%	20.0% 20.0%	37.0% 37.0%	30.5% 30.5%	17.1% 25.6%	5.0% 5.0%	87.0% 87.0%	30.5% 30.5%	37.0% 37.0%
		100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%	100.0% 100.0%
Vehicle Occupancy		(2)	(15)	(15)	Auto (9), Taxi (6)	(4)	(8)	(12)	(7)	(4)	Auto (9), Taxi (6)
	Auto	1.86 2.63	2.20 2.20	2.20 2.20	2.90 2.90	2.67 2.67	1.11 1.11	2.00 2.00	2.80 2.80	2.67 2.67	2.90 2.90
	Taxi	1.42 2.13	2.30 2.30	2.30 2.30	2.30 2.30	2.08 2.08	1.23 1.23	2.00 2.00	2.80 2.80	2.08 2.08	2.30 2.30
Linked Trips (10)		20% 20%	20% 20%	25% 25%	20% 20%	20% 20%	20% 20%	0% 0%	20% 20%	20% 20%	20% 20%
Temporal Distribution		(14)	(5)	(16)	MD and PM (6), EVE (9)	(1)	(8)	(12)	(1)	(1)	(9)
	MD (12-1)	9.0%	6.2%	10.6%	0.0%	16.0%	20.0%	4.6%	5.0%	16.0%	0.0%
	PM (5-6)	9.0%	8.3%	8.8%	10.0%	13.0%	20.0%	6.4%	6.0%	13.0%	0.0%
	EVE (7-8)	8.4%	10.0%	14.5%	32.0%	13.0%	5.0%	6.4%	3.0%	13.0%	32.0%
	Sat MD (1-2)	11.0%	11.0%	11.0%	10.0%	17.0%	5.0%	4.8%	6.0%	17.0%	0.0%
	Sat EVE (7-8)	1.7%	11.5%	8.9%	32.0%	13.0%	5.0%	4.8%	3.0%	13.0%	32.0%
Truck Temporal Distribution		(14)	(12)	(12)	(6)	(13)	(12)	(12)	(7)	(13)	(6)
	MD (12-1)	11.0%	6.0%	6.0%	6.0%	11.0%	6.0%	6.0%	0.0%	11.0%	6.0%
	PM (5-6)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.0%	1.0%	1.0%
	EVE (7-8)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%
	Sat MD (1-2)	11.0%	6.0%	6.0%	0.0%	1.0%	6.0%	1.0%	0.0%	1.0%	0.0%
	Sat EVE (7-8)	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%
Directional Distribution		IN OUT (14)	IN OUT (5)	IN OUT (16)	IN OUT (7,9)	IN OUT (13)	IN OUT (17)	IN OUT (12)	IN OUT (7)	IN OUT (13)	IN OUT (7,9)
	MD (12-1)	55.0% 45.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	63.0% 37.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	63.0% 37.0%	50.0% 50.0%
	PM (5-6)	48.0% 52.0%	67.0% 33.0%	59.0% 41.0%	75.0% 25.0%	52.0% 48.0%	50.0% 50.0%	60.0% 40.0%	45.0% 55.0%	52.0% 48.0%	75.0% 25.0%
	EVE (7-8)	55.0% 45.0%	62.0% 38.0%	54.0% 46.0%	75.0% 25.0%	34.0% 66.0%	50.0% 50.0%	60.0% 40.0%	45.0% 55.0%	34.0% 66.0%	75.0% 25.0%
	Sat MD (1-2)	71.0% 29.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%
	Sat EVE (7-8)	40.0% 60.0%	59.0% 41.0%	53.0% 47.0%	75.0% 25.0%	34.0% 66.0%	50.0% 50.0%	50.0% 50.0%	45.0% 55.0%	34.0% 66.0%	75.0% 25.0%
Truck Directional Distribution		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	MD (12-1)	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%
	PM (5-6)	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%
	EVE (7-8)	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%
	Sat MD (1-2)	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%
	Sat EVE (7-8)	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%

Notes
1. CEQR Technical Manual 2012, Table 16-2. For open space, Active Park Space was used; temporal distribution for Weekday EVE assumed to be half of Weekday PM and Sat EVE assumed to be half of Sat MD. For Rooftop Exhibit (Museum), Weekday EVE and Saturday EVE temporal distribution assumed to be same as Weekday PM temporal distribution.
2. Sam Schwartz Engineering survey at Chelsea Market, February 2011.
3. Weekday person trip rate based on Urban Space for Pedestrians (Pushkarev & Zupan, 1975), Table 2.3.
4. PHA Survey of temporary art installation/exhibit at Pier 54, May 2005.
5. ITE Trip Generation, 8th Edition, Land Use Code 931, Quality Restaurant. Weekday PM is same as weekday peak of Adjacent Street Traffic, Weekday EVE is same as weekday PM Peak of Generator, Satruday EVE is same proportion as Saturday Peak of Generator and Daily Saturday trip rate. Saturday MD trip rate based on ITE ratio of Saturday to weekday daily trip generation (see note 3). Temporal and directional distributions based on ITE as follows: Weekday MD assumed to be
6. Brooklyn Bridge Park FEIS (2005), Table 14-6, Multi-use (Theater) land use. Truck temporal distribution for EVE and Sat EVE assumed to be 0%. Restaurant vehicle occupancies were used for taxi. Marina land use used weekday trip generation rates for Marina.
7. Special West Chelsea District Rezoning and High Line Open Space FEIS, May 2010, Table 16-6, High Line Open Space land use. Saturday mode share and vehicle occupancy assumed to be same as weekday. Weekday EVE temporal distribution assumed to be half of Weekday PM; Sat EVE temporal assumed to be half of Sat MD. Weekday EVE and Sat EVE directional distribution is assumed to be same as Weekday PM. Saturday MD directional assumed 50/50.
8. Fordham University Lincoln Center Master Plan FEIS, 2009, Table 15-2, for Graduate Students Day/Full-Time. Dorm-based mode share redistributed proportionally among auto, taxi, bus and subway. Shuttle mode share redistributed proportionally among bus and subway. SSE determined Weekday MD and PM temporal distribution based on published class schedules for the Institute of Culinary Education. Weekday EVE temporal distribution assumed be half of weekday PM. Assumed
9. Based on Pier 54 movie event survey on 7/8/2009 performed by AKRF. Saturday EVE and Weekday PM temporal distribution and directional distribution assumed to be same as weekday EVE. Assumed no rooftop events for weekday MD and Saturday MD. During these times, open space assumptions were used. Taxi vehicle occupancy did not have good data from the AKRF survey; therefore, the restaurant assumption was used. (see note 6)
10. Assumed 20% linked trips for all uses except Marina, which assumes 0% linked trips.
11. ITE 8th Edition, Land Use Code 540, Junior/Community College
12. Hudson River Park FEIS (1998), Table 11-25. For Marina, Weekday EVE temporal distribution and directional distribution assumed to be same as weekday PM. For Marina, Sat EVE temporal distribution and directional distribution assumed to be same as Sat MD. For Restaurant, assume Saturday MD is the same as Weekday MD and assume Weekday EVE and Saturday EVE are zero.
13. Hudson Yards FGEIS (2004) App S-1, Table 1, "Museum Trip Generation Transportation Planning Assumptions" Memorandum. Saturday EVE directional distribution assumed to be same as Weekday EVE. Saturday MD directional distribution assumed to be 50/50. Saturday EVE temporal distribution assumed to be 0.
14. CEQR Technical Manual 2012, Table 16-2, for MD, PM, Saturday midday.Hudson Yards FGEIS (2004) App S-1, Table 1 and 2, "Destination Retail Trip Generation Transportation Planning Assumptions" Memorandum for Weekday EVE and Saturday EVE. Truck distribution for Sat MD assumed to be same as Weekday MD.
15. Chelsea Piers, FEIS (1993), Table II.F.7. Saturday mode share and vehicle occupancy assumed to be same as weekday.
16. ITE Trip Generation, 8th Edition, Land Use Code 932, High-Turnover (Sit Down) Restaurant. Saturday MD temporal distribution assumed to be same as Destination Retail for Saturday MD.
17. SSE assumptions based on review of class schedules at several technical art schools, including the Institute of Culinary Education in NYC.
18. SSE and NYCDOT Assumptions.

Table 2A
Pier 57 Trip Generation (Typical Scenario)

Person Trips

		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Open Space	Rooftop Exhibit (Museum)	TOTAL
Daily Trips	Weekday	12,680	3,384	4,511	643	864	798	1,184	255	216	**24,535**
	Saturday	14,999	3,550	4,732	643	659	326	2,432	360	165	**27,866**
Peak Hour Trips	MD (12-1)	1,141	210	480	0	138	160	54	13	35	**2,230**
	PM (5-6)	1,141	282	396	64	112	160	76	15	28	**2,274**
	EVE (7-8)	1,065	339	656	206	112	40	76	8	28	**2,530**
	Sat MD (1-2)	1,650	390	520	64	112	16	117	22	28	**2,920**
	Sat EVE (7-8)	255	407	423	206	86	16	117	11	21	**1,542**

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Open Space		Rooftop Exhibit (Museum)				
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	58	47	26	26	60	60	0	0	17	10	6	6	20	20	0	0	4	2	**192**	**173**	**364**
	Taxi	31	26	21	21	36	36	0	0	9	5	5	5	3	3	0	0	2	1	**107**	**97**	**204**
	Subway	251	205	31	31	84	84	0	0	29	17	49	49	1	1	0	0	7	4	**453**	**393**	**846**
	Bus	26	22	5	5	12	12	0	0	6	4	6	6	1	1	0	0	2	1	**59**	**51**	**110**
	Walk/Other	261	214	21	21	48	48	0	0	27	16	14	14	1	1	6	6	7	4	**384**	**323**	**706**
	Total	627	514	104	104	240	240	0	0	88	52	80	80	26	26	6	6	22	12	**1195**	**1037**	**2232**
PM	Auto	50	55	47	23	58	41	4	1	11	11	2	2	34	23	0	0	3	3	**211**	**158**	**369**
	Taxi	27	30	38	19	35	24	1	0	6	5	3	3	5	3	0	0	1	1	**116**	**86**	**201**
	Subway	219	237	57	28	82	57	24	8	19	18	48	48	2	2	0	0	5	4	**455**	**402**	**857**
	Bus	23	25	9	5	12	8	1	0	4	4	7	7	2	2	0	0	1	1	**60**	**52**	**112**
	Walk/Other	228	247	38	19	47	32	18	6	18	16	20	20	2	2	6	7	4	4	**381**	**354**	**735**
	Total	547	594	189	94	234	162	48	15	58	54	80	80	45	32	6	7	14	13	**1223**	**1052**	**2275**
EVE	Auto	54	44	53	32	89	75	14	5	7	14	0	0	34	23	0	0	2	4	**253**	**198**	**451**
	Taxi	29	24	42	26	53	45	3	1	4	7	1	1	5	3	0	0	1	2	**138**	**109**	**247**
	Subway	234	192	63	39	124	106	76	25	13	24	12	12	2	2	0	0	3	6	**527**	**405**	**933**
	Bus	25	20	11	6	18	15	5	2	3	5	2	2	2	2	0	0	1	1	**65**	**53**	**118**
	Walk/Other	244	199	42	26	71	60	57	19	12	23	5	5	2	2	3	4	3	6	**439**	**343**	**782**
	Total	586	479	211	129	355	301	155	52	39	73	20	20	45	32	3	4	10	19	**1422**	**1108**	**2530**
Sat MD	Auto	123	50	49	49	65	65	3	3	11	11	0	0	44	44	1	1	3	3	**298**	**225**	**523**
	Taxi	166	68	39	39	39	39	1	1	6	6	0	0	6	6	0	0	1	1	**258**	**160**	**418**
	Subway	347	142	59	59	91	91	16	16	18	18	5	5	3	3	0	0	5	5	**543**	**338**	**882**
	Bus	43	18	10	10	13	13	1	1	4	4	1	1	3	3	0	0	1	1	**76**	**50**	**126**
	Walk/Other	492	201	39	39	52	52	12	12	17	17	2	2	3	3	9	9	4	4	**631**	**340**	**970**
	Total	1171	479	196	196	260	260	33	33	56	56	8	8	59	59	10	10	14	14	**1806**	**1113**	**2919**
Sat EVE	Auto	11	16	60	42	56	50	14	5	6	11	0	0	44	44	0	0	1	3	**192**	**170**	**362**
	Taxi	14	22	48	33	34	30	3	1	3	6	0	0	6	6	0	0	1	1	**109**	**99**	**208**
	Subway	30	45	72	50	78	70	76	25	10	19	5	5	3	3	0	0	2	5	**276**	**221**	**498**
	Bus	4	6	12	8	11	10	5	2	2	4	1	1	3	3	0	0	1	1	**38**	**34**	**72**
	Walk/Other	43	64	48	33	45	40	57	19	9	17	2	2	3	3	4	5	2	4	**213**	**188**	**401**
	Total	102	153	240	166	224	200	155	52	30	57	8	8	59	59	4	5	7	14	**828**	**712**	**1540**

Vehicle Trips

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Open Space		Rooftop Exhibit (Museum)				
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	31	25	12	12	27	27	0	0	6	4	5	5	10	10	0	0	2	1	**94**	**85**	**179**
	Taxi	22	18	9	9	16	16	0	0	4	2	4	4	1	1	0	0	1	1	58	51	109
	Taxi (Balanced)[1]	**31**	**31**	**14**	**14**	**23**	**23**	**0**	**0**	**5**	**5**	**6**	**6**	**2**	**2**	**0**	**0**	**1**	**1**	**83**	**83**	**167**
	Truck	4	4	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	**11**	**11**	**21**
	Total	66	60	29	29	54	54	0	0	11	9	11	11	12	12	0	0	3	2	**188**	**179**	**367**
PM	Auto	27	29	21	11	27	18	1	0	4	4	2	2	17	11	0	0	1	1	**101**	**77**	**178**
	Taxi	19	21	16	8	15	11	0	0	3	3	2	2	2	2	0	0	1	1	60	47	106
	Taxi (Balanced)[1]	**31**	**31**	**20**	**20**	**21**	**21**	**0**	**0**	**4**	**4**	**3**	**3**	**3**	**3**	**0**	**0**	**1**	**1**	**84**	**84**	**167**
	Truck	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
	Total	58	60	41	31	49	40	1	0	8	8	5	5	20	14	0	0	2	2	**186**	**162**	**348**
EVE	Auto	29	24	24	15	40	34	5	2	3	5	0	0	17	11	0	0	1	1	**119**	**93**	**212**
	Taxi	21	13	18	12	23	21	1	0	2	3	1	1	2	2	0	0	0	1	69	51	120
	Taxi (Balanced)[1]	**27**	**27**	**24**	**24**	**33**	**33**	**2**	**2**	**4**	**4**	**1**	**1**	**3**	**3**	**0**	**0**	**1**	**1**	**95**	**95**	**190**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	56	51	48	39	73	67	7	4	7	9	1	1	20	14	0	0	2	2	**214**	**188**	**402**
Sat MD	Auto	47	19	22	22	30	30	1	1	4	4	0	0	22	22	0	0	1	1	**126**	**99**	**225**
	Taxi	78	32	17	17	17	17	0	0	3	3	0	0	3	3	0	0	1	1	119	72	191
	Taxi (Balanced)[1]	**94**	**94**	**25**	**25**	**25**	**25**	**0**	**0**	**4**	**4**	**0**	**0**	**4**	**4**	**0**	**0**	**1**	**1**	**155**	**155**	**310**
	Truck	0	0	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**14**
	Total	141	113	50	50	59	59	1	1	8	8	0	0	26	26	0	0	2	2	**288**	**261**	**549**
Sat EVE	Auto	4	6	27	19	25	23	5	2	2	4	0	0	22	22	0	0	1	1	**86**	**76**	**162**
	Taxi	7	10	21	15	15	13	1	0	1	3	0	0	3	3	0	0	0	1	49	45	93
	Taxi (Balanced)[1]	**14**	**14**	**28**	**28**	**21**	**21**	**2**	**2**	**3**	**3**	**0**	**0**	**4**	**4**	**0**	**0**	**1**	**1**	**73**	**73**	**146**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	18	20	55	47	46	44	7	4	5	7	0	0	26	26	0	0	2	2	**159**	**149**	**308**

Notes
1. A 50% taxi overlap rate was assumed (i.e., 50% of inbound full taxis are assumed to be available for outbound demand), based on the CEQR 2012 Technical Manual.

Total Walk Trips

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Open Space		Rooftop Exhibit (Museum)				
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	TOTAL
MD	Total Walk Trips[2]	539	441	58	58	144	144	0	0	61	36	69	69	4	4	6	6	15	9	**896**	**766**	**1,662**
PM	Total Walk Trips[2]	470	509	104	51	140	97	43	14	41	38	75	75	7	5	6	8	10	10	**897**	**807**	**1,704**
EVE	Total Walk Trips[2]	503	411	116	71	213	181	137	46	27	52	19	19	7	5	3	4	7	13	**1,031**	**802**	**1,832**
SAT MD	Total Walk Trips[2]	882	360	107	107	156	156	29	29	40	40	8	8	9	9	10	10	10	10	**1,250**	**728**	**1,979**
SAT EVE	Total Walk Trips[2]	77	115	132	92	135	119	137	46	21	40	8	8	9	9	5	6	5	10	**527**	**444**	**971**

Notes
1. Total walk trips includes all trips via transit plus walk only trips.

Table 2B
Pier 57 Trip Generation (Evening Pre-Event Scenario)

Person Trips		Destination Retail (Market)	Quality Restaurant	Food Counter	Theatre	Museum/Exhibit Space (Caissons)	Technical Arts School	Marina	Rooftop Event (2)	TOTAL
Daily Trips	Weekday	12,680	3,384	4,511	643	864	798	1,184	5,360	**29,424**
	Saturday	14,999	3,550	4,732	643	659	326	2,432	5,360	**32,701**
Peak Hour Trips	MD (12-1)	1,141	210	480	0	138	160	54	0	**2,183**
	PM (5-6)	1,141	282	396	64	112	160	76	0	**2,231**
	EVE (7-8)	1,065	339	656	206	112	40	76	1,715	**4,209**
	Sat MD (1-2)	1,650	390	520	64	112	16	117	0	**2,870**
	Sat EVE (7-8)	255	407	423	206	86	16	117	1,715	**3,225**

		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Event (2)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	58	47	26	26	60	60	0	0	17	10	6	6	20	20	0	0	**187**	**170**	**357**
	Taxi	31	26	21	21	36	36	0	0	9	5	5	5	3	3	0	0	**105**	**96**	**200**
	Subway	251	205	31	31	84	84	0	0	29	17	49	49	1	1	0	0	**446**	**388**	**834**
	Bus	26	22	5	5	12	12	0	0	6	4	6	6	1	1	0	0	**57**	**50**	**107**
	Walk/Other	261	214	21	21	48	48	0	0	27	16	14	14	1	1	0	0	**372**	**313**	**685**
	Total	627	514	104	104	240	240	0	0	88	52	80	80	26	26	0	0	**1167**	**1017**	**2184**
PM	Auto	50	55	47	23	58	41	4	1	11	11	2	2	34	23	0	0	**208**	**155**	**363**
	Taxi	27	30	38	19	35	24	1	0	6	5	3	3	5	3	0	0	**114**	**84**	**199**
	Subway	219	237	57	28	82	57	24	8	19	18	48	48	2	2	0	0	**450**	**397**	**847**
	Bus	23	25	9	5	12	8	1	0	4	4	7	7	2	2	0	0	**59**	**50**	**109**
	Walk/Other	228	247	38	19	47	32	18	6	18	16	20	20	2	2	0	0	**371**	**342**	**713**
	Total	547	594	189	94	234	162	48	15	58	54	80	80	45	32	0	0	**1202**	**1028**	**2230**
EVE	Auto	54	44	53	32	89	75	14	5	7	14	0	0	34	23	116	39	**367**	**233**	**599**
	Taxi	29	24	42	26	53	45	3	1	4	7	1	1	5	3	26	9	**162**	**116**	**278**
	Subway	234	192	63	39	124	106	76	25	13	24	12	12	2	2	630	210	**1,154**	**609**	**1,763**
	Bus	25	20	11	6	18	15	5	2	3	5	2	2	2	2	39	13	**103**	**64**	**167**
	Walk/Other	244	199	42	26	71	60	57	19	12	23	5	5	2	2	476	159	**909**	**492**	**1,401**
	Total	586	479	211	129	355	301	155	52	39	73	20	20	45	32	1287	430	**2695**	**1514**	**4209**
Sat MD	Auto	123	50	49	49	65	65	3	3	11	11	0	0	44	44	0	0	**295**	**222**	**517**
	Taxi	166	68	39	39	39	39	1	1	6	6	0	0	6	6	0	0	**257**	**158**	**415**
	Subway	347	142	59	59	91	91	16	16	18	18	5	5	3	3	0	0	**538**	**333**	**872**
	Bus	43	18	10	10	13	13	1	1	4	4	1	1	3	3	0	0	**75**	**49**	**124**
	Walk/Other	492	201	39	39	52	52	12	12	17	17	2	2	3	3	0	0	**617**	**326**	**943**
	Total	1171	479	196	196	260	260	33	33	56	56	8	8	59	59	0	0	**1782**	**1088**	**2870**
Sat EVE	Auto	11	16	60	42	56	50	14	5	6	11	0	0	44	44	116	39	**306**	**206**	**512**
	Taxi	14	22	48	33	34	30	3	1	3	6	0	0	6	6	26	9	**134**	**106**	**240**
	Subway	30	45	72	50	78	70	76	25	10	19	5	5	3	3	630	210	**904**	**427**	**1,331**
	Bus	4	6	12	8	11	10	5	2	2	4	1	1	3	3	39	13	**76**	**46**	**122**
	Walk/Other	43	64	48	33	45	40	57	19	9	17	2	2	3	3	476	159	**683**	**337**	**1,020**
	Total	102	153	240	166	224	200	155	52	30	57	8	8	59	59	1287	430	**2103**	**1122**	**3225**

Vehicle Trips		Destination Retail (Market)		Quality Restaurant		Food Counter		Theatre		Museum/Exhibit Space (Caissons)		Technical Arts School		Marina		Rooftop Event (2)		TOTAL		
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**	**TOTAL**
MD	Auto	31	25	12	12	27	27	0	0	6	4	5	5	10	10	0	0	**92**	**84**	**176**
	Taxi	22	18	9	9	16	16	0	0	4	2	4	4	1	1	0	0	57	51	107
	Taxi (Balanced)[1]	**31**	**31**	**14**	**14**	**23**	**23**	**0**	**0**	**5**	**5**	**6**	**6**	**2**	**2**	**0**	**0**	**82**	**82**	**164**
	Truck	4	4	3	3	4	4	0	0	0	0	0	0	0	0	0	0	**11**	**11**	**21**
	Total	66	60	29	29	54	54	0	0	11	9	11	11	12	12	0	0	**185**	**177**	**362**
PM	Auto	27	29	21	11	27	18	1	0	4	4	2	2	17	11	0	0	**100**	**76**	**175**
	Taxi	19	21	16	8	15	11	0	0	3	3	2	2	2	2	0	0	59	46	105
	Taxi (Balanced)[1]	**31**	**31**	**20**	**20**	**21**	**21**	**0**	**0**	**4**	**4**	**3**	**3**	**3**	**3**	**0**	**0**	**82**	**82**	**164**
	Truck	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
	Total	58	60	41	31	49	40	1	0	8	8	5	5	20	14	0	0	**183**	**159**	**342**
EVE	Auto	29	24	24	15	40	34	5	2	3	5	0	0	17	11	40	13	**158**	**105**	**263**
	Taxi	21	13	18	12	23	21	1	0	2	3	1	1	2	2	11	3	79	53	133
	Taxi (Balanced)[1]	**27**	**27**	**24**	**24**	**33**	**33**	**2**	**2**	**4**	**4**	**1**	**1**	**3**	**3**	**13**	**13**	**106**	**106**	**212**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	56	51	48	39	73	67	7	4	7	9	1	1	20	14	53	26	**264**	**211**	**475**
Sat MD	Auto	47	19	22	22	30	30	1	1	4	4	0	0	22	22	0	0	**126**	**98**	**224**
	Taxi	78	32	17	17	17	17	0	0	3	3	0	0	3	3	0	0	118	72	190
	Taxi (Balanced)[1]	**94**	**94**	**25**	**25**	**25**	**25**	**0**	**0**	**4**	**4**	**0**	**0**	**4**	**4**	**0**	**0**	**154**	**154**	**308**
	Truck	0	0	3	3	4	4	0	0	0	0	0	0	0	0	0	0	**7**	**7**	**14**
	Total	141	113	50	50	59	59	1	1	8	8	0	0	26	26	0	0	**287**	**259**	**546**
Sat EVE	Auto	4	6	27	19	25	23	5	2	2	4	0	0	22	22	40	13	**126**	**88**	**214**
	Taxi	7	10	21	15	15	13	1	0	1	3	0	0	3	3	11	4	59	47	107
	Taxi (Balanced)[1]	**14**	**14**	**28**	**28**	**21**	**21**	**2**	**2**	**3**	**3**	**0**	**0**	**4**	**4**	**13**	**13**	**83**	**83**	**166**
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
	Total	18	20	55	47	46	44	7	4	5	7	0	0	26	26	53	26	**209**	**171**	**380**

Notes
1. A 50% taxi overlap rate was assumed (i.e., 50% of inbound full taxis are assumed to be available for outbound demand), based on the CEQR 2012 Technical Manual.
2. It was assumed that there would be no rooftop events during the Weekday MD and Saturday MD peaks. During those times, the rooftop trip generation would match the Weekday MD and Saturday MD for the Typical Scenario (ie, open space).;

Total Walk Trips

		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	TOTAL
MD	Total Walk Trips[1]	539	441	58	58	144	144	0	0	61	36	69	69	4	4	0	0	**874**	**751**	**1,626**
PM	Total Walk Trips[1]	470	509	104	51	140	97	43	14	41	38	75	75	7	5	0	0	**880**	**790**	**1,669**
EVE	Total Walk Trips[2]	503	411	116	71	213	181	137	46	27	52	19	19	7	5	1,145	382	**2,166**	**1,166**	**3,332**
SAT MD	Total Walk Trips[1]	882	360	107	107	156	156	29	29	40	40	8	8	9	9	0	0	**1,230**	**708**	**1,939**
SAT EVE	Total Walk Trips[1]	77	115	132	92	135	119	137	46	21	40	8	8	9	9	1,145	382	**1,663**	**810**	**2,473**

Notes
1. Total walk trips includes all trips via transit plus walk only trips.

Appendix B

Chelsea Market Survey Results

CHELSEA MARKET SURVEY RESULTS
FEBRUARY 2011

Conducted by Sam Schwartz Engineering
Saturday, February 12, 2011 and Wednesday, February 16, 2011

1. What was your primary mode of travel to Chelsea Market Today?

Mode 1	Mode 2	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	-	12.2%	6.6%	3.8%	14.1%
Bike	-	2.4%	1.5%	3.8%	1.3%
Bus	-	3.3%	3.6%	5.1%	1.9%
Bus	Subway	0.0%	0.0%	0.0%	0.0%
Ferry	Subway	0.8%	0.0%	0.0%	0.0%
Rail - LIRR	Subway	0.8%	0.7%	0.0%	1.3%
Rail - LIRR	-	0.0%	0.7%	0.6%	1.3%
Rail - MetroNorth	Subway	0.0%	0.0%	0.0%	0.0%
Rail - NJ Transit	-	0.8%	0.7%	1.3%	0.0%
Rail - Path	-	0.8%	0.7%	1.9%	3.2%
Subway	-	33.3%	42.3%	30.6%	28.2%
Subway	Bus	1.6%	0.0%	0.0%	0.6%
Taxi	-	5.7%	4.4%	15.3%	9.6%
Walk Only	-	38.2%	38.7%	37.6%	38.5%
Total Visitors		**100.0%**	**100.0%**	**100.0%**	**100.0%**
Sample Size		**123**	**137**	**157**	**156**

2. If you arrived via auto or taxi, how many people did you travel with, including yourself?

Vehicle Occupancy

Mode		Weekday	Saturday
Auto	Autos	22	27
	People	41	71
	Avg	**1.86**	**2.63**
Taxi	Taxis	12	38
	People	17	81
	Avg	**1.42**	**2.13**

3. Are you visiting the market or do you work in the building?

		Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Total Visitors		123	137	157	156
Total Non-Visitors		29	27	3	5
Total		**152**	**164**	**160**	**161**

4. What is the neighborhood (i.e. zip code) you traveled directly from?

Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday PM
Bronx	0.0%	0.0%	2.5%	1.9%
Brooklyn	10.6%	10.9%	5.1%	6.4%
Manhattan	68.3%	75.9%	81.5%	71.2%
Queens	7.3%	2.9%	3.2%	4.5%
Staten Island	0.0%	0.0%	1.3%	0.6%
Upstate NY	5.7%	1.5%	1.3%	1.3%
Long Island	0.8%	1.5%	0.6%	3.2%
NJ/PA	6.5%	5.8%	4.5%	10.3%
CT	0.8%	1.5%	0.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%
Sample Size	123	137	157	156

1. What was your primary mode of travel to Chelsea Market Today?

Back-Up Survey Data

Mode 1	Mode 2	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	-	15	9	6	22
Bike	-	3	2	6	2
Bus	-	4	5	8	3
Bus	Subway	0	0	0	0
Ferry	Subway	1	0	0	0
Rail - LIRR	Subway	1	1	0	2
Rail - LIRR	-	0	1	1	2
Rail - MetroNorth	Subway	0	0	0	0
Rail - NJ Transit	-	1	1	2	0
Rail - Path	-	1	1	3	5
Subway	-	41	58	48	44
Subway	Bus	2	0	0	1
Taxi	-	7	6	24	15
Walk Only	-	47	53	59	60
Total Visitors		**123**	**137**	**157**	**156**

4. What is the neighborhood (i.e. zip code) you traveled directly from?

Back-Up Survey Data

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Auto	Bronx/Upstate/Harlem	7	1	2	6
	Midtown/Downtown	0	1	0	5
	Upper East Side	0	1	0	0
	Battery Park	0	0	0	1
	Staten Island/Jersey - Holland Tunne	1	0	0	1
	New Jersey - Lincoln Tunnel/GWB	0	3	0	2
	Queens/Long Island	1	0	1	1
	Brooklyn	3	0	1	0
	New Jersey - General	3	3	2	6
	Total Auto	**15**	**9**	**6**	**22**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Bus	Bronx	0	0	0	0
	Brooklyn	1	0	0	1
	Port Authority/Hells Kitchen	0	1	3	1
	Uptown - General	0	0	4	0
	East Village/Union Square	1	0	1	1
	Upper West Side	1	0	0	0
	Midtown	1	4	0	1
	Upper East Side	2	0	0	0
	Total Bus	**6**	**5**	**8**	**4**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Subway	Chelsea	1	3	0	1
	Chinatown - General	1	0	0	0
	East Village	1	1	4	2
	Financial District - General	2	3	3	2
	Financial District - Wall Street	0	2	0	0
	Financial District - WTC	0	0	0	0
	Greenwich Village	0	2	0	0
	Harlem General	4	2	2	1
	Hell's Kitchen	0	1	0	2
	LIRR/Amtrak - Penn Station	2	1	0	2
	Lower East Side	0	1	2	0
	MetroNorth - Grand Central	0	2	0	0
	Midtown	0	1	0	0
	Midtown East	0	2	3	1
	Midtown General	2	9	3	4
	NJ Transit - Port Authority	1	0	0	2
	NOHO	0	1	0	0
	SOHO	2	3	2	2
	Staten Island Ferry/Battery Park	1	0	4	0
	Times Square	1	3	0	0
	Upper East Side - General	0	5	1	1
	Upper West Side - General	8	2	9	9
	Uptown	1	0	0	1
	Washington Heights	1	0	0	1
	West Village	1	2	0	0
	Bronx - General	0	0	4	1
	Brooklyn - Brighton	0	0	0	0
	Brooklyn - Downtown	0	3	2	0
	Brooklyn - Flatbush	2	0	0	0
	Brooklyn - Greenpoint	1	0	0	0
	Brooklyn - Williamsburg	3	1	0	0
	Brooklyn - General	4	6	5	7
	Queens - Astoria	0	1	1	1
	Queen - General	4	1	3	6
	Queensbridge	0	1	0	0
	Total Subway	**43**	**59**	**48**	**46**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Taxi	Midtown	1	2	7	9
	Queens	1	0	0	0
	JFK	1	1	0	0
	Upper West Side	0	1	4	2
	Upper East Side	3	2	1	1
	West Village	0	0	1	0
	East Side	0	0	5	1
	Brooklyn	0	0	0	1
	New Jersey - General	0	0	0	1
	SOHO/Chinatown	1	0	3	0
	Chelsea	0	0	1	0
	Downtown	0	0	2	0
	Total Taxi	**7**	**6**	**24**	**15**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Walk	Chelsea - 15th Street	5	0	0	0
	Chelsea	16	18	37	36
	West Village	6	6	9	12
	East Village	2	4	0	0
	Brooklyn	1	4	0	1
	Midtown	2	4	6	2
	Midtown West	2	6	2	5
	Union Square	4	3	3	7
	Midtown East	1	4	2	1
	Upper West Side	1	0	0	0
	SOHO	1	1	0	2
	Chelsea 10th Ave	3	1	0	0
	Chelsea 9th Ave	1	1	1	0
	Gansvoort 9th Ave	1	0	0	0
	Gansvoort 8th Ave	1	0	0	0
	Upper East Side	0	1	0	0
	Lower East Side	0	1	1	0
	Greenwich Village	0	1	2	1
	Tribeca	0	0	1	0
	Chinatown	0	0	1	0
	Chelsea 11th Ave	2	1	0	0
	Total Walk	**49**	**56**	**65**	**67**

Mode	Origin	Weekday Midday	Weekday PM	Saturday Midday	Saturday Evening
Bike	Harlem	1	0	0	0
	West Village	0	0	0	2
	Lower East Side	0	1	0	0
	Midtown	0	1	2	0
	Chelsea	1	0	4	0
	NJ & West	1	0	0	0
	Total Bike	**3**	**2**	**6**	**2**
Total Visitors		**123**	**137**	**157**	**156**

Appendix C

Trip Assignment Flow Diagrams

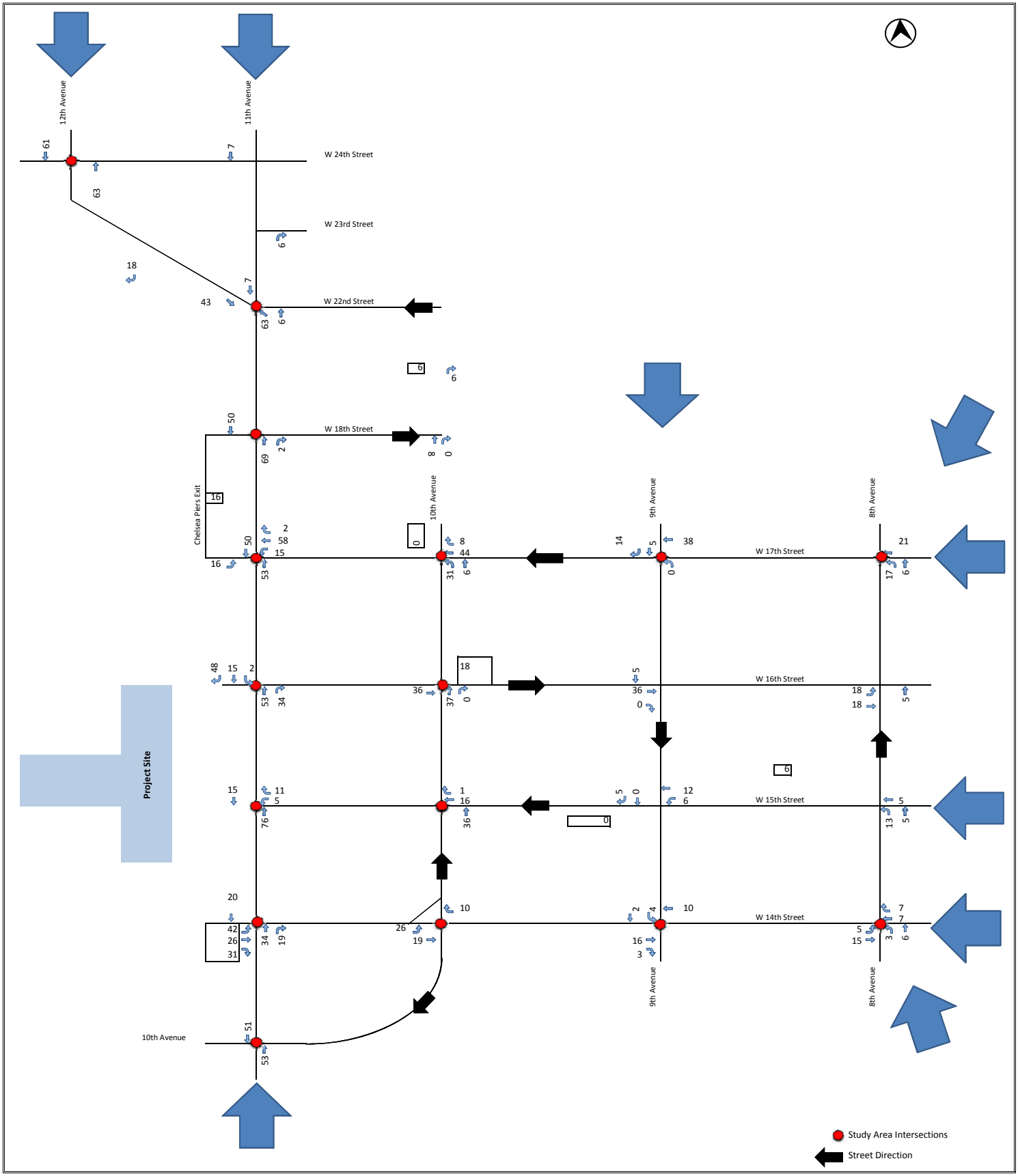


FIGURE C-1
Pier 57
Total Vehicular Trip Assignment (Weekday MD Exhibit Condition)

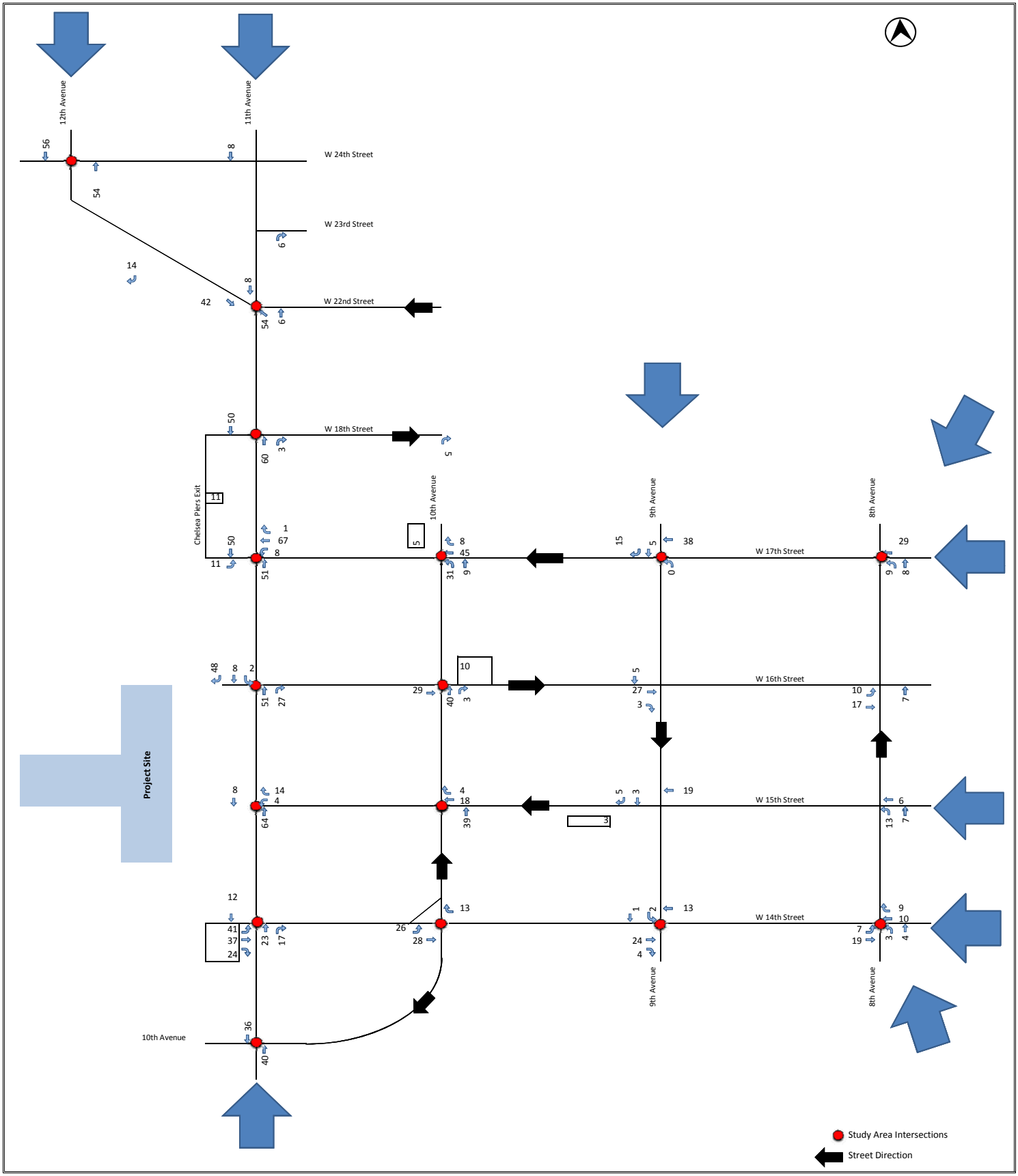


FIGURE C-2
Pier 57 EIS
Total Vehicular Trip Assignment (Weekday PM Exhibit Condition)

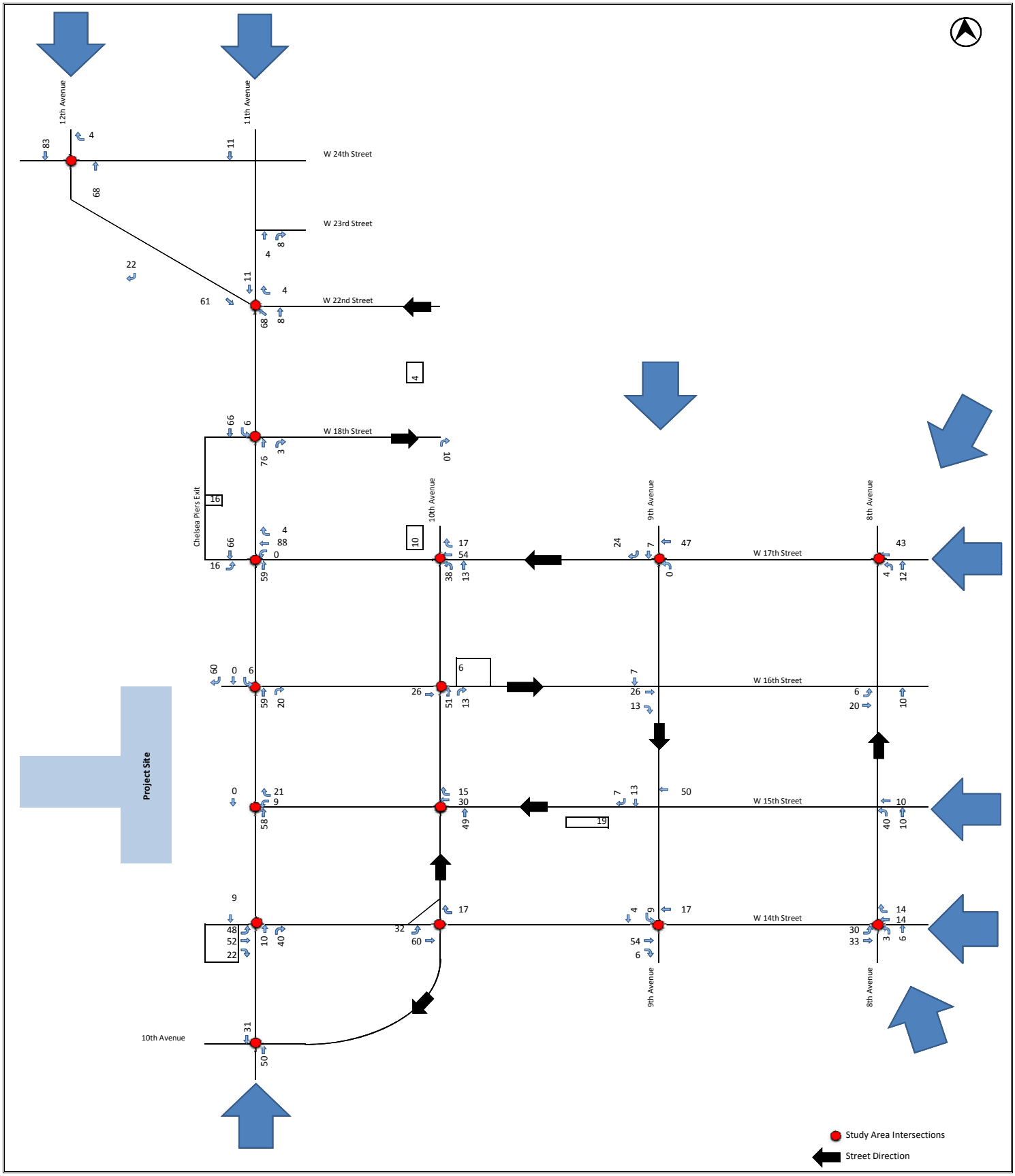


FIGURE C-3
Pier 57 EIS
Total Vehicular Trip Assignment (Weekday EVE Pre-Event Condition)

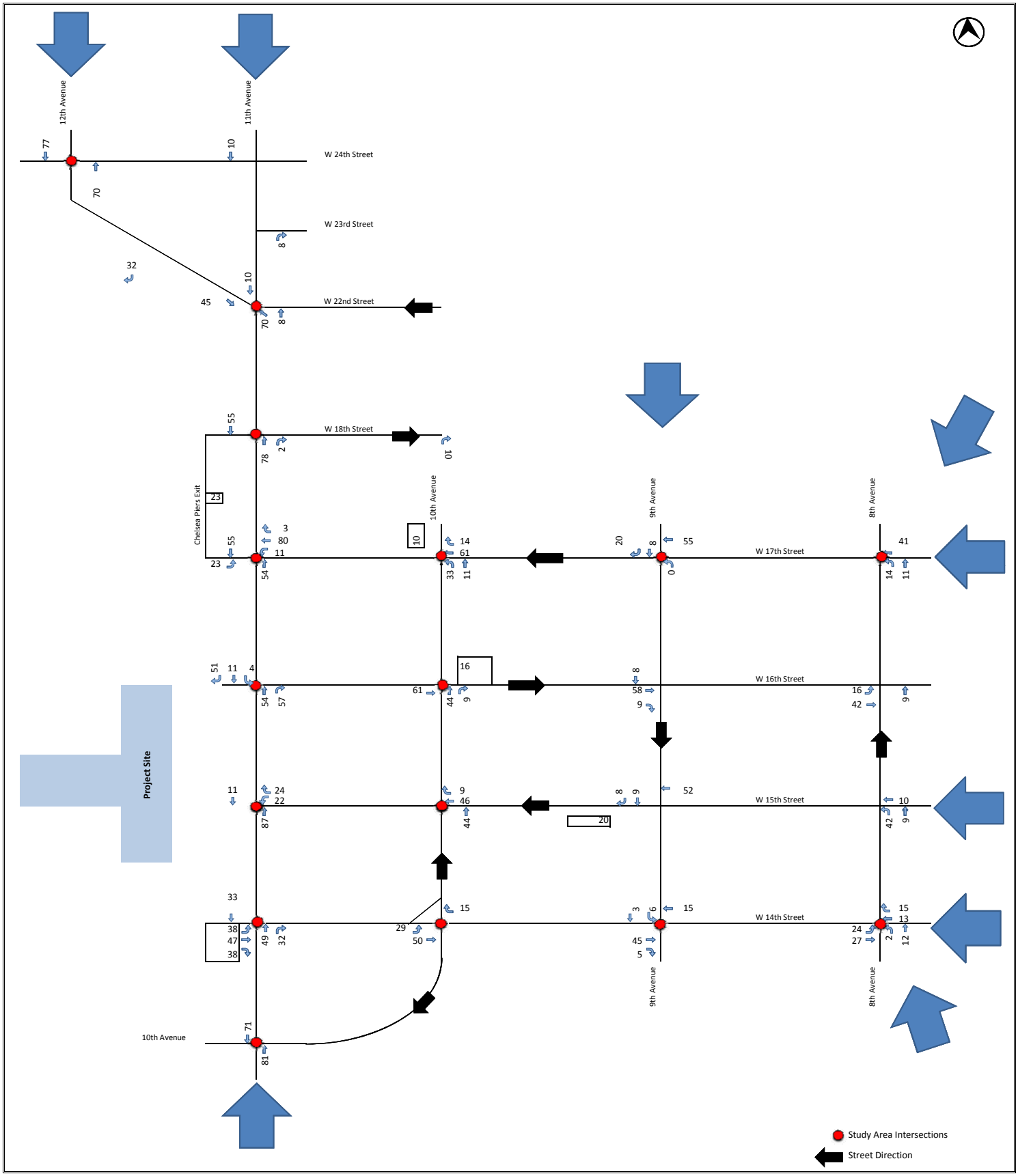


FIGURE C-4
Pier 57
Total Vehicular Trip Assignment (SAT MD Exhibit Condition)

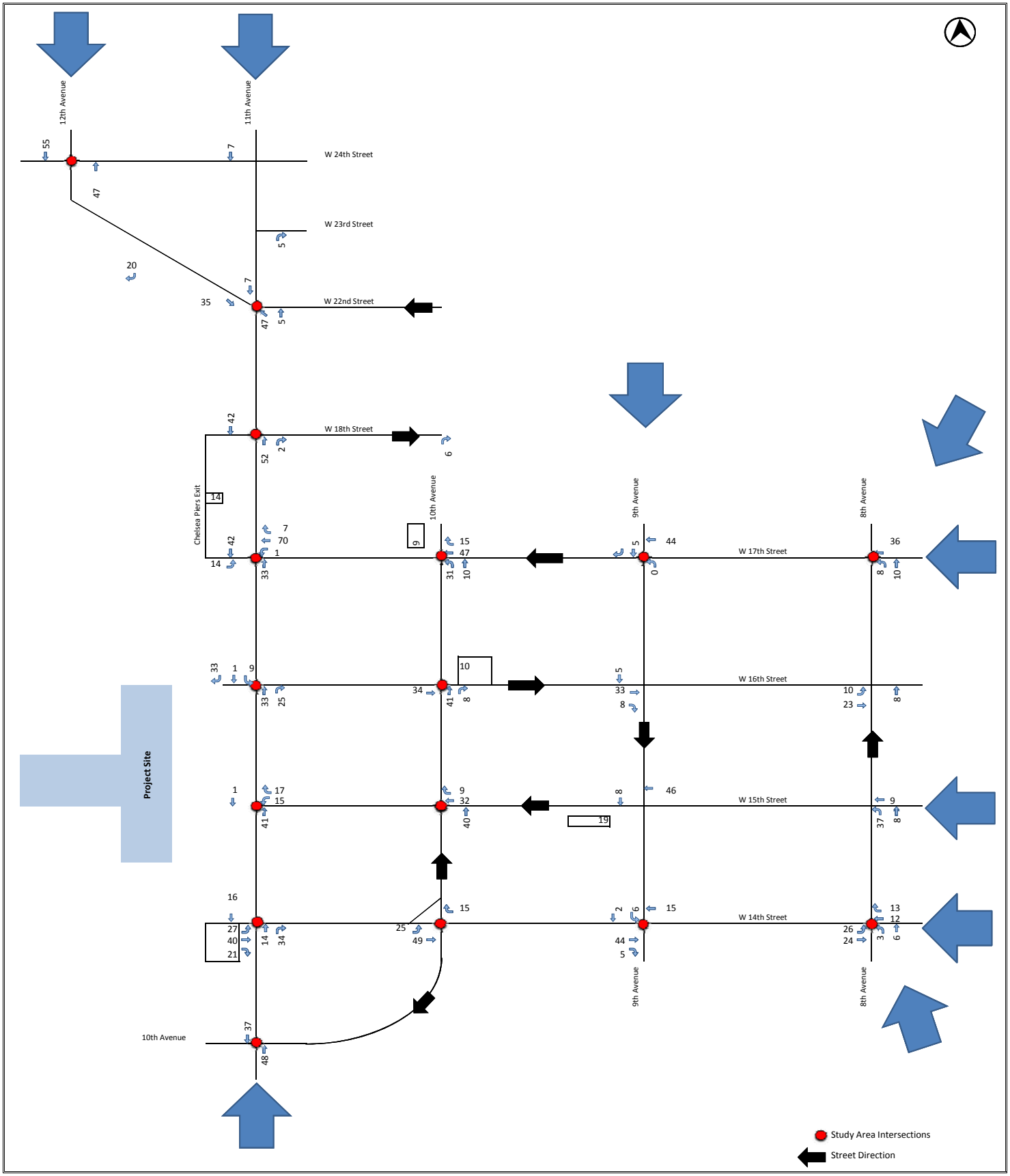
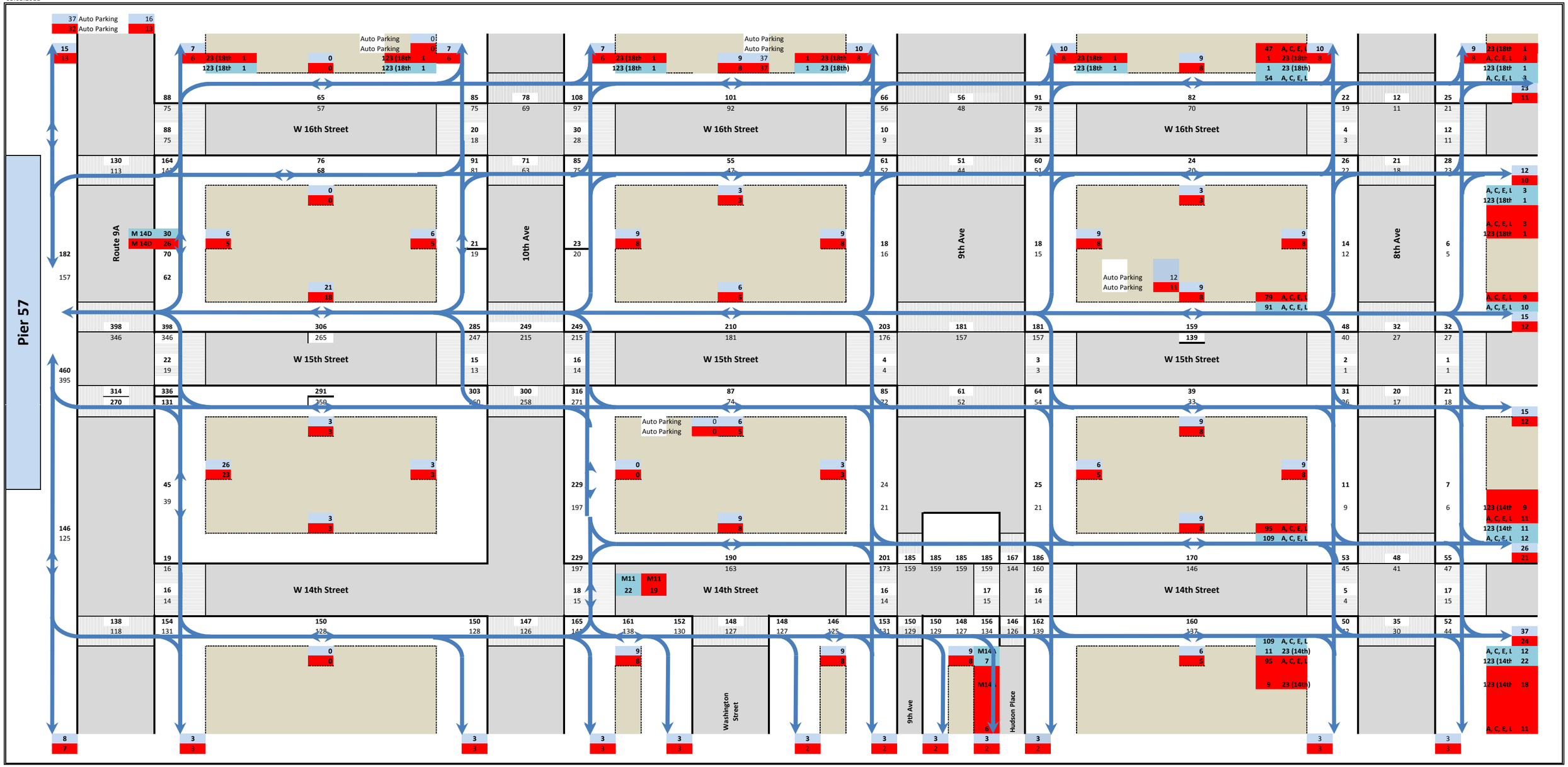


FIGURE C-5
Pier 57 EIS
Total Vehicular Trip Assignment (Saturday EVE Pre-Event Condition)

05.05.2011



Pedestrian Route

Pedestrian Portal

Inbound Portal

Outbound Portal

FIGURE C-6
Pier 57 EIS
Pedestrian Trip Assignment (Weekday MD Exhibit Condition)

05.05.2011

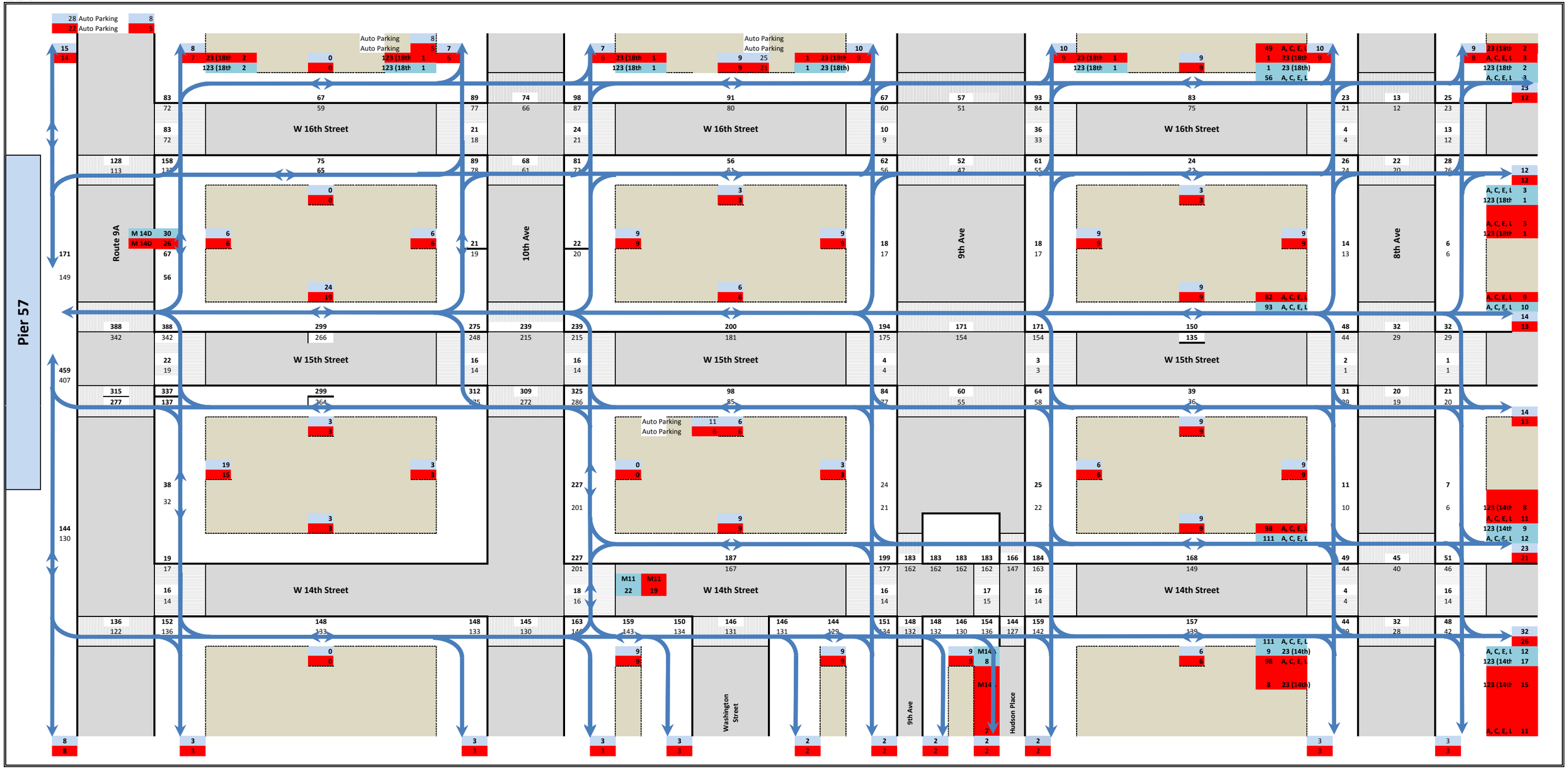
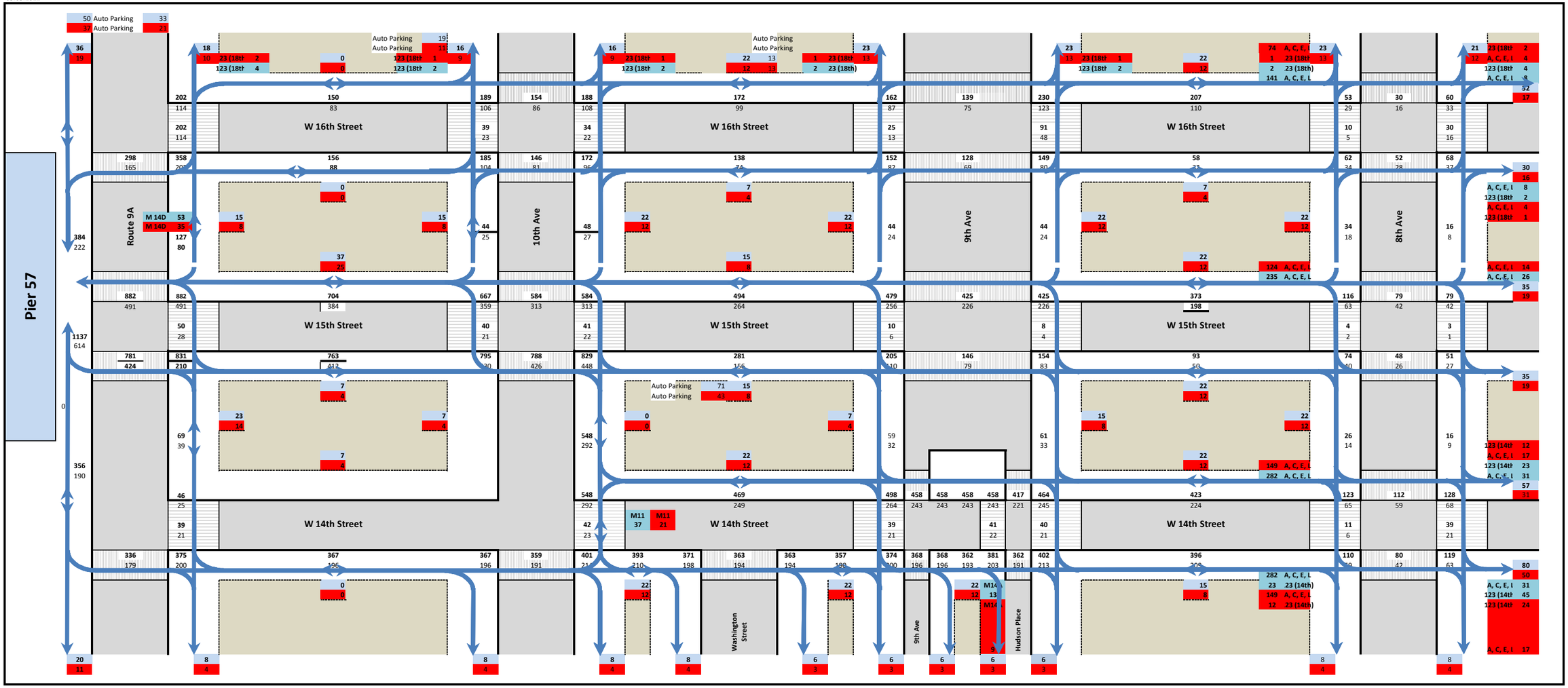


FIGURE C-7
Pier 57 EIS
Pedestrian Trip Assignment (Weekday PM Exhibit Condition)

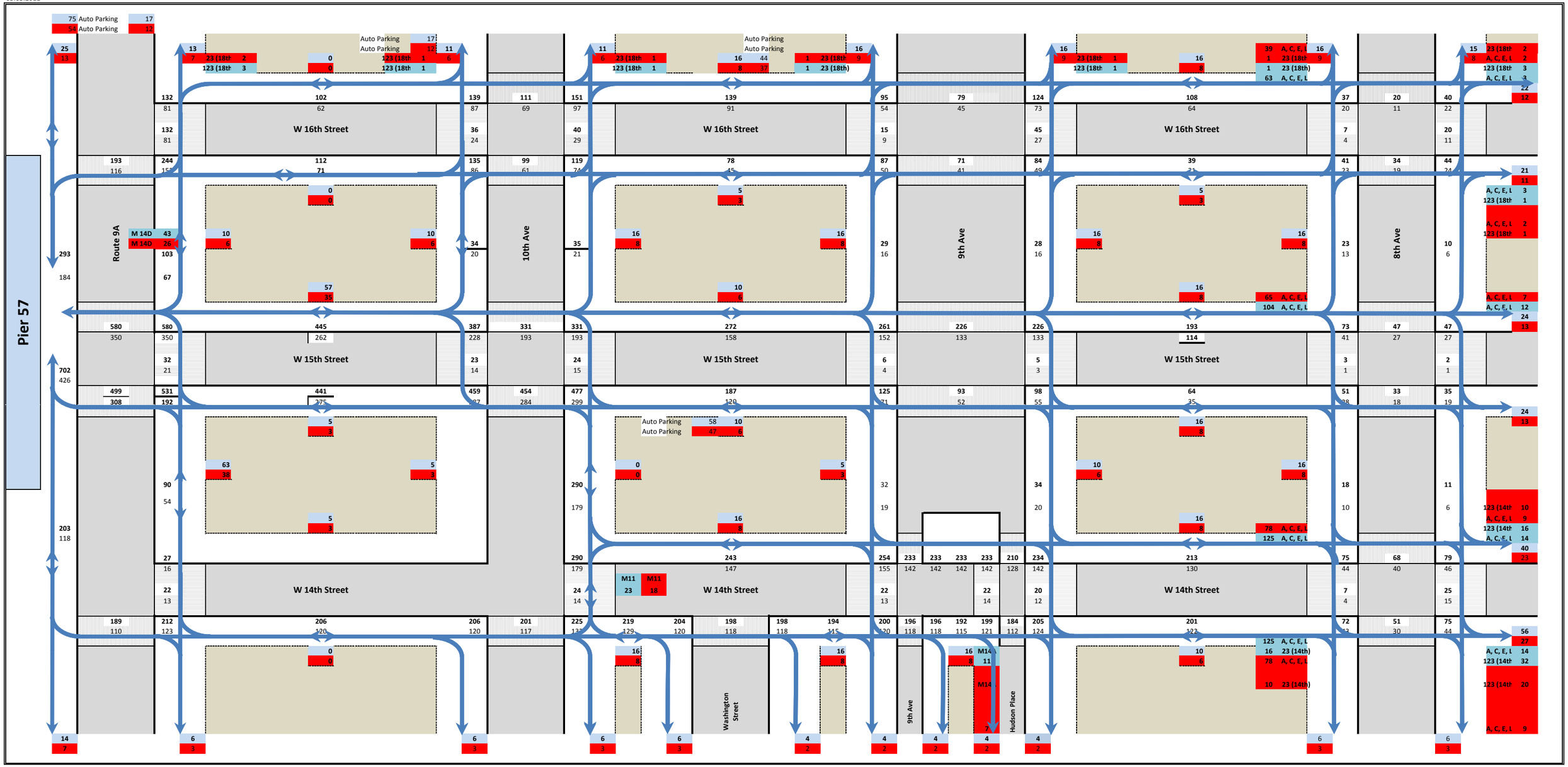
05.05.2011



Pedestrian Route
Pedestrian Portal
Inbound Portal
Outbound Portal

FIGURE C-8
Pier 57 EIS
Pedestrian Trip Assignment (Weekday EVE Pre-Event Condition)

05.05.2011



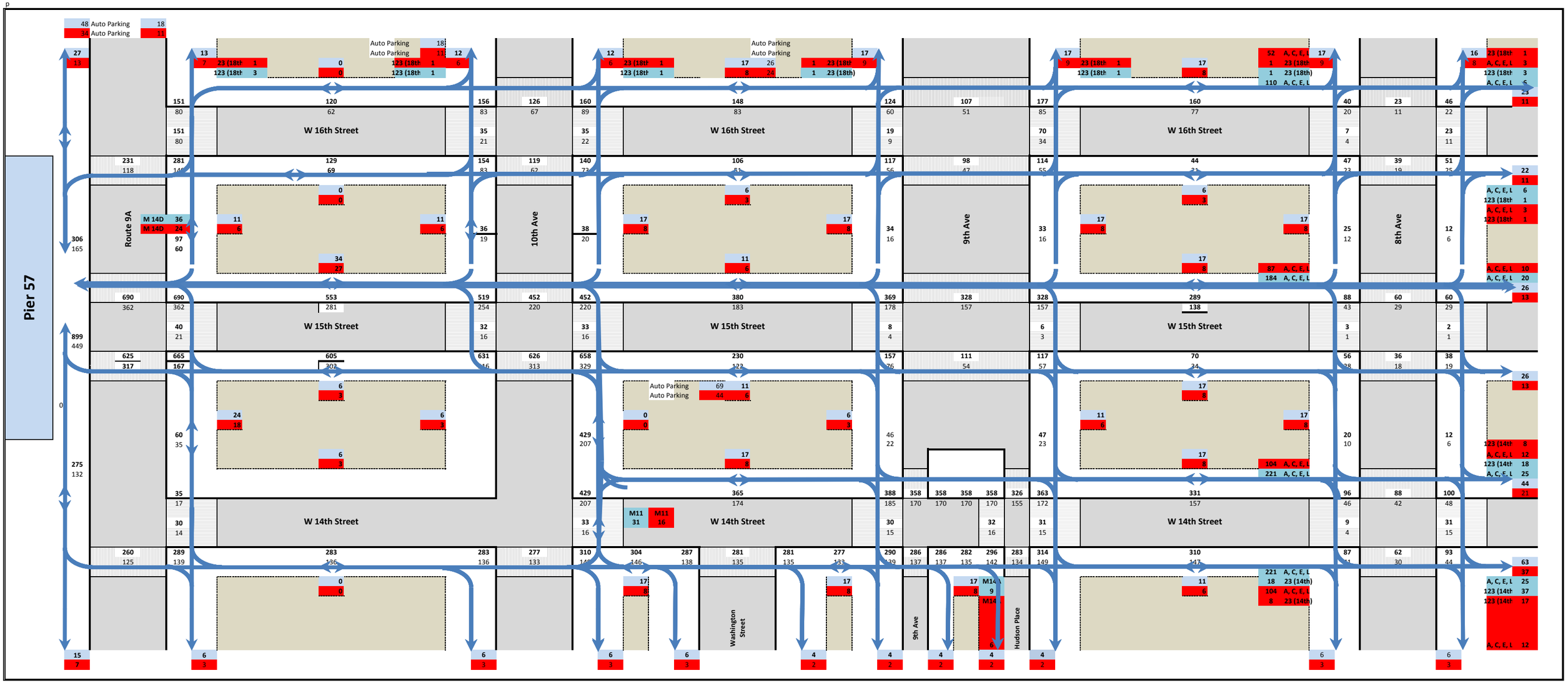
Pedestrian Route

Pedestrian Portal

Inbound Portal

Outbound Portal

FIGURE C-9
Pier 57 EIS
Pedestrian Trip Assignment (SAT MD Exhibit Condition)



Pedestrian Route
Pedestrian Portal
Inbound Portal
Outbound Portal

FIGURE C-10
Pier 57 EIS
Pedestrian Trip Assignment (SAT EVE Pre-Event Condition)

Appendix D

Response to NYCDOT's Comments

on Original TDF Memo Submission

SAM SCHWARTZ
ENGINEERING

Memorandum

To:	Naim Rasheed, Director – Traffic Planning, NYCDOT
From:	Jeff Smithline, PE, PTOE
Date:	October 25, 2011
Re:	Response to NYCDOT Comments on TDF Memorandum Pier 57 Environmental Impact Statement CEQR No.: 11HRP001M
Project No:	AK-10-351

Sam Schwartz Engineering (SSE) has prepared the following response to comments received from Marjorie Bryant of NYCDOT, which were provided on September 6, 2011.

Comments

1. *Comment: Please have the consultant update the travel demand assumptions to reflect the specific type of restaurants (i.e., high end quality restaurant, fast food restaurant, or even the counter-type food service found at Chelsea Market).*

   A total of 43,500 SF of restaurant space is programmed for Pier 57. Two restaurants totaling 20,100 SF (including an outdoor terrace with some seating) are expected to be of the "quality restaurant" type as described in the ITE *Trip Generation*, while the remaining 23,400 SF are expected to be the "high-turnover, sit-down restaurant" type as described in the ITE *Trip Generation* manual. The travel demand assumptions will be updated to reflect the differing factors associated with these two distinct restaurant styles. As in Chelsea Market, counter-type food service will likely be provided by food retailers that will offer a combination of goods to take away in shopping bags as well as to be consumed on-the-spot. These establishments will be integrated into the retail portions of the site, and therefore were included in the retail land use category.

2. *Comment: The temporal distribution for all peak hours appears high for the theatre and conversely low for the restaurant. Please have the consultant provide the backup materials for these uses.*

   SSE has provided the backup material for the temporal distribution assumptions for the restaurant and theater land uses. The restaurant assumptions are from the ITE Trip Generation handbook for land use 931 (see attachment A). The theater assumptions are based on the Brooklyn Bridge FEIS for midday and PM peak hours and the Pier 54 Movie Event survey for the evening peak hours. See attachments B and C.

3. *Comment: Please have the consultant reduce the linked trip credit to 20% for all proposed development components. Additionally, DOT recommends removal of the linked trip credit for the RooftoplExhibit (Museum) space since its hours of operation may be different than those of the overall site, unless the consultant can justify its application.*

SSE will reduce the linked trip credit from 25% to 20% for all land uses. The 20% linked trip credit will be applied to the Rooftop/Exhibit (Museum) space as the rooftop would have the same or similar operating hours as the rest of the pier.

4. *Comment: Please provide the hours of operation for the proposed development components at Pier 57. In addition, please provide a description of the Rooftop Exhibit (Museum).*

General hours of operation for Pier 57 are anticipated to be 7:00 AM to 9:00 PM daily, similar to Chelsea Market, and these hours will be typical for the retail spaces as well as the Technical Arts School. The rooftop will be open whenever the rest of the pier is open, and would extend beyond 9:00 PM when there is a rooftop event. Restaurant hours will likely extend to around 10 or 11:00 PM and later on Fridays and Saturdays, which is consistent with restaurant operations in the surrounding area.

The caisson-level exhibit space will likely have shorter hours more typical of these spaces, such as 10:30 AM to 5:30 PM, and will likely have extended evening hours when a rooftop event is occurring.

The Marina is expected to be staffed during daylight and early evening hours.

The Rooftop space is designed to be a flexible open space for seating, relaxation, and views of the river, functioning primarily as a public open space. Two main areas would be developed to allow the Tribeca Film Festival to periodically provide a variety of rooftop programming, ranging from film screenings to outdoor art installations to exhibitions linked to film subjects—for example, a temporary skate park to coincide with a sports-related film series. Attendance for such events typically would not exceed 1,500 people, and the maximum event size would be 2,500. Events would be ticketed so that capacity could be controlled.

5. *Comment: Please have the consultant provide the results of the survey conducted at Pier 54 for the art installation "Ashes and Snow" which was discussed at the July 22nd meeting.*

SSE has provided the Pier 54 “Ashes and Snow” (attachment D) and Movie Event survey results (attachment C).

6. *Comment: Please have the consultant use the Marina trip generation rate from the Brooklyn Bridge Park FEIS, which uses 6.23 person trips/slip.*

SSE will revise the weekday trip generation rate for the Marina land use as requested.

7. *Comment: The Brooklyn trip assignment should be revised to include the Williamsburg, and Manhattan Bridges; also in Manhattan there are several routes to reach Route 9A, including Hudson Street from the Brooklyn Bridge, Canal Street from the Manhattan Bridge and East Houston/Delancey Street from the Williamsburg Bridge.*

SSE will revise the text in the TDF memo to explain that trips from Brooklyn will use the Brooklyn, Manhattan, and Williamsburg bridges, in addition to the Battery Tunnel. These

trips will be routed through Manhattan to Route 9A via the most direct path. However, since these paths reach Route 9A south of West 14th Street, there will be no change to the original vehicle trip assignment results. See attachment E.

8. *Comment: Regarding the Technical Arts School, please have the consultant explain why there are no references for employees, and visitors.*

The trip generation estimates for the Technical Arts School were based on daily trip rates presented in the ITE Trip Generation, 8th Edition manual for the Junior/Community College (Land Use Code 540) land use. The ITE trip generation rates that were used were based on overall square-footage, and they are blended rates that account for all trips (students, employees, and visitors) to the site. This is appropriate because only the square footage of the school is known at this time.

9. *Comment: Please have the consultant provide the 2000 US Census Journey to Work background material as referenced in Table 19 (Technical Arts School Use: Subway Trip Assignment references 2000 Census Journey to Work).*

SSE has provided the 2000 US Census Journey to Work background materials used to develop the Technical School subway trip assignment; see attachment F.

10. *Comment: Please have the consultant include 9th Avenue/Hudson Street at West 14 Street in the study.*

SSE will include Hudson Street as part of the analysis of the 9th Avenue/West 14th Street intersection.

11. SSE contacted Marjorie Bryant of NYCDOT on October 17, 2011, to confirm that the comment memo included all NYCDOT comments to date. During that conversation, SSE proposed to make two additional changes to the TDF memo:

    a. The TDF assumptions will be revised to provide a single percentage for the bus trip assignment for Market/Retail/Restaurant land use. This change will be reflected in Table 4 of the revised TDF Memo.

    b. The trip generation rate for Rooftop Open Space/Park land uses will be based on the rates provided in the 2010 CEQR Manual as was considered for the TDF Memo. The hours of the open space/park at Pier 57 are consistent with the data used to develop the CEQR trip generation rates.

If you agree with our responses, we will prepare a revised TDF Memo that incorporates the changes. The revised memo will include updates to the size of some land use categories based on site plan changes since the last submission.

Please contact me at 212-598-9010 x119 if you have any questions.

Pier 57 EIS

Attachment A

ITE Trip Generation Handbook Land Use 931

Quality Restaurant
(931)

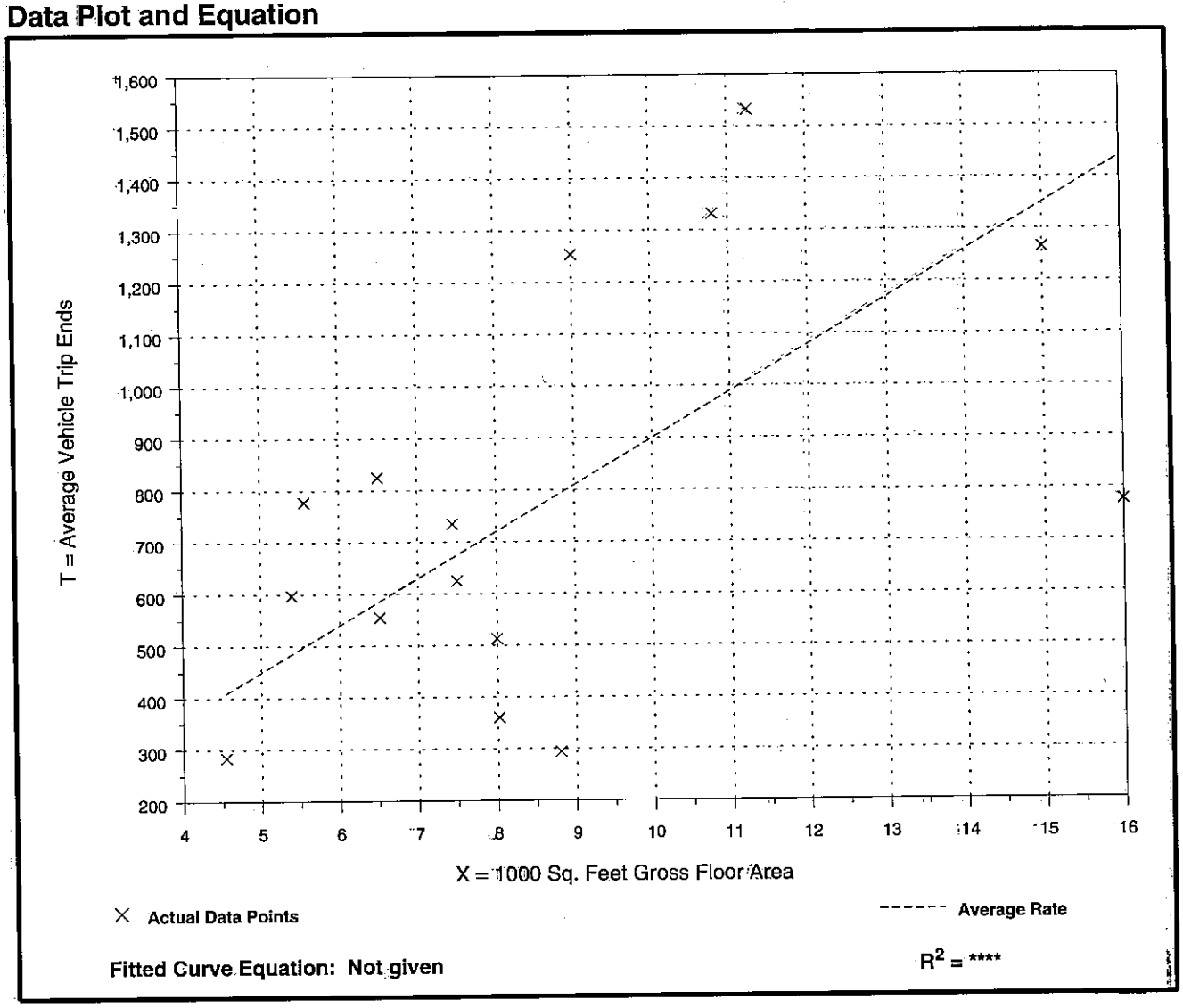
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 15
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
89.95	33.41 - 139.80	36.81

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Quality Restaurant
(931)

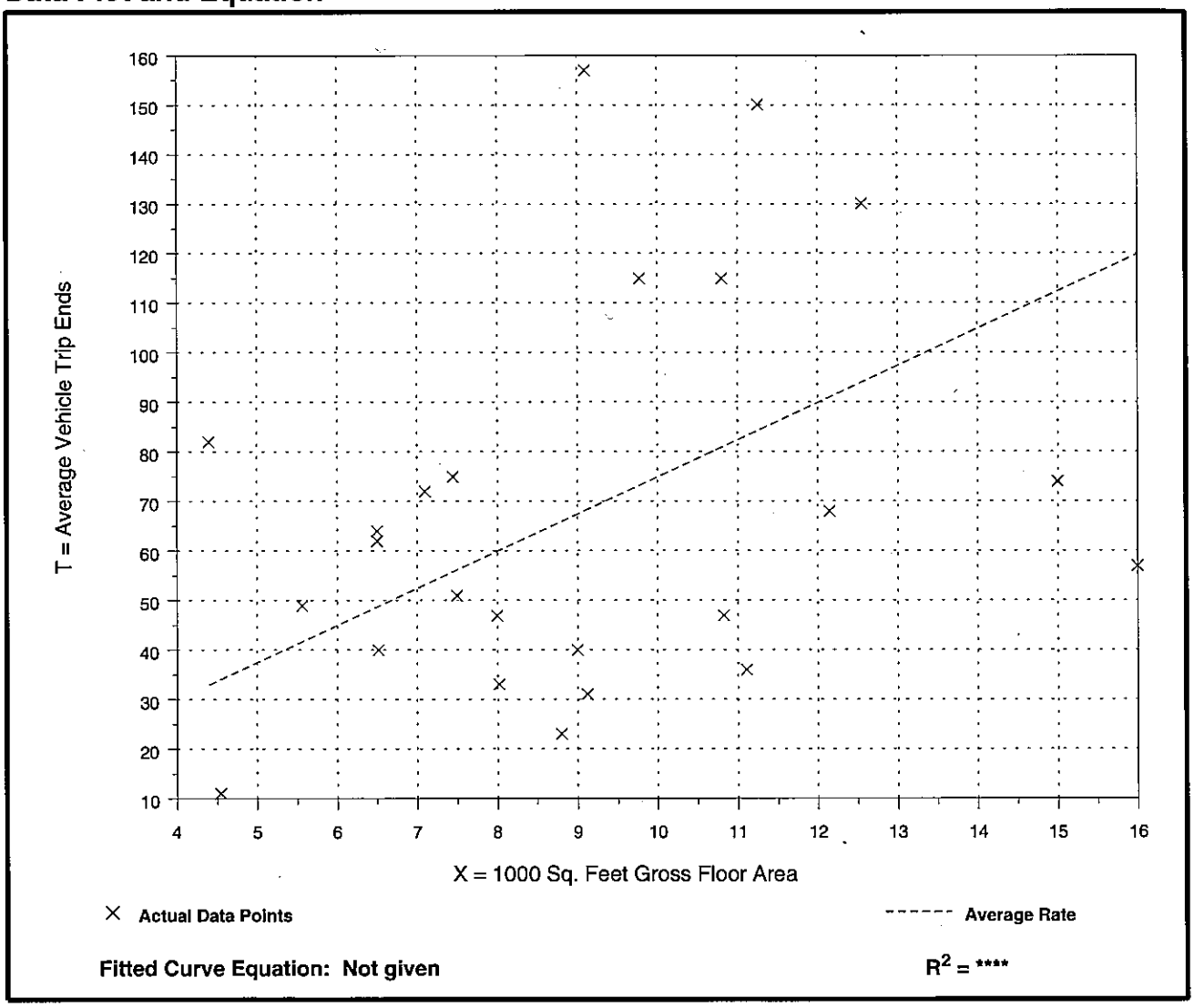
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 24
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 67% entering, 33% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
7.49	2.42 - 18.64	4.89

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Quality Restaurant
(931)

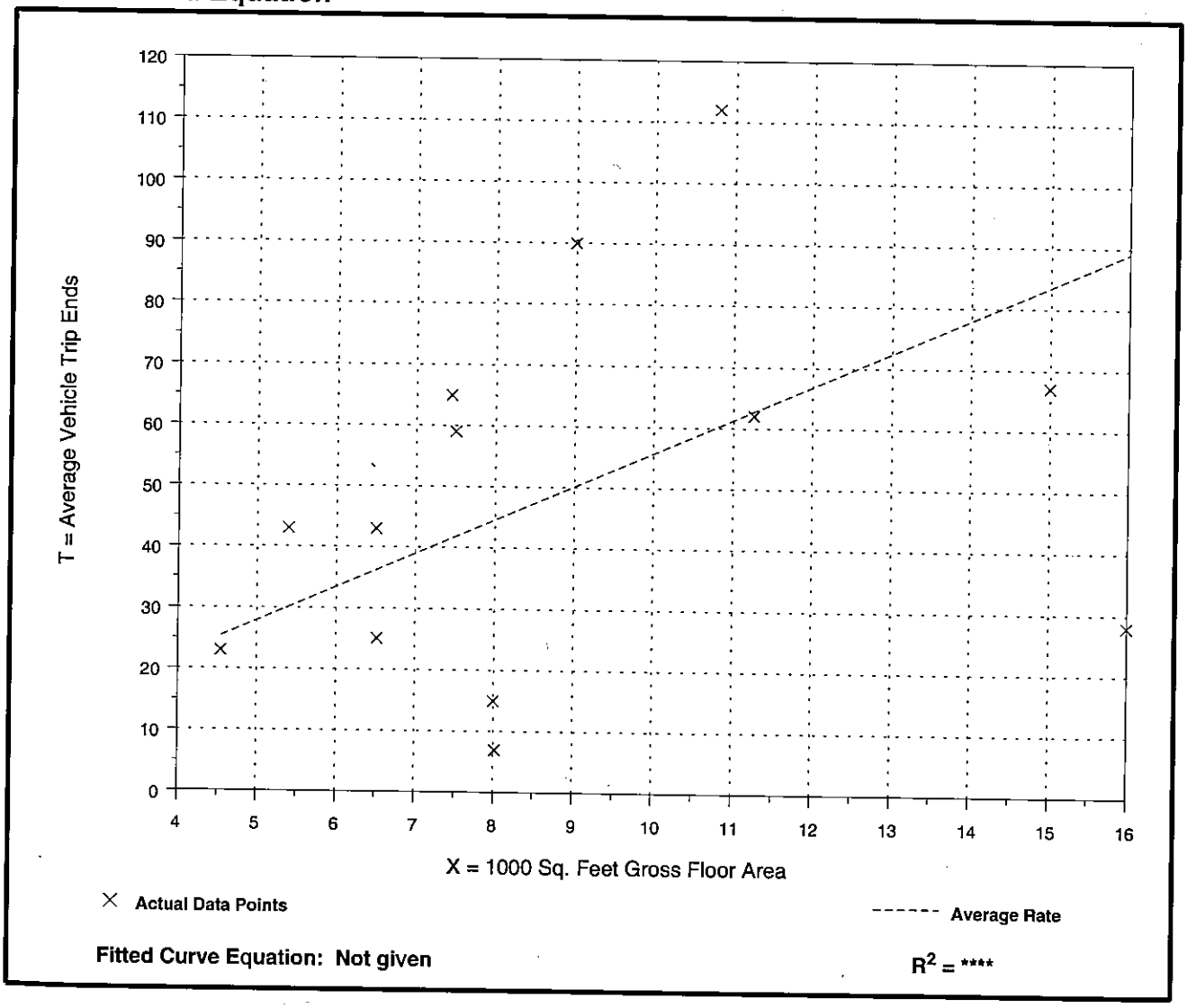
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 14
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 82% entering, 18% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
5.57	0.87 - 10.37	3.79

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Quality Restaurant
(931)

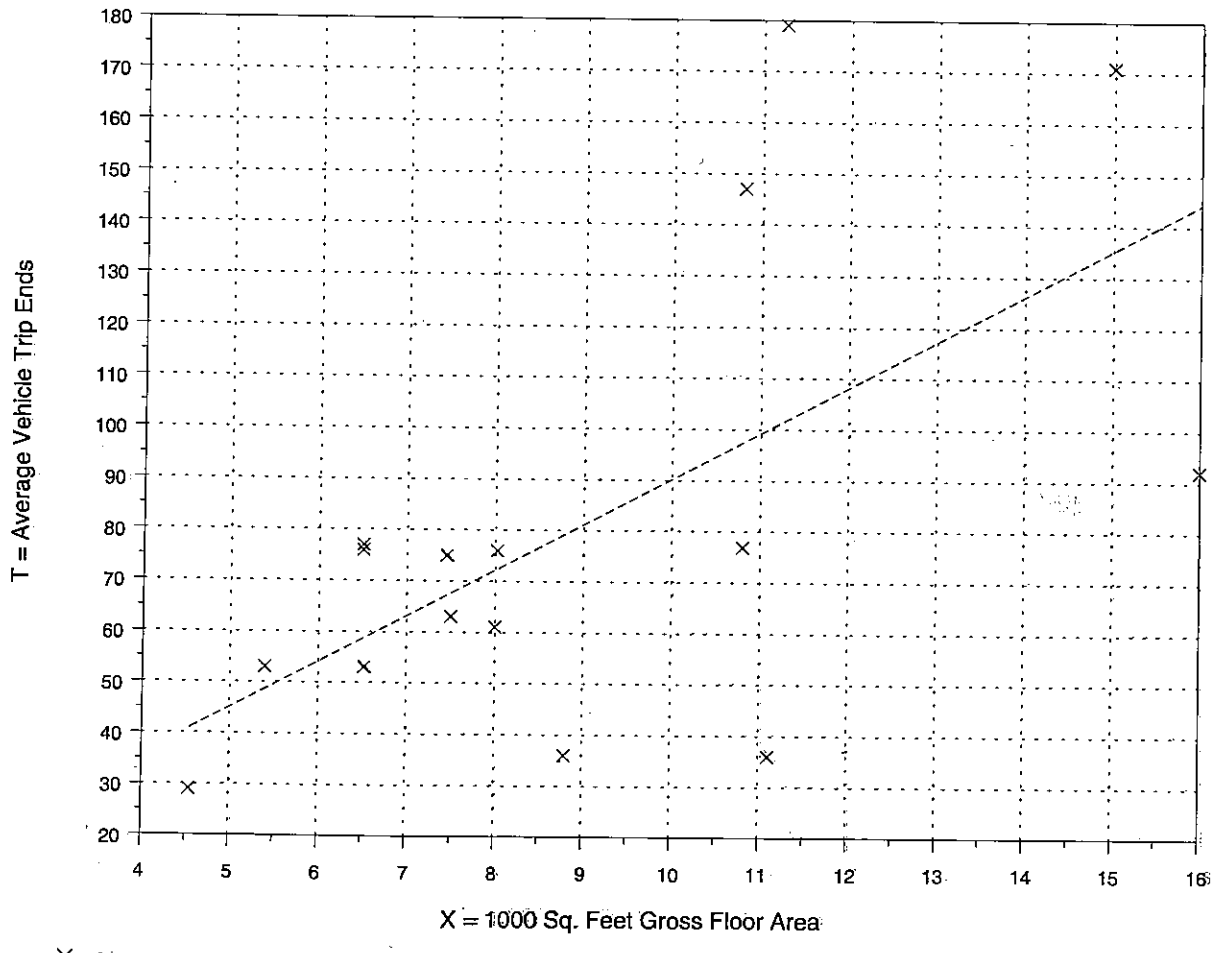
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday,**
P.M. Peak Hour of Generator

Number of Studies: 16
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 62% entering, 38% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
9.02	3.24 - 15.89	4.55

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Quality Restaurant
(931)

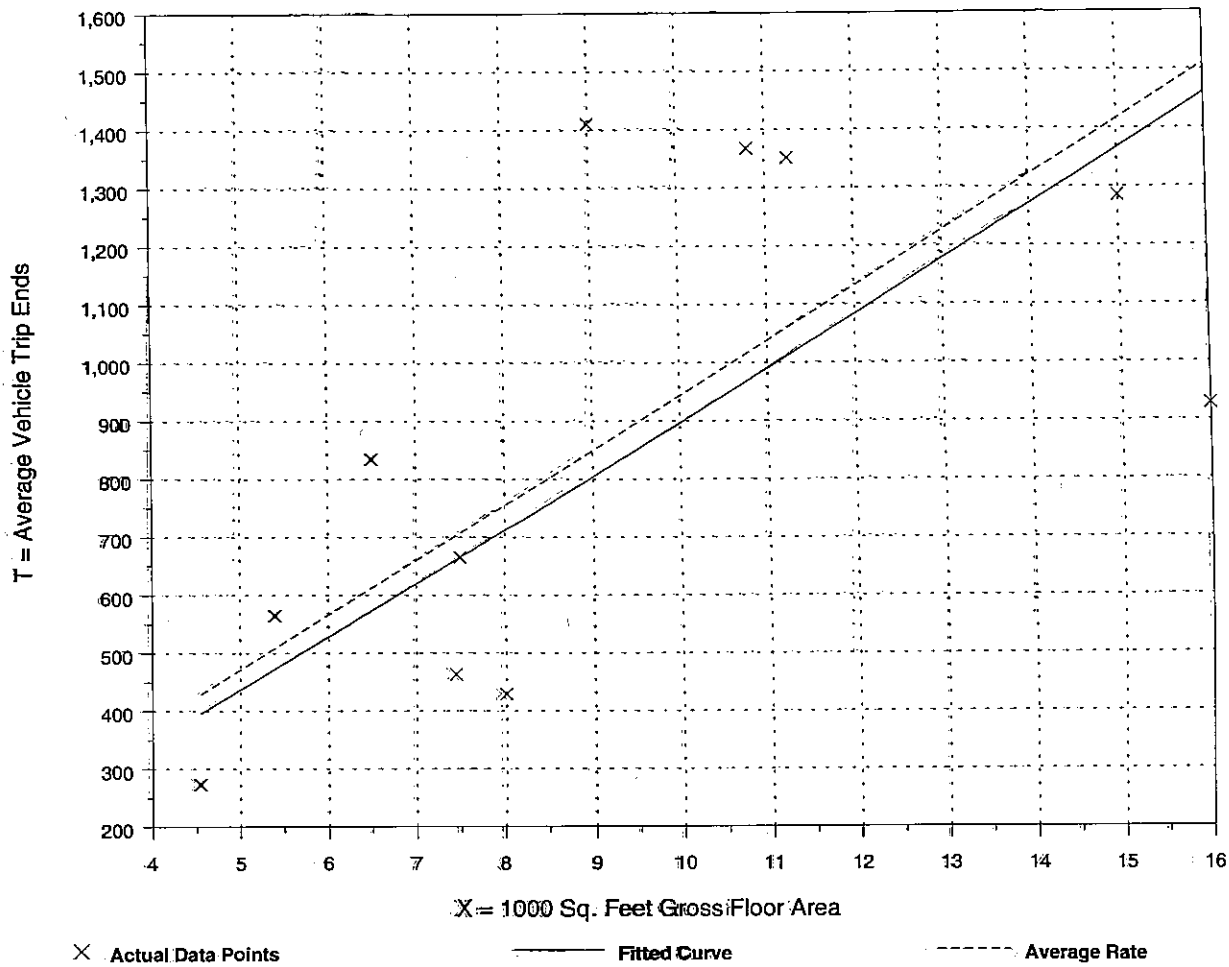
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Saturday

Number of Studies: 11
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
94.36	53.63 - 156.67	34.42

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 1.04 Ln(X) + 4.41

R^2 = 0.54

Quality Restaurant
(931)

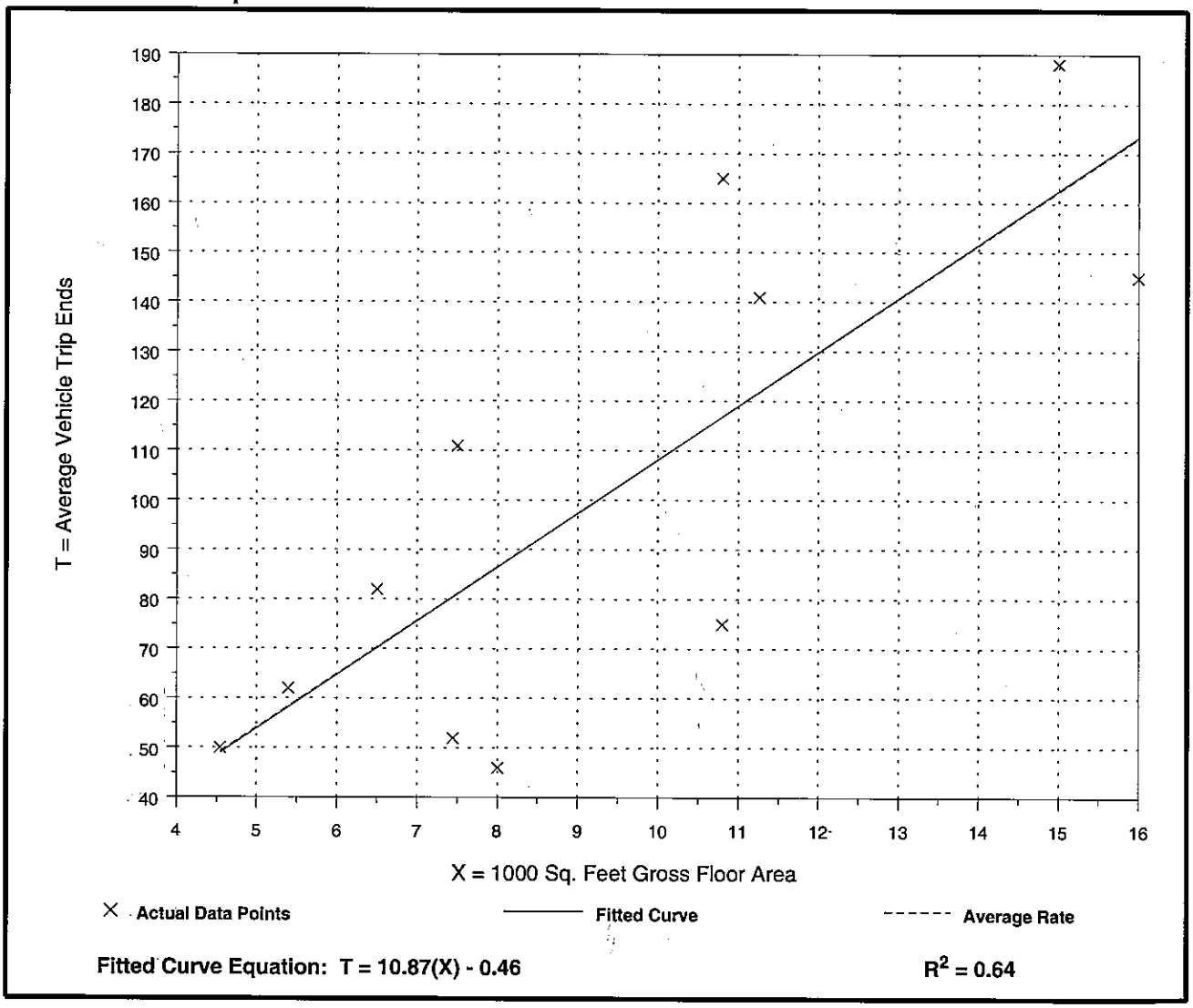
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Saturday,**
Peak Hour of Generator

Number of Studies: 11
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 59% entering, 41% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
10.82	5.75 - 15.28	4.38

Data Plot and Equation



Fitted Curve Equation: T = 10.87(X) - 0.46

R^2 = 0.64

Pier 57 EIS

Attachment B

Brooklyn Bridge FEIS Theater Trip Generation

Table 14-6
Brooklyn Bridge Park Traffic Planning Assumptions

Land Use:	Office	Destination Retail	Marina	Residential	Neighborhood Retail	Hotel	Restaurant	Multiuse (Theater)	Park
Size/Units:	164,400 gsf	135,200 GSF	185 slips	1,210 DU	16,000 GSF	224 rooms	86,400 gsf	1,000 seats	85 Acres
Trip Generation Rate:	(1)	(4)	(7)	(9)	(11)	(12)	(13)	(14)	(15)
Weekday	18	129	6.23	8.075	205	9.4	173	2.68	15,000 trips/day
Sunday	1.62	99	13.47	7.137	205	7.4	139	2.68	27,000 trips/day
	per 1,000 sf	per 1,000 sf	per slip	per du	per 1,000 sf	per room	per 1,000 sf	per seat	
Temporal Distribution:	(1)	(4)	(7)	(9)	(11)	(12)	(13)	(14)	(8)
AM	11.8%	2.3%	2.7%	9.1%	3.1%	7.5%	1.0%	0.0%	7.0%
MD	14.5%	8.7%	9.8%	4.7%	19.0%	14.4%	13.7%	0.0%	17.0%
PM	13.7%	8.9%	6.4%	10.7%	9.6%	12.8%	7.7%	10.0%	14.0%
Sun MD	14.3%	15.4%	8.4%	8.5%	9.5%	7.5%	11.6%	10.0%	15.0%
	(2)	(5)	(8)	(10)	(11)	(5)	(5)	(5)	(16)
Modal Splits:	AM/PM MD	AM/MD/PM	AM/MD/PM	AM/MD/PM	AM/MD/PM	AM/MD/PM	AM/MD/PM	PM	AM/MD/PM
Auto	12% 2%	28.0%	75.0%	13.0%	2.0%	30.0%	30.0%	20.0%	20.0%
Taxi	1% 1%	2.0%	10.0%	0.9%	3.0%	10.0%	5.0%	5.0%	1.0%
Subway	69% 7%	10.0%	5.0%	70.7%	6.0%	10.0%	5.0%	10.0%	12.0%
Bus	12% 7%	15.0%	5.0%	1.3%	6.0%	10.0%	5.0%	10.0%	11.0%
Walk/Other	6% 83%	45.0%	5.0%	14.1%	83.0%	40.0%	55.0%	55.0%	56.0%
	100.0% 100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	(1)	(4)	(7)	(9)	(11)	(12)	(13)	(14)	(8)
In/Out Splits:	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM	96% 4%	61.0% 39.0%	33.0% 67.0%	16.0% 84.0%	50.0% 50.0%	39.0% 61.0%	94.0% 6.0%	0.0% 0.0%	55.0% 45.0%
MD	39% 61%	55.0% 45.0%	67.0% 33.0%	50.0% 50.0%	50.0% 50.0%	54.0% 46.0%	65.0% 35.0%	0.0% 0.0%	50.0% 50.0%
PM	5% 95%	47.0% 53.0%	60.0% 40.0%	67.0% 33.0%	50.0% 50.0%	65.0% 35.0%	65.0% 35.0%	100.0% 0.0%	45.0% 55.0%
Sun MD	58% 42%	53.0% 47.0%	44.0% 56.0%	53.0% 47.0%	50.0% 50.0%	35.0% 65.0%	63.0% 37.0%	50.0% 50.0%	55.0% 45.0%
Vehicle Occupancy:	(2)	(6)	(8)	(10)	(6)	(12)	(13)	(14)	(16)
Auto	1.42	2.70	2.00	1.15	2.30	1.37	2.2	2.9	2.9
Taxi	1.42	2.80	2.00	1.40	2.30	1.8	2.3	3.0	3.0
Truck Trip Generation:	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(14)	(3)
	0.03	0.35	0.02	0.03	0.35	0.06	3.6	0.01	0.01
	per du	per 1,000 sf	per du	per du	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf
	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
AM	9.6%	7.7%	6.0%	12.2%	7.7%	12.2%	6.0%	6.0%	6.0%
MD	11.0%	11.0%	6.0%	8.7%	11.0%	8.7%	6.0%	6.0%	6.0%
PM	1.0%	1.0%	1.0%	1.0%	1.0%	0.0%	1.0%	1.0%	1.0%
Sun MD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM/MD/PM	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%

Notes :

(1) Pushkarev & Zupan, "Urban Space for Pedestrian," 1975. Sundey rate is based on rate ITE Land Use Code (710) General Office Building rate proportion between weekday and Sunday.
(2) Downtown Brooklyn modal split survey of office employees, as per NYCDOT memorandum dated June 21st 1995
(3) Federal Highway Administration, "Curbside Pickup and Delivery and Arterial Traffic Impacts," 1981.
(4) Based on ITE Trip Generation Handbook, Land Use Code 820 Shopping Center expanded to person trips.
(5) PHA Estimate based on area EISs.
(6) Based on Retail Survey at Atlantic Center, Brooklyn December, 1997.
(7) Based on ITE Trip Generation Handbook, Land Use Code 420 Marina expanded to person trips. Midday rate based on ITE peak parking rate.
(8) Hudson River Park FEIS.
(9) Pushkarev & Zupan, "Urban Space for Pedestrian," 1975. Sunday rate is based on ITE Land Use Code (220), High-Rise Apartment.
(10) Based on 2000 Census journey-to-work data.
(11) Pushkarev & Zupan, "Urban Space for Pedestrians," 1975.
(12) 42nd Street Redevelopment FEIS for temporal patterns.
(13) Pattern based on Pushkarev & Zupan "Urban Space for Pedestrians," 1975.
(14) Lincoln Center Transportation Survey December, 2000.
(15) Based on Park Forecast of distribution of Origins
(16) Brooklyn Heights Promenade. Park User Survey, PHA, 2003

Pier 57 EIS

Attachment C

Pier 54 Movie Event Survey Results

Film & Theater

Pier 54 Movie Event Travel Demand Survey Summary

Event Date: 7/8/2009
Survey Duration: 6:00 PM - 9:00 PM

Arrival Mode	Percent	Volume
Auto	9%	29
Bicycle	8%	27
City Bus	3%	11
Motorcycle	0%	1
PATH	1%	4
Rollerblade	1%	3
Shuttle	0%	1
Subway	48%	162
Taxi	2%	5
Walk only	28%	97
Grand Total	100%	340

Departure Mode	Percent	Volume
Auto	9%	29
Bicycle	8%	27
City Bus	2%	8
Motorcycle	0%	1
PATH	2%	5
Rollerblade	1%	3
Shuttle	0%	1
Subway	50%	171
Taxi	2%	6
Walk only	26%	89
Grand Total	100%	340

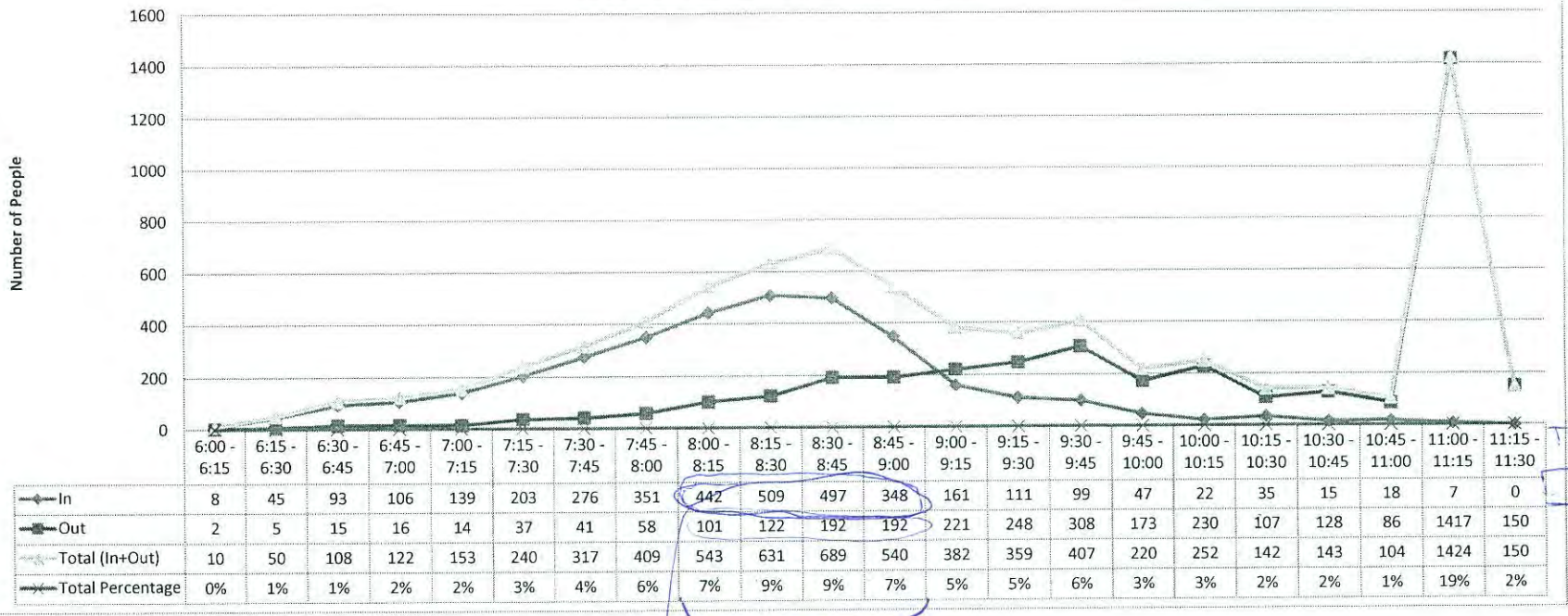
Trip Origin	Percent	Volume
Bronx	2%	5
Brooklyn	20%	68
Manhattan	68%	232
NJ	3%	11
Queens	6%	20
Staten Island	1%	2
N/A	0%	2
Total	100%	340

Adult/Children	Percent	Volume
Adult	96%	326
Children	4%	14
Total	100%	340

Auto Occupancy Rate	
Auto	2.9
Taxi	1.0

Source: Surveys conducted by AKRF, Inc. at Pier 54 Free Movie Event on July 8, 2009.

Pier 54 Movie Event (July 8, 2009)
In & Out Temporal Distribution



	6:00 - 6:15	6:15 - 6:30	6:30 - 6:45	6:45 - 7:00	7:00 - 7:15	7:15 - 7:30	7:30 - 7:45	7:45 - 8:00	8:00 - 8:15	8:15 - 8:30	8:30 - 8:45	8:45 - 9:00	9:00 - 9:15	9:15 - 9:30	9:30 - 9:45	9:45 - 10:00	10:00 - 10:15	10:15 - 10:30	10:30 - 10:45	10:45 - 11:00	11:00 - 11:15	11:15 - 11:30	ToT
In	8	45	93	106	139	203	276	351	442	509	497	348	161	111	99	47	22	35	15	18	7	0	
Out	2	5	15	16	14	37	41	58	101	122	192	192	221	248	308	173	230	107	128	86	1417	150	
Total (In+Out)	10	50	108	122	153	240	317	409	543	631	689	540	382	359	407	220	252	142	143	104	1424	150	
Total Percentage	0%	1%	1%	2%	2%	3%	4%	6%	7%	9%	9%	7%	5%	5%	6%	3%	3%	2%	2%	1%	19%	2%	

Source: Surveys conducted by AKRF, Inc. at Pier 54 Free Movie Event on July 8, 2009.

32%

60 min in

Pier 57 EIS

Attachment D

Pier 54 “Ashes and Snow” Survey Results

Table 3: Mode Choice Data on May 10, 2005 for Locations Adjacent to Pier 57

	Chelsea Piers Pier 60 Fundraiser Friends of HRP		Pier 54 Ashes and Snow	
	Arrival	Departure	Arrival	Departure
Auto	28.0%	30.0%	20.0%	19.0%
Taxi	39.0%	38.0%	10.0%	10.0%
Black Car	8.0%	11.0%	0.0%	0.0%
Bus	3.0%	4.0%	5.0%	9.0%
Subway	10.0%	6.0%	30.0%	36.0%
Walk	12.0%	8.0%	30.0%	21.0%
Other	0.0%	3.0%	5.0%	5.0%
Total	100.0%	100.0%	100.0%	100.0%
Sample Sizes	197		282	

Leonardo at Pier 57
Philip Habib & Associates
July 15, 2005

Table 6: Distribution of Arrivals on May 10, 2005 to Locations Adjacent to Pier 57

Origins	Chelsea Piers Pier 60 Friends of HRP	Pier 54 Ashes & Snow
Manhattan		
Northern (above 110th Street)	1.0%	3.2%
Upper West Side (West of Central Park 59th-110th streets)	6.1%	10.6%
Upper East Side (East of Central Park 59th-110th streets)	10.7%	5.3%
Midtown (14th-59th streets)	48.2%	31.2%
Lower (below 14th Street)	26.4%	20.5%
Total Manhattan	92.4%	70.8%
Bronx	0.5%	
Queens	3.6%	2.8%
Brooklyn	2.0%	8.2%
Long Island		1.4%
Upstate NY (North of the Bronx)		3.2%
Connecticut		2.5%
New Jersey	1.5%	8.2%
Massachusettes		1.8%
Pennsylvania		0.4%
Virginia		0.7%
Total	100.0%	100.0%
Sample Sizes	197	282

Leonardo at Pier 57
Philip Habib & Associates
July 15, 2005

Pier 57 EIS

Attachment E

Regional Trip Assignment

FIGURE 1

Pier 57 EIS

Trip Assignment Screenlines

Pier 57 EIS

Attachment F

2000 Census Journey to Work Data

Technical School Trip Distribution

Census Journey to Work Data	2000	
	Number	%
Total Workers at Work in NYC	3,755,130	100
By		
NYC	**2,922,206**	**77.9**
Bronx	365,522	9.7
Brooklyn	855,666	22.8
Manhattan	700,361	18.7
Queens	825,063	22
Staten Island	175,594	4.7
NY State	**457,365**	**12.1**
Dutchess Cty	5,798	0.2
Nassau Cty	197,864	5.3
Orange Cty	14,203	0.4
Putnam Cty	7,388	0.2
Rockland Cty	26,673	0.7
Suffolk Cty	80,003	2.1
Sullivan Cty	1,348	0
Ulster Cty	2,116	0.1
Westchester Cty	117,839	3.1
New Jersey	**307,913**	**8.2**
Bergen Cty	74,966	2
Essex Cty	32,863	0.9
Hudson Cty	66,547	1.8
Hunterdon Cty	1,494	0
Mercer Cty	6,545	0.2
Middlesex Cty	33,627	0.9
Monmouth Cty	30,631	0.8
Morris Cty	13,186	0.4
Ocean Cty	4,651	0.1
Passaic Cty	10,219	0.3
Somerset Cty	7,632	0.2
Sussex Cty	1,910	0.1
Union Cty	19,849	0.5
Warren Cty	748	0
Connecticut	**33,622**	**0.9**
Fairfield Cty	28,743	0.8
Litchfield Cty	1,227	0
New Haven Cty	2,243	0.1
Other States	**34,024**	**0.9**

		Subway Line
Brooklyn - General	7.6%	L
Brooklyn - General	15.3%	ACE
Queens/Long Island	9.7%	L
Queens/Long Island	19.7%	ACE
Bronx/Upstate/Harlem	5.0%	L
Bronx/Upstate/Harlem	10.2%	ACE
New Jersey - General	9.1%	ACE
Staten Island/Jersey - Holland Tunnel	4.7%	123
Manhattan - General	4.6%	L
Manhattan - General	11.5%	ACE
Manhattan - General	2.5%	123
TOTAL SUBWAY	100.00%	
	L	**26.9%**
	ACE	**65.9%**
	123 (14th)	**6.2%**
	123 (18th)	**1.1%**

Appendix E

Response to NYCDOT's Comments

on Revised TDF Memo Submission

SAM SCHWARTZ
ENGINEERING

Memorandum

To:	Naim Rasheed, Director – Traffic Planning, NYCDOT
From:	Jeff Smithline, PE, PTOE
Date:	May 1, 2012
Re:	Response to Final NYCDOT Comments on TDF Memorandum Pier 57 Environmental Impact Statement CEQR No.: 11HRP001M
Project No:	AK-10-351

NYCDOT provided final comments on the Travel Demand Factors for Pier 57 in a memorandum dated March 22, 2012, and sent to Noreen Doyle of the Hudson River Park Trust. Sam Schwartz Engineering (SSE) has reviewed and discussed these comments with Marjorie Bryant of NYCDOT and has prepared the following responses:

Comments

1. *Comment: The proposed bus mode share identified for both High-Turnover Restaurant and Quality Restaurant seem too high, particularly in relation to percentages used for Destination Retail and Theatre. We believe these land uses would be frequently visited by area workers and visitors to other development components. Therefore, NYCDOT recommends the consultant reexamine and revise both the modal split and temporal distribution based on Census data for office, Journey-To-Work and Reverse-Journey-To-Work. Please have the consultant provide the revised memorandum for NYCDOT review and approval.*

   We agree that we should lower the bus mode share and also have a larger draw from the surrounding area. Based on our discussions with your office, we have modified the restaurant land use modal splits to be the following:

Mode	Restaurant from Original TDF Memo	Proposed Quality Restaurant	Proposed Food Counters
Auto	25%	25%	25%
Taxi	15%	20%	15%
Subway	25%	30%	35%
Bus	25%	5%	5%
Walk/Other	10%	20%	20%

   As discussed with NYCDOT, SSE will also increase the Linked Trips for the Food Counters (formerly called High-Turnover Sit-Down Restaurant) from 20% to 25%.

2. *Comment: Similarly, the Saturday temporal distribution for Quality Restaurant and High-Turnover Sit-Down Restaurant is considerably lower than the rates used for other development components. Please have the consultant adjust the Saturday Midday temporal distribution for Quality- and High-Turnover Restaurants based on the Destination Retail land use.*

   SSE will increase the Restaurant temporal distribution for Quality Restaurant and the Food Counters from 7.1% to 11% for the Saturday Midday to match Destination Retail.

3. *Comment: The Museum/Exhibit space vehicle occupancy rate for auto and taxi is the same for weekday and weekend; we believe the weekend may be higher than the weekday. Therefore, please have the consultant revise the vehicle occupancy rate.*

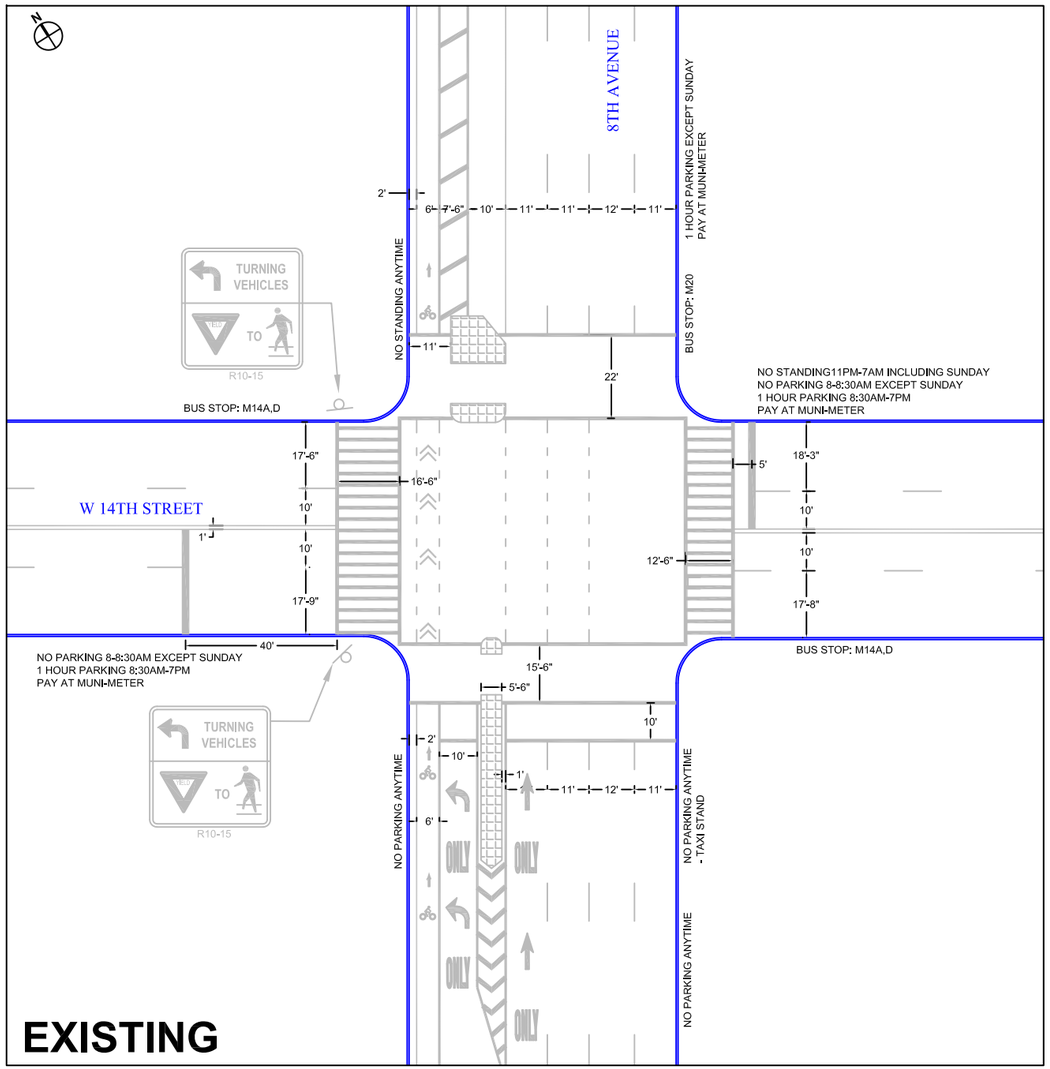
   NYCDOT has since retracted this comment to maintain a more conservative analysis.

NYCDOT has stated that these will be the final comments on the TDF Memorandum. Therefore, SSE will revise the TDF Memorandum to reflect these comments and responses and resubmit it with the DEIS Transportation Chapter.

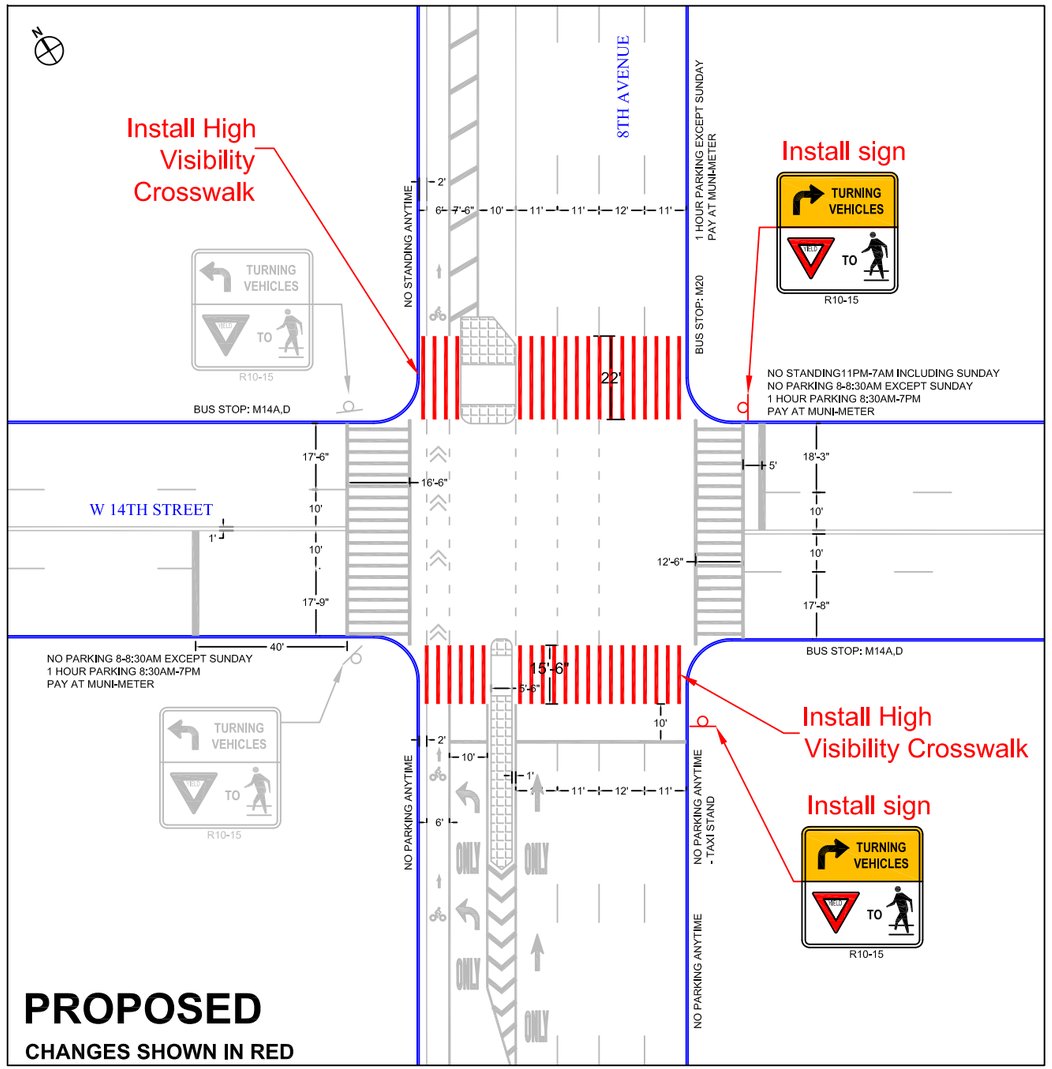
Please contact me at 212-598-9010 x119 if you have any questions.

Appendix C-3
Proposed Safety Improvements

8TH AVENUE & W. 14TH STREET



EXISTING



PROPOSED

CHANGES SHOWN IN RED

DRAFT

M:\AK-10-351 Pier 57 EIS\Graphics\Mitigation Drawings\8th Ave and W 14 St.dwg

CLIENT:

PIER 57

PREPARED BY:

SAM SCHWARTZ ENGINEERING

THE CABLE BUILDING
611 BROADWAY,
SUITE 415
NEW YORK, NY 10012

SEAL:

FOR REVIEW & FILING
NOT FOR CONSTRUCTION

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

PIER 57 EIS

DRAWING TITLE:

8TH AVENUE & W 14TH STREET

PROPOSED SAFETY IMPROVEMENTS - SIGNS AND RESTRIPING

DRAWN BY: JC

CHECKED BY: AL

SCALE: 1" = 30'

PROJECT NUMBER: AK-10-351

DATE: JANUARY 17, 2012

DRAWING NUMBER:

APPENDIX C-3

Appendix D
Waterfront Revitalization Program

For Internal Use Only:	WRP no._____
Date Received:_____	DOS no._____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed action subject to CEQR, ULURP, or other Local, State or Federal Agency Discretionary Actions that are situated within New York City's designated Coastal Zone Boundary must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)*. The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and approved in coordination with local, state and Federal laws and regulations, including the State's Coastal Management Program (Executive Law, Article 42) and the Federal Coastal Zone Management Act of 1972 (P.L. 92-583). As a result of these approvals, state and federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the city must be given the opportunity to comment on all state and federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other State Agency or the New York City Department of City Planning in its review of the applicant's certification of consistency.

A. APPLICANT

1. Name:
Hudson Eagle, LLC

Address:
c/o Norm Roumanous, Young Woo & Associates, 435 Hudson Street, 4th Floor

3. Telephone: **212-477-8008** Fax: **NA**

E-mail Address:
norm@iyoungwoo.com

4. Project site owner:
Hudson River Park Trust per the Hudson River Park Act

B. PROPOSED ACTIVITY

1. Brief description of activity:
The applicant proposes to redevelop the Pier 57 site, which is located within Hudson River Park at approximately West 15th Street, with retail, restaurant and other commercial uses; a marina; and educational and cultural and public open spaces uses (the proposed project). As part of the proposed project, the Pier 57 supporting caissons and pier structure would be rehabilitated and repaired. The proposed project will provide approximately 2.5 acres of new waterfront open space to Hudson River Park, as well as increase public access to the waterfront.

2. Purpose of activity:
Consistent with the Hudson River Park Act, the purpose of the proposed Pier 57 project is to reuse this portion of the Hudson River waterfront for the public benefit, making it an asset for the city and the region. The Pier 57 project would increase public access to the waterfront, provide additional public open space resources and cultural space within Hudson River Park, and include program components that are compatible with park uses and that would generate funds to contribute to the operation and maintenance of the park. The Pier 57 project would also restore and adaptively reuse the Pier 57 structure, which is listed on the State and National Registers of Historic Places.

3. Location of activity: **Hudson River Park at Approximately West 15th Street** Borough: **Manhattan**

Street Address or Site Description:
The project site consists of historic Pier 57, adjacent lands underwater, and some associated frontage area, all of which are located in Hudson River Park at approximately West 15th Street. Immediately adjacent to and east of the site are other portions of Hudson River Park and the Route 9A bikeway and roadway.

Proposed Activity Cont'd

4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known:

To develop the proposed project, it is expected that the following state and federal permits would be required:
● New York State Department of Environmental Conservation (NYSDEC)—The applicant would seek a Part 608 Protection of Waters permit for in-water work.
● New York State Department of Transportation (NYSDOT)—Approvals related to site access at Route 9A.
● U.S. Army Corps of Engineers (USACE)—The applicant would seek Section 10 and Section 404 permits for work in the navigable waters of the United States.

In addition, some aspects of the work to be conducted at Pier 57 were previously assessed in the Final Environmental Impact Statement (FEIS) for Hudson River Park, and permits and subsequent renewals were issued to the Hudson River Park Trust (HRPT). USACE (Permit 1998-00290) and NYSDEC (Permit 2-6299-00004/00001) permits issued to HRPT authorize the repair of the existing perimeter walkway and its extension to connect with the public esplanade to the east of the pier; the development of new public walkways parallel to the existing bulkhead; and pile jacketing and repair work. This work was evaluated in the FEIS for Hudson River Park and has been permitted.

5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).

No

		Yes	No
6.	Will the proposed project result in any large physical change to a site within the coastal area that will require the preparation of an environmental impact statement?		
	If yes, identify Lead Agency:	**X**	

Hudson River Park Trust

7. Identify **City** discretionary actions, such as **zoning amendment or adoption of an urban renewal plan**, required for the proposed project.

To develop the proposed project, the following City actions would be required: zoning map amendment, relief from various Waterfront Zoning Regulations, waterfront certification, and a special permit for retail in excess of 10,000 sf.

C. COASTAL ASSESSMENT

The following questions represent, in a broad sense, the policy of the WRP. The number in the parentheses after each question indicated the policy or policies that are the focus of the question. A detailed explanation of the Waterfront Revitalization Program and its policies are contained in the publication the *New York City Waterfront Revitalization Program.*

Check either "Yes" or "No" for each of the following questions. Once the checklist is completed, assess how the proposed project affects the policy or standards indicated in "( )" after each question with a Yes response. Explain how the action is consistent with the goals of the policy or standard.

Location Questions:	**Yes**	**No**
1. Is the project site on the waterfront or at the water's edge?		
The proposed project involves the rehabilitation and redevelopment of the existing historic Pier 57 structure. Pier 57 is located in the Hudson River, on the west side of Manhattan at approximately 15th street.	**X**	
2. Does the proposed project require a waterfront site?	**X**	
3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters?	**X**	

Policy Questions:	**Yes**	**No**
The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations.		
Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.		
See Chapter 2, "Land Use, Zoning, and Public Policy for a discussion of the relevant policies for each "yes" response.		
4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under- used waterfront site? (1)	**X**	
5. Is the project site appropriate for residential or commercial redevelopment? (1.1)	**X**	

Policy Questions cont'd:		Yes	No
6.	Will the action result in a change in scale or character of a neighborhood? (1.2)		X
7.	Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3)		X
8.	Is the action located in one of the designated Significant Maritime and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2)		X
9.	Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2)	X	
10.	Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1)		X
11.	Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2)		X
12.	Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2)	X	
13.	Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3)	X	
14.	Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3)	X	
15.	Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1)		X
16.	Would the proposed project create any conflicts between commercial and recreational boating? (3.2)		X
17.	Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3)	X	
18.	Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound-East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2)		X
19.	Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitats? (4.1)	X	
20.	Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1 and 9.2)		X
21.	Would the action involve any activity in or near a tidal or freshwater wetland? (4.2)		X
22.	Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3)	X	
23.	Would the action have any effects on commercial or recreational use of fish resources? (4.4)		X
24.	Would the proposed project in any way affect the water quality classification of nearby waters or be unable to be consistent with that classification? (5)		X
25.	Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1)		X
26.	Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1)	X	
27.	Will any activity associated with the project generate nonpoint source pollution? (5.2)		X

Policy Questions cont'd:		Yes	No
28.	Would the action cause violations of the National or State air quality standards? (5.2)		X
29.	Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)		X
30.	Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? (5.3)	X	
31.	Would the proposed action have any effects on surface or ground water supplies? (5.4)		X
32.	Would the action result in any activities within a Federally designated flood hazard area or State designated erosion hazards area? (6)	X	
33.	Would the action result in any construction activities that would lead to erosion? (6)		X
34.	Would the action involve construction or reconstruction of flood or erosion control structure? (6.1)		X
35.	Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)		X
36.	Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)		X
37.	Would the proposed project affect a non-renewable source of sand? (6.3)		X
38.	Would the action result in shipping, handling, or storing of solid wastes; hazardous materials, or other pollutants? (7)		X
39.	Would the action affect any sites that have been used as landfills? (7.1)		X
40.	Would the action result in development of a site that may contain contamination or has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage? (7.2)	X	
41.	Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)		X
42.	Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)		X
43.	Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8)	X	
44.	Would the action result in the provision of open space without the provision for its maintenance? (8.1)		X
45.	Would the action result in any development along the shoreline but NOT include new water enhanced or water dependent recreational space? (8.2)		X
46.	Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)		X
47.	Does the proposed project involve publically owned or acquired land that could accommodate waterfront open space or recreation? (8.4)	X	
48.	Does the project site involve lands or waters held in public trust by the state or city? (8.5)	X	

Policy Questions cont'd:		Yes	No
49.	Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9)	X	
50.	Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1)	X	
51.	Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources? (10)		X
52.	Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10)	X	

D. CERTIFICATION

The applicant must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent Name: **Hudson Eagle, LLC c/o Connor Lacefield, AKRF, Inc.**

Address: **440 Park Avenue South, 7th Floor, New York, NY 10016 (646) 388-9834**

Telephone

Applicant/Agent Signature: Connor Lacefield Date: **August 27, 2012**

Appendix E
Comments Received on the DEIS

E-1: Written Comments Received on the DEIS

E-2: Transcript of the Public Hearing on the DEIS

E-3: Alternative Access Plans Submitted by Chelsea Piers

E-1
Written Comments Received on the DEIS

THE CITY OF NEW YORK
OFFICE OF THE PRESIDENT
BOROUGH OF MANHATTAN

SCOTT M. STRINGER
BOROUGH PRESIDENT

January 16, 2013

Recommendation on
ULURP Application Nos. C 130100 ZMM, C 130101 ZSM, C 130102 ZSM,
C 130103 ZSM, and N 130104 ZCM
by Hudson River Park Trust and Hudson Eagle LLC

PROPOSED ACTIONS

The Hudson River Park Trust and Hudson Eagle LLC[1] (collectively, "the applicants") propose a number of land use actions to facilitate the redevelopment and rehabilitation of Pier 57 (Block 662, Lot 3, and part of Marginal Street Wharf or Place). The project site is located west of Route 9A between West 14th and 16th streets within the Hudson River Park in Manhattan Community District 4. The proposed actions allow certain commercial and community facility uses, and waive height and bulk requirements for an existing legal non-complying building on Pier 57. Specifically, the applicants seek:

1. A **Zoning Map Amendment (C 130100 ZMM)** to rezone the project site's M2-3 to an M1-5 zoning district. The existing M2-3 zoning district allows a maximum allowable 2.0 FAR. Approval of the amendment would permit enlargements to the existing pier building to the proposed 2.23 FAR. The rezoning would also permit the development of some community facility uses (Use Group 4) that currently are not allowed.

2. A **Special Permit (C 130101 ZSM) pursuant to § 62-834** (Developments on piers or platforms) of the Zoning Resolution ("ZR") to modify use regulations (§ 62-241), waterfront

[1] Hudson Eagle, LLC is a primarily represented by Young Woo and Associates.

yard regulations (§ 62-332), height and setback requirements (§ 62-342), waterfront public access requirements (§ 62-57), and visual corridor requirements (§62-513).

Approval of this special permit would allow the development of non-water dependent uses, and allow Use Groups 6A, 6C, 9A and 10 uses to occupy more than 20,000 SF of floor area. The existing building on the Pier is a legal non-complying structure, and many of the height and bulk waivers are necessary to bring the building into compliance with zoning regulations as it would be rehabilitated, reused, and enlarged in the proposed development program. The proposed additions on portions of the rooftop require a maximum height waiver of up to 57 feet 3 inches.[2] Additionally, a waiver of approximately 522 feet is required for the existing length of the building.[3]

The proposed project also seeks a waiver for planned enlargements that would encroach on the required visual corridor along the waterfront. The applicants seek this special permit to waive the minimum 20 percent of lot area[4] required for a waterfront public access area. The proposal would add approximately 30,022 SF (17.7 percent of lot area) of public access area on the site.

In granting these modifications, the City Planning Commission ("CPC") must find that the (1) facility is designed to significantly enhance pubic use and enjoyment of the waterfront; (2) accessory parking or loading facilities provided are arranged and designed to not adversely impact public access areas; (3) the proposed development does not violate bulk provisions of § 62-341 (Developments on land and platforms); (4) the ratio of floor area on the pier to water coverage of the pier does not exceed the maximum floor area ratio for the use as set forth in the district regulations; (5) such bulk modifications would not obstruct the light and air or waterfront views of neighboring properties; and (6) such modifications would not adversely affect the essential character, use or future growth of the waterfront and the surrounding area.

In granting modifications of the waterfront public access area and visual corridor, CPC must find that the (1) proposed development would result in better achievement of the goals set forth in § 62-00 than would otherwise be possible by strict adherence to the regulations of § 62-50 (General requirements for visual corridors and waterfront public access areas) and § 62-60 (Design requirements for waterfront public access areas); and (2) alternative waterfront public access area and visual corridors on the zoning lot, or off-site on a public property adjacent to the zoning lot, are provided and that are substantially equal in area to that required and by their location and design, provide equivalent public use and enjoyment of the waterfront and views to the water from upland streets and other public areas.

3. A **Special Permit (C 130102 ZSM) pursuant to § 74-922** (Certain large retail establishments) to modify regulations to allow retail establishments (Use Groups 6 and 10A uses) greater than 10,000 SF. Approval of this special permit approval would allow the development of a 100,000 SF urban public market on Pier 57. The market would include large retail establishments and a range of small stores.

[2] Maximum height permitted on piers is 30 feet for developments without any setback.
[3] Buildings on piers cannot be greater than 200 feet in length.
[4] The existing lot area is 170,069 SF. 20 percent is approximately 34,014 SF).

In granting a special permit for such large retail establishment, CPC must find that (a) the principal vehicular access for such use is not located on a local narrow street; (b) that such use is so located to draw minimum vehicular traffic to and through local streets; (c) that adequate reservoir space at the vehicular entrance, and sufficient vehicular entrances and exits, are provided to prevent congestion; (d) that vehicular entrances and exits are provided for such uses and are located not less than 100 feet apart; (e) that in selecting the site, consideration has been given to the proximity and adequacy of bus and rapid transit facilities; (f) that such use is so located as not to impair the essential character or the future use of or development of the surrounding area; and (g) that such use will not produce any adverse effects which interfere with the appropriate use of land in the district or in any adjacent district.

4. A **Special Permit (C 130103 ZSM) pursuant to § 13-561** (Accessory off-street parking spaces) to allow an enclosed accessory parking garage in the cellar level with 74 spaces. Current parking regulations apply only to new community facility, commercial or manufacturing developments (ZR § 13-133), and therefore would only apply to approximately 138,000 SF of the enlarged portions of the building. Approximately 35 parking spaces are permitted on the site, but the proposed project would require a waiver to allow an additional 39 accessory parking spaces.

In granting the special permit for accessory off-street parking spaces, CPC must find that (a) such parking spaces are needed for, and will be used by, the occupants, visitors, customers or employees of the use to which they are accessory; (b) within the vicinity of the site, there are insufficient parking spaces available; (c) the facility will not create or contribute to serious traffic congestion nor will inhibit vehicular and pedestrian movement; (d) the facility is so located as to draw minimum vehicular traffic to and through local residential streets; and (e) adequate reservoir space is provided at the vehicular entrance to accommodate vehicles equivalent to 20 percent of the total number of parking spaces, up to 50 parking spaces.

5. A **Certification (N 130104 ZCM)** from the Chairperson of CPC indicating that the submitted site plan, with approvals to the requested waivers and modifications, is in compliance with the Department of Buildings or Department of Small Businesses.

The approval of the proposed actions would facilitate the development of Pier 57 as a commercial, cultural and recreational destination to complement the active and passive recreational activities along Hudson River Park.

PROJECT DESCRIPTION

The applicants seek a number of actions to facilitate the redevelopment and rehabilitation of Pier 57 ("the Pier") and the Pier's existing building, located within the Hudson River Park ("the Park") on the west side of Manhattan. The Pier is roughly situated between West 14th and 16th streets, just west of Route 9A and a protected bicycle path. The site, approximately 170,069 SF, consists of a vacant headhouse and "finger" building that contain approximately 242,230 SF of floor area. The applicant proposes to repurpose the Pier's existing structure for commercial and retail uses, cultural and educational programs, and new public open space. The proposed redevelopment is intended to better incorporate and activate the Pier with the rest of Hudson River Park.

The Pier is located in and around three west side neighborhoods: Chelsea in Community District

4, and the Meatpacking and West Village neighborhoods in Community District 2. These areas contain a mix of warehouses and low- to medium-density residential buildings. The development of the elevated High Line Park, located roughly one block east of the Pier, has coincided with the growth of creative industries and new residential developments in recent years. A mix of restaurants, high-end retail shops, art galleries and offices also characterize the immediate area east of the Pier.

Similar to other waterfront piers, Pier 57 is zoned M2-3 reflecting its uses prior to the establishment of the Hudson River Park. M2-3 zoning districts allow for heavier industrial uses than M1 zoning districts, and have lower performance standards on smoke, noise and vibration. An M2-3 zoning district has a maximum allowable FAR of 2.0, and permit only commercial and manufacturing uses. Community facility uses are not permitted as of right. With the approval of a text amendment in 1998, park uses were allowed on M2 and M3 zoning districts that are located within the Park.

History and Policy

The existing Pier was built between 1950 and 1954 as an ocean liner pier for Grace Line Cruises. The buoyancy from three hollow caissons supports much of the Pier's weight, and its significance in engineering history has placed the Pier on the list of State and National Registers of Historic Places. Following Grace Line Cruises, the Pier was used as a garage and maintenance facility for buses until 2007, and has remained vacant since.

Similar to much of New York City's waterfront, Manhattan's Lower West Side, at one time, was an active manufacturing and commercial site. With its access to the water, and the freight railway, the area transported production of goods and food imports to other parts of the city. Subsequently, New York's general decline in manufacturing, shipping and freight industries changed the Pier's surrounding uses and character. Industries began to leave the city, and the factories and warehouses were vacated for an extended period until art studios and galleries started to move into the old manufacturing buildings. Over time, the immediate area around the Pier appealed to other commercial, residential and retail tenants.

The Hudson River Park Act ("the Act") was a response to the shifting needs along the waterfront, and established the 550-acre Hudson River Park in 1998. The waterfront park spans along the west side from Battery Place at the tip of Lower Manhattan to West 59th Street. It was created, in part, to re-activate an underutilized waterfront, and to better serve existing and projected residential growth along its stretch. Additionally, the Act created the Hudson River Park Trust ("the Trust") as the entity to design, build and operate the Park, and to integrate the underutilized piers to the rest of the Park.

Proposed Development Program

The proposed redevelopment of Pier 57 is part of the Trust's continued efforts to improve and expand recreational activities along the Hudson River Park. The applicants seek a number of proposed actions to facilitate the development of a public market within an existing pier structure. The approved project would also include the development of educational and cultural uses, new and improved public open space, and accessory parking that would help reactivate the vacant pier.

Commercial and Cultural Uses

A mix of retail and commercial uses, containing approximately 260,000 SF, are proposed for the interior of the Pier building. The interior of the Pier building would be divided by stacked shipping containers. The building's interior would consist of four levels: the first floor, first floor mezzanine, second floor, and the second floor mezzanine. The stacked containers would also create customizable food-related "work/sell" spaces and stores that range between 160 and 640 SF in floor area. Rotating food markets would be part of the retail program to promote foods from visiting chefs and food purveyors. Additionally, the current plan lists at least one sit-down eating establishment to be located on the Pier's western edge. Retail tenants are also expected to fill the headhouse of the building. While large retail establishments are permitted under the proposed M1-5 zoning district, the Trust would prohibit big-box developments on this site. These restrictions are defined in the Pier's lease with the developer.

In addition to the proposed retail uses within the building, public community spaces would also be available. Approval of this application would permit cultural uses including a technical arts school (approximately 33,000 SF) and theater (11,000 SF).

Public Open Space and Marina

The Pier's redevelopment program includes improvements and expansions to the public open space areas on and surrounding the Pier, adding approximately 2.5 acres of open space to the Park. The perimeter walkway would be repaired and extended to connect with the Park's esplanade, and to provide additional public seating and viewing areas. Additionally, approximately 73,000 SF[5]of rooftop open space would also be created. The rooftop space is designed with shaded seating areas, space for art installations, as well as a pavilion for seasonal performances and events.

A marina with up to 141 slips would be located on the north and south sides of the Pier. Several slips would be reserved for historic shipping vessels, as well as non-motorized boats. Additionally, a water-taxi landing may be located on the Pier's northeast corner.

Pier Access and Circulation

The proposed project includes a plan for vehicular flow into and around the project site. A circulation road, fronting the Pier building, would separate the Pier from the protected bicycle path. In the future, vehicles would access the Pier through a dedicated right turn lane along Route 9A at the West 16th Street intersection[6], and the West 17th Street intersection for vehicles coming from the south.

The proposed 74-space accessory parking garage would be located on the caisson level. Vehicles would access and enter the garage on the Pier's southeast corner, and exit on its

[5] The rooftop open space would accommodate approximately 2,500 people. The number of people attending special events on the roof, however, would not exceed 1,500.
[6] A new traffic light would be installed at that intersection to regulate vehicles coming into the Pier at West 16th Street.

northeast corner.

The project would install a taxi stand directly across from the Pier located on the east side of Route 9A, and south of West 15th Street. The designated taxi stand will include space for loading and unloading of passengers, and will not interfere with the accessory vehicles entering and exiting the Pier.

The applicants propose multiple pedestrian access points along the side of the Pier building that fronts the Hudson River Park esplanade. The redevelopment plan includes a public walkway surrounding the Pier's southern, western and northern sides. Additionally, the sidewalk along the Pier's frontage would be widened to prevent potential pedestrian spillover onto the bicycle path. The upper floors and rooftop would be accessed through an existing ramp from the eastern entrance. Finally, the Pier would be accessed by the upland through several pedestrian crosswalks across the West Side Highway.[7]

Anticipated Development under the Reasonable Worst Case Scenario Development

The Draft Environmental Impact Study ("DEIS") indicates that the proposed actions would lead to a number of transportation- and noise-related impacts under the *With-Action Scenario*. Other than the unavoidable noise impacts on the surrounding areas in the Park, the transportation impacts will be mitigated.

The *DEIS* found five locations to experience significant impacts during one or more analyzed peak periods.[8] Additionally, three pedestrian crosswalks would experience significant adverse impacts from the proposed project. In consultation with the New York City Department of Transportation, mitigations of impacts include changing signalizations and the widening of crosswalks.

COMMUNITY BOARD RECOMMENDATION

At a Full Board meeting on December 5, 2012, Community Board 4 ("CB4") approved the proposed project with conditions by a vote of 36 in favor and 0 in opposition.

While generally satisfied with the plans to redevelop Pier 57, CB4 made recommendations to ensure the project remains within the scope of the Pier's long-term development. CB4 voted to limit the Pier's FAR to 2.23, as currently proposed, which is below the maximum allowable 6.5 FAR under an M1- 5 zoning district. The community board also recommended further restrictions to exclude hotel uses and big-box retailers on the Pier. CB4 also requested that the proposed accessory parking garage prohibit transient parking as to reduce pedestrian and vehicular conflicts. Lastly, to better improve pedestrian safety, CB4 recommended a split phase signal at the intersection of Tenth Avenue and West 15th Street.

BOROUGH PRESIDENT'S COMMENTS

[7] There are five nearby crosswalks across Route 9A: the south side of West 17th Street, south side of West 16th Street, north and south sides of West 15th Street and the south side of West 14th Street.
[8] The five locations are: Route 9A and West 17th Street, Route 9A and West 15th Street, Tenth Avenue and West 14th Street, Eighth Avenue and West 17th Street, and Eighth Avenue and West 14th Street.

The development of Hudson River Park has transformed the west side waterfront into a regional New York City attraction. Located in communities where quality open space is often difficult to find, the Park has become an enormous public amenity providing much-needed green space to its surrounding communities. Redevelopment of Pier 57 is part of a larger plan to complete the Hudson River Park as it will add open space, and re-connect the vacant pier to the rest of the greenway. Further, the Pier will be reactivated with retail uses and revenue-generating opportunities that are beneficial to the Park's maintenance and continued success.

The proposed project supports sound city policies, incorporates community input and promotes goals defined in the Hudson River Park Trust Act. It will expand recreational opportunities, and increase public access to the waterfront, which are important citywide goals. The project also employs sustainable principles as it will reclaim and restore an existing historic structure, and use repurposed shipping containers to partition spaces within the building. Further, the proposed project is the culmination of a community engagement process that informed the final project design and development program. The proposed actions are necessary to meet these notable project objectives.

Bulk and Uses

The applicants seek a new zoning district to permit certain commercial and community facility uses, and greater density that are currently not allowed under an M2-3 zoning district. The proposed 2.23 FAR slightly exceeds the 2.0 FAR currently permitted on the site. The additional FAR will accommodate the four levels of proposed development program which includes commercial, retail, cultural and educational uses.

Without the rezoning, proposed eating establishments and a potential technical school are not permitted on the project site. In addition, without an M1-5 zoning designation, the site does not qualify for a special permit that allows retail establishments exceeding 10,000 SF. This special permit is necessary to develop the proposed public marketplace of approximately 100,000 SF, which will be divided into smaller individual stalls.

The current plan for a public marketplace is a highly appropriate use in the repurposed building. There are also clear benefits to housing small retail and food tenants on the Pier. First, small food retail stores and eateries will be complementary to the Park's passive recreational uses, as the Pier will be one of the few areas along the Park with food and shopping options. Second, businesses will benefit from lower overhead costs in the shared space and resources, which also incubates growth and discourages high turnover. Third, the collective industry experience and knowledge across related food and design specialties fosters innovative ideas. Lastly, the public marketplace model enables greater flexibility in accommodating needs of various retail spaces.

The other proposed uses on the site are also highly appropriate and carry significant public benefits. The addition and improvement of park space around the perimeter and on the roof of the Pier create accessible community spaces for public events and performances, as well as passive recreation and enjoyment of scenic views of the waterfront.

The proposed uses are fitting, reflect the uses nearby, and do not overwhelm the passive recreational activities along the Park. The proposed marketplace will be a unique public space

that will contribute to the growth of small businesses and to the Park's overall attraction. The M1-5 rezoning, therefore, is appropriate as it supports the efforts in transforming the vacant pier into a vibrant and unique public amenity.

The proposed bulk waivers will legalize the building's existing non-complying height and bulk. These waivers are necessary to preserve and repurpose the historic structure, and to enlarge portions of the building that would enhance the overall project. The project seeks to waive a waterfront yard requirement, intended to provide recreational space, and light and air along the waterfront. However, the proposed plan will add nearly 109,000 SF of open space on the roof and along the Pier's perimeter which fully satisfies the regulation's intent.

The existing building also needs to waive obstructions of the waterfront visual corridor, and a slight encroachment on the public access area. Theses waivers would also permit minor enlargements to portions of the building, while bringing the majority of the building into compliance with zoning.

These waivers and special permits will facilitate the development of the project's thoughtful design of the rooftop open space, and improvements to the public access areas.

Density and Use Restrictions

While the Community Board was generally pleased with the project's design and the "work/sell" store concept, members expressed some concerns regarding the allowable density and uses in the proposed zoning district. The proposed M1-5 zoning district will increase the project site's maximum allowable density from a 2.0 to a 6.5 FAR, which equates to a potential 765,311 SF of floor area that could be developed on the site. The new zoning designation and special permit approvals would also allow Use Group 5 hotel uses, and Use Group 10A big-box retail uses greater than 20,000 SF that are currently not allowed under the site's M2-3 zoning.

If realized, those uses at such a significant density would greatly detract from the waterfront park's open space and recreation purposes, and should be discouraged. However, the redevelopment of Pier 57 will be governed by regulatory safeguards, which will prevent the Pier from being developed other than what is currently proposed.

While zoning generally dictates the uses on a site, allowable uses on the Pier are also governed by the Hudson River Park Trust Act. Among one of the prohibited uses listed in the Act is hotel use.[9] The Trust will further include restrictions on big-box retailers, trade show and ballroom operators, and nightclubs and cabarets in its lease with the developer.[10]

The Pier is listed in the State and National Registers of Historic Places, and requires oversight and evaluation from the State Historic Preservation Office on any changes to the Pier's physical form. Further, any alteration to the current design or the proposed program would also be reviewed by the Trust, which has a set of its own regulatory processes that include public hearings on the Park's developments.

[9] Other prohibited uses are residential, manufacturing, warehousing, incompatible government uses and casinos.
[10] Prohibitive uses found in a draft lease provided by the applicants.

Accessory Parking

The proposed 74-space accessory parking facility, with 10 reservoir spaces at the garage's entrance, will be located on the Pier's caisson level to accommodate the occupants, visitors, customers and employees at the project site. A special permit is required to increase the number of as-of-right parking spaces at this location. Applicants of this special permit are generally entitled to a favorable consideration if they meet the findings.

Currently, approximately 35 parking spaces are allowed on the project site.[11] The DEIS finds no significant adverse impact, even with the additional 39 spaces requested by the applicants, suggesting there will be no resulting traffic congestion as defined under the City's Environmental Quality Review. Currently, there is a lack of available parking within the project site's vicinity. As studied in the DEIS, on-street parking within a quarter mile of the Pier is generally near 100 percent utilization rate. In addition, there are eight parking facilities, with a combined capacity of 2,046 spaces, located in the area with an average 81 percent utilization rate. According to the DEIS, the proposed project is expected to generate additional parking demand in the area, bringing in 187 additional vehicles during the weekday midday peak hour, and 293 during the weekend midday peak hour.[12]The results from the study imply that the surrounding facilities would be close to full capacity when accommodating an increased parking demand from the project, and the proposed additional spaces at the project site will help ease congestion in the surrounding area.

The proposed 74-space facility will increase available spaces in the area to accommodate the additional demand. The addition of this garage will also prevent vehicles from circling the neighborhood in search of parking, curbing the amount of driving on local residential streets.

CB4 expressed concerns about potential transient parking that may take place in the proposed garage. In preventing non-accessory parking at the project site, the applicants have agreed to install a sign that will be prominently displayed at the garage's entrance to discourage public parking. The sign will indicate parking is reserved only for the owners, occupants, employees, customers, or visitors of the Pier.

Traffic and Vehicular Flow

The proposed vehicular access plan will improve flow of traffic and increase safety in and around the Pier. Proposed speed tables, lights and a new pedestrian walkway will increase efficiency and help reduce potential conflicts between vehicles, pedestrians and cyclists. Locating the taxi stand in a separate area than the Pier's frontage further adds to the circulation efficiency and safety around the project site.

The community expressed concerns about traffic conditions at the intersection of 10th Avenue and West 15th Street. In its resolution, CB4 identified the intersection to be dangerous, especially for pedestrians crossing West 15th Street on the west side of 10th Avenue. The DEIS

[11] Enlarged portions of the Pier equal to approximately 138,000 SF. Under § 13-1333 of the Zoning Resolution, the maximum number of accessory off-street parking spaces permitted for each enlargement should not exceed one space per 4,000 SF of floor area, or 100 spaces, whichever is less.
[12] Tables 14-26 and 14-27 in the *DEIS*.

studied this intersection and identified no significant adverse impacts as a result of the proposed project. The applicants, however, have reached out to and continue to work with the Department of Transportation in identifying ways to mitigate the community's concerns with this intersection.

BOROUGH PRESIDENT'S RECOMMENDATION

The rezoning will facilitate the rehabilitation of a historic pier in Hudson River Park, and will allow the appropriate commercial and community facility uses. This project meets city policies and the findings for waterfront zoning and purposes, enhances waterfront access, and adds to a great public benefit.

Therefore, the Manhattan Borough President recommends approval of ULURP Application Nos. C 1300100 ZMM, C 130101 ZSM, C 130102 ZSM, C 130103 ZSM, and N 130104 ZCM.

Scott M. Stringer
Manhattan Borough President

NEW YORK STATE ASSEMBLY

RICHARD N. GOTTFRIED
75TH ASSEMBLY DISTRICT

CHAIR
COMMITTEE ON HEALTH

822 LEGISLATIVE OFFICE BUILDING, ALBANY, NY 12248
TEL: 518-455-4941 FAX: 518-455-5939

250 BROADWAY, RM. 2232, NEW YORK, NY 10007
TEL: 212-312-1492 FAX: 212-312-1494

E-MAIL: GOTTFRR@ASSEMBLY.STATE.NY.US

COMMITTEES:
RULES
HEALTH
HIGHER EDUCATION
MAJORITY STEERING

CHAIR
MANHATTAN DELEGATION

Comments of
ASSEMBLY MEMBER RICHARD N. GOTTFRIED
ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT and
ULURP Applications Nos. 130100ZMM, 130101ZSM, 130102ZSM, N130103ZSM and 130104ZCM
SUPPORTING THE PIER 57 REDEVELOPMENT PROPOSAL
before New York City Department of City Planning
Public Hearing
Spector Hall, 22 Reade Street
Wednesday, January 23, 2013

As the Assembly Member representing the site of the proposed redevelopment project at Pier 57, as a member of the Pier 57 Working Group and as the Assembly author of the NYS law that created the Hudson River Park, I thank the City Planning Commission for the opportunity to present comments on the Draft Environmental Impact Statement (DEIS) and proposed ULURP actions and thank the Hudson River Park Trust (HRPT) and Hudson Eagle for creating a valuable and significant project.

The proposal by Young Woo and Associates to convert Pier 57 into a new and noteworthy cultural and commercial destination will be a benefit to the Hudson River Park and its communities not just for the income it will bring to the Park, but also for the addition of 110,000 square feet of beautiful roof-top public open space, the perimeter walkway, a marina, exciting programming and a variety of restaurants. This proposal was not only the choice of the Hudson River Park Trust, but had the support of the Pier 57 Working Group, comprised of the local elected officials, the three "Hudson River" Community Boards (1, 2 and 4), and other stakeholders. It is the product of many meetings and consultations to maximize public input and will be a welcome improvement to the long vacant historic structure. I wholeheartedly support the plan.

I share many of the concerns expressed by Community Board 4 and the Manhattan Borough President, but will focus only on two: parking and traffic mitigation. I am satisfied with the Trust's promise to not allow a big box store, which will be achieved via the lease with Young Woo/Hudson Eagle. I am also gratified that only "accessory" parking will be allowed, since, under the Hudson River Park Act, only "incidental" parking is allowed. I understand the Trust has guaranteed advisory signage to ensure that there only be accessory parking, but clarification would be gained by defining "accessory parking" in the formality of the lease.

While I trust that Young Woo and Hudson River Park Trust have worked diligently to ensure traffic flow on 9A and allow for maximum safety and accessibility for pedestrians and cyclists, I am aware of Chelsea Piers' apprehensions concerning the Traffic Management Plan, the potential backup of southbound traffic at 17th Street, especially during an event at Pier 57, as this is both the area of egress for cars leaving Chelsea Piers and the entrance for Pier 57. I urge the Trust and its very able traffic consultants to continue to work with Chelsea Piers and NYS and NYC DOT as appropriate, to circumvent to the extent possible a backup of traffic within Chelsea Piers due to vehicles entering Pier 57. This might be accomplished with the adjustment of the traffic lights as well as an addition of traffic enforcement agents to ensure traffic departure from Chelsea Piers during events. The Traffic Management Plan needs further detail and examination as per the "Potential Actions to Mitigate Traffic Impacts From Pier 57 On Chelsea Piers Egress" contained in Chelsea Piers' letter of December 11, 2012 "Pier 57 DEIS Traffic Analysis Review Comments" in the EIS.

I appreciate the opportunity to submit these comments and look forward to continuing work with the Hudson River Park Trust, the Pier 57 Working Group, Young Woo and Associates, and the community to advance the project.

Again, thank you for the opportunity to testify today.

CITY OF NEW YORK

MANHATTAN COMMUNITY BOARD FOUR

330 West 42nd Street, 26th floor New York, NY 10036
tel: 212-736-4536 fax: 212-947-9512
www.nyc.gov/mcb4

COREY JOHNSON
Chair

ROBERT J. BENFATTO, JR., ESQ.
District Manager

December 18, 2012

Amanda M. Burden, Chair
City Planning Commission
22 Reade Street
New York, NY 10007

Re: ULURP Applications Nos. 130100ZMM, 130101ZSM, 130102ZSM, N130103ZSM and 130104ZCM - Pier 57

Dear Chair Burden:

At its regularly scheduled Full Board Meeting on December 5, 2012, Manhattan Community Board 4, on the recommendation of its Chelsea Land Use, Waterfront, Parks and Environment and Transportation Planning Committees, and following a duly noticed public hearing, voted by roll call 36 for, 0 against, 0 abstaining and 2 present not eligible to recommend approval of the Applications if the conditions presented below are fulfilled.

Background

Pier 57 is located west of Route 9A at the ends of 16th and 17th Streets, within Hudson River Park. To the north are Piers 59 through 62, the Chelsea Piers complex, and to the south is Pier 54, planned to be developed as an open public park pier, and Gansevoort Peninsula, planned to be developed as public park land. Among the Hudson River piers, Pier 57 is unique in that it was built on three giant concrete caissons that were constructed up-river and floated into position. The pier is listed on the State and National Registers of Historic Places and is currently vacant.

Proposed Development

The current proposal is the result of an RFP issued by the Hudson River Park Trust (HRPT) four years ago. It was selected from three respondents following review by HRPT as well as The HRPT Advisory Council, which includes members from Community Boards 1, 2 and 4. The proposed redevelopment, renovation, reuse and enlargement of Pier 57 would be consistent with and further the goals of the Hudson River Park Act in that it involves the reuse of the historic pier for uses beneficial to the public.

The proposed project would rehabilitate and redevelop the vacant Pier 57 site with a major new public open space and a perimeter walkway, and provide new retail, restaurant and other

commercial uses, as well as educational, cultural, boating and rooftop open space uses, and accessory parking. The proposed development program is expected to include the following major land uses:

- 260,000 SF of retail and restaurant space;
- 11,000 SF of cultural use (i.e., 300-seat theatre);
- 33,000 SF technical arts school;
- 40,000 SF of art gallery/exhibit space (at the caisson level);
- 73,000 SF rooftop space (for open space use and programmed events);
- 141-slip marina;
- Accessory parking for a maximum of 74 vehicles; and
- Water taxi landing.

The primary retail use proposed for the project site would be designed as a planned public marketplace modeled on several existing year-round markets located in London, England and on one recently implemented on a temporary basis as the DeKalb Market in Brooklyn. At Pier 57, this public marketplace concept draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District in the realms of fashion, design, art, and food.

Repurposed shipping containers would be stacked to create four market levels (first floor, first-floor mezzanine, second floor, and second-floor mezzanine). In combination with some traditional walled enclosures, these containers would create multiple "work/sell" retail stores and showrooms expected to range in size between approximately 160 and 640 SF. These retail uses would be oriented primarily toward a collection of independent designers and food purveyors. The work/sell marketplace would be an incubator for new retail businesses, designers, and food-related businesses as well as a community gathering place. Towards the western end of the pier shed, the design would open to a large double-height space with views of the water to the north and south. This end of the pier shed would include open, public "piazza" spaces to be used for occasional entertainment or small-format displays, and would be designed to accommodate rotating food markets and "bazaars," with the idea of providing lively surroundings for resident and visiting chefs and food purveyors to exhibit and promote their food products.

In addition, the proposed project would add the following new public open space elements:

- **Waterfront Public Access Areas** - The existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the Hudson River Park waterfront esplanade to the east of the pier, consistent with existing permits previously received by HRPT. The walkway would include approximately 800 linear feet of seating. In addition, new public walkways parallel to the existing bulkhead, previously approved and permitted, would extend to the north and south, extending the currently limited public circulation space along the headhouse. Treatments would be compatible with existing designs for areas bordering the river within Hudson River Park.

- **Rooftop open space** - Approximately 1.6 acres of open space would be created on the pier's finger building. The roof would be divided into open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western

portions of the rooftop would mostly provide flexible space for seating, relaxation, and views of the river, with a capacity for approximately 2,500 persons. These areas could include wooden decking, hardscape, paving, and small lawn areas. The center of the rooftop would contain a pavilion with a public observation deck on the roof and wide stairs on the east that would function as seating areas during events. It is also expected that portions of the headhouse rooftop would be accessible to the public and function primarily as open space, but may be programmed for events, e.g., the Tribeca Film Festival.

Requested Actions

Hudson River Park Trust and Hudson Eagle, LLC, an affiliate of Youngwoo & Associates, LLC, the developer, are co-applicants for the requested actions.

i. **130100ZMM** - Application for a Zoning Map Change to rezone Pier 57 to M1-5 from M2-3. The applicants seek this amendment in order to:

- Develop Pier 57 to an FAR of approximately 2.23; the maximum permitted FAR is 2.0 under M2-3 and 5.0 under M1-5;

- Permit certain uses prohibited under M2-3, including those in Use Group 6C (e.g., eating or drinking establishment with entertainment, but not dancing, with a capacity of 200 persons or less, sporting stores, gift shops);

- Make the project site eligible for a Special Permit under ZR 74-922 to allow large retail stores; and

- Make the project site eligible for a Special Permit under ZR 74-921 relating to certain community facility uses in Use Groups 3A and 4A.

ii. **130101ZSM** - Application for two Special Permits under ZR Sections 62-834(b) and 62-834(c).

- The applicants seek a Special Permit under ZR 62-834(b) in order to:

- Modify ZR 62-342 to allow a building that exceeds the maximum permitted height of 30 feet by approximately 25 feet and 57 feet, and to allow a building that exceeds the maximum permitted length of 200 feet, and thus comply with ZR 62-241(c) permitting the change, enlargement and extension of uses on the existing pier.

- Modify ZR 62-332 to allow further vertical encroachment into the required waterfront yard.

- The applicants seek a Special Permit under ZR 62-834(c) in order to:

- Modify ZR 62-57 to allow 30,022 sq. ft. of waterfront public access area instead of the required 34,014 sq. ft.

- Modify ZR 62-513 to waive required visual corridors that would be encroached by the proposed development.

iii. **130102ZSM** - Application for a Special Permit under ZR 74-922 seeking the modification of the use regulations of ZR 42-10 to allow large retail establishments.

- The applicants seek a Special Permit under ZR 74-922 to modify the use regulations of ZR 42-10 to allow an urban public marketplace of approximately 100,000 sq. ft. and other larger retail establishments.

iv. **130103ZSM** - Application for a Special Permit under ZR 13-561 seeking the modification of the parking regulations of ZR 13-133.

- The applicants seeks a Special Permit under ZR 13-562 to modify the requirements of ZR 13-133 to permit an accessory garage with a maximum capacity of 74 parking spaces.

v. **130104ZCM** - Application for Certification by the Chairperson of the City Planning Commission under ZR 62-811 that the proposed project complies with minimum waterfront public access area requirements under ZR 62-57 and ZR 62-58 as modified by the requested approvals.

- The applicants seek a Certification that the proposed plan, as modified by the requested approvals, complies with the minimum waterfront public access area requirements under ZR 62-52(b), ZR 62-57 and ZR 62-58.

Community Board 4 Recommendations

The Board strongly supports the redevelopment of Pier 57 and believes that the proposed project would be an excellent addition to Hudson River Park and to the community. We believe, however, that there are elements of the proposal that should be reconsidered in order to protect the interests of the community.

- **130100ZMM** - Zoning Map Change. While we understand the applicants' desire for the proposed M1-5 zoning designation, the change potentially opens the door to future as-of-right bulk, height and uses that CB4 believes are undesirable. We normally would request a restrictive declaration of the applicant, but since Pier 57 is owned by the New York State Office of Parks, Recreation & Historic Preservation we suspect that another mechanism will be required. We have asked Senator Tom Duane and Assemblyman Richard Gottfried for help in devising appropriate means to fulfill the conditions listed below and request that the Department of City Planning also help in whatever way they can.

- CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to limit the FAR to the 2.23 the applicants are requesting for the proposed development. The applicants have indicated that they would support such a restriction.

- CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude hotel uses. We understand that the current proposal does not include a hotel and that the Hudson River Park Act currently does not permit hotels, but since the proposed M1-5 zoning permits hotels as-of-right we would greatly prefer one more safeguard against this use that the community strongly opposes on piers in Hudson River Park. The applicants have indicated that they would support such a restriction.

- CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude "big box" retailers or discounters. The applicants have indicated that they would support such a restriction. (See discussion under **130102ZSM** - Special Permit under ZR 74-922, below.)

- **130101ZSM** - Special Permits under ZR Sections 62-834(b) and 62-834(c).

- CB4 recommends that the application for these special permits be approved. CB4 notes that the existing structure is non-compliant and that the proposed redevelopment would increase this non-compliance. We believe, however, that the proposed increase in height and length of the development will not detract from the waterfront experience, including the required visual corridors. We also note that including the waterfront public access area that will be provided immediately adjacent to Pier 57 will result in more than the required 30,022 sq. ft.

- **130102ZSM** - Special Permit under ZR 74-922.

- CB4 recommends that this special permit be approved. The proposed development provides for an urban public market space consisting of multiple small retailers, along with larger retail establishments, totaling approximately 100,000 sq. ft. In the aggregate this retail space requires a special permit allowing large retail establishments, but HRPT has shared with the Board excerpts of its Memorandum of Understanding with the developer in which the developer agrees that "big box" retailers or discounters will be prohibited on Pier 57. HRPT has told the Board that the ultimate lease with the developer will be based on this MOU.

- **130103ZSM** - Special Permit under ZR 13-561. CB4 recommends that this special permit for 74 accessory parking spaces be approved with one condition. HRPT has told the Board that the HRP Act precludes public parking, but the MOU discussed above uses the terms "ancillary parking" and "ancillary public parking."

- CB4 recommends that approval be contingent on HRPT agreeing that the ultimate lease with the developer specifically prohibit transient parking, uses the term "accessory parking" as it is used in the Zoning Resolution and mandates that any operator of the parking facility be required to apply for a variance to post a sign stating, "No transient parking permitted, accessory use only" (as provided in Administrative Code, Title 6, Subchapter Q, paragraph 2-161).

- **Traffic and Pedestrian Safety.** The traffic issues associated with the redevelopment of Pier 57 have been among the most difficult to resolve and led to community opposition to earlier proposals. CB4 believes that the current proposal successfully addresses the community's

concerns and is grateful for the applicants' diligent attention to these issues. Our one remaining concern is the intersection of Tenth Avenue and West 15th Street, a dangerous intersection that exposes pedestrians crossing West 15th Street on the west side of Tenth Avenue to cars arriving at high speed from the West Side Highway.

- CB4 recommends that approval be contingent on the equipping of the west bound turning movements from Tenth Avenue onto West 15th Street with a split phase signal.

- **130104ZCM** - Certification by the Chairperson of the City Planning Commission under ZR 62-811.

- CB4 recommends that the Chairperson issue the requested Certification if the conditions listed above are met.

In addition to agreeing to the conditions listed above, Hudson Eagle, LLC has agreed to work with CB4 to make Pier 57 and its tenants an integral part of the community. Specifically, Hudson Eagle, LLC has agreed to:

- Support the CB4 Community Jobs Project for Pier 57 and to work with CB4 in its implementation. Hudson Eagle, LLC has agreed to post Pier 57 job openings on the CB4 website as they become available; to hold periodic job fairs in coordination with CB4; and to work with its current and future tenants, on a best efforts basis, to identify and hire employees from within Community Board 4.

- Provide the opportunity for contacts and collaboration between arts-related uses and tenants on Pier 57 and Chelsea schools, including PS 11, PS 33 and the Museum School.

- Consider the opportunity to provide discounted tuitions to community residents for food-related programs.

The redevelopment of Pier 57 is a crucial element in the ongoing revitalization of Hudson River Park. We believe that the proposed project is an appropriate use of the waterfront and would be an excellent addition to the park.

Subject to the conditions set forth for the individual requested actions, Community Board strongly supports the applications and recommends their approval.

Sincerely,

Corey Johnson, Chair
Manhattan Community Board 4

J. Lee Compton, Co-Chair
Chelsea Preservation & Planning

Brett Firfer, Co-Chair
Chelsea Preservation and Planning

John Doswell, Co-Chair
Waterfront, Parks and Environment Committee
Committee

[signed 12/18/12]
Maarten de Kadt, Co-Chair
Waterfront, Parks and Environment

Christine Berthet, Co-chair
Transportation Planning Committee

Jay Marcus, Co-chair
Transportation Planning Committee

cc : Madelyn Wils, Noreen Doyle, Laurie Silberfeld – Hudson River Park Trust
Ross F. Moskowitz, Esq. – Stroock & Stroock & Lavan LLP
Edith Hsu-Chen, Karolina Grebowiec-Hall – Department of City Planning
Melanie LaRocca, Michaela Miller - NYC Council Speaker Christine Quinn's Office
Brian Cook, Lin Zeng – Manhattan Borough President's Office
NYS Assemblyman Richard Gottfried
NYS Senator Thomas Duane
U.S. Congressman – Jerrold Nadler
A.J. Pietrantone – Friends of Hudson River Park

CITY OF NEW YORK

MANHATTAN COMMUNITY BOARD FOUR

330 West 42nd Street, 26th floor New York, NY 10036
tel: 212-736-4536 fax: 212-947-9512
www.nyc.gov/mcb4

COREY JOHNSON
Chair

ROBERT J. BENFATTO, JR., ESQ.
District Manager

December 18, 2012

Director Amanda M. Burden
Department of City Planning
22 Reade Street
New York, New York 10007

Re: ULURP Applications Nos. 130100ZMM, 130101ZSM, 130102ZSM, N130103ZSM and 130104ZCM - Pier 57

Dear Chair Burden:

Manhattan Community Board 4 is pleased to provide the following comments on the Draft Environmental Impact Statement for preparation of a Final Environmental Impact Statement for the project commonly known as Pier 57.

PROJECT OVERVIEW

Pier 57 is located west of Route 9A at the ends of 16th and 17th Streets, within Hudson River Park. To the north are Piers 59 through 62, the Chelsea Piers complex, and to the south is Pier 54, planned to be developed as an open public park pier, and Gansevoort Peninsula, planned to be developed as public park land. Among the Hudson River piers, Pier 57 is unique in that it was built on three giant concrete caissons that were constructed up-river and floated into position. The pier is listed on the State and National Registers of Historic Places and is currently vacant.

The current proposal is the result of an RFP issued by the Hudson River Park Trust (HRPT) four years ago. It was selected from three respondents following review by HRPT as well as The HRPT Advisory Council, which includes members from Community Boards 1, 2 and 4. The proposed redevelopment, renovation, reuse and enlargement of Pier 57 would be consistent with and further the goals of the Hudson River Park Act in that it involves the reuse of the historic pier for uses beneficial to the public.

The proposed project would rehabilitate and redevelop the vacant Pier 57 site with a major new public open space and a perimeter walkway, and provide new retail, restaurant and other commercial uses, as well as educational, cultural, boating and rooftop open space uses, and accessory parking. The proposed development program is expected to include the following major land uses:

- 260,000 SF of retail and restaurant space;
- 11,000 SF of cultural use (i.e., 300-seat theatre);
- 33,000 SF technical arts school;
- 40,000 SF of art gallery/exhibit space (at the caisson level);
- 73,000 SF rooftop space (for open space use and programmed events);
- 141-slip marina;
- Accessory parking for a maximum of 74 vehicles; and
- Water taxi landing.

The primary retail use proposed for the project site would be designed as a planned public marketplace modeled on several existing year-round markets located in London, England and on one recently implemented on a temporary basis as the DeKalb Market in Brooklyn. At Pier 57, this public marketplace concept draws specific inspiration from existing businesses in West Chelsea and the Meatpacking District in the realms of fashion, design, art, and food.

Repurposed shipping containers would be stacked to create four market levels (first floor, first-floor mezzanine, second floor, and second-floor mezzanine). In combination with some traditional walled enclosures, these containers would create multiple "work/sell" retail stores and showrooms expected to range in size between approximately 160 and 640 SF. These retail uses would be oriented primarily toward a collection of independent designers and food purveyors. The work/sell marketplace would be an incubator for new retail businesses, designers, and food-related businesses as well as a community gathering place. Towards the western end of the pier shed, the design would open to a large double-height space with views of the water to the north and south. This end of the pier shed would include open, public "piazza" spaces to be used for occasional entertainment or small-format displays, and would be designed to accommodate rotating food markets and "bazaars," with the idea of providing lively surroundings for resident and visiting chefs and food purveyors to exhibit and promote their food products.

In addition, the proposed project would add the following new public open space elements:

- **Waterfront Public Access Areas** - The existing perimeter walkway extending around most of the pier would be repaired and extended to connect with the Hudson River Park waterfront esplanade to the east of the pier, consistent with existing permits previously received by HRPT. The walkway would include approximately 800 linear feet of seating. In addition, new public walkways parallel to the existing bulkhead, previously approved and permitted, would extend to the north and south, extending the currently limited public circulation space along the headhouse. Treatments would be compatible with existing designs for areas bordering the river within Hudson River Park.

- **Rooftop open space** - Approximately 1.6 acres of open space would be created on the pier's finger building. The roof would be divided into open areas on the eastern and western portions of the rooftop with a pavilion in the center. The open areas on the eastern and western portions of the rooftop would mostly provide flexible space for seating, relaxation, and views of the river, with a capacity for approximately 2,500 persons. These areas could include wooden decking, hardscape, paving, and small lawn areas. The center of the rooftop would contain a pavilion with a public observation deck on the roof and wide stairs on the east that would

function as seating areas during events. It is also expected that portions of the headhouse rooftop would be accessible to the public and function primarily as open space, but may be programmed for events, e.g., the Tribeca Film Festival.

THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

The following are specific comments on several of the individual sections discussed in the DEIS.

Land Use, Zoning, and Public Policy

The Board strongly supports the redevelopment of Pier 57 and believes that the proposed project would be an excellent addition to Hudson River Park and to the community. We believe, however, that there are elements of the proposal that should be reconsidered in order to protect the interests of the community.

While we understand the applicants' desire for the proposed M1-5 zoning designation, the change potentially opens the door to future as-of-right bulk, height and uses that CB4 believes are undesirable.

a. CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to limit the FAR to the 2.23 the applicants are requesting for the proposed development. The applicants have indicated that they would support such a restriction.

b. CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude hotel uses. We understand that the current proposal does not include a hotel and that the Hudson River Park Act currently does not permit hotels, but since the proposed M1-5 zoning permits hotels as-of-right we would greatly prefer one more safeguard against this use that the community strongly opposes on piers in Hudson River Park. The applicants have indicated that they would support such a restriction.

c. CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude "big box" retailers or discounters. The applicants have indicated that they would support such a restriction.

Socioeconomic Conditions

Business

The proposed project would not result in significant adverse impacts due to direct business displacement. Pier 57 would join neighboring Western Beef and Chelsea Market (also slated for an expansion by 2017) along with the areas distinct concentrations of shoppers' goods stores, including concentrations of art galleries in Chelsea and high-end boutiques in the Meatpacking District. In the end, it will have limited impact on any market displacement and rent increases.

However, it does provide an opportunity for local residents with a place to look for when job hunting. We asked that the applicant agree to support a Jobs Program for Chelsea Market and to work with CB4 in its implementation. They agreed to place a link to job openings on the CB4 website, to hold periodic job fairs in coordination with CB4 and to work with its future tenants on a best efforts basis to identify and hire employees from within Community District 4.

Residents
The proposed project would not result in significant adverse impacts due to direct or indirect residential displacement. The proposed project would redevelop a vacant building, and therefore would not directly displace any residents.

Community Facilities and Services

No comments.

Open Space

No comments.

Shadows

No comments.

Historic Resources and Urban Design and Visual Resources

We recognize that the proposed changes to the physical structure and visual resources of Pier 57 will have significant impacts on the historic character of the pier and the visual resources it represents, but believes they should be accepted as a whole as forming the most feasible proposal for both the reuse of the structure as an active feature of the Hudson River Park and as a necessary source of income for the park under the original scheme for supporting the park.

The proposals for the pier include provisions for restoration and reuse of the greater part of the exterior of the pier and of many of the interior elements. The extensive rooftop changes elsewhere on the pier shed will make possible an elaborate park program at this location. The interior changes just below at both head house and pier shed will enable an elaborate retail proposal that will contribute major funding to the park in accordance with the function of this pier in the park master plan, In mitigation, maritime and other park-related uses will occupy much of the original lower levels to the south and west of the retail and in the adjoining water.

This proposal largely maintains the historic levels on the interior. Besides maintaining this important feature of the original structure and use, this feature enables retention of the largely intact features of the route taken inside the pier by passengers and light luggage departing by steamer, a now rare relic of the historic port that the applicant has recently announced his intention to restore. The Board regards this laudable action as significant partial mitigation for the alterations elsewhere and accepts the changes above and on the outside of the pier shed and

within the portion of the head house directly in front of the shed and behind the restored front as regrettable necessities in accordance with the basic provisions for park funding.

We are concerned, however, that the head house roof is to be raised over the north wing and that the existing light structure there, clearly visible from highway and the park walkway to the north, is to be replaced by a banal modern one. We believe this is an unnecessary loss. The roof location would only provide a minor contribution to the extensive retails level below. The light structure is significant in that it is the only remaining feature that recalls that the pier did not stand alone but was part of a group of major passenger and freight piers, especially the present Chelsea Piers to the north. Indeed its purpose was to provide a connection with the rooftop of the now demolished pier just to the north. Its partial glass enclosure within a light metal framework is also attractive in itself, and would also reflect the constant changes constantly taking place on this active waterfront, even on this most monumental group of piers. It could provide a sheltered location for users of the rooftop to enjoy shade and views to the city to the east, and perhaps even be a spot for refreshments for visitors to this portion of the roof.

Natural Resources

No comments.

Hazardous Material

No comments.

Water and Sewer Infrastructure

This DEIS tells us the project's effect on the city's water and sewer infrastructure, solid waste management services, and energy use "would be minimal and would not significantly impact existing infrastructure."[1]

Nowhere is there any indication that the project will use state-of-the-art management techniques in these areas. If not, the project misses an opportunity to educate the public about the importance of managing these areas.

We are pleased to note that the project will send storm water directly to the Hudson River. Other projects in our area should manage uncontaminated water in the same way. However, nowhere is there an indication that some amount of the storm water would be captured for use in HVAC equipment, gardening and for cleaning. We believe that some amount of storm water capture retention should occur in this project as that would diminish the project's 132,603 gallons per day reliance on the city's drinking water supply.

[1] DEIS, Chapter 11-1

Solid Waste

The DEIS states that "it is expected that all solid waste generated by the proposed project would be handled by private carters."[2] Nowhere does it say anything about recycling within the project or specific areas in which collected recyclable materials could be stored before picked up. Nor is there mention of composting surely for garden materials and possibly for food. We believe that missing here is an opportunity to reduce the amount of solid waste and to educate the public visiting the site about municipal solid waste issues.

Energy

The DEIS states that "the proposed project would generate an incremental increase in energy demand that would be negligible when compared to the overall demand within Con Edison's New York City and Westchester County service area."[3] Further, the DEIS indicates Energy Star and other efficient electrical equipment will be used.

The Board is pleased with those statements but would also like to see the project study the possibility of installing solar voltaic collection devices on the roof possibly instead of the wisteria clad trellises currently in the design shown to the Waterfront and Parks Committee and thus reduce the projected demand for 93,004 million BTUs of energy needed per year. This would both be an energy producer and a public educational opportunity.

Transportation

The traffic issues associated with the redevelopment of Pier 57 have been among the most difficult to resolve and led to community opposition to earlier proposals. CB4 believes that the current proposal successfully addresses the community's concerns and is grateful for the applicants' diligent attention to these issues. Our one remaining concern is the intersection of Tenth Avenue and West 15th Street, a dangerous intersection that exposes pedestrians crossing West 15th Street on the west side of Tenth Avenue to cars arriving at high speed from the West Side Highway.

We recommend that the intersection of Tenth Avenue and W. 15th Street, a dangerous intersection that exposes pedestrians crossing W. 15th Street on the west side of Tenth Avenue to cars arriving at high speed from the West Side Highway, be addressed by the equipping of the west bound turning movements from Tenth Avenue onto W. 15th Street with a split phase signal.

Air Quality

No comments.

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2 DEIS, Chapter 12-2

3 DEIS, Chapter 13-1

Greenhouse Gas Emissions and Climate Change

Given the advent of Hurricane Sandy in October 2012 and damage done to the Hudson River Park area, we hope that the applicant and the HRPT will continue giving sufficient consideration of the impact of rising sea levels on this project.

Noise

No comments.

Neighborhood Character

Please see our comments in the "Land Use, Zoning, and Public Policy" section.

Construction Impact

The sheer scope of the project will have an unavoidable impact on local residents, businesses as well as students and visitors to the Hudson River Park. In addition the project is being constructed on a major traffic artery affecting traffic and congestion in the area.

Many of the impacts were found to be within acceptable CEQR guidelines vis-à-vis the permitted development. However, in that the developer is benefitting from the zoning change, there should be some benefit to the community during the extended construction period, perhaps mitigation and enhancement of pathways around the site, and limiting of construction take-over of lanes on major traffic artery.

Public Health

No comments.

Alternatives

No comments.

Mitigation

Land Use, Zoning, and Public Policy

CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to limit the FAR to the 2.23 the applicants are requesting for the proposed development.

CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude hotel uses. We understand that the current proposal does not include a hotel and that the Hudson River Park Act currently does not permit hotels, but since the proposed M1-5 zoning permits hotels as-of-right we would greatly

prefer one more safeguard against this use that the community strongly opposes on piers in Hudson River Park.

CB4 recommends that the application for a Zoning Map Change be approved only if a deed restriction or similar device be placed on Pier 57 to preclude "big box" retailers or discounters. The applicants have indicated that they would support such a restriction.

Transportation
We recommend that the intersection of Tenth Avenue and W. 15th Street, a dangerous intersection that exposes pedestrians crossing W. 15th Street on the west side of Tenth Avenue to cars arriving at high speed from the West Side Highway, be addressed by the equipping of the west bound turning movements from Tenth Avenue onto W. 15th Street with a split phase signal.

Construction.
We recommend that a construction task force be established, with representatives of all stakeholders, which will meet at least monthly throughout the constructions phase of the project and must be in place prior to the commencement of demolition.

Unavoidable Adverse Impacts

No comments.

Growth-Inducing Aspects of the Proposed Actions

No comments.

Irreversible and Irretrievable Commitment of Resources

No comments.

Thank you for considering these comments.

Sincerely,

Corey Johnson, Chair
Manhattan Community Board 4

J. Lee Compton, Co-Chair
Chelsea Preservation & Planning

Brett Firfer, Co-Chair
Chelsea Preservation and Planning

John Doswell, Co-Chair
Waterfront, Parks and Environment Committee
Committee

[signed 12/18/12]
Maarten de Kadt, Co-Chair
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cc : Madelyn Wils, Noreen Doyle, Laurie Silberfeld – Hudson River Park Trust
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NYS Assemblyman Richard Gottfried
NYS Senator Thomas Duane
U.S. Congressman – Jerrold Nadler
A.J. Pietrantone – Friends of Hudson River Park

AECOM
605 Third Avenue
New York, NY 10158
www.aecom.com

(212) 973-2900 tel
(212) 682-6172 fax

January 31, 2013

Mr. David Tewksbury
Executive Vice President
Chelsea Piers Management
62 Chelsea Piers, Room 300
New York, NY 1011

Re: Pier 57 DEIS Traffic Analysis Review Comments Update

Dear Mr. Tewksbury:

Please find the results of our review of the Pier 57 DEIS traffic analysis that includes an update of the December 11, 2012 letter and attachments and reflects our review of HRPT's January 18, 2013 letter and attachments.

Based on the January 18, 2013 letter from HRPT, we understand the Pier 57 DEIS preparers will not be providing the information (beyond the traffic analysis information included with the January 18th letter) requested in our December 11, 2012 letter. We are therefore concluding the preparation of our comments and submitting them to meet the February 4, 2013 deadline for written comments.

The primary concerns are that traffic volumes in the Pier 57 DEIS may be an underestimation of the volumes that could actually result from the intended operations and that, when there is a major weekday event, there are key intersections that are projected to operate with little or no capacity available to handle any additional traffic. Therefore, additional volume above the DEIS projections would result in traffic operational failures of elements of the roadway network to a significantly greater extent than documented in the DEIS.

A principal overriding issue is that any failure of the Pier 57 access plan would cause gridlock at Route 9A and West 17th Street, blocking Chelsea Piers egress and Pier 57 entry.

The following five bullet point topics highlight the primary areas of concern based on our reviews, and the attachments to this letter provide more details regarding each of the five topics.

1. Traffic Projections Used in Pier 57 DEIS Need Clarification and Appear Low

For specific activities and land uses, the DEIS does not clearly define the intended operations at Pier 57 or the related trip generation. The concern is that the traffic volumes in the DEIS may be an underestimation of the volumes that could actually result from the intended operations. This would result in the DEIS projecting better operations than could be reasonably expected. In addition, the number and type of activities proposed on the circulation road curb frontage and the associated vehicle stacking needs may also be underestimated.

The following is an example of a possible, significant under estimation of the Pier 57 traffic volume relates to the "rooftop event" (such as the Tribeca Film Festival) during the weekday evening pre-event peak hour:

> The DEIS projects a rooftop event would generate 1,717 person trips. Applying modal split and other assumptions, the DEIS projects this type of event would generate only 79 vehicle trips, representing less than 5 percent of the estimated person trips. Furthermore, it appears that of the 79 vehicle trips, only an estimated 45 vehicle trips were assigned in the DEIS to Pier 57 entry/egress locations (or circulation road). The remaining 24 vehicle trips (79 - 45) were routed directly to off-site parking without accounting for site drop-offs and pick-ups.

Implications of higher actual traffic volumes than those estimated in the DEIS include worse operational and safety conditions than indicated in the DEIS, including at the Pier 57 entry and egress points.

It is important to recognize that at the two entry points to Pier 57 – Route 9A at West 16th Street and at West 17th Street – the traffic analysis results indicate there is little to no margin of error for handling increased traffic. These two locations are briefly discussed below and in more detail in Attachment 1. Attachment 2 provides more information related to the activities and land uses listed above.

An implication of higher actual volumes is the possibility that the storage length along the proposed Pier 57 circulation roadway proposed in the DEIS may be inadequate to accommodate queuing vehicles and the multiple curbside vehicle activities described in the DEIS without the queue extending into the Pier 57 entry/Chelsea Pier egress/West 17th Street intersection

The activities and land uses that are not clearly defined and therefore trip generation not clearly identified include:

1. Traffic Assignment related to Drop-Off and Pick-Up Activities
2. Potential Taxi Activity and Distribution of Taxi Trips
3. Potential Bus Activity on the Circulation Roadway
4. Marina Trip Generation and "Historic Vessels"
5. Water Taxi
6. Food Counter Trip Generation

In addition, the 2000 *Highway Capacity Manual* -- the methodology used in the DEIS for traffic analysis – indicates that "when delay is already high, and demand is near or over capacity..., the delay may increase rapidly with small changes in demand." This would apply to intersections in the study area, including Route 9A at West 17th Street and the Chelsea Piers egress and Pier 57 entry.

2. West 17th Street at Route 9A Projected in DEIS to Fail (at the Chelsea Piers sole egress and Pier 57 entry)

Failing traffic operations conditions are projected for the westbound West 17th Street approach to Route 9A. Long delays on the westbound West 17th Street approach (almost 2 minutes per vehicle for the through and left-turn movements during the weekday pre-event peak hour) could adversely affect safety and operations on Route 9A and the bikeway and constrain the egress movement from Chelsea Piers and the entry movement to Pier 57. See Figures 1 and 3 and Attachment 1 for further details.

3. Southbound Right-Turn Lane at West 16th Street on Route 9A Projected in DEIS to Operate Near Capacity (Pier 57 entry)

The short storage length of the signal-controlled southbound Route 9A right-turn lane could result in vehicle backups that block traffic on Route 9A, West 17th Street, the Chelsea Piers egress, and the Pier 57 entry. See Figures 2 and 3 and Attachment 1 for further details. The analysis results from the DEIS indicate that, during the weekday evening pre-event peak hour, the 95th percentile queue of this right-turn movement to Pier 57 would allow for little or no available capacity to handle additional traffic entering Pier 57. Queuing beyond the storage length would negatively impact Route 9A, Chelsea Piers, and Pier 57.

4. Pier 57 "Circulation Road" Modeling and Analyses Results Not included in DEIS

The projected operation of the two-lane circulation road is not addressed in the DEIS. With the right lane needed for curbside activities, the circulation road would operate as a single lane much of the time with disruptions relating to the vehicles entering/exiting the curbside lane. There are multiple activities along the circulation road that may be underestimated in the DEIS as noted in Item 1 above. The concern relates to whether there is sufficient storage available to avoid vehicle backups that block Route 9A and the bikeway and that impede Chelsea Piers egress and emergency vehicle access. See Figures 1, 2 and 3 and Attachment 1 for further details.

5. Traffic Management Plan Critical Elements not Defined in the DEIS

It appears from a review of the DEIS that the Traffic Management Plan (TMP) will be critical for the proposed access arrangement to operate safely and efficiently. It will need to be implemented "particularly during large events" to manage conflicting movements on the circulation road, crosswalks, and bikeway. Managing these types of conflicts at Chelsea Piers currently involves more than 30 full-time staff. However the DEIS provides only a very brief and general description of the plan. The full extent of the TMP needs to be documented and the means for commitment to implement it formalized. See Attachment 1 for further details.

See Attachment 3 for the list of additional information that had been requested based on the review of the Pier 57 DEIS.

Based on the above, we've prepared a list of potential mitigation actions that are included in Attachment 4. These actions would need to be further investigated as additional information is available.

Please advise if you'd like to meet and discuss these materials or if you have any comments or questions.

Sincerely,

Jerry Gluck

Jerry Gluck, PE, PTOE
Principal Traffic Engineer
AECOM
cc: File 60276516

Attachments:

ATTACHMENT 1: Summary of Issues Related to the Pier 57 Access Arrangement in the DEIS
ATTACHMENT 2: Pier 57 Activities and Land Uses with Site Traffic Projections that Need Clarification
ATTACHMENT 3: Information Requested Related to the DEIS Analysis of the Pier 57 Access Arrangement
ATTACHMENT 4: Potential Actions to Mitigate Traffic Impacts from Pier 57 on Chelsea Piers Egress

FIGURE 1: Illustration of Potential Traffic Back-Up from Westbound W 17th Street into Chelsea Piers Egress Route
FIGURE 2: Illustration of Potential Traffic Back-Up from Southbound W 16th Street Right Turn into Chelsea Piers Egress Route
FIGURE 3: Illustration of Potential Combined Traffic Back-Up from Westbound W 17th Street and Southbound W 16th Street Right Turn into Chelsea Piers Egress Route

Appendix A: Results of AECOM's review of Pier 57 Transportation Planning Assumptions for all Land Uses.

January 30, 2013

ATTACHMENT 1

SUMMARY OF ISSUES RELATED TO THE PIER S7 ACCESS ARRANGEMENT IN THE DEIS

1. W 17th Street and Route 9A Projected in DEIS to Fail (at the Chelsea Piers sole egress and Pier 57 entry) (see Figures 1 and 3)

Failing conditions are projected for the westbound W 17th Street approach to Route 9A. The DEIS states, concerning the weekday evening pre-event peak hour: "Even with the project improvement to restripe the westbound approach to two travel lanes, the operations under the With Action condition would degrade to an average delay of 131.9 seconds {Level of Service F} for the westbound shared left/through lane change and 81.1 seconds {LOS F} for the exclusive right-turn lane....". Therefore, the DEIS recommends mitigating this impact by also reallocating traffic signal time (1 second) from Route 9A to W 17th Street.

Long delays on the westbound W 17th Street approach could result in drivers entering the intersection at the end of the yellow phase and proceeding across Route 9A even when storage space in the circulation road does not allow. As a result, there is the real potential for backups in the entrance to the circulation road that could block traffic on Route 9A and Chelsea Piers egress.

It is important to note a statement in the 2000 Highway Capacity Manual – the methodology used in the DEIS for traffic analysis. It indicates that "when delay is already high, and demand is near or over capacity..., the delay may increase rapidly with small changes in demand." This applies to this intersection and confirms that any underestimation of Pier 57 traffic volumes could result in a significant worsening of projected traffic conditions that would affect Route 9A, W 17th Street, Chelsea Piers egress, and Pier 57 entry.

2. Southbound Right-Turn Lane at W 16th Street on Route 9A Projected in DEIS to Operate Near Capacity (Pier 57 entry) (see Figures 2 and 3)

The 140-foot storage length of the southbound Route 9A right-turn lane may be insufficient to accommodate the traffic demand. There are potential operational problems that will limit the throughput of the southbound right-turn lane, including the conflicting movements and transportation modes, traffic control, design (e.g. geometry and speed table), proximity to the Pier 57 garage egress, and loading zone. Therefore, the proposed arrangement could result in vehicle backups that exceed the storage capacity of the signal-controlled, right-turn lane. This could block traffic on Route 9A, W 17th Street, and Chelsea Piers egress.

A review of the analysis results from the DEIS indicates that, during the weekday evening pre-event peak hour, the 95th percentile queue of this right-turn movement to Pier 57 would be between 5 and 6 vehicles. This would allow for little or no available capacity to handle additional traffic entering Pier 57. These results confirm that any underestimation of Pier 57 traffic volumes could result in a significant worsening of projected traffic conditions and queuing that would impact Route 9A, Chelsea Piers, and Pier 57.

ATTACHMENT 1 (continued)

3. Pier 57 "Circulation Road" Modeling and Analyses Results Not Included in the DEIS

There are no traffic analysis results provided for the operation of the two-lane circulation road in the DEIS. With the right lane identified in the DEIS as being used for multiple curbside activities, the circulation road would operate as a single lane much of the time with disruptions relating to the vehicles entering/exiting the curbside lane. Also, the DEIS identifies: large volumes of pedestrians crossing the circulation road at STOP-sign controlled crossings, a traffic signal on the circulation road at the southbound right-turn lane at W 16th Street, and truck loading and unloading operations at the north end of the Pier 57 building. Whether there is sufficient capacity available along the circulation road to avoid backups that extend across W 17th Street and impede Route 9A and Chelsea Piers egress has not been addressed in the DEIS. The DEIS [page S-8] notes the potential usage of the circulation road for a stop on the M14 bus route and for loading and unloading tour buses. The potential number of buses is not identified and the location of the bus stop, as shown north of the Pier 57 building, could result in traffic blocking Route 9A and the Chelsea Piers egress at W 17th Street.

4. Traffic Management Plan Critical Elements Not Defined in the DEIS

The Traffic Management Plan (TMP) will be critical to the proposed Pier 57 access arrangement operating safely and efficiently, "particularly during large events" and to avoid impacts to Route 9A and Chelsea Piers egress. The plan will need to address how to avoid queuing from the southbound right-turn lane at W 16th Street and along the circulation road as well as to "control and manage crowds and conflict points along the bikeway". The DEIS, however, only has a paragraph that provides a very general description of the TMP.

The DEIS recommends dealing with the "intermittent condition" adverse impact on pedestrian operations in the north crosswalk at Route 9A and W 15th Street by using traffic enforcement agents. This should be detailed in the TMP along with additional conditions, such as blockage of Chelsea Piers egress that would trigger its implementation. The commitment of Pier 57 to implement the TMP would need to be formalized. It is important to recognize that Chelsea Piers employs more than 30 full-time staff to manage vehicle, pedestrian, and bicycle traffic and conflicts.

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ATTACHMENT 2

PIER 57 ACTIVITIES AND LAND USES WITH SITE TRAFFIC PROJECTIONS THAT NEED CLARIFICATION AND APPEAR LOW

The focus of our review was on the person-trip generation rates and the modal split estimates used in the Pier 57 DEIS. The person-trip generation rates form the fundamental basis for determining the magnitude of site-generated trips and the modal split determines the allocation of those trips among the available modes of travel. The vehicle occupancies, temporal distributions, and linked-trip credits—important components of the trip generation rate—also were reviewed.

For some land uses and activities, as noted below, further clarifications should be obtained to better understand the intended operations at Pier 57 to assess whether the traffic projections in the DEIS are reasonable and if modifications to the DEIS should be considered.

- **Traffic Assignment related to Drop-off and Pick-Up Activities:**

  One of the issues we identified in the December 11th document is the lack of information in the Pier 57 DEIS regarding the usage and operation of the Pier 57 circulation road. One of the missing items is the projected number of drop-offs related to both private vehicles and taxis for each of the analysis hours. This issue has ramifications on the projected traffic volumes at the Pier 57 egress and exit points as well as stacking needs on the circulation roadway.

  Based on the information in the DEIS, a comparison was done of the Pier 57 vehicle trip projections with the actual traffic volumes assigned to the Pier 57 circulation roadway entry and egress locations. The comparison showed that the volumes entering and exiting the Pier 57 site during a peak hour do not match the vehicular trip generation for that peak hour. This is unexplained in the DEIS, but may be related to the assignment of site generated traffic directly to/from external parking facilities without a drop-off or pick-up at Pier 57. In Appendix C-2 of the DEIS there is a brief description of "Auto Trip Assignment Assumptions – Parking Off-Site". However, there is no explanation presented regarding passenger drop-offs or pick-ups at Pier 57.

  The question is what proportion of the vehicle trips assigned to off-site parking were estimated in the DEIS to first stop at Pier 57 to discharge passengers before parking externally. A similar situation could exist after a visit/event when a driver who was parked at an external facility would return to Pier 57 to pick-up passengers. This is a very relevant question because the vehicle occupancy for all but one or two land uses was between two and three occupants per vehicle. This occupancy means that, on average, a vehicle traveling to the site is likely to have at least one passenger—and potentially as many as two passengers (or more)—in addition to the driver. Under these circumstances, it seems likely that a significant proportion of drivers of inbound vehicles would travel directly to the site to drop-off the passengers *before* seeking parking elsewhere in the area and similarly for a

ATTACHMENT 2 (continued)

proportion of the outbound vehicles to travel to the site after an event to pick-up passengers. This would affect not only the nearby intersections, but also the stacking along the circulation road as well Route 9A and the Chelsea Piers egress.

Since it is reasonable to expect there would be at least some drop-offs at Pier 57 before parking externally, vehicles dropping-off passengers should have been estimated and assigned to Pier 57 access/egress points. The DEIS preparers need to identify what proportion, if any, of the vehicles parking externally was assigned to Pier 57 for drop-offs and what proportion was assigned directly to the external parking facilities. The latter vehicles were not assigned to Pier 57 and are not reflected in the volumes at the W 16th and W 17 Street entrances (nor W 14th Street egress). This concern, accounting for drop-offs by vehicles that are parking externally, also has ramifications for the assignment of vehicles to account for post-event pick-ups involving vehicles parked in the external parking facilities.

As an example, during the weekday evening pre-event peak hour, the inbound volumes at the W 16th and W 17th Street entrances to Pier 57 account for only about 56 percent of the total inbound vehicle trips projected to be generated by the project. Similarly, the volume at the W 14th Street egress accounts for only 58 percent of the total outbound vehicle trips projected to be generated by the project during that same peak hour.

As a result of how the vehicles destined to external parking facilities were assigned to the roadway network, the traffic analysis may underestimate the operational impacts of project-generated vehicle-trips at intersections in the immediate vicinity of the proposed site including Route 9A at W 16th Street and at W 17th Street – two intersections already noted as being potentially problematic.

- **Potential Taxi Activity and Distribution of Taxi Trips:**

The DEIS does not indicate the assumption used for allocating the taxi movements among the three possible locations identified in the DEIS: along the Pier 57 circulation road, at a designated off-site taxi stand located on northbound Route 9A between W 14th and W 15th Streets, or on the north side of W 15th Street between Tenth Avenue and Route 9A (also off-site). There are concerns that many of the taxi movements assumed in the DEIS to use an external (i.e., off-site) location would actually end up on the Pier 57 circulation road. Both external locations would require taxi users to walk a longer distance and cross Route 9A traffic. During evening hours and poor weather conditions this would appear to be unlikely. As a result, the turning volumes at the nearby intersections could be under-reported in the DEIS. In addition, there would be greater need for stacking along the circulation road to accommodate the additional taxis.

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ATTACHMENT 2 (continued)

- **Potential Bus Activity on the Circulation Roadway:**

  Regarding circulation road usage and projected volumes at intersections near Pier 57, there is also a concern related to bus usage and stops (both MTA NYCT and tour buses). The DEIS indicates there is the possibility of "providing an on-site bus stop for the NYCT M14 bus route" on the circulation roadway north of the Pier 57 building. The DEIS also indicates the "potential for tour bus activity to be generated by the proposed project..." on the circulation roadway. Although the DEIS states that "... the access plan would accommodate such activities, if needed" the bus volumes are not projected and are not reflected in any of the analyses.

- **Marina Trip Generation:**

  The trip generation for Pier 57 estimate cites two sources for the Marina trip rates: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005). While the higher rate of 6.23 trips/slip from the Brooklyn Bridge Park FEIS is used to estimate the weekday trips (as compared to 5.9 trips/slip in the Hudson River Park FEIS), the lower rate of 12.8 trips/slip from the Hudson River Park FEIS is used to estimate the Saturday trips (as compared to the 13.47 trips/slip rate from the Brooklyn Bridge FEIS). Therefore, the trip generation for Pier 57 for Saturday may be underestimated. A broader question is the intended operation of the marina – would it be used by private or charter boats? The trip generation for charter boats would be expected to have significantly higher trip generation rates.

- **Marina "Historic Vessels":**

  As stated on page 1-4 of the DEIS, the Marina includes "slips for one or more historic vessels". Presumably, historic vessels—whether they remain docked or actively sail—could operate as visitor attractions at Pier 57, and therefore potentially generate additional pedestrian/vehicle trips to Pier 57. The trip generation rates for this activity are not reflected in the trip generation rates for the Marina land use cited in the source documents referenced in the DEIS: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005).

- **Water Taxi:**

  The DEIS indicates that a new water taxi landing at Pier 57 potentially would serve as a possible alternative mode of travel that could replace other modes of travel to and from the Pier 57 site. As a result, the water taxi landing is not reflected in the trip generation estimate in the DEIS with respect to its potential to introduce additional pedestrian trips through the study area that are not originating from, or destined to, Pier 57. The inclusion of the water taxi landing suggests a potential for attracting/generating higher volumes of

ATTACHMENT 2 (continued)

pedestrian (walk) trips that are not destined to Pier 57, but rather pass by the proposed site on their way to and from other locations. Additional pedestrian trips have implications on both the pedestrian capacity analyses and the vehicular capacity analyses (i.e., conflicting pedestrian volumes for vehicle turning movements).

- **Food Counter:**

  The weekday and Saturday person-trip generation rates for the Food Counter land use are the same as those for the Quality Restaurant land use. Typically, high-turnover restaurants, such as those envisioned as part of the Food Counter use, have higher trip generation rates than Quality Restaurants. This conclusion is supported by data in the ITE *Trip Generation* manual which indicates that average daily trip rates for a High-Turnover Restaurant (Land Use Code 932) are 41 percent higher than those for a Quality Restaurant (Land Use Code 931) on a weekday, and 68 percent higher on a Saturday.

Appendix A provides discussion on the review findings for all land uses included in the Pier 57 development plan.

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ATTACHMENT 3

INFORMATION REQUESTED RELATED TO THE DEIS ANALYSIS OF THE PIER 57 ACCESS ARRANGEMENT

1. We have been provided the intersection capacity analysis reports for the intersection of W 16th Street and Route 9A (related to the southbound Route 9A right-turn lane to Pier 57). However, further discussion is needed regarding how well the traffic analysis reflects the dynamics at that location, including the speed table, conflicts with bikeway users, alignment of the turn onto the circulation road, etc. Further information is needed regarding the intersection of the right-turn lane and the two-lane circulation (frontage) road that could operate as only one lane under many conditions that are identified in the DEIS.

2. Analysis results for how the circulation road is projected to operate and the vehicle queue lengths for the proposed conditions. This includes projected traffic (vehicles and pedestrians) volumes/flow maps for the circulation road. Vehicular volumes should distinguish between cars, vans, taxis, buses, and trucks. The volumes should reflect all the activities along the circulation road, including vehicle traffic, truck deliveries, passenger loading/unloading, turns at the driveways, taxis, buses, etc. and pedestrian volumes crossing the circulation road.

3. The actions that would be implemented as part of the Traffic Management Plan to avoid queuing from the southbound right-turn lane at W 16th Street and along the circulation road (to prevent congestion that blocks Route 9A and Chelsea Piers egress) as well as to "control and manage crowds and conflict points along the bikeway". This could include preventing vehicles from stopping in both lanes to pick or discharge passengers or goods and limiting the duration that vehicles are allowed to remain on the circulation road.

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ATTACHMENT 4

POTENTIAL ACTIONS TO MITIGATE TRAFFIC IMPACTS FROM PIER 57 ON CHELSEA PIERS EGRESS

Pending the receipt and review of the additional information identified in Attachment 3, the list below presents potential mitigation actions that could be further investigated to minimize adverse impacts from Pier 57 on Chelsea Piers egress. However, a fundamental question is whether the projected volumes in the Pier 57 DEIS are a reasonable estimate of the anticipated site-generated traffic.

1. Increase green time at the Route 9A and W 16th Street traffic signal only for the southbound right-turn movement into Pier 57 at W 16th Street beyond what is allowed for the southbound left-turn movement. However, this would reduce the green signal time for the bikeway.

2. Provide manual traffic control at the intersection of the southbound right-turn lane/circulation road/bikeway at W 16th Street to manage conflicts and prevent queues from the right-turn lane extending onto Route 9A and blocking Chelsea Piers egress and Pier 57 entry.

3. Provide manual traffic control along Route 9A at the intersection of W 17th Street/Chelsea Piers egress/circulation road to manage conflicts and prevent queues from the circulation road extending onto Route 9A and blocking Chelsea Piers egress and Pier 57 ingress.

4. Relocate the potential bus stop shown in the DEIS from north of W 16th Street to a location near W 15th Street to help maintain two lanes on the circulation road between W 16th and W 17th Streets.

5. Implement provisions to minimize taxi drop offs/pick-ups along the circulation road and enforce usage of the taxi zone on the east side of Route 9A between W 14th and W 15th Streets and along the north side of W 15th Street between Route 9A and Tenth Avenue.

6. Prohibit curbside activities on the circulation road between W 16th and W 17th Streets, redirecting them further south, and enforce these prohibitions, providing manual control, if needed.

7. If there is a charter boat operation envisioned as part of the marina plan, then limit the charter operations size and times to help manage traffic volumes and conditions along the circulation road and at nearby intersections.

8. Minimize curbside activities on the circulation road in the vicinity of the W 16th Street entry during peak periods of activity, particularly when there is an event in order to help maintain traffic flow.

9. Detail the provisions relating to Pier 57 traffic operations in the Traffic Management Plan and establish as a major objective the prevention of congestion on the circulation road and southbound right-turn lane (at W 16th Street) that could impede Route 9A and the Chelsea Piers egress route.

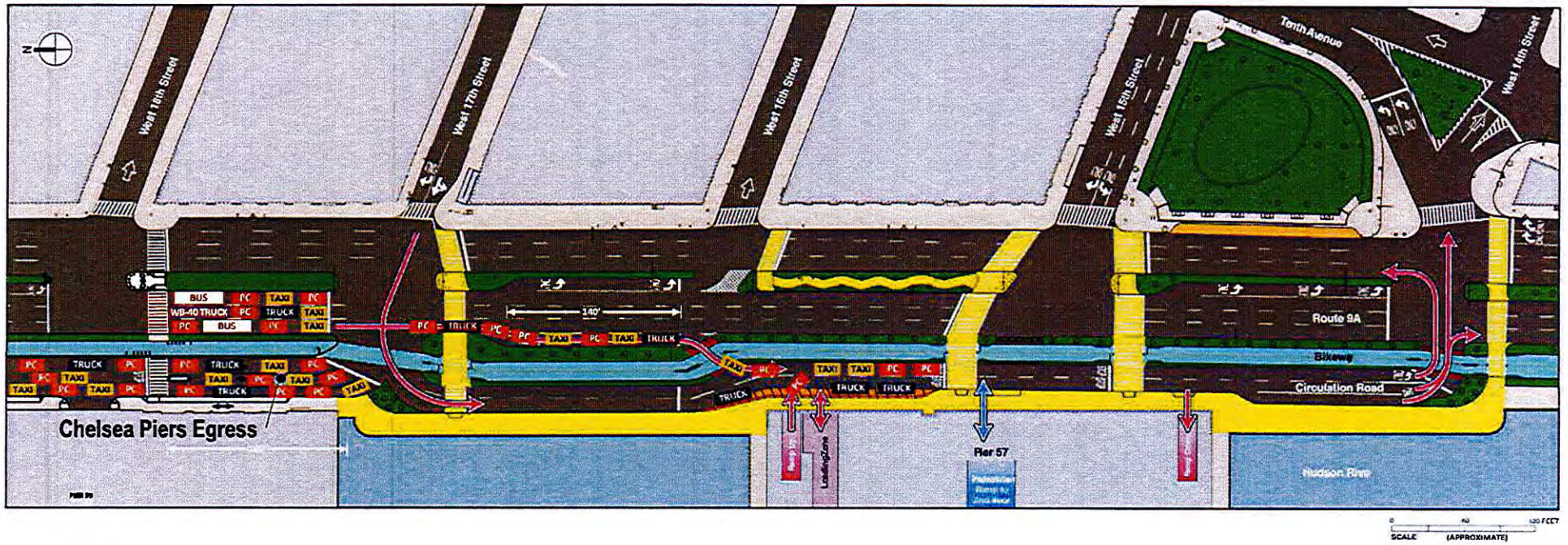
10. Develop a comprehensive Traffic Management Plan to include provisions on how to avoid queuing from the southbound right-turn lane at W 16th Street and along the circulation road as well as to "control and manage crowds and conflict points along the bikeway". The Traffic Management Plan

ATTACHMENT 4 (continued)

should be refined and reevaluated during the first year of Pier 57 operations and then reviewed and updated in regular five-year intervals.

11. Include the requirement for implementation of the above actions in a binding document (such as the lease).

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL TRAFFIC BACK-UP FROM SOUTHBOUND W. 16th ST. RIGHT TURN INTO CHELSEA PIERS EGRESS ROUTE



- Vehicular Access and Egress
- Pedestrian Access and Egress
- Proposed Taxi Lay-by Lane
- Drop-Off / Delivery Sidewalk
- Route 9A Bikeway
- Median / Open Space
- Sidewalks
- Pedestrian Walkway & Crosswalks Serving Pier 57
- Buildings
- Roadways

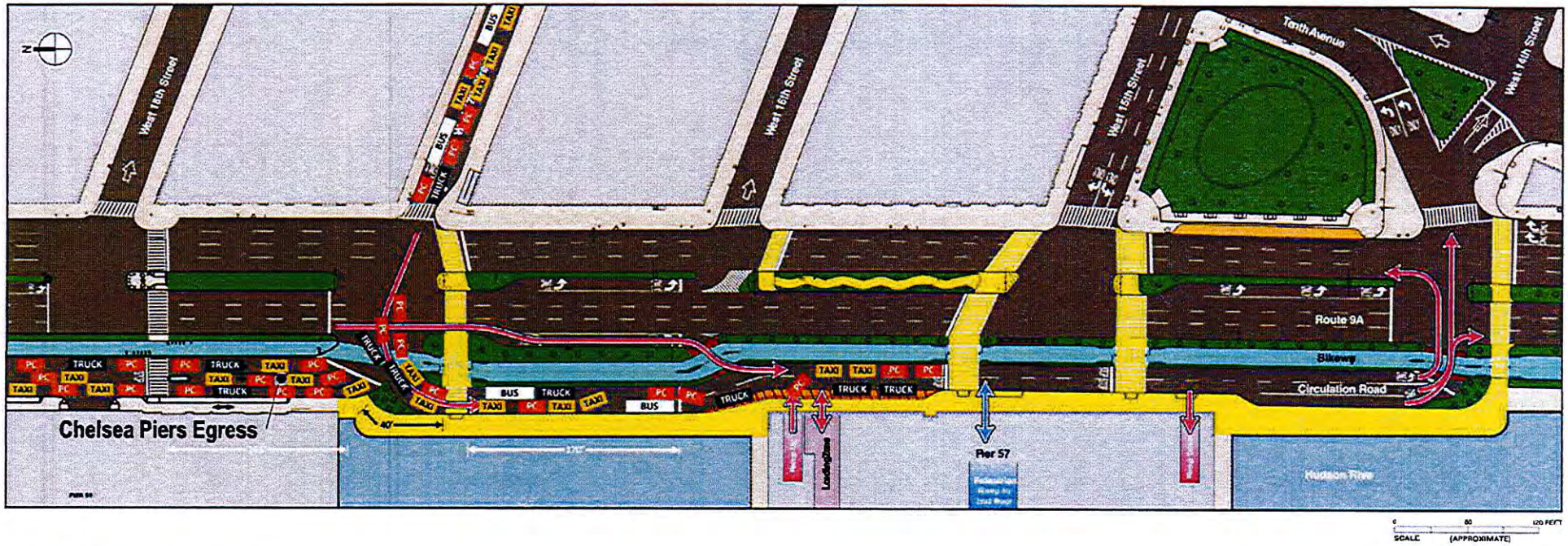
(AASHTO Table II-1)

	L (TYP)	Length (L)
Passenger Car	PC	= 19'
Bus	BUS	= 40'
Taxi	TAXI	= 19'
Single Unit Truck	TRUCK	= 30'
WB-40 Truck	WB-40 TRUCK	= 50'

FIGURE 1

DRAFT NOVEMBER 20, 2012

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL TRAFFIC BACK-UP FROM WESTBOUND W. 17th ST. INTO CHELSEA PIERS EGRESS ROUTE



- Vehicular Access and Egress
- Pedestrian Access and Egress
- Proposed Taxi Lay-by Lane
- Drop-Off / Delivery Sidewalk
- Route 9A Bikeway
- Median / Open Space
- Sidewalks
- Pedestrian Walkway & Crosswalks Serving Pier 57
- Buildings
- Roadways

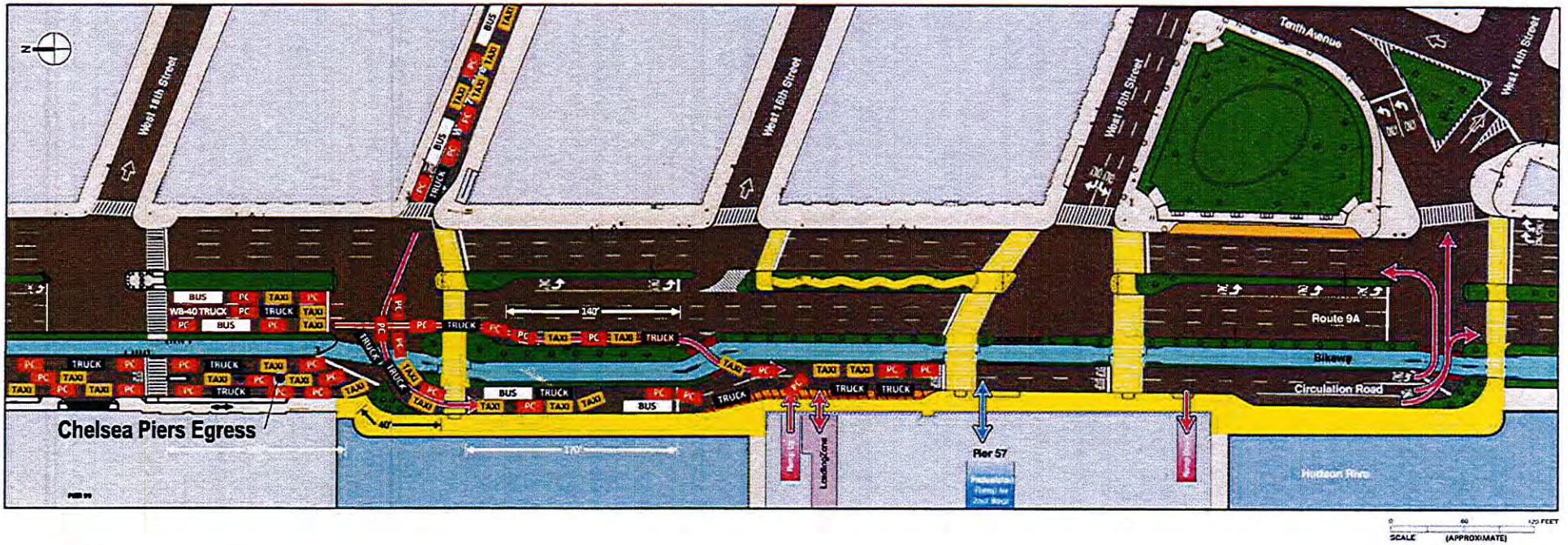
(AASHTO Table II-1)

		L (TYP)	Length (L)
Passenger Car	PC		= 19'
Bus	BUS		= 40'
Taxi	TAXI		= 19'
Single Unit Truck	TRUCK		= 30'
WB-40 Truck	WB-40 TRUCK		= 50'

FIGURE 2

DRAFT NOVEMBER 20, 2012

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL COMBINED TRAFFIC BACK-UP FROM WESTBOUND W. 17th & SOUTHBOUND W. 16th RIGHT TURN INTO CHELSEA PIERS EGRESS ROUTE



- Vehicular Access and Egress
- Pedestrian Access and Egress
- Proposed Taxi Lay-by Lane
- Drop-Off / Delivery Sidewalk
- Route 9A Bikeway
- Median / Open Space
- Sidewalks
- Pedestrian Walkway & Crosswalks Serving Pier 57
- Buildings
- Roadways

(AASHTO Table II-1)

	L (TYP)	Length (L)
Passenger Car	PC	= 19'
Bus	BUS	= 40'
Taxi	TAXI	= 19'
Single Unit Truck	TRUCK	= 30'
WB-40 Truck	WB-40 TRUCK	= 50'

FIGURE 3

DRAFT NOVEMBER 20, 2012

December 11, 2012

Appendix A

Review of Pier 57 Transportation Planning Assumptions for All Pier 57 Land Uses

The DEIS-proposed Pier 57 project consists of a unique mix of land uses including retail, various restaurant types, a marina, museum/exhibit space, a technical school, and theatre/special event space. The types and mix of land uses—as well as the location of the proposed site along the Manhattan waterfront—make finding comparable data sources for this particular project challenging, because valid trip generation studies of comparable sites in New York City are comparatively limited in relation to more common and well-documented land uses such as residential, retail, and office. Data for similar land uses can sometimes, but not always, be found online in approved and published Environmental Impact Statements (EISs). In other instances, data must be obtained via transportation surveys conducted at other similar land uses already in operation.

The following is a summary of our findings relative to the trip generation estimate for each proposed Pier 57 land use. The focus of our review was on the person-trip generation rates and the modal split estimates. The person-trip generation rates form the fundamental basis for determining the magnitude of site-generated trips and the modal split determines the allocation of those trips among the available modes of travel. The vehicle occupancies, temporal distributions, and linked-trip credits—also important components of the trip generation estimate—also were reviewed. (A more detailed summary of the data sources for each of the trip generation parameters applied in the Pier 57 traffic study is provided in **Table 1**. A summary of projected person- and vehicle-trip generation is presented in **Table 2**.)

- ***Destination Retail***
  - The DEIS person-trip generation rates used for weekday and Saturday are based on standard rates for destination retail uses in the *CEQR Technical Manual.*

  - The mode splits for weekday and Saturday conditions are based on a 2011 survey conducted at the Chelsea Market in 2011 by Sam Schwartz Engineering (SSE), which are compared to those reported for Restaurant/Retail uses as part of the South Street Seaport project below:

Mode	Pier 57: Destination Retail		South Street Seaport: Restaurant/Retail		
	Weekday	Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday
Auto	9.2%	10.5%	4.0%	8.0%	16.7%
Taxi/Black Car	5.0%	14.2%	6.0%	6.0%	10.8%
Subway	40.0%	29.6%	44.3%	53.0%	50.0%
Bus	4.2%	3.7%	21.2%	7.0%	13.6%
Ferry	-	-	4.4%	0.0%	2.0%
Walk	41.6%	42.0%	19.1%	26.0%	5.9%
Bike/Other			1.0%	0.0%	1.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- **Quality Restaurant**
  - The person-trip generation rate used for weekday and Saturday are based on standard references by Pushkarev & Zupan and the Institute of Transportation Engineers' (ITE) *Trip Generation* manual. The weekday person-trip generation rate for the proposed Quality Restaurant matches the person-trip generation rate used for the Restaurant use in the Flushing Commons FEIS. The Saturday person-trip generation rate was developed by applying the ratio of Saturday-to-weekday trip-rates given in the ITE *Trip Generation* manual to the weekday trip rate.

Appendix A

- The mode splits for weekday and Saturday are based on assumptions developed jointly by SSE and NYCDOT staff, and are compared to those developed for the Restaurant/Retail uses for the South Street Seaport and the Specialized Retail uses in the *Special West Chelsea District Rezoning and High Line Open Space EIS* below. As shown below, the Pier 57 mode splits show higher auto and taxi mode splits, which would result in higher numbers of projected auto and taxi trips.

Mode	Pier 57: Quality Restaurant	South Street Seaport: Restaurant/Retail			Special West Chelsea District Rezoning and High Line Open Space EIS: Specialized Retail
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday	Weekday AM, MD, and PM
Auto	25.0%	4.0%	8.0%	16.7%	20.0%
Taxi	20.0%	6.0%	6.0%	10.8%	10.0%
Subway	30.0%	44.3%	53.0%	50.0%	20.0%
Bus	5.0%	21.2%	7.0%	13.6%	25.0%
Ferry	-	4.4%	0.0%	2.0%	
Walk	20.0%	19.1%	26.0%	5.9%	25.0%
Bike/Other	-	1.0%	0.0%	1.0%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%

- ***Food Counter***
  - The weekday and Saturday person-trip generation rates for the Food Counter land use are the same as those for the Quality Restaurant land use. Typically, high-turnover restaurants, such as those envisioned as part of the Food Counter use, have higher trip generation rates than Quality Restaurants. This conclusion is supported by data in the ITE *Trip Generation* manual which indicates that average daily trip rates for a High-Turnover Restaurant (Land Use Code 932) are 41 percent higher than those for a Quality Restaurant (Land Use Code 931) on a weekday, and 68 percent higher on a Saturday. The DEIS justifies the rates used by stating: ".... It is expected that patrons of these food counters will also be shopping at the retail pods and, as such, are expected to have similar trip generation characteristics as the destination retail. However, to be conservative, the total daily trip generation rates were based on daily trip rates calculated for Quality Restaurant, which provides higher rates than for destination retail."

  - The mode splits for weekday and Saturday are based on assumptions developed jointly by SSE and New York City Department of Transportation (NYCDOT) staff, and are compared to those reported for Restaurant/Retail uses as part of the South Street Seaport project and the Specialized Retail uses in the *Special West Chelsea District Rezoning and High Line Open Space EIS* below:

Appendix A

Mode	Pier 57: Food Counter	South Street Seaport: Restaurant/Retail			Special West Chelsea District Rezoning and High Line Open Space EIS: Specialized Retail
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday	Weekday AM, MD, and PM
Auto	25.0%	4.0%	8.0%	16.7%	20.0%
Taxi	15.0%	6.0%	6.0%	10.8%	10.0%
Subway	35.0%	44.3%	53.0%	50.0%	20.0%
Bus	5.0%	21.2%	7.0%	13.6%	25.0%
Ferry	-	4.4%	0.0%	2.0%	
Walk/Bike/Other	20.0%	20.1%	26.0%	6.9%	25.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- ***Theatre and Rooftop Events***
  - The daily person-trip rate for both theatre and rooftop events is the same for both weekdays and Saturdays. This rate matches the daily person-trip rate used for events in the 2005 *Brooklyn Bridge Park FEIS*, and were based on transportation surveys conducted at Lincoln Center in 2000.

  - The modal split for the theatre and rooftop events very closely approximates that reported as part of the South Street Seaport project. The mode splits for both studies appear to be based on a transportation survey conducted by AKRF at a Pier 54 movie event in 2009.

Mode	Pier 57: Theatre and Rooftop Events	South Street Seaport: Event Space		
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday
Auto	9.0%	9.0%	9.0%	9.0%
Taxi	2.0%	2.0%	2.0%	2.0%
Subway	49.0%	49.0%	49.0%	49.0%
Bus	3.0%	3.0%	3.0%	3.0%
Ferry	-	4.4%	0.0%	2.0%
Walk/Bike/Other	37.0%	32.6%	37.0%	35.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- ***Museum/Exhibit Space and Rooftop Exhibit Space***
  - The person-trip generation rates used for weekday and Saturday are based on standard rates for museum uses in the *CEQR Technical Manual*.

  - The mode splits for the museum/exhibit space are based on transportation surveys conducted by Philip Habib Associates (PHA) in 2005 of a temporary art exhibit at Pier 54.

- ***Technical Arts School***
  - The person-trip generation rates used for weekday and Saturday were estimated based on vehicle-trip rates for a Junior/Community College in the ITE *Trip Generation* manual, with an adjustment to reflect a projected auto occupancy of 1.11 as cited in the 2009 *Fordham University/Lincoln Center Master Plan FEIS* for day-time/full-time graduate students.

- The mode split was based on the mode split projections cited in the 2009 *Fordham University/Lincoln Center Master Plan FEIS* for day-time/full-time graduate students which generally reflected the highest combined auto plus taxi mode share. Slight refinements to the modal split were made to reflect a reallocation of the Fordham University site's "dorm-based trips" and "shuttle trips" to the available modes at Pier 57.

- ***Marina***
  - As stated on page 1-4 of the DEIS, the Marina includes "slips for one or more historic vessels". Presumably, historic vessels—whether they remain docked or actively sail—could operate as visitor attractions at Pier 57, and therefore potentially generate additional trips. The trip generation rates for such activities are not reflected in the trip generation rates for the Marina land use cited in the source documents: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005). The proposed operation of the historic vessels should be further clarified.

  - The trip generation estimate cites two sources for the Marina trip rates: the *Hudson River Park FEIS* (1998) and the *Brooklyn Bridge Park FEIS* (2005). While the higher rate of 6.23 trips/slip from the *Brooklyn Bridge Park FEIS* is used to estimate the weekday trips (as compared to 5.9 trips/slip in the *Hudson River Park FEIS*), the lower rate of 12.8 trips/slip from the *Hudson River Park FEIS* is used to estimate the Saturday trips (as compared to the 13.47 trips/slip rate from the *Brooklyn Bridge FEIS*). Therefore, the trip generation for Saturday may be underestimated. A broader question is the intended operation of the marina – would it be used by private or charter boats. The trip generation for charter boats would be expected to potentially have significantly higher trip generation rates.

  - The modal split for the marina at Pier 57 was based on the modal split for the marina cited in the 1998 *Hudson River Park FEIS*.

- ***Rooftop Open Space***
  - The rooftop is expected to be a multi-use area, accommodating events, exhibits and an "open space" recreational area. The trip generation estimate assumes all three uses operating at once, albeit with rooftop events occurring only during evening hours on weekdays and Saturdays.

  - The person-trip generation rates for Rooftop Events and Rooftop Exhibits are as noted above (see ***Theatre and Rooftop Events*** and ***Museum/Exhibit Space and Rooftop Exhibit Space***). The person-trip generation rates for the Rooftop Open Space are based on standard person-trip generation rates for Active Park Space in the CEQR *Technical Manual*.

  - The mode split for Rooftop Open Space is based on the mode split for the High Line Open Space in the *Special West Chelsea District Rezoning and High Line Open Space EIS*.

Appendix A

- ***Potential Water Taxi***
  - The existing Hudson River water taxi route operates along Manhattan's west side at headways ranging from 45 and 90 minutes between 9:00 AM and 6:15 PM. The water taxi currently stops at Pier 84 at West 44th Street, Pier 45 at Christopher Street, Battery Park, the South Street Seaport, and the Fulton Ferry Landing in Brooklyn (source: http://www.nywatertaxi.com/)

  - We recognize that, as noted in the DEIS, the (potential) water taxi landing would serve as a possible alternative mode of travel that could replace other modes of travel to and from the Pier 57 site. As a result, the water taxi is not reflected in the trip generation estimate in the DEIS with respect to its potential to introduce additional pedestrian trips through the study area not originating from, or destined to, Pier 57. The inclusion of the water taxi suggests a potential for attracting/generating higher volumes of pedestrian (walk) trips that are not destined to Pier 57, but rather pass by the proposed site on their way to and from other locations. Additional pedestrian trips have implications on both the pedestrian capacity analyses and the vehicular capacity analyses (i.e., conflicting pedestrian volumes for vehicle turning movements).

WACHTEL MASYR & MISSRY LLP

ONE DAG HAMMARSKJOLD PLAZA
885 SECOND AVENUE
NEW YORK, NEW YORK 10017

TELEPHONE: (212) 909-9500
FACSIMILE: (212) 371- 0320

EUROPEAN OFFICE
VIA PIER CAPPONI, 19
FLORENCE, ITALY 50132
TELEPHONE: (39) (055) 5048366
FACSIMILE: (39) (055) 5031698

KAREN BINDER
SENIOR COUNSEL
DIRECT DIAL: (212) 909-9514
DIRECT FAX: (212) 909-9474
binder@wmllp.com

CALIFORNIA OFFICE
2030 MAIN STREET, 12TH FLOOR
IRVINE, CA 92614
TELEPHONE: (949) 660-8824
FACSIMILE: (949) 679-4841

February 4, 2013

HAND DELIVERY
Ms. Noreen Doyle
Hudson River Park Trust
353 West Street
Pier 40, 2nd Floor
New York, NY 10014

Re: Pier 57 Redevelopment project

Noreen,
Dear ~~Ms. Doyle~~,

Attached please find comments of Chelsea Piers made by the firm of AECOM, professional engineering consultants, regarding the Pier 57 Draft Environmental Impact Statement ("DEIS"), HRPT's January 18, 2013 letter to Chelsea Piers and testimony made at the January 23, 2013 joint public hearing on the DEIS and the Land Use Review Application before the City Planning Commission.

Chelsea Piers supports the development of Pier 57. However, the scope of the project has still not been adequately defined to assess the potential adverse impacts. Will there be banquets, special events, large passenger or charter boats? Unlike the prohibition on big box stores, there is no lease restriction being proposed to prevent such uses, which are potentially significant traffic generators. Will there be a bus stop serving MTA buses or tour buses? Even without these uses being considered, the traffic and circulation analyses describes a project that will disrupt the traffic on Route 9A and likely cause gridlock at the West 17th Street and Route 9A intersection, which is the sole egress point for Chelsea Piers. Currently classified as an area of

failing traffic intersections at times, the DEIS reflects low estimates of vehicular traffic accessing Pier 57 and using its circulation road (including private vehicles and taxis) due to some of the assumptions regarding trip generation, modal split and traffic assignments. For example, the low estimates for Pier 57 vehicular traffic reflect assumptions related to taxi drop-offs/pick-ups and to Pier 57 customers parking at off-site facilities. The majority of taxis destined for Pier 57 were assumed to use the drop-off location on the east side of Route 9A. In addition, no portion of Pier 57 traffic that is assigned to off-site parking facilities was assigned to Pier 57 entry/egress. Are these reasonable assumptions on a cold stormy night? Assuming the traffic plan is accepted as proposed, it is therefore critical that the uses be clearly delineated and that a one year post-opening study be performed in consultation with NYCDOT and NYSDOT.

Chelsea Piers has been a significant presence in the area for over 18 years. Their traffic and parking management plan has evolved over time and currently involves more than 30 full-time staff. As proposed herein, there is no active management of the Pier 57 circulation road. We urge HRPT and the developer to reassess the traffic models using traffic inputs from Chelsea Piers and to provide a more robust commitment to manage the circulation road.

Notwithstanding, AECOM has prepared a list of potential mitigation measures that can be further investigated to minimize adverse impacts from Pier 57 on Chelsea Piers egress based on the information currently provided in the DEIS (See, AECOM Attachment 4). We urge HRPT and the developer to include these measures in a binding recorded document and to take other actions to minimize adverse traffic impacts.

Finally, we urge you to consider the alternative access plans Chelsea Piers has provided to HRPT and its' consultants to help reduce the need for complicated, high volume access driveways and park-side circulation roadways.[1] A safe and successful environment will serve all in the area.

[1] The preliminary plan represents an alternative approach to handling large volumes of traffic. It need not be adopted wholesale and elements, such as the location of the bikeway, can be re-configured. The important point is that the plan has an access configuration that is stream-lined and less likely to break down.

Thank you for your consideration.

Sincerely,

Karen Binder

Cc: The Honorable Andrew M. Cuomo, Governor of New York State
The Honorable Michael R. Bloomberg
Patricia E. Harris, First Deputy Mayor
Councilwoman Christine Quinn
Manhattan Borough President Scott Stringer
Congressman Jerald Nadler
New York State Assemblyman Richard Gottfried
New York State Senator Brad Hoylman
New York State Assemblymember Deborah J. Glick
New York State Assemblymember Daniel Squadron
Chair Amanda M. Burden, New York City Planning Commission (and Commissioners)
Commissioner Janette Sadik-Khan, New York City Department of Transportation
Borough Commissioner Margaret Forgione, New York City Department of Transportation
Naim Rasheed, Director of Environmental Review, New York City Department of Transportation
Corey Johnson, Chair of Community Board #4
Mr. Robert J. Benfatto, District Manager of Community Board #4
Jay Marcus, Co-Chair of the Transportation Planning Committee, Community Board #4
Christine Berthet, Co-Chair of the Transportation Planning Committee, Community Board #4
Chairwoman Diana L. Taylor, Hudson River Park Trust
Joseph Martens, Hudson River Park Trust
Paul A. Ullman, Hudson River Park Trust
Michael E. Novogratz, Hudson River Park Trust
Vice Chairman Robert K. Steel, Hudson River Park Trust
Veronica M. White, Hudson River Park Trust
Joseph B. Rose, Hudson River Park Trust
Henry J. Stern, Hudson River Park Trust
Jeffrey Kaplan, Hudson River Park Trust
Lawrence B. Goldberg, Esq., Hudson River Park Trust
Franz S. Leichter, Esq., Hudson River Park Trust
Pamela Frederick, Hudson River Park Trust
Debra L. Kustka, Assistant Vice President of Operations, Hudson River Park Trust
Colonel Paul Owen, Commander, New York District Commander, U.S. Army Corps of Engineers

Commissioner Joseph Martens, New York State Department of Environmental Conservation
Commissioner Joan McDonald, New York State Department of Transportation
Commissioner Rose Harvey, New York State Office of Parks, Recreation and Historic Preservation
Cesar A. Perales, Secretary of State
Robert Kulikowski, Director of New York City Mayor's Office of Environmental Coordination
David Karnovsky, General Counsel, New York City Department of City Planning
Robert B. Tierney, Chair, New York City Landmarks Preservation Commission
Commissioner Veronica M. White, New York City Department of Parks and Recreation
Douglas Blonsky, President & CEO, The Central Park Conservancy
Commissioner Carter Strickland, New York City Department of Environmental Protection
Noah S. Budnick, Deputy Director of Transportation Alternatives
Lauren Danziger, Meatpacking District Improvement Association
Matt Bronfman, Jamestown Properties
Barry Diller, Chairman, IAC
Miguel Acevedo, President of Fulton Houses Tenants Association
Terri Cude, Chair, Manhattan Community Board #2
Shirley Secunda, Traffic and Transportation Committee Chair, Community Board #2
Catherine McVay Hughes, Chair, Manhattan Community Board #1
Justin Sadrian, Acting Chair, Friends of Hudson River Park
Ronald Lewis, President & CEO, Chelsea Waterside Park Association
William Borock, President, Council of Chelsea Block Associations
Peggy Navarre, President, Hudson River Watertrail Association
Hon. Patricia A. Dillon
David Howe
Dana Hudes
John Sherratt
Board of Directors of The Chelsea-Village Partnership
Chelsea Cultural Partnership
100 West 15th Street Block Association
200 West 15th Street Block Association
Pier 57 Working Group, Hudson River Park Trust Advisory Council
Clean Air NY

AECOM

AECOM
605 Third Avenue
New York, NY 10158
www.aecom.com

(212) 973-2900 tel
(212) 682-6172 fax

December 11, 2012

Mr. David Tewksbury
Executive Vice President
Chelsea Piers Management
62 Chelsea Piers, Room 300
New York, NY 1011

Re: Pier 57 DEIS Traffic Analysis Review Comments

Dear David:

Please find the results of our review of the Pier 57 DEIS traffic analysis as discussed at our November 14, 2012 meeting. The following five bullet point topics highlight areas of concern based on the review, and the attachments to this letter provide more detail regarding each of the five topics.

1. West 17th Street and Route 9A (at Chelsea Piers sole egress point)
Failing traffic operations conditions are projected for the westbound W 17th Street approach to Route 9A. Long delays on the westbound W 17th Street approach could adversely affect safety and constrain the egress movement from Chelsea Piers. See Figures 1 and 3 and Attachment 1 for further details.

2. West 16th Street and Route 9A (related to southbound Route 9A right-turn lane to Pier 57)
The short storage length of the signal-controlled southbound Route 9A right-turn lane could result in vehicle backups that block traffic on Route 9A, W 17th Street, and the Chelsea Piers egress. See Figures 2 and 3 and Attachment 1 for further details.

3. Pier 57 "Circulation Road"
The projected operation of the two-lane circulation road is not addressed in the DEIS. With the right lane needed for curbside activities, the circulation road would operate as a single lane much of the time with disruptions relating to the vehicles entering/exiting the curbside lane. The concern relates to whether there is sufficient storage available to avoid vehicle backups that impede Chelsea Piers egress. See Figures 1, 2 and 3 and Attachment 1 for further details.

4. Traffic Management Plan
It appears that the Traffic Management Plan will be critical to the proposed access arrangement operating safely and efficiently, but the DEIS only has about one paragraph that provides a very general description of the TMP. The full extent of the TMP needs to be documented and the means for commitment to implement formalized. See Attachment 1 for further details.

AECOM

5. Review of Traffic Projections/Analyses Used in Pier 57 DEIS
For specific land uses and activities, the traffic projections and traffic analysis/mitigation require further clarifications and/or additional information to understand the intended operations and projected traffic conditions. These include:

1. Food Counter
2. Marina "Historic Vessels"
3. Marina Trip Generation
4. Water Taxi
5. Potential Bus Activity

See Attachment 2 for further details and Attachment 3 for the list of additional information required.

Based on the above, we've prepared a list of potential mitigation actions that are included in Attachment 4. These actions would need to be further investigated once the additional information is obtained and reviewed.

Please advise if you'd like to meet and discuss these materials or if you have any comments or questions.

Sincerely,

Jerry Gluck, PE, PTOE
Principal Traffic Engineer
AECOM

cc: File 60276516

Attachments:

ATTACHMENT 1: Summary of Issues Related to the Pier 57 Access Arrangement in the DEIS
ATTACHMENT 2: Pier 57 Land Uses and Activities with Site Traffic Volumes that Require Further Information
ATTACHMENT 3: Information Needed Related to the DEIS Analysis of the Pier 57 Access Arrangement
ATTACHMENT 4: Potential Actions to Mitigate Traffic Impacts from Pier 57 on Chelsea Piers Egress

FIGURE 1: Illustration of Potential Traffic Back-Up from Westbound W 17th Street into Chelsea Piers Egress Route
FIGURE 2: Illustration of Potential Traffic Back-Up from Southbound W 16th Street Right Turn into Chelsea Piers Egress Route
FIGURE 3: Illustration of Potential Combined Traffic Back-Up from Westbound W 17th Street and Southbound W 16th Street Right Turn into Chelsea Piers Egress Route

Appendix A: Results of AECOM's review of Pier 57 Transportation Planning Assumptions for all Land Uses.

December 11, 2012

ATTACHMENT 1

SUMMARY OF ISSUES RELATED TO THE PIER 57 ACCESS ARRANGEMENT IN THE DEIS

1. W 17th Street and Route 9A (at Chelsea Piers sole egress point) (see Figures 1 and 3)

Failing conditions are projected for the westbound W 17th Street approach to Route 9A. (DEIS states concerning the weekday evening pre-event peak hour: "Even with the project improvement to restripe the westbound approach to two travel lanes, the operations under the With Action condition would degrade to an average delay of 131.9 seconds {Level of Service F} for the westbound shared left/through lane change and 81.1 seconds {LOS F} for the exclusive right-turn lane....")

Long delays on the westbound W 17th Street approach could result in drivers entering the intersection at the end of the yellow phase and proceeding across Route 9A even when storage space in the circulation road does not allow. As a result, there is the real potential for backups in the entrance to the circulation road that could block traffic on Route 9A and Chelsea Piers egress.

2. W 16th Street and Route 9A (related to southbound Route 9A right-turn lane to Pier 57) (see Figures 2 and 3)

The 140-foot storage length of the southbound Route 9A right-turn lane may be insufficient to accommodate the traffic demand. There are potential operational problems that will limit the throughput of the southbound right-turn lane, including the conflicting movements and transportation modes, traffic control, design (e.g. geometry and speed table), proximity to the Pier 57 garage egress, and loading zone. Therefore, the proposed arrangement could result in vehicle backups that exceed the storage capacity of the signal-controlled, right-turn lane. This could block traffic on Route 9A, W 17th Street, and Chelsea Piers egress.

3. Pier 57 "Circulation Road"

There are no traffic analysis results provided for the operation of the two-lane circulation road in the DEIS. With the right lane identified in the DEIS being used for multiple curbside activities, the circulation road would operate as a single lane much of the time with disruptions relating to the vehicles entering/exiting the curbside lane. Also, the DEIS identifies: large volumes of pedestrians crossing the circulation road at STOP-sign controlled crossings, a traffic signal on the circulation road at the southbound right-turn lane at W 16th Street, and truck loading and unloading operations at the north end of the Pier 57 building. Whether there is sufficient capacity available along the circulation road to avoid backups that extend across W 17th Street and impede Chelsea Piers egress has not been addressed in the DEIS. The DEIS [page S-8] notes the potential usage of the circulation road for a stop on the M14 bus route and for loading and unloading tour buses. The potential number of buses is not identified and the location of the bus stop, as shown north of the Pier 57 building, could result in traffic blocking the Chelsea Piers egress at W 17th Street and Route 9A.

ATTACHMENT 1 (continued)

4. Traffic Management Plan

The Traffic Management Plan will be critical to the proposed Pier 57 access arrangement operating safely and efficiently, "particularly during large events" and to avoid impacts to Chelsea Piers egress. The plan will need to address how to avoid queuing from the southbound right-turn lane at W 16th Street and along the circulation road as well as to "control and manage crowds and conflict points along the bikeway". The DEIS, however, only has a paragraph that provides a very general description of the TMP.

The DEIS recommends dealing with the "intermittent condition" adverse impact on pedestrian operations in the north crosswalk at Route 9A and W 15th Street by using traffic enforcement agents. This should be detailed in the Traffic Management Plan along with additional conditions, such as blockage of Chelsea Piers egress, that would trigger its implementation. The commitment of Pier 57 to implement the TMP would need to be formalized.

Other Access-Related Issues:

Taxi Loading/Unloading:

The DEIS notes that "Taxis would load/unload along a frontage road... or at a designated taxi stand located on northbound Route 9A between W 14th and W 15th Streets. Taxis were also assumed to load and unload on the north side of W 15th Street between Tenth Avenue and Route 9A". The DEIS does not identify the assumption used for allocating the taxi movements among the three locations. There are concerns that many of the taxi movements assumed in the DEIS to use an external location would actually end up on the Pier 57 circulation road. Both external locations would require taxi users to walk a longer distance and cross Route 9A traffic. During evening hours and poor weather conditions this would appear to be unlikely. In addition, the potential for taxi loading/unloading on the north side of W 15th Street, between Tenth Avenue and Route 9A is limited because W 15th Street accommodates on-street parking (closer to Tenth Avenue) and an active driveway (closer to Route 9A).

W 14th Street and Route 9A

The volume-to-capacity (v/c) ratio shown for the southbound left-turn movement from Route 9A to W 14th Street ranges as high as 1.99 for existing conditions. For NYCDOT, the existing v/c ratio should not exceed 1.05. Such a high v/c ratio for this movement raises questions about how well the analysis reflects existing conditions at this location and along southbound Route 9A.

December 11, 2012

ATTACHMENT 2

PIER 57 LAND USES AND ACTIVITIES WITH SITE TRAFFIC VOLUMES THAT REQUIRE FURTHER INFORMATION

The focus of our review was on the person-trip generation rates and the modal split estimates used in the Pier 57 DEIS. The person-trip generation rates form the fundamental basis for determining the magnitude of site-generated trips and the modal split determines the allocation of those trips among the available modes of travel. The vehicle occupancies, temporal distributions, and linked-trip credits—important components of the trip generation rate—also were reviewed.

For some land uses and activities, as noted below, further clarifications should be obtained to better understand the intended operations at Pier 57 to assess whether the traffic projections in the DEIS are reasonable and if modifications to the DEIS should be considered.

- **Food Counter:** The weekday and Saturday person-trip generation rates for the Food Counter land use are the same as those for the Quality Restaurant land use. Typically, high-turnover restaurants, such as those envisioned as part of the Food Counter use, have higher trip generation rates than Quality Restaurants. This conclusion is supported by data in the ITE *Trip Generation* manual which indicates that average daily trip rates for a High-Turnover Restaurant (Land Use Code 932) are 41 percent higher than those for a Quality Restaurant (Land Use Code 931) on a weekday, and 68 percent higher on a Saturday.

- **Marina "Historic Vessels":** As stated on page 1-4 of the DEIS, the Marina includes "slips for one or more historic vessels". Presumably, historic vessels—whether they remain docked or actively sail—could operate as visitor attractions at Pier 57, and therefore potentially generate additional pedestrian/vehicle trips to Pier 57. The trip generation rates for this activity are not reflected in the trip generation rates for the Marina land use cited in the source documents referenced in the DEIS: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005).

- **Marina Trip Generation:** The trip generation for Pier 57 estimate cites two sources for the Marina trip rates: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005). While the higher rate of 6.23 trips/slip from the Brooklyn Bridge Park FEIS is used to estimate the weekday trips (as compared to 5.9 trips/slip in the Hudson River Park FEIS), the lower rate of 12.8 trips/slip from the Hudson River Park FEIS is used to estimate the Saturday trips (as compared to the 13.47 trips/slip rate from the Brooklyn Bridge FEIS). Therefore, the trip generation for Pier 57 for Saturday may be underestimated. A broader question is the intended operation of the marina – would it be used by private or charter boats? The trip generation for charter boats would be expected to have significantly higher trip generation rates.

December 11, 2012

ATTACHMENT 3

INFORMATION NEEDED RELATED TO THE DEIS ANALYSIS OF THE PIER 57 ACCESS ARRANGEMENT

1. The complete intersection capacity analysis reports for the intersection of W 17th Street and Route 9A (at Chelsea Piers sole egress point), including the input data, adjustment factors used, and corresponding output are necessary to conduct a thorough review. Of particular interest are the traffic analyses, including the traffic signal phasing/timing, and details of the traffic mitigation (e.g. storage length of the additional lane on westbound W 17th Street).

2. The complete intersection capacity analysis reports for the intersection of W 16th Street and Route 9A (related to the southbound Route 9A right-turn lane to Pier 57), including the input data, adjustment factors used, and corresponding output are necessary to conduct a thorough review. Of particular interest are traffic analysis to identify how it reflects the dynamics at that location, including the speed table, conflicts with bikeway users, alignment of the turn onto the circulation road, etc. and the estimated queue length for the signal-controlled right turn lane at W. 16th Street that crosses the bikeway, or for the signal-controlled and stop bar controlled two-lane circulation (frontage) road that could operate as only one lane under many conditions that are identified in the DEIS. For example, the DEIS proposed "speed tables" at the W 16th Street ingress point and the W 14th Street egress point would likely reduce the saturation flow rate for vehicles entering and leaving via those access points because of the change in the vertical profile of the roadway at these access points. It is unclear if this is reflected in the capacity analysis for the respective intersections.

3. Analysis results for how the circulation road is projected to operate and the vehicle queue lengths for the proposed conditions. This includes projected traffic (vehicles and pedestrians) volumes/flow maps for the circulation road. Vehicular volumes should distinguish between cars, vans, taxis, buses, and trucks. The volumes should reflect all the activities along the circulation road, including vehicle traffic, truck deliveries, passenger loading/unloading, turns at the driveways, taxis, etc. and pedestrian volumes crossing the circulation road.

4. The actions that would be implemented as part of the Traffic Management Plan to avoid queuing from the southbound right-turn lane at W 16th Street and along the circulation road (to prevent congestion that blocks Chelsea Piers egress) as well as to "control and manage crowds and conflict points along the bikeway".

5. Information as to why the high v/c ratios were retained for existing conditions and how this may affect the analysis results for the intersection of Route 9A and W 14th Street.

December 11, 2012

ATTACHMENT 4

POTENTIAL ACTIONS TO MITIGATE TRAFFIC IMPACTS FROM PIER 57 ON CHELSEA PIERS EGRESS

Pending the receipt and review of the additional information identified in Attachment 3, the list below presents potential mitigation actions that could be further investigated to minimize adverse impacts from Pier 57 on Chelsea Piers egress. However, a fundamental question is whether the projected volumes in the Pier 57 DEIS are a reasonable estimate of the anticipated site-generated traffic.

1. Increase green time at the Route 9A and W 16th Street traffic signal only for the southbound right-turn movement into Pier 57 at W 16th Street beyond what is allowed for the southbound left-turn movement.

2. Provide manual traffic control at the intersection of the southbound right-turn lane/circulation road/bikeway to manage conflicts and prevent queues from the right-turn lane extending onto southbound Route 9A and blocking Chelsea Piers egress.

3. Provide manual traffic control along Route 9A at the intersection of W 17th Street/Chelsea Piers egress/circulation road to manage conflicts and prevent queues from the circulation road extending into Chelsea Piers egress.

4. Relocate the potential bus stop shown in the DEIS from north of W 16th Street to a location near W 15th Street to help maintain two lanes on the circulation road between W 16th and W 17th Streets.

5. Enforce provisions to minimize taxi drop offs/pick-ups along the circulation road and encourage usage of the taxi zone on the east side of Route 9A between W 14th and W 15th Streets.

6. Prohibit curbside activities on the circulation road between W 16th and W 17th Streets and enforce these prohibitions, providing manual control, if needed.

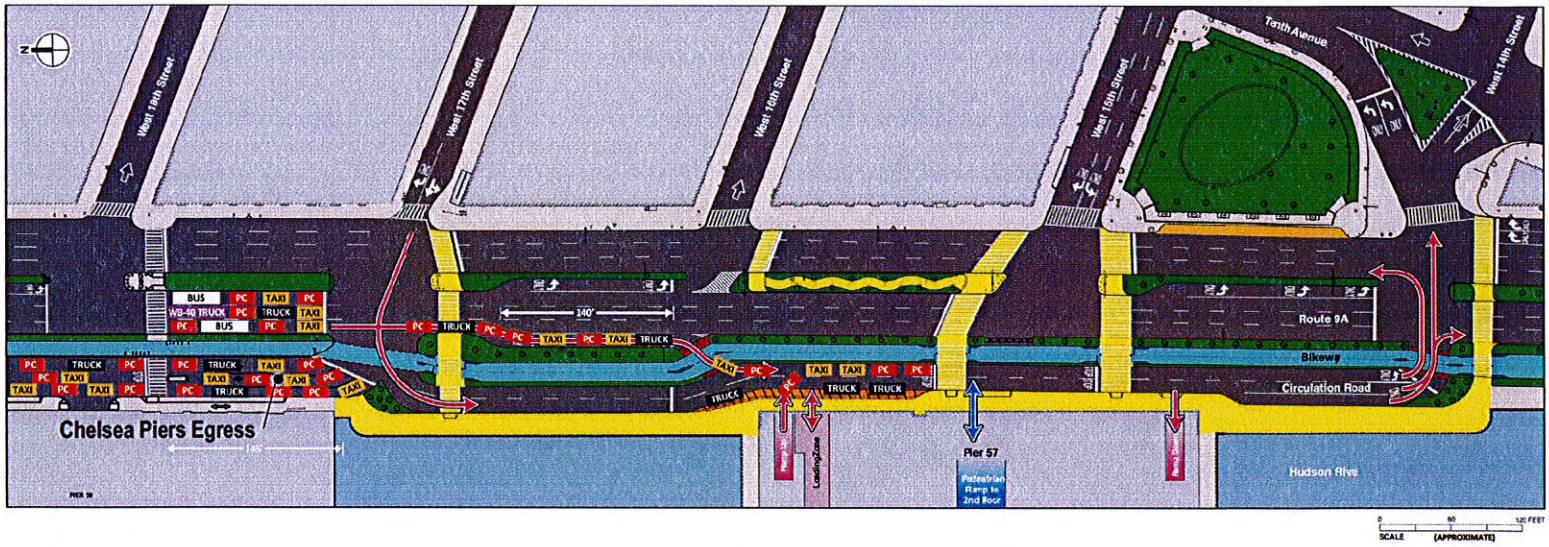
7. If there is a charter boat operation envisioned as part of the marina plan, then limit the charter operations to off-peak hours to help manage traffic volumes and conditions along the circulation road.

8. Minimize curbside activities south of W 16th Street during peak period of activity, particularly when there is an event.

9. Detail the provisions relating to Pier 57 traffic operations in the Traffic Management Plan and establish as a major objective the prevention of congestion on the circulation road and southbound right-turn lane (at W 16th Street) that could impede the Chelsea Piers egress route.

10. Include the requirement for implementation of the above actions in a binding document (such as the lease).

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL TRAFFIC BACK-UP FROM SOUTHBOUND W. 16th ST. RIGHT TURN INTO CHELSEA PIERS EGRESS ROUTE



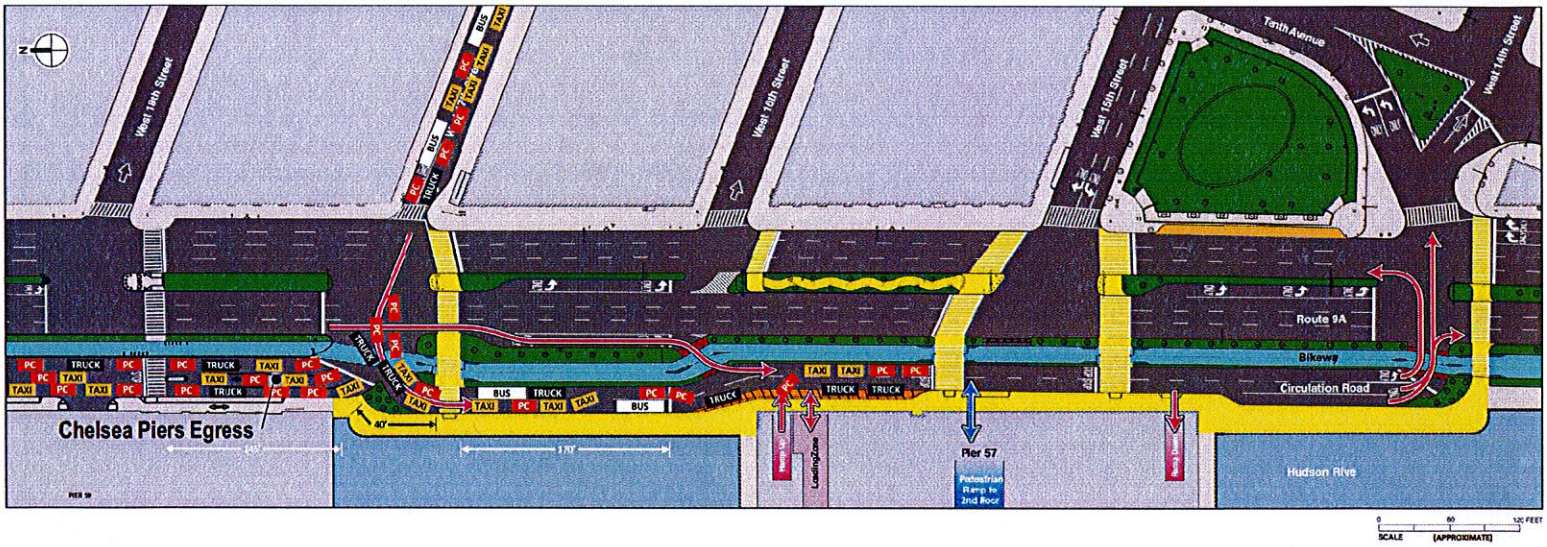
- *Vehicular Access and Egress*
- *Pedestrian Access and Egress*
- *Proposed Taxi Lay-by Lane*
- *Drop-Off / Delivery Sidewalk*
- *Route 9A Bikeway*
- *Median / Open Space*
- *Sidewalks*
- *Pedestrian Walkway & Crosswalks Serving Pier 57*
- *Buildings*
- *Roadways*

(AASHTO Table II-1)

		L (TYP) Length (L)
Passenger Car	PC	= 19'
Bus	BUS	= 40'
Taxi	TAXI	= 19'
Single Unit Truck	TRUCK	= 30'
WB-40 Truck	WB-40 TRUCK	= 50'

FIGURE 1
DRAFT NOVEMBER 20, 2012

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL TRAFFIC BACK-UP FROM WESTBOUND W. 17th ST. INTO CHELSEA PIERS EGRESS ROUTE



- Vehicular Access and Egress
- Pedestrian Access and Egress
- Proposed Taxi Lay-by Lane
- Drop-Off / Delivery Sidewalk
- Route 9A Bikeway
- Median / Open Space
- Sidewalks
- Pedestrian Walkway & Crosswalks Serving Pier 57
- Buildings
- Roadways

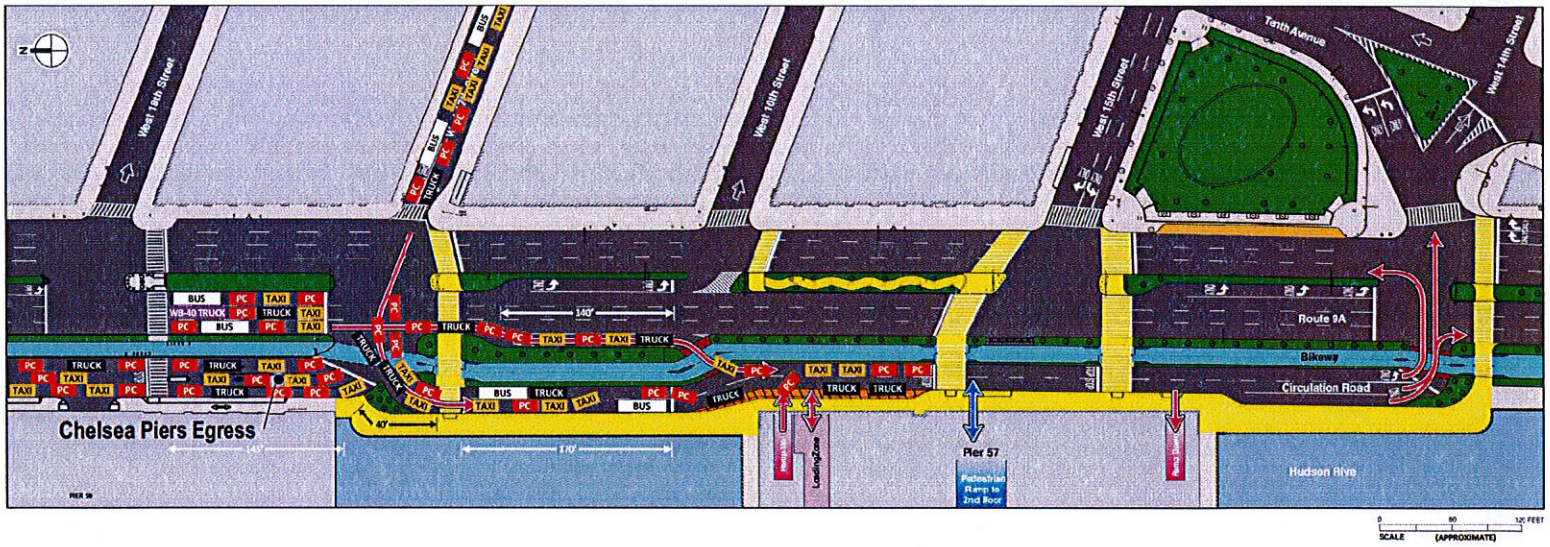
(AASHTO Table II-1)

		L (TYP)	Length (L)
Passenger Car	PC		= 19'
Bus	BUS		= 40'
Taxi	TAXI		= 19'
Single Unit Truck	TRUCK		= 30'
WB-40 Truck	WB-40 TRUCK		= 50'

FIGURE 2

DRAFT NOVEMBER 20, 2012

PHA ROADWAY PLAN – ILLUSTRATION OF POTENTIAL COMBINED TRAFFIC BACK-UP FROM WESTBOUND W. 17th & SOUTHBOUND W. 16th RIGHT TURN INTO CHELSEA PIERS EGRESS ROUTE



- Vehicular Access and Egress
- Pedestrian Access and Egress
- Proposed Taxi Lay-by Lane
- Drop-Off / Delivery Sidewalk
- Route 9A Bikeway
- Median / Open Space
- Sidewalks
- Pedestrian Walkway & Crosswalks Serving Pier 57
- Buildings
- Roadways

(AASHTO Table II-1)

		L (TYP)	Length (L)
Passenger Car	PC		= 19'
Bus	BUS		= 40'
Taxi	TAXI		= 19'
Single Unit Truck	TRUCK		= 30'
WB-40 Truck	WB-40 TRUCK		= 50'

FIGURE 3

DRAFT NOVEMBER 20, 2012

December 11, 2012

Appendix A

Review of Pier 57 Transportation Planning Assumptions for All Pier 57 Land Uses

The DEIS-proposed Pier 57 project consists of a unique mix of land uses including retail, various restaurant types, a marina, museum/exhibit space, a technical school, and theatre/special event space. The types and mix of land uses—as well as the location of the proposed site along the Manhattan waterfront—make finding comparable data sources for this particular project challenging, because valid trip generation studies of comparable sites in New York City are comparatively limited in relation to more common and well-documented land uses such as residential, retail, and office. Data for similar land uses can sometimes, but not always, be found online in approved and published Environmental Impact Statements (EISs). In other instances, data must be obtained via transportation surveys conducted at other similar land uses already in operation.

The following is a summary of our findings relative to the trip generation estimate for each proposed Pier 57 land use. The focus of our review was on the person-trip generation rates and the modal split estimates. The person-trip generation rates form the fundamental basis for determining the magnitude of site-generated trips and the modal split determines the allocation of those trips among the available modes of travel. The vehicle occupancies, temporal distributions, and linked-trip credits—also important components of the trip generation estimate—also were reviewed. (A more detailed summary of the data sources for each of the trip generation parameters applied in the Pier 57 traffic study is provided in **Table 1**. A summary of projected person- and vehicle-trip generation is presented in **Table 2**.)

- ***Destination Retail***
  - The DEIS person-trip generation rates used for weekday and Saturday are based on standard rates for destination retail uses in the *CEQR Technical Manual*.

  - The mode splits for weekday and Saturday conditions are based on a 2011 survey conducted at the Chelsea Market in 2011 by Sam Schwartz Engineering (SSE), which are compared to those reported for Restaurant/Retail uses as part of the South Street Seaport project below:

Mode	Pier 57: Destination Retail		South Street Seaport: Restaurant/Retail		
	Weekday	Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday
Auto	9.2%	10.5%	4.0%	8.0%	16.7%
Taxi/Black Car	5.0%	14.2%	6.0%	6.0%	10.8%
Subway	40.0%	29.6%	44.3%	53.0%	50.0%
Bus	4.2%	3.7%	21.2%	7.0%	13.6%
Ferry	-	-	4.4%	0.0%	2.0%
Walk	41.6%	42.0%	19.1%	26.0%	5.9%
Bike/Other			1.0%	0.0%	1.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- **Quality Restaurant**
  - The person-trip generation rate used for weekday and Saturday are based on standard references by Pushkarev & Zupan and the Institute of Transportation Engineers' (ITE) *Trip Generation* manual. The weekday person-trip generation rate for the proposed Quality Restaurant matches the person-trip generation rate used for the Restaurant use in the Flushing Commons FEIS. The Saturday person-trip generation rate was developed by applying the ratio of Saturday-to-weekday trip-rates given in the ITE *Trip Generation* manual to the weekday trip rate.

Appendix A

- The mode splits for weekday and Saturday are based on assumptions developed jointly by SSE and NYCDOT staff, and are compared to those developed for the Restaurant/Retail uses for the South Street Seaport and the Specialized Retail uses in the *Special West Chelsea District Rezoning and High Line Open Space EIS* below. As shown below, the Pier 57 mode splits show higher auto and taxi mode splits, which would result in higher numbers of projected auto and taxi trips.

Mode	Pier 57: Quality Restaurant	South Street Seaport: Restaurant/Retail			Special West Chelsea District Rezoning and High Line Open Space EIS: Specialized Retail
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday	Weekday AM, MD, and PM
Auto	25.0%	4.0%	8.0%	16.7%	20.0%
Taxi	20.0%	6.0%	6.0%	10.8%	10.0%
Subway	30.0%	44.3%	53.0%	50.0%	20.0%
Bus	5.0%	21.2%	7.0%	13.6%	25.0%
Ferry	-	4.4%	0.0%	2.0%	
Walk	20.0%	19.1%	26.0%	5.9%	25.0%
Bike/Other	-	1.0%	0.0%	1.0%	
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- ***Food Counter***
  - The weekday and Saturday person-trip generation rates for the Food Counter land use are the same as those for the Quality Restaurant land use. Typically, high-turnover restaurants, such as those envisioned as part of the Food Counter use, have higher trip generation rates than Quality Restaurants. This conclusion is supported by data in the ITE *Trip Generation* manual which indicates that average daily trip rates for a High-Turnover Restaurant (Land Use Code 932) are 41 percent higher than those for a Quality Restaurant (Land Use Code 931) on a weekday, and 68 percent higher on a Saturday. The DEIS justifies the rates used by stating: ".... It is expected that patrons of these food counters will also be shopping at the retail pods and, as such, are expected to have similar trip generation characteristics as the destination retail. However, to be conservative, the total daily trip generation rates were based on daily trip rates calculated for Quality Restaurant, which provides higher rates than for destination retail."

  - The mode splits for weekday and Saturday are based on assumptions developed jointly by SSE and New York City Department of Transportation (NYCDOT) staff, and are compared to those reported for Restaurant/Retail uses as part of the South Street Seaport project and the Specialized Retail uses in the *Special West Chelsea District Rezoning and High Line Open Space EIS* below:

Appendix A

Mode	Pier 57: Food Counter	South Street Seaport: Restaurant/Retail			Special West Chelsea District Rezoning and High Line Open Space EIS: Specialized Retail
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday	Weekday AM, MD, and PM
Auto	25.0%	4.0%	8.0%	16.7%	20.0%
Taxi	15.0%	6.0%	6.0%	10.8%	10.0%
Subway	35.0%	44.3%	53.0%	50.0%	20.0%
Bus	5.0%	21.2%	7.0%	13.6%	25.0%
Ferry	-	4.4%	0.0%	2.0%	
Walk/Bike/Other	20.0%	20.1%	26.0%	6.9%	25.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- ***Theatre and Rooftop Events***
  - The daily person-trip rate for both theatre and rooftop events is the same for both weekdays and Saturdays. This rate matches the daily person-trip rate used for events in the 2005 *Brooklyn Bridge Park FEIS*, and were based on transportation surveys conducted at Lincoln Center in 2000.

  - The modal split for the theatre and rooftop events very closely approximates that reported as part of the South Street Seaport project. The mode splits for both studies appear to be based on a transportation survey conducted by AKRF at a Pier 54 movie event in 2009.

Mode	Pier 57: Theatre and Rooftop Events	South Street Seaport: Event Space		
	Weekday & Saturday	Weekday Midday/PM	Pre-Event	Saturday Midday
Auto	9.0%	9.0%	9.0%	9.0%
Taxi	2.0%	2.0%	2.0%	2.0%
Subway	49.0%	49.0%	49.0%	49.0%
Bus	3.0%	3.0%	3.0%	3.0%
Ferry	-	4.4%	0.0%	2.0%
Walk/Bike/Other	37.0%	32.6%	37.0%	35.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- ***Museum/Exhibit Space and Rooftop Exhibit Space***
  - The person-trip generation rates used for weekday and Saturday are based on standard rates for museum uses in the *CEQR Technical Manual*.

  - The mode splits for the museum/exhibit space are based on transportation surveys conducted by Philip Habib Associates (PHA) in 2005 of a temporary art exhibit at Pier 54.

- ***Technical Arts School***
  - The person-trip generation rates used for weekday and Saturday were estimated based on vehicle-trip rates for a Junior/Community College in the ITE *Trip Generation* manual, with an adjustment to reflect a projected auto occupancy of 1.11 as cited in the 2009 *Fordham University/Lincoln Center Master Plan FEIS* for day-time/full-time graduate students.

Appendix A

- The mode split was based on the mode split projections cited in the 2009 *Fordham University/Lincoln Center Master Plan FEIS* for day-time/full-time graduate students which generally reflected the highest combined auto plus taxi mode share. Slight refinements to the modal split were made to reflect a reallocation of the Fordham University site's "dorm-based trips" and "shuttle trips" to the available modes at Pier 57.

- ***Marina***
  - As stated on page 1-4 of the DEIS, the Marina includes "slips for one or more historic vessels". Presumably, historic vessels—whether they remain docked or actively sail—could operate as visitor attractions at Pier 57, and therefore potentially generate additional trips. The trip generation rates for such activities are not reflected in the trip generation rates for the Marina land use cited in the source documents: the Hudson River Park FEIS (1998) and the Brooklyn Bridge Park FEIS (2005). The proposed operation of the historic vessels should be further clarified.

  - The trip generation estimate cites two sources for the Marina trip rates: the *Hudson River Park FEIS* (1998) and the *Brooklyn Bridge Park FEIS* (2005). While the higher rate of 6.23 trips/slip from the *Brooklyn Bridge Park FEIS* is used to estimate the weekday trips (as compared to 5.9 trips/slip in the *Hudson River Park FEIS*), the lower rate of 12.8 trips/slip from the *Hudson River Park FEIS* is used to estimate the Saturday trips (as compared to the 13.47 trips/slip rate from the *Brooklyn Bridge FEIS*). Therefore, the trip generation for Saturday may be underestimated. A broader question is the intended operation of the marina – would it be used by private or charter boats. The trip generation for charter boats would be expected to potentially have significantly higher trip generation rates.

  - The modal split for the marina at Pier 57 was based on the modal split for the marina cited in the 1998 *Hudson River Park FEIS*.

- ***Rooftop Open Space***
  - The rooftop is expected to be a multi-use area, accommodating events, exhibits and an "open space" recreational area. The trip generation estimate assumes all three uses operating at once, albeit with rooftop events occurring only during evening hours on weekdays and Saturdays.

  - The person-trip generation rates for Rooftop Events and Rooftop Exhibits are as noted above (see ***Theatre and Rooftop Events*** and ***Museum/Exhibit Space and Rooftop Exhibit Space***). The person-trip generation rates for the Rooftop Open Space are based on standard person-trip generation rates for Active Park Space in the CEQR *Technical Manual*.

  - The mode split for Rooftop Open Space is based on the mode split for the High Line Open Space in the *Special West Chelsea District Rezoning and High Line Open Space EIS*.

Appendix A

- ***Potential Water Taxi***
  - The existing Hudson River water taxi route operates along Manhattan's west side at headways ranging from 45 and 90 minutes between 9:00 AM and 6:15 PM. The water taxi currently stops at Pier 84 at West 44th Street, Pier 45 at Christopher Street, Battery Park, the South Street Seaport, and the Fulton Ferry Landing in Brooklyn (source: http://www.nywatertaxi.com/)

  - We recognize that, as noted in the DEIS, the (potential) water taxi landing would serve as a possible alternative mode of travel that could replace other modes of travel to and from the Pier 57 site. As a result, the water taxi is not reflected in the trip generation estimate in the DEIS with respect to its potential to introduce additional pedestrian trips through the study area not originating from, or destined to, Pier 57. The inclusion of the water taxi suggests a potential for attracting/generating higher volumes of pedestrian (walk) trips that are not destined to Pier 57, but rather pass by the proposed site on their way to and from other locations. Additional pedestrian trips have implications on both the pedestrian capacity analyses and the vehicular capacity analyses (i.e., conflicting pedestrian volumes for vehicle turning movements).

WACHTEL MASYR & MISSRY LLP

ONE DAG HAMMARSKJOLD PLAZA
885 SECOND AVENUE
NEW YORK, NEW YORK 10017

TELEPHONE: (212) 909-9500
FACSIMILE: (212) 371- 0320

EUROPEAN OFFICE
VIA PIER CAPPONI, 19
FLORENCE, ITALY 50132
TELEPHONE: (39) (055) 5048366
FACSIMILE: (39) (055) 5031698

KAREN BINDER
SENIOR COUNSEL
DIRECT DIAL: (212) 909-9514
DIRECT FAX: (212) 909-9474
binder@wmllp.com

CALIFORNIA OFFICE
2030 MAIN STREET, 12TH FLOOR
IRVINE, CA 92614
TELEPHONE: (949) 660-8824
FACSIMILE: (949) 679-4841

January 8, 2013

FEDERAL EXPRESS
Madelyn Wils, President and CEO
Hudson River Park Trust
353 West Street
Pier 40, 2nd Floor
New York, NY 10014

Re: Pier 57 Redevelopment project

Dear Ms. Wils,

This firm represents the Chelsea Piers Management Company, which operates and maintains the Chelsea Piers recreational facility on Piers 59, 60, 61, and 62 between 17th Street and 23rd Street adjacent to Pier 57. Chelsea Piers supports the development of Pier 57 and hopes to work together with the Trust to ensure a safe environment for all who reside, visit and work in the area. However, as discussed in our earlier meeting with the Trust, the proposed design for Pier 57 will cause new and additional traffic impacts that could adversely affect safety and significantly constrain the egress movement from Chelsea Piers. In a worst case scenario, the problems with traffic flow at Pier 57 could significantly disrupt traffic on Route 9A.

Chelsea Piers has retained the firm of AECOM, professional engineer consultants with significant experience regarding Route 9A traffic and circulation, to review the Pier 57 Draft Environmental Impact Statement ("DEIS"). In short, their review reveals that Pier 57's traffic and circulation plan could worsen and block traffic on Route 9A and W17th Street (at Chelsea Piers sole egress point). In addition, the DEIS lacks important analyses concerning intended operations that could further inflate these adverse impacts particularly in regard to the Pier 57 "Circulation Road" and the Traffic Management Plan. Notwithstanding, AECOM has prepared a list of potential mitigation measures that can be implemented to minimize adverse impacts from Pier 57 on Chelsea Piers egress based on the information currently provided in the DEIS.

We urge the Trust to immediately request the additional information described in the AECOM submittal so it is available prior to the hearing on January 23, 2013. Without these analyses the Trust cannot adequately take a "hard look" at the potential environmental consequences that are potentially likely to result from the Pier 57 Redevelopment Project. In

addition, in order to minimize the adverse impacts that are currently anticipated in the DEIS the Trust should require that the mitigation measures proposed by AECOM be implemented.

Further, we urge you to consider alternative access plans that reduce the need for complicated, high volume access driveways and park-side circulation roadways.

Thank you for your consideration and we are available at your convenience should you wish to discuss this further.

Sincerely,

Karen Binder

Cc: The Honorable Andrew M. Cuomo, Governor of New York State
The Honorable Michael R. Bloomberg
Patricia E. Harris, First Deputy Mayor
Councilwoman Christine Quinn
Manhattan Borough President Scott Stringer
Congressman Jerald Nadler
New York State Assemblyman Richard Gottfried
New York State Senator Brad Hoylman
New York State Assemblymember Deborah J. Glick
New York State Assemblymember Daniel Squadron
Chair Amanda M. Burden, New York City Planning Commission
Commissioner Janette Sadik-Khan, New York City Department of Transportation
Borough Commissioner Margaret Forgione, New York City Department of Transportation
Naim Rasheed, Director of Environmental Review, New York City Department of Transportation
Corey Johnson, Chair of Community Board 4 Manhattan
Mr. Robert J. Benfatto, District Manager of Community Board 4 Manhattan
Chairwoman Diana L. Taylor, Hudson River Park Trust
Joseph Martens, Hudson River Park Trust
Paul A. Ullman, Hudson River Park Trust
Michael E. Novogratz, Hudson River Park Trust
Vice Chairman Robert K. Steel, Hudson River Park Trust
Veronica M. White, Hudson River Park Trust
Joseph B. Rose, Hudson River Park Trust
Henry J. Stern, Hudson River Park Trust
Jeffrey Kaplan, Hudson River Park Trust

Lawrence B. Goldberg, Esq., Hudson River Park Trust
Franz S. Leichter, Esq., Hudson River Park Trust
Pamela Frederick, Hudson River Park Trust
Debra L. Kustka, Assistant Vice President of Operations, Hudson River Park Trust
Colonel Paul Owen, Commander, New York District Commander, U.S. Army Corps of Engineers
Commissioner Joseph Martens, New York State Department of Environmental Conservation
Commissioner Joan McDonald, New York State Department of Transportation
Commissioner Rose Harvey, New York State Office of Parks, Recreation and Historic Preservation
Cesar A. Perales, Secretary of State
Robert Kulikowski, Director of New York City Mayor's Office of Environmental Coordination
David Karnovsky, General Counsel, New York City Department of City Planning
Robert B. Tierney, Chair, New York City Landmarks Preservation Commission
Commissioner Veronica M. White, New York City Department of Parks and Recreation
Douglas Blonsky, President & CEO, The Central Park Conservancy
Commissioner Carter Strickland, New York City Department of Environmental Protection
Noreen Doyle, Executive Vice President, Hudson River Park Trust
Noah S. Budnick, Deputy Director of Transportation Alternatives
Lauren Danziger, Meatpacking District Improvement Association
Matt Bronfman, Jamestown Properties
Barry Diller, Chairman, IAC
Miguel Acevedo, President of Fulton Houses Tenants Association
Terri Cude, Chair, Manhattan Community Board #2
Catherine McVay Hughes, Chair, Manhattan Community Board #1
Justin Sadrian, Acting Chair, Friends of Hudson River Park
Ronald Lewis, President & CEO, Chelsea Waterside Park Association
William Borock, President, Council of Chelsea Block Associations
Peggy Navarre, President, Hudson River Watertrail Association
Jim Lane, Committee Chair, Sierra Club, Hudson River Estuary Committee
Hon. Patricia A. Dillon
David Howe
Dana Hudes
John Sherratt
Board of Directors of The Chelsea-Village Partnership
Chelsea Cultural Partnership
100 West 15th Street Block Association
200 West 15th Street Block Association
Pier 57 Working Group, Hudson River Park Trust Advisory Council
Clean Air NY

FRIENDS OF THE HIGH LINE

529 WEST 20TH STREET SUITE 8W NEW YORK, NY 10011 T (212) 206-9922 F (212) 206-9118 INFO@THEHIGHLINE.ORG WWW.THEHIGHLINE.ORG

Tuesday, January 22, 2013

Hon. Amanda Burden
Chair
New York City Planning Commission
22 Reade Street
New York, NY 10007

Re: Support for Pier 57 Rezoning

Dear Chair Burden,

On behalf of Friends of the High Line, I am writing to express our enthusiastic support of the plans by Young Woo & Associates, LLC and the Hudson River Park Trust to develop Pier 57 into a new, mixed-use facility.

Friends of the High Line is a non-profit organization whose mission is to build and maintain an extraordinary public park on the High Line, which sits one block east of Pier 57 on West 15th Street. Like Manhattan Community Board 4, we believe that the redevelopment of Pier 57 is a crucial element in the ongoing revitalization of the Hudson River Park and is an appropriate and excellent addition to the park and the community.

Further, we believe that the uses proposed at Pier 57 – cultural, food, recreation and small and mid-sized retail – are complimentary to the High Line, and will only enhance the experience of those visitors to the High Line, Hudson River Park, and Manhattan's West Side.

We commend the efforts of Young Woo, the Hudson River Park Trust, Manhattan Community Board 4 and all of the stakeholders who played a role in this impressive proposal. It is our hope that the City Planning Commission will quickly vote to approve the project and bring it one step closer to realization.

Sincerely,

Robert Hammond
Co-Founder
Friends of the High Line

David A. Tewksbury
Executive Vice President

February 4, 2013

Hon. Amanda Burden, FAICP
Chair
City Planning Commission
22 Reade Street
New York, New York 10007

Dear Chair Burden,

Thank you for considering the information presented by Chelsea Piers and its traffic consultant Aecom at the January 23, 2013 Public Hearing on the Pier 57 DEIS. Aecom will also make a formal written submission.

Chelsea Piers has been running its waterfront sports and entertainment complex, between 17th and 23rd Streets, for almost 20 years. Over 2,000 people work at Chelsea Piers and it is one of the most visited places in New York City, with over 4 million annual visits. We generate tens of millions of dollars annually for the city and state through rents, business taxes, payroll taxes, etc. If Chelsea Piers' accessibility is impaired due to Pier 57 traffic issues, the repercussions will be significant.

As you are aware, Chelsea Piers is extremely concerned about the 17th Street intersection, which is the sole exit from Chelsea Piers and is the proposed principal entry for Pier 57. It should be noted that the existing 17th Street intersection gets an "F" service rating. Despite the claims of the HRPT traffic engineer, adding Pier 57 traffic to this intersection is not going to improve the level of service for the Pier 57 development.

In summary, we highlight the following issues for your consideration:

1. Traffic generation information for Pier 57 is understated and incomplete.
   - Modal splits (car/taxi vs other modes) are artificially low.

- The projections that most car/taxis will drop off or park east of Route 9A is not realistic.

- The traffic plans describe bus transportation but no buses seem to be factored into actual traffic counts and operations.

2. The proposed service road and Route 9A access points will fail under increases in traffic volumes above the stated DEIS traffic levels (17th Street is already an "F" level of service).

   - Any conflicts (bike-car, pedestrian-taxi, etc.) at either Pier 57 entrance will not only block the sole exit to the Chelsea Piers, but will cause immediate back up on Route 9A.

   - Problems on Pier 57 access driveway (like a bus, van or car that stops to unload away from curb), will quickly jam up driveway and restrict entrance from 9A – thus more back ups onto 9A.

We believe it is imperative for NYC DOT to require further study of Pier 57 traffic issues, including exploring alternatives that do not use 17th Street as the primary project entrance.

We are supportive of YWA's efforts to redevelop Pier 57, but having operated a business on Route 9A for the last 20 years, we are keenly aware of the issues associated with cars, taxis and buses. The plan for access to Pier 57 must be viable and sustainable for the long term. Otherwise, all will suffer.

Thank you again for your time and consideration.

Sincerely,

David A. Tewksbury

cc: Hon. Kenneth J. Knuckles, Esq., Vice Chairman, City Planning Commission
Hon. Angela M. Battaglia, City Planning Commission
Hon. Rayann Besser, City Planning Commission
Hon. Irwin G. Cantor, P.E., City Planning Commission
Hon. Alfred C. Cerullo, III, City Planning Commission
Hon. Betty Y. Chen, City Planning Commission
Hon. Michelle de la Uz, City Planning Commission
Hon. Maria M. Del Toro, City Planning Commisison
Hon. Joseph Douek, City Planning Commission
Hon. Richard W. Eaddy, Ctiy Planning Commission

Hon. Anna Hayes Levin, City Planning Commission
Hon. Orlando Marin, City Planning Commission
Edith Hsu-Chen, Director, Manhattan Office, Dept. of City Planning
Adam Wolff, Deputy Director, Manhattan Office, Dept. of City Planning
Karolina Grebowiec-Hall, City Planner, Manhattan office, Dept. of City Planning
Madelyn Wils, President, HRPT

From: Sean Kelliher [mailto:sean.b.kelliher@gmail.com]
Sent: Sunday, February 03, 2013 11:11 AM
To: HRPT - Info
Subject: Pier 57

Dear Hudson River Trust:

I am a daily user of the Greenway. I use it to commute to work by bicycle. I also walk regularly along its pedestrian paths and park areas. I think it is one of the best things about the city. This is why it makes me so disappointed to learn about your traffic plan for Pier 57.

With your plan, the area by the river, now used by people to walk, run, and sit will be degraded to a driveway that will be lined with vehicles. Pedestrians will be pushed onto a sidewalk. Runners will go onto the bikeway, increasing conflict with bicyclists. Sitters will have to go elsewhere. I assume the picnic tables currently there will be removed – no room anymore.

Those using the bikeway will now endure horn honking and exhaust fumes on both sides; more traffic lights hindering their trip; and more risk of getting injured or killed by motorists crossing the path. (Go up to the Circle Line, NY Waterways, or impound lot areas and see how well right turn lanes work at slowing down motorists, or how the "do not enter" signs work at keeping motorists from turning into exits. In my experience, the answer "is not very well.")

Additionally, pedestrians trying to cross 11th and 12th avenues at 14th Street now have "turn thru" crosswalks to deal with, created by vehicles exiting your driveway.

I understand the need for deliveries to the pier. The "movable gate" mentioned in your plan seems logical. Actually, over the summer this strategy worked well when there were events at Pier 57. A few guards would stop traffic on the Greenway when a delivery vehicle needed to cross.

However, I do not understand the logic of building a driveway and crossing points to accommodate all motorists at the expense of Greenway users, like you are planning to do. A "pull in" area that did not cross the Greenway, such as at the Intrepid, seems like a preferable idea.

Incidentally, a few months ago I was entering the Greenway at 135th Street. As I was doing so, a park ranger sped out of the Department's office parking lot and onto the road in her personal vehicle. She was being reckless so I waved to her: "slow down." She didn't. Instead, she sped by me and gave me the finger. Nice, huh? Unfortunately, your plan seems to do about the same thing to Greenway users.

I am an average citizen so there is nothing I can do to stop your reconstruction. However, your plan makes me think less of the Hudson River Trust and I really wish your foundation would hold stronger to the mission of the Greenway and the lives of its users over the desires of developers.

Sincerely,

Sean Kelliher

E-2

Transcript of the Public Hearing on the DEIS

NEW YORK CITY PLANNING COMMISSION

----------X

CALENDAR NOS. 13, 14, 15 and 16

PIER 57

PUBLIC HEARING

----------X

Spector Hall

22 Reade Street

New York, New York

January 23, 2013

11:05 a.m.

BEFORE:

AMANDA M. BURDEN,

The Chair

COMMISSIONERS PRESENT:

Amanda M. Burden, Chair

Angela Battaglia

Rayann Besser

Irwin G. Cantor

Betty Y. Chen

Michelle De La Uz

Maria M. Del Toro

Joseph I. Douek

Anna Levin

Also Present:

Yvette V. Gruel, Calendar Officer

Members of the Staff

The Public

The Press

The Media

Reported by:
Kari L. Reed

P R O C E E D I N G S

MS. GRUEL: This is a public hearing pursuant to Manhattan calendar numbers 13 through 16. Calendar number 13, CD4 C130100ZMM. Calendar number 14, C130101ZSM. Calendar number 15, C130102ZSM. Calendar number 16, C 130103ZSM. A public hearing in the matter of applications for an amendment of the zoning map and for the grant of special permits concerning Pier 57.

Notice, in addition to considering the ULURP applications before you, today's hearing is being conducted as a joint hearing with the Hudson Park River Trust, the lead agency on the environmental review for the Pier 57 redevelopment. As noted in today's calendar, the DEIS Notice of Completion and the DEIS for the project were issued by the Trust for public review and comment on October 25th, 2012. And the full text of both documents are available for review on the Trust's Web site or at their Pier 40 offices. Copies of the Trust's public notice are available at the sign-in desk if anyone needs a copy.

Please be advised that comments

received at today's hearing are being transcribed by the Trust's stenographer, and will receive the same consideration as any written comments that are submitted during the public comment period. Those wishing to submit lengthy or complex testimony are urged to do so in writing.

THE CHAIR: Thank you, Madam Secretary. I would also like to acknowledge the Trust's board member, Pam Frederick, who is seated in the front row, and is serving as the Trust's hearing officer for today's joint hearing.

MS. FREDERICK: Thanks.

THE CHAIR: Thank you for being here.

MS. FREDERICK: I'm happy to be here.

THE CHAIR: As is our normal custom, we will hear speakers in favor for one half hour, for thirty minutes, and then we will switch to speakers in opposition. We will begin today with Noreen Doyle.

MS. DOYLE: Good morning. My name is Noreen Doyle, and I am the executive vice president at the Hudson River Park Trust. In

addition to our hearing officer and board member Pam Frederick, I'm joined by the general counsel, Laurie Silberfeld. Madelyn Wils, our president, sends her regrets for missing this very important hearing, but she's been summoned to jury duty and could not be excused.

Before I begin the presentation I would like to extend our appreciation to Chair Burden and the other Commissioners for agreeing to host this joint hearing. We also appreciate the assistance of the department staff for helping us with the additional logistics required to accommodate us.

Pier 57 is an approximately 375,000 square foot structure located at 15th Street and Hudson River Park. 15th Street is there. It was used for about three decades as a municipal bus garage. It is now vacant, and is one of the very few sites within the overall Hudson River Park where certain commercial uses are permitted. Because Hudson River Park does not receive any government operating funds, Pier 57 is an important component of the park's overall financial plan, as well as a key missing link in

the physical park.

In July 2008 the Trust issued a request for proposals for Pier 57. Among our stated goals were:

Creating a quality park enhancement development for a combination of cultural, educational, recreational, maritime and other uses allowed by the Hudson River Park Act;

Providing an opportunity for park and water enhancing activities to expand the public's enjoyment of the waterfront, and for restaurant, retail and other commercial uses in a new and exciting setting, and respecting the historic structure.

In July 2009, with the unanimous support of our advisory council and Pier 57 community working group, HRPT's board of directors conditionally designated Young Woo & Associates as the developer for Pier 57. The Trust has been working with Young Woo since that time to advance the planning and environmental review process for Pier 57. We have worked particularly hard on planning high quality public open space, ensuring that any water construction respects the Hudson

River habitat, and of course addressing traffic. In this regard we have sought to balance the competing demands of pedestrians, cyclists, and vehicles, those that will be attracted to Pier 57, and those that are already in the park, including at Chelsea Piers, Pier 57's northern neighbor. We were gratified to hear Community Board 4's strong support for the effort we put into this planning.

The EIS process is a critical part of the Trust's continuing project review, and affords opportunities for elected officials, the working group, the public and agencies to comment on relevant areas of concern. The complete DEIS is posted on the home page of our Web site, Hudson River Park dot-org, and comments on it may be submitted to us until February 4th. Information on how to do so is on our Web site and on the fliers in the back of the room.

(Bell rung)

MS. DOYLE: Today Young Woo & Associates will provide an overview of the project program, and some of the other project team members will also present. We have other members of the project team here to answer questions. We

were at the review session and noted some of the commissions have questions.

Thank you again on behalf of the Trust.

THE CHAIR: Thanks, Noreen. Let me see if there are any questions for you.

MS. DOYLE: Sure.

THE CHAIR: I'm assuming there are. Noreen represents the Trust, so I would encourage you to direct questions to her. Anna.

COMM. LEVIN: Yes.

Hi, Noreen, nice to see you again.

MS. DOYLE: Good to see you.

COMM. LEVIN: The Community Board raised a number of concerns about the floor area ratio, a larger ratio would be permitted by the rezoning, the proposal is for something significantly less than that, and about preventing unintended consequences of this rezoning, namely hotels and big box retail. As was laid out in the borough president's letter, this project is also subject to some additional regulatory controls that I think you have a handle on.

Could you address for us the

reassurances that will be available in the arrangements between the Trust and the developer on the points that concern the community board?

MS. DOYLE: Sure. For starters, I think it's important that the commissioners understand that none of the property in Hudson River Park, including Pier 57, is actually owned by the Hudson River Park Trust. In this case, the underlying property is owned by the State Parks Department. So they are our partner in terms of understanding the requests for some of the additional restrictions requested by Community Board 4.

But before we kind of get to that point, we had a good discussion with Community Board 4 throughout the process with respect to the concern about hotels. Hotels are not a permissible use under the Hudson River Park Act. Some of you may know that we are actually in a discussion about trying to amend the Hudson River Park Act to allow for a greater spectrum of commercial uses. But we have no intention, nor does the applicant have any interest in adding hotels to Pier 57. It is not a sensible site for

that use, in part because of the historic structure. We offered to Community Board 4 that we would send them a letter and agree to add that as a lease condition as part of the future lease.

With respect to big box, that's actually that something that Hudson River Park Trust thought about a long time ago when we were working out the MOU that we are currently in with Young Woo. We actually preclude big box as part of the MOU. The language to that effect has been sent to Community Board 4 and the borough president and to some of your staff. We tried to define big box even to the extent that we really didn't want it to turn into something that's not intended.

The Pier, as you heard, is a historic structure. It's on the state and National Registers of Historic Places. And in addition to the normal state Historic Preservation Office review process that would restrict greatly what can be put on the building in terms of height, the applicant is also going to be seeking historic tax credits, which are an important financial incentive for them. They're subject to

an even more strict standard for review by the National Parks Service. And we think that there's realistically no chance that anything approaching the maximum limits of M1-5 or even far below it could ever, ever happen.

However, we are not trying to increase beyond the M -- the 2.23 I think that we are at. We'd like to preserve a little bit of flexibility in the event that mechanical equipment needed to be a foot taller than what's anticipated or something like that. But we really have no intention of going beyond that.

And I think that those were the three main questions.

COMM. LEVIN: Thank you.

MS. DOYLE: Sure.

THE CHAIR: Any other questions? Michelle?

COMM. DE LA UZ: She answered mine.

THE CHAIR: Okay. Thank you for being here.

MS. DOYLE: You're welcome.

THE CHAIR: Okay, the next speaker is Greg Carney.

MR. CARNEY: Thanks, Noreen, and good morning, everyone. I'm Greg Carney. I'm with Young Woo & Associates. And I'm joined by my colleague and project manager, Norm Roumanous, this morning to take you through our program at the pier. We really are honored to be part of this unique development in partnership with the Trust. And before I go on, I want to extend thanks on behalf of the entire team to the board, the Trust, and to Ann Green and her staff in particular for all their efforts to get us to this point.

Our collective goal for Pier 57 is to transform the property into a creative urban marketplace, focused on food, fashion, film, and art. In developing our concepts and plans for the sort of cultural hub that we envision, our firm had worked hard to understand the Pier itself, the property, the surrounding park to our north and south, and the neighborhoods to our east, where we ourselves have quite a history, having owned and developed a number of significant projects in west Chelsea.

So our plans for the pier reflect

the following objectives.

First, community oriented design. Our intended use is to incorporate significant input from the community, as dozens of meetings and input sessions were held throughout the planning process, not to mention the countless discussions with the Trust.

Secondly, reactivation of a vacant property into a vibrant gathering place in a true community in and of itself. As Noreen mentioned, Pier 57 has been unused since 2004. Our program will look to activate and energize this historic property in a respectable and what we think is a very creative way. Generating new business and community activity, and opening up a portion of the waterfront and new open space for area residents, workers and visitors.

Thirdly, sustainable development. Incorporating a number of green initiatives to ensure energy efficiency and also responsible design, construction, and operation going forward.

Next, very important, historic preservation. Not only because of the historic tax credits, but we really wanted to preserve and

maintain this very unique, historic character. The very industrial, extraordinary double height spaces, large column free spaces that we want to preserve.

Next, job creation and economic development. The project will create thousands of new construction and long term jobs, and generate new tax revenue for the city and state of New York.

Sixth, a related goal, support for small business. Our planned public marketplace, which you will hear more about, is a proven business model that provides entrepreneurs, small merchants and artisans a platform to start or expand their businesses, sell their goods and to incubate their growth within Manhattan with low barriers to entry, and in this case a prime location.

Next, education and engagement. Many of the targeted uses are meant to encourage not just sales and consumption but interaction, whether between merchants and visitors, chefs and guests, or artists and the public. All with the idea of creating an experience, rather than just

making a purchase, having a meal, et cetera.

And last but certainly not least, to generate funding for Hudson River Park. As part of our MOU with the Trust, which will ultimately convert to a long term lease agreement, the project will generate substantial new revenue that will be dedicated towards the operation and maintenance of the Hudson River Park we have all come to know and love.

(Bell rung)

MR. CARNEY: Beyond that we believe that together with the Trust we will be able to make a meaningful contribution the city's West Side, and continue all the great progress that's been made along the waterfront to the north and south. And with that I'll turn it over to Norm with more details on the program. Thank you.

THE CHAIR: Maybe if you just wait.

MR. CARNEY: Sure.

THE CHAIR: For two seconds, there may be questions for you.

There are not. Thank you. I'm sorry, yes, Michelle.

COMM. DE LA UZ: Thank you for the

presentation and outlining a few key points. Maybe you're the appropriate person or someone else is, maybe you can talk a little bit about how you intend to actually lease the commercial spaces to the small businesses.

MR. CARNEY: Yes. Actually in partnership with our operator, Urban Space Management, there are sort of several tiers of engagement with the market. One is a more traditional channel through leasing agents, some of the larger tenants or more established tenants. A lot of the merchants and smaller vendors, as you might imagine, are more direct. That comes from both the existing network within our relationships and Urban Space's relationships in the market, and Urban Spaces appear in the Union Square Holiday Market, Columbus Circle, Madison Square Park, so that roster of tenants will also be directly contacted. And then we have also talked about actually making a container space that will be described later on, available online and in more of a reservation almost like an airplane, a flight reservation system, where people can pick and choose their locations, so we make it as easy as

possible for people to find entry into the pier.

THE CHAIR: Thanks very much for being here.

MR. CARNEY: Thank you.

THE CHAIR: The next speaker is Norm Roumanous.

MR. ROUMANOUS: That's it.

THE CHAIR: Hi.

MR. ROUMANOUS: Hi. My name is Norm Roumanous. I'm the project manager for Young Woo & Associates.

As Greg mentioned, Pier 57 will be creating an urban marketplace focusing on food, fashion, film, art. Young Woo & Associates, we have commenced our marketing and leasing program as much as we can. We are out in the market discussing the space with a number of excited tenants, including restaurateurs, creative entrepreneurs, and small business groups. As part of our agreement with the Hudson River Park Trust, Noreen Doyle mentioned it earlier, we were required to provide a substantial amount of what we call CEE, or cultural, education and entertainment uses. Those uses include things

like cooking classes, art and technical classes, rooftop farming, art exhibits, community kayaking, open air cinema and water activities.

One thing I'd like to touch on which sort of sums up our whole programming. In 2011 Young Woo & Associates in conjunction with Urban Space Management created DeKalb Markets in Brooklyn. It was a great success for us, it was an incubator test for us. For Pier 57, we have over 60 local merchants and entrepreneurs. DeKalb was a great success and created a vibrant marketplace in the community.

DeKalb Market, as part of our incubator test, also was housed in refurbed shipping containers, and was a great addition to the community, creating jobs and providing amenity. And so as part of that we do have some images of the refurbed shipping containers in the market. And we also had a farm, a community farm which was, you know, school groups and community groups were able to utilize for free.

So as far as our program goes, Greg did touch on, you know, restaurants, some open area spaces for the community. And then obviously

we have the Tribeca Film Festival as our key tenant or our key user for the roof. They are required to provide free programming throughout the year and open space management with regard to our market.

With regards to the marina, as you can see on the first rendering, on the north and south side of Pier 57 we have assessed 141 marine slips, which will consist of small boats, recreational boats and some historic ships. Since we are not dredging or doing any type of dredging in the river, we are limited to the types of boats we can use because, you know, the depths range from seven feet all the way up closer to the tip to around twenty feet. So it does restrict us to the types of boats we can have in the pier.

And that's it.

THE CHAIR: Thanks very much. As I was looking through the speakers in opposition, most of them represent Chelsea Piers. Since we can't call you back again, maybe you can talk about what you anticipate their concerns are. I think there's a concern about the vehicular flow of the cars that are coming to Chelsea piers and

how they drop off. But if there are other things that you might like to talk about in anticipation of what they might say, that would be helpful.

MR. ROUMANOUS: Well, with regards to the circulation of the traffic, I think it would be best if we wait for our traffic engineers.

THE CHAIR: Okay, that's fine. So you think that's what it's all about?

MR. ROUMANOUS: Yeah.

THE CHAIR: Let me see if there are any questions for you from Commissioners.

(No response)

THE CHAIR: No, there are not. Great, thank you for being here.

The next speaker is Gary Handel.

MR. HANDEL: Madam Chair, members of the Commission, it's a pleasure to be here. My name is Gary Handel, and I'm here for the applicant.

Pier 57 is an extraordinary structure that was designed by an extraordinary engineer. Admiral Prager, when he was the head of the Naval's Bureau of Design, designed this series

of concrete breakwaters that were used in Operation Phoenix in the Normandy Landing, you know, in World War 2. This innovative technique was used again at Pier 57. Admiral Prager constructed a series of three enormous caissons over 360 feet long and 80 feet wide up north on the Hudson River. They were floated downriver, positioned precisely in place, and now remain the foundations for Pier 57. And that's why the project was listed on the National Register because of its unique construction. Our goal is to restore this amazing structure to its former glory and infuse it with new uses.

So the headhouse structure, which you can see in the photographs before me, the brickwork will be repointed and repaired. The cast stone wall will be put back in place. The existing steel windows will be restored and replaced in kind where necessary.

There's 128 amazing four panel sequentially geared doors that form the north and south facades of the building. Each and every one of them will be put back into service.

At the western end of the pier

there's a beautiful sign for the marine and aviation terminal. This will be repaired, as will all of the balance of, you know, of the Pier. And then, you know, it will be infused with new life.

The pier will also make a significant contribution to public space along the pier. The existing walkway, the perimeter walkway will be put back into public service and opened up to the public. And there be will be extensions that connect that perimeter walkway eastward to link into the extraordinary experience which is the Hudson River Park. In addition, there will be extensions on the north and south which increase the dimensions of the public walkway in order to alleviate some of the concerns that have been raised, you know, by those in opposition.

In total, there will be over 35,000 square feet of public space on the ground floor. And in addition to that, there will be over an acre and a half of publicly accessible open space on the roof. So we think it will be an amazing addition to Hudson River Park.

One of the concerns that was raised in several of our meetings was, you know, this is

obviously an exposed structure, you know, on the waterfront, and so basically all of the mechanical systems of the building have been lifted off of the ground floor and placed into a well directly behind the headhouse in between the Pier fingers.

(Bell rung)

MR. HANDEL: So they are invisible to view, but well protected. And, in addition, we're working on creating a series of six foot tall floodgates that will protect the structure in case of any additional storms.

Thank you.

THE CHAIR: Thanks Gary. Don't go away yet, let me see if there are questions. Yes, Michelle.

COMM. DE LA UZ: Could you actually discuss or describe those floodgates a little bit more?

MR. HANDEL: Sure. So floodgate technology, right now basically the easiest way to adaptively fit a historic structure is actually to create or there are little sleeves that can go into concrete footings that basically then can take vertical stanchions. And then there's a

series of panels that come in and sequentially interlock. And so basically all of those and so every bit of the facade will have to be protected with these stanchions. And then basically when you remove them they're just flush, they look like what you would have, I don't know if you've seen where people have, you know, awnings and canopies and there's little inserts into the concrete in the sidewalk. All of those barriers will be stored down in the caissons. Fortunately we usually know when storms are coming, so there's adequate time to evacuate if you have to evacuate the building and to erect the floodgates.

THE CHAIR: So they're assembled manually or electronically?

MR. HANDEL: Yeah. Yeah. So basically they're -- it would be possible I think to design something that would be -- but given the historic nature of the structure, it would be hard to reconcile.

THE CHAIR: Yeah, that's what I thought. Very interesting.

Any other questions? Yes, Anna.

COMM. LEVIN: Yes, thank you.

I have actually, I guess I have two questions. One is about signage, it's a hot topic around here these days. And renderings suggest that the only signage is to restore the existing identifications of the --

MR. HANDEL: Yes. So we definitely will be, you know, the signing, you know, at the western end is glorious. So yes, that would be brought into service. And I think there is an idea of having some modest signage at the entrance to the, but nothing major. Not part of this application.

COMM. LEVIN: Okay. Is that signage that's been included in the application or -- I guess it would be interesting to know what signage is proposed.

MR. HANDEL: There is no signage that is part of this application.

COMM. LEVIN: Okay. Is there signage that's intended, planned? Anyway, if you could provide us details about that.

MR. HANDEL: Yes, sure.

COMM. LEVIN: I think it might be good.

My second question is about, I think it's great that the perimeter walkway is being made so robust, but will there be points -- could you describe how -- will there be access to the walkway from within the pier?

MR. HANDEL: Yes.

COMM. LEVIN: Or do you have to start at the headhouse and go all the way out to the end?

MR. HANDEL: Ada Tolla will go through some of the plans. And there are a lot -- the idea really is to be able through this market concept and with those four panel doors that basically it's an incredibly flexible system. So there are points that will always be available for fixed access, so people will have access to the perimeter walkway and, you know, there's a wonderful space at the west end terminus of the pier. So there will be places that will always be accessible from inside to the perimeter walkway.

And then there's also the idea that the, you know, that the access could change over time. You know, that basically that with these, with all of these doors that you can see here, and

the flexibility that Greg and Norm talked about, and basically the pier is an open market and the idea is that it will evolve over time. And so that the exact relationship of inside and out will actually be able to vary from year to year as tenants take hold of the building.

COMM. LEVIN: Okay. Thank you.

THE CHAIR: Other questions for Gary?

(No response)

THE CHAIR: Thanks a lot, Gary.

The next speaker is, check my time, it's okay, Ada Tolla.

MS. TOLLA: Good morning. My name is Ada Tolla. I'm one of the principals at LOT-EK, and I've been working on the pier from the onset, from the beginning of the RFP. We worked very closely with Young Woo and the Trust to try to really understand the structure. And, as was stated before, the intention was to sort of really appreciate and glorify the existing structure of the pier, which is a fantastic industrial, two level building. And therefore to think about the new use as something that could be inserted within

the building, that would also have a very defined difference from the condition of the building itself.

We worked with the idea of creating this market that is a much finer grain of the retail, with the smaller units that are obviously modular and that are these incubators that the speakers before talked about. And the market is completely made with shipping containers. They are, it's a practice that our office has been working with for a long time. It's of course an upcycling practice. We also thought that for this particular project the shipping containers made a lot of sense because they connect to the history of the port and the history of what the pier used to be.

The containers are an organizer that enters the space and basically fits each one of the two levels with a level and a mezzanine, and a level and a mezzanine. It's sort of like an organizer that form ground level reconnects the building to 15th Street. We always saw the building as an extension of 15th Street. Allowing people to go through these series of services and

experiences that are within.

I'm going to quickly just guide you through the building. So the ground level, when one enters the building to the existing doors on the headhouse, as Greg and Gary were saying before, we have retained the existing ramp. There was the access ways that the bus department used when they were using the building, and it is actually a pretty interesting architectural feature of the building. So one has the option to enter in the gate or go up on the ramp. Of course we're talking about pedestrian access.

And as we go along, you have opportunities to both see the water and also come outside. And you're constantly flanked either by the smaller grain of the container market or by the larger, which is shown in blue here in the plans, the either larger retail or what we have been calling flex spaces, which are spaces where basically a different kind of retail experience can open, like the night markets in Hong Kong or something again of a finer grain.

(Bell rung)

MS. TOLLA: So -- okay. I'm just

going to say very quickly that this is repeated throughout the four levels. And then at the very top we come out inside the roof pavilion and onto the roof part, which is a very important feature of the building. Basically the entire top floor is a park that will be open to the public, occasionally operated by Tribeca Film Festival with outdoor movies, but otherwise be connected to the Hudson River Park.

THE CHAIR: Great. Let me see if there are any questions for you, thank you so much. I think there was a question about whether you could from the very -- you didn't have to go back to the headhouse to get onto the perimeter. So if you're at the end of the pier, how do you get onto the public space?

MS. TOLLA: There is a stair.

THE CHAIR: Okay.

MS. TOLLA: That crosses the entire building. And basically one can come in. And this is an open stair, it's not an egress stair. It's an actual public open stair that crosses the entire building and ends in the roof pavilion. There is this vertical cross circulation that

allows penetration throughout.

THE CHAIR: And you actually think the top of the pier can support the amount of plantings that you showed, because it's very beautiful.

MS. TOLLA: Actually, interestingly, one of the comments that we had early on from SHPO was that they didn't want to see trees on the roof because the nature of the building originally was not of that kind. So the design was actually developed by Malk Landscape Architects, plans to use mainly the surface. And then there is this idea of working with the concept of the gantries, the existing gantries and therefore thinking of a sort of shading that comes more from the industrial quality of the building.

THE CHAIR: Great. Any other questions? Yes Angela.

COMM. BATTAGLIA: You mentioned the stair that goes across the building. Could you speak to features for handicapped and disabled persons?

MS. TOLLA: Right. Well, the building luckily was already fitted with this very

large elevator. So we are using the shafts, but we are retrofitting, of course, the elevators. And they will unload at every single level. So there are elevators that are centrally located exactly in the same area. So the main, what we call the main public plaza has both the stairs as well as the existing elevators. So it will be an equivalent experience.

COMM. BATTAGLIA: Great. Thank you.

THE CHAIR: Thank you very much.

COMM. CANTOR: Just one question.

THE CHAIR: Oh, yes, I'm sorry. Irwin, go ahead.

COMM. CANTOR: With regard to the question about the capacity of the roof, I assume you've had engineers review it?

MS. TOLLA: Yes. Yeah, we reviewed it both from multiple perspectives. One is structural, two is also egress of course, and three is fire. So the capacity is connected to all of those.

COMM. CANTOR: Thank you.

THE CHAIR: Great, thanks a lot.

We will now switch to speakers in opposition. And the first is Jesse Masyr, who will be followed by Noatl Budnick.

MR. MASYR: Good morning. My name is Jesse Masyr. I'm with the firm of Wachtel, Masyr & Missry, and we represent Chelsea Piers, as we have done so before this Commission for the past twenty years. Chelsea Piers, as you know, is located on Piers 59 through 61, and for more than eighteen years has operated. Located on 28 acres, it's a busy, active facility operating nearly 24 hours, seven days a week.

Our concern, and we do support the revitalization of Pier 57, but our concern is with the proposed impacts from Pier 57 are not being adequately studied, and its potential to create significant adverse impacts, particularly as it relates to traffic, have been underestimated and will severely affect the operation of both Chelsea Pier and Route 9A.

First, it's unclear to us what is actually being proposed. The project description outlines a 428,000 square feet mid-use facility with 141 slip marina and 75 car accessory parking.

The cornerstone of any submission to environmental review is to adequately define the project's characteristics, so that decision makers can make reasonable assessments about the project's likely affects. So while the DEIS states there's 141 slip marina, it totally fails to describe the intended operation of the marina. Will it only be used for private boats, will there be charter boats. Will there be dinner boats.

These details are critical, since the attraction can bring up to a thousand passengers within one peak hour to the pier. Without a reasonable level of detail, it's impossible to evaluate the legally required worst case scenario. This is particularly surprising given that the Trust and the developer will execute a lease with the pier, and the uses permitted and prohibited will undoubtedly be specified, although not shared at present with all of us.

This brings me to the next point, the access plan being proposed. The operations of Chelsea Piers now relies exclusively at the egress of the 17th Street approach. As proposed, the

developer intends to use the 17th Street approach as its principal entrance to Pier 57. The intersection is already operating at a failed level of service, and even with the project improvements the traffic flow still fails. Imagine, just imagine the traffic meltdown that will result if the development generates more than 20 percent of its current estimates.

Despite the potential conflicts with the shared 17th Street approach, in the past 18 months the Trust has never contacted Chelsea Piers. When they finally did agree to meet with us, they refused to provide any traffic details, making Chelsea Piers wait until the DEIS was released. At that meeting we finally had with the Trust, we brought our traffic engineer, who is here to testify, and we agreed that we would draft an alternate traffic plan. Such a plan was submitted and was summarily dismissed.

My final point of focus is on the public purpose of the project. The development and reuse of Pier 57 certainly is a worthy goal. However, Pier 58, the upland area which lies between Chelsea Piers and Pier 57, was designated

as a passive park in the Hudson River Park Act itself.

(Bell rung)

MR. MASYR: The park area -- I will sum up -- is now being slated for use as an access road leading to the circulation road in front of Pier 57. This land, located between two commercial uses, could be a beautiful green park space; instead, it's a two lane asphalt roadway. We believe there's still time to correct this traffic problem, and we will have our traffic engineer testify.

THE CHAIR: Okay.

MR. MASYR: Thank you.

THE CHAIR: Okay, Jesse, wait, let me see if there are questions for you. Will the traffic engineer actually have a plan drawn just to show where Chelsea Piers --

MR. MASYR: Yes.

THE CHAIR: -- egresses? Okay. On the 17th Street issue.

COMM. CANTOR: Just one question.

THE CHAIR: Yes. Irwin.

COMM. CANTOR: Good morning, Jesse.

MR. MASYR: Good morning.

COMM. CANTOR: Listening to you I gather the primary issue is traffic?

MR. MASYR: Yes.

COMM. CANTOR: Thank you.

(Laughter)

MR. MASYR: Subtlety was always my big point.

THE CHAIR: A question about the marina too. Okay, Jesse, thanks a lot.

Noatl Budnick, he's next, and then Mike Braito.

MR. BUDNICK: Good morning. My name is Noatl Budnick. I am the deputy director of Transportation Alternatives. And despite having checked off opposed this project I want to just state for the record that Transportation Alternatives doesn't have a position on the development, but in order to stand here today I had to check off a box.

So, Dr. Carl Henry Nacht and Eric Ing, I want to tell you about these two people. Dr. Nacht was born in Brooklyn, raised there, father of two, family physician. Saw his patients

by calling by all over the city. Eric Ing had graduated from NYU, was an artist and an activist. They were both killed on the greenway by drivers crossing the path.

Any addition of driveways, any addition of parking that will pull people, drivers across the greenway presents a hazard to the tens of thousands of people that enjoy Hudson River Park every day. And that is our main concern at Transportation Alternatives. There are already some 29 crossings on the path, and I think surely we can think about how to use those to serve the needs of this proposed development. Yes, people do need to drive to access the many uses on the water side of the park. But this has to be done in as safe a way as possible, and really protect the most vulnerable people who are using the park.

Chelsea Piers has put a full time traffic agent at the 22nd Street entrance to Chelsea Piers. And thankfully, and kudos to them, it has really helped to mitigate the dangers and conflicts between drivers and bicycles and pedestrians on the path. Our own staff have been out on the path and had to sway drivers who were

about to drive down the greenway and turn them from driving down the bike path. So any additional driveways crossing the path, any additional traffic crossing the path is going to open up more danger to park users.

The City's own research, I have a report from the Department of Transportation and police departments, on bicyclists' fatality and another report from the Department of Transportation on pedestrian fatalities found that most crashes occur at intersections. Some 90 percent of bike deaths and serious injuries happen at intersections, 75 percent of pedestrian deaths and serious injuries happen at intersections. So adding more intersections along the path just invites more danger.

This is the busiest bicycle path in the U.S. It connects some of the densest residential neighborhoods to the biggest business districts in the country. It's enjoyed by thousands of bike commuters every day, and it's a great bike path network. Transportation Alternatives wants to see it continue to be the busiest bike path in the country but also the

safest.

(Bell rung)

THE CHAIR: Okay. Let me see if there are questions for you. Yes, Richard Eaddy.

COMM. EADDY: Thank you for your testimony. Do you have or have you brought with you any specific proposals of how you would design this or what changes you would make in order to avoid some of the problems you outlined?

MR. BUDNICK: Off the cuff I would say that not adding the proposed three driveways across the path is a starting point, and looking at the driveways that already exist off the path and how to make those work. You know, we have concerns about adding parking, which is just a magnet to invite more people to drive to this destination as well, so you may want to eliminate that as well.

COMM. EADDY: Thank you.

THE CHAIR: Any other questions from the Commission? Yes, Rayann.

COMM. BESSER: I actually had the same question as Commissioner Eaddy, but I was unable to clearly hear your response, so would you

mind repeating it?

MR. BUDNICK: Sure. So the current proposal puts forward adding three driveways across the path, and there's already a number of driveways going across the greenway. So we would say the first thing to do is to look at how to make the best use of those without adding more crossings. And then our other concern is the addition of 75 parking spaces, which is just a magnet for more traffic to cross the path. So to reduce or eliminate the parking.

COMM. BESSER: Thank you.

THE CHAIR: Was there another question over here?

(No response)

THE CHAIR: Thanks so much for coming, we appreciate it.

Mike Braito. Is Mike Braito here? Okay, fine, I'm sorry. And then so I called the names before, and then Jerome Gluck and then Paul Gallieu or Gallen, something like that.

MR. BRAITO: Madam Chair, Commission members, good morning. My name is Mike Braito. I'm the senior vice president and director of all

site operations at Chelsea Piers. I have been in this position at Chelsea Piers since 1995.

Over the years I've worked with representatives of the state Department of Transportation, city Department of Transportation, the MTA, the Community Board, and Hudson River Park Trust in an effort to make sure all visitors to Chelsea Piers arrive safely, arrive and leave safely. No matter what their mode of transportation, we work very hard making sure people can get safely into and leave Chelsea Piers, along with ensuring quick access and egress for the FDNY, NYPD and EMS services.

Motor vehicles have always been the most problematic. Traffic issues arise when the volume of traffic exceeds the physical and operational capacity of the roadway and the parking system. Chelsea Piers has 18 years experience handling large volumes of traffic. We have approximately 500 parking spaces and one mile of double wide on-site queuing and circulation roadway.

Even with this large on-site capacity, we struggle at times. Why? Exiting

capacity. When we worked out the design of Chelsea Piers access during the mid nineties, maintaining a continuous bikeway was very important. The result was we have one entrance at 23rd Street and one exit at 17th Street. This allows for continuous traffic flow on-site with minimum bikeway conflicts.

However, the single exit at 17th Street basically operates at full capacity. We depend on the smooth and continuous operating capacity of this 17th Street exit. If there is gridlock at 17th Street, Chelsea Piers is effectively shut down.

Two, high volume activities. Events and dinner boats regularly generate hundreds of vehicles per event or cruise. One event and two dinner cruises could attract over 2,000 people on-site within a sixty minute arrival window. This could mean more than 500 to a thousand more vehicles, both parking and dropping off, than is suggested in the DEIS.

We are concerned about the proposed Pier 57 traffic plan. It is too complex and there are multiple ways it can fail. If it fails, the

only exit from Chelsea Piers will be blocked, and consequently the only entrance to Chelsea Piers will be blocked by the backup on 9A. Traffic problems are going to have a huge negative impact on our businesses, and directly impact critical response time for the FDNY, EMS, to respond to Chelsea Piers and Chelsea Cove Park.

(Bell rung)

THE CHAIR: You could conclude, do you want to wrap up?

MR. BRAITO: Sure.

Furthermore, it's been brought to our attention last week that we were advised by a senior executive of Chelsea Piers of Spirit Cruises that Spirit is in discussions with Pier 57 to relocate Spirit's four dinner cruises to Pier 57. These four vessels have a total capacity of 1,700 guests. One of these vehicles or large charter boats could generate five to ten times the peak marina volume claimed in the DEIS.

I'll sum up now. Please know that Chelsea Piers supports the redevelopment of Pier 57 and the completion of the Hudson River Park. However, we urge the city and state to require a

full and honest evaluation of traffic plans and the real impact before allowing this to proceed.

Thank you.

THE CHAIR: Did you bring with you, because I know that after speakers in opposition Philip Habib will be speaking, do you have a plan showing Chelsea Piers in relationship to Pier 57?

MR. BRAITO: We do. We have our consultant here.

THE CHAIR: Can you just put a board up so we can talk about it, because everyone is talking about it but some commissioners are familiar with Chelsea Piers, maybe all of them, but I think that's --

COMM. CANTOR: Madam Chair, it's also in the packet.

THE CHAIR: I just would like it up. I would like it up there so other speakers could talk to it if necessary to answer questions.

So if you would just note for the Commissioners where Chelsea Piers is and what connects it, and where Pier 57 is. And I think it's the 17th Street exit and entry that people are talking about, just so it's easier to see the

additional, okay.

MR. BRAITO: Sure. This is 17th Street, which is westbound. This is 9A, both the north and southbound lanes. And this is the egress path leaving Chelsea Piers, which is southbound only. And currently there four are phases at this intersection, which is north and southbound traffic from 9A. There is a left and right turn phase off 17th Street. There is pedestrian crossing and then there's also vehicles exiting Chelsea Piers that can go north or south.

THE CHAIR: And the yellow represents pedestrian crossing there, the yellow east-west? Right next to 17th Street.

MR. BRAITO: Yes. I'd rather let the gentleman who prepared the board answer that.

THE CHAIR: Anything else that you -- are there any questions? Yes, Irwin and then Michelle.

COMM. CANTOR: Sir, the references to the quote "struggle", correct me if I'm wrong because I probably am, but isn't your heaviest activity at night?

MR. BRAITO: Well, our heaviest

activity at the piers is usually event based driven, whether we have an event in one of our catering halls, dinner boats, our tenants have various events. So those create two traffic pulses. The arrival phase, which typically occurs between six and seven-thirty p.m. at night, it could be weeknights. That corresponds with the commuter sort of pulse that's on the West Side Highway. The second pulse we have is usually when these events are leaving, which is later in the evenings.

COMM. CANTOR: But presumably the impact of the applicant's project, which I'll say is throughout the day, I don't know what degree in the evening versus what degree prior to the evening, I don't know their working hours, so it's not a full daily impact. I'm not suggesting there's no impact. I'm very concerned about it. But just as you were talking about a pulse, is there room between your pulse and their pulse in the course of the day?

MR. BRAITO: Well, I think one of the reasons we're all here today is we're trying to figure out what their pulse really is. And

that's the whole point here. We don't, you know, the DEIS says one thing and, you know, a few days ago we hear they're now considering dinner boats. So in order for all of us to make sort of an accurate assessment of what's going to happen to our property, to their property and to the West Side Highway, I think we have to get all the facts correct, which is I think exactly what you are alluding to.

COMM. CANTOR: When you are at peak at night, are you full?

MR. BRAITO: Yes.

COMM. CANTOR: So you couldn't accommodate any vehicular, any vehicles that wanted to come to the market?

MR. BRAITO: We turn vehicles away frequently throughout the year on our peak nights, where we'll have many of our tenants having events, the dinner cruises. And we actually provide a little card at our exit booth showing guests where the other available parking facilities are in the neighborhood.

COMM. CANTOR: Is it fair to assume that prior to events you have some vacant parking

stalls?

MR. BRAITO: Yes, we do. We have a transient parking system. That's why I said it's sort of, our peak parking issues, both egress, entry and capacity is usually event based driven.

COMM. CANTOR: Thank you.

THE CHAIR: Michelle.

COMM. DE LA UZ: Thank you for your testimony. And I appreciate that the main emphasis that you're making is the need to have full information about the traffic. But I'm wondering if you believe, and it might be an unfair question, whether you believe just limiting the leasing of the marina to individuals as opposed to more leases that attract a great number of people might address the significant, you know, the concerns that you're primarily raising.

And the second question I have is just to learn more about the traffic agent that you have in place, the hours that they're there, and, you know, at what point in Chelsea Piers' operations did the decision come to actually put that in place.

MR. BRAITO: Okay. To answer your first question, I think we need to learn more about the uses. Yes, the marina business is absolutely an impact, particularly if you have large dinner boats. We have pretty large capacity at the piers, and we are constantly getting inquiries from other tenants to come and bring more, which we say no, we can't. And they subsequently go to other piers in the Hudson and on the East River.

The decision, so I think we need to find out what other uses, if there are potential events that can take place, public or private. I mean it's, you know, even when we do public and private events it's always an impact.

The second question is we decided very early on that we needed a traffic guard at the 22nd Street intersection. And we looked very hard to find a person that had the right skill set. He's actually an ex-military MP. And I think he's done a fantastic job. Not to say that he's militant because he's extremely friendly I think everybody loves him. But it's very, very important because there's a lot of people,

especially children that cross at that intersection, and kids tend to run from parents. So he's very, very with it and on top of it.

THE CHAIR: Thank you.

COMM. DE LA UZ: Thank you.

THE CHAIR: On 17th Street, because it's a very small scale drawing, is the exit the exact location, the Chelsea Piers exit the exact location where Pier 57 is planning their egress, planning their entry?

MR. BRAITO: Yes.

THE CHAIR: And how many lanes is that, is it just two lines, how does it work?

MR. BRAITO: Right now we have the ability to queue three vehicles. A dedicated lane that can turn to the north on Route 9A, a dedicated lane that can turn south, and a center lane that has a choice to go either way because obviously you can't go eastbound on 17th Street.

THE CHAIR: And which of those and how many lanes do they have to enter going west and then going to their roadways?

MR. BRAITO: I believe they're creating two lanes coming in. But again, my

traffic consultant can speak to more of that.

THE CHAIR: Okay. And also Phil Habib will speak it later.

MR. BRAITO: Yes.

THE CHAIR: But personal I'd like to see a blow up of that intersection to understand the cars, Chelsea Piers cars, Pier 57 cars, bicycles, and pedestrians, because until it's blown up I have a hard time unraveling the yard.

MR. BRAITO: I would add to that we also need to see true vehicle counts going in each direction.

THE CHAIR: Yes. I think actually the vehicle counts, the pedestrian counts, bicycle counts and yes.

Let me is there are other questions. Yes.

COMM. DOUEK: Question. Where is Spirit Cruises located now?

MR. BRAITO: Spirit Cruises are a tenant of ours on Pier 61, and their lease is up for renewal. And if they were to leave us, obviously we would look to replace those dinner boats with other cruises around the harbor that

frequently come to us and ask to lease space.

COMM. DOUEK: So right now their idea is to shift downward to Pier 57.

MR. BRAITO: Correct.

THE CHAIR: Let me see if there are other questions from the Commission? Yes, Rayann Besser.

COMM. BESSER: Thank you.

Have you had any direct communications with the applicant as far as your concerns and suggestions?

THE CHAIR: Make sure to speak into the microphone because I know if somebody is listening to the recording, they can't hear it.

MR. BRAITO: I have not, but I believe our consultant, Jesse Masyr's firm, has tried to have correspondence. And I believe he testified before that we really sort of didn't receive any information until, and we were told to wait for the DEIS.

COMM. BESSER: Okay. Thank you.

THE CHAIR: Other questions?

(No response)

THE CHAIR: Thank you for coming.

MR. BRAITO: Thank you.

THE CHAIR: The next speaker is Jerome Gluck. And then Paul Gallen.

MR. GLUCK: Hi. My name is Jerome Gluck. I am the senior traffic engineer with AECOM. AECOM is a consulting engineering firm familiar with Route 9A. Chelsea Piers has retained AECOM to review the Pier 57 DEIS to identify potential traffic impacts on Chelsea Piers and on Route 9A. This testimony is a summary of the findings of the review.

I will now briefly describe some of the principal concerns identified in the review, and which are more detailed in the hand out.

One. At the intersection of West 17th Street and Route 9A, as was noted earlier, this is the location of the only egress from Chelsea Piers. The DEIS projects failing traffic operations for the westbound West 17th Street approach to Route 9A. More than two minutes on average of delay for traffic on westbound 17th Street.

Oversaturated traffic conditions on West 17th Street could adversely affect safety

along Route 9A and the bikeway and constrain the egress movement from Chelsea Piers. This is the real potential for queues extending beyond the entrance to the circulation road that could block traffic on Route 9A and the Chelsea Piers egress.

Two. At the intersection of West 16th Street and Route 9A, the DEIS protects the short storage lanes for the signal controlled southbound Route 9A right turn lane. This and other operational constraints at this location could result in vehicle queues exceeding the storage capacity, which is only about 140 feet, and blocking traffic on Route 9A, West 17th Street and the Chelsea Piers egress.

Three. For the Pier 57 circulation road, that's the two lane roadway that runs down by Pier 57, the DEIS does not address projected traffic operations. The circulation road is two lanes, with the right lane needed for various curbside activities. As identified in the DEIS, the circulation road would operate as a single lane much of the time, with disruptions relating to the vehicles entering and exiting the curbside lane. The concern relates to whether there is

sufficient storage available on the circulation road to avoid vehicle queues that would block Route 9A and Chelsea Piers, as well as impede emergency vehicle access.

Fourth. The DEIS identifies there will be a traffic management plan implemented, particularly during large events, to manage conflicting movements on the circulation road, crosswalks and bikeway. Managing these types of conflicts at Chelsea Piers involves more than thirty full time staff. However, the DEIS provides only a very brief and general description of the plan. A detailed and binding plan that includes specific implementation criteria and management procedures will be critical.

Five. The review of the traffic projections and analysis used in the DEIS indicated the DEIS does not clearly define the intended operations at Pier 57 for a number of land uses and activities. The concern is that the traffic volumes in the DEIS may be an underestimation of the volumes that could actually result from the intended operations. This would result in the DEIS projecting better traffic

operations than could be reasonably expected.

(Bell rung)

MR. GLUCK: The primary activities and land uses of concern are:

The marina trip generation;

A realistic multiple events scenario;

Potential taxi activity, potential bus activity, water activity; as well as,

The food counter.

Our handout contains further details relating to these concerns. Thank you.

THE CHAIR: Thank you.

Let me see if there are questions for you. Yes, Irwin.

COMM. CANTOR: Does your handout, Mr. Gluck, does your handout include traffic studies as of today as well as the projected traffic studies?

MR. GLUCK: Well, what our handout includes is an overview of what we found from reviewing the traffic section in the DEIS, and some shortfalls that we have identified in terms of questions that we feel need to be answered, as

well as other clarifications that are needed to gain a better understanding of how the roadway system would operate.

COMM. CANTOR: But it does not include any actual studies of traffic flow.

MR. GLUCK: We were responding to the DEIS.

COMM. CANTOR: No, I'm just asking what you did, that's all.

MR. GLUCK: Yes. We didn't do anything independent in terms of going out and doing traffic counts, traffic analysis or anything like that.

COMM. CANTOR: Okay.

THE CHAIR: Has the Hudson River Park Trust and their consultants seen that handout?

MR. GLUCK: Yes.

THE CHAIR: Okay. So that -- yes, Maria.

COMM. DEL TORO: Thank you for your testimony.

Just to get sort of a clearer view of what's going on, you did mention the entrance,

the 22nd Street. That's where you have a traffic person, right?

MR. GLUCK: Yeah, that was noted earlier.

COMM. DEL TORO: Yes. And then you talked about the 17th egress.

MR. GLUCK: Egress, correct.

COMM. DEL TORO: Egress. But it would be good if we could understand the different, the ways, the patterns of coming in, the different streets because you were just talking about 17th and 22nd. Is that the only way, is there another way to get into Chelsea Piers, other ways of leaving Chelsea Piers, so we'll have a sense of how the proposed pattern impacts on Chelsea.

MR. GLUCK: Well, the real overlap occurs at West 17th Street, because that's the sole egress from Chelsea Piers. It's also the route into Pier 57 for the traffic that's coming from the south and the traffic coming from the east. In the DEIS that traffic is routed across 17th Street, and in -- via 17th Street, by the 17th Street entrance. For the southbound traffic

on Route 9A there is a second entrance which is at West 16th Street which is a right turn lane.

But one of the points I had made was there's a very short storage lane for that right turn lane. It's probably sufficient for only five or six vehicles, as well as it's compounded by the difficulty of the dynamics of the turn coming in. There's a speed table to slow the traffic down because that's a point where it conflicts with the bikeway. So we question whether there's sufficient storage in that right turn lane and how this could work. Because if it doesn't work properly, the traffic would back up, spill across 17th Street, block the traffic from coming in from westbound 17th Street, as well as block the traffic trying to exit from Chelsea Piers.

Now, on top of that, the other concern we have which I alluded to was this approach on West 17th Street westbound. With the mitigation that's identified in the DEIS, the average delay during one of the peak hours is more than two minutes. It's about 234 seconds of delay for the traffic that's trying to get out of there.

That volume is being increased by the Pier 57 development. But drivers know, drivers experience the fact that once they have waited so long they don't necessarily abide by all the traffic rules. So the operational analysis is really a theoretical analysis and really doesn't fully reflect the safety implications of this type of situation. So the bottom line is the dynamics here with the potential for the traffic backing up from 16th Street, the traffic coming in from 17th Street, and the egress from Chelsea Piers, presents a problem.

THE CHAIR: Other questions from the Commission?

(No response)

THE CHAIR: Thank you very much.

MR. GLUCK: Thank you.

THE CHAIR: Paul Gallen. Followed by Catrina Reid.

MR. GALLEN: Good afternoon. My name is Paul Gallen. I am the general manager of Pier 60 & The Lighthouse View event space located at Chelsea Piers, and operated by the Abigail Kirsch Catering Company.

Our business was founded in 1998 when we made a significant investment to open these venues, and over time is now considered a premier event location. We now employ almost 300 people, and our business is very established. We cater approximately 500 events per year, ranging from small weddings to large charity fundraising galas of up to 1,200 people.

As general manager of these facilities, I've become familiar with how parking challenges can impact the experience of our guests. And it's for this reason we are extremely concerned about the potential impact of the proposed Pier 57 access plan on both our business and reputation.

We regularly handle 200 plus cars arriving for one of our events, while another three to four hundred cars arrive for boat cruises. It takes management a significant amount of manpower to sufficiently deal with this volume of cars while impacting the traffic flow to Chelsea Piers. One of the keys to our efficiency is the access to the existing one mile of circulation roadways within Chelsea Piers to stage

the parked cars, as well as almost thirty Chelsea Piers attendants who assist parking and moving the cars around. However, we still struggle at times to handle very high volume.

Once we valet park the arriving cars, our challenge is to quickly return the cars to their owners at the conclusion of the event. Once the car is returned, it is critical that our guests are able to rapidly exit the site at 17th Street. The reasons are two fold. Any delay in having cars leave the site creates a traffic jam within Chelsea Piers, causing a delay in returning marina cars to their owners, and, two, it means guests who just attended an event now have a final negative experience to ponder during the drive home.

We believe that based on the proposed access plan for Pier 57, the potential exists for gridlock at 17th Street on a consistent basis. If that were to happen, the impact on our reputation and our business will be extremely damaging. We firmly believe our customers, already sensitive to Route 9A traffic challenges, will seek out alternative locations for their

events, and our business will suffer irrevocable harm.

Please know that Chelsea Piers and Abigail Kirsch Catering support the redevelopment of Pier 60 and the completion of Hudson River Park. However, we respectfully request a full and honest evaluation of the traffic volumes and the real impacts before allowing this project to proceed.

Thank you.

THE CHAIR: Thanks. Let me see if there are questions.

(No response)

THE CHAIR: There are not. Thank you for being here.

MR. GALLEN: Thank you.

THE CHAIR: The next speaker is Catrina Reid. All right, Catrina. And then we are going to switch to speakers in favor after Ms. Reid.

MS. REID: Good afternoon, everyone. My name is Catrina Reid. I'm representing 300 New York. We're tenants of Chelsea Piers.

I personally have been with the

company for over fourteen years. And 300 New York, we have been tenants of Chelsea Piers for over sixteen years. We are located in between Pier 59 and Pier 60, which a lot of our traffic is coming along 18th Street. We host a numerous amount of day events. We open up at nine a.m. We host fundraisers, children's birthday parties, a lot of school groups, corporate events. So I feel as though we will be affected by the trafficking in 2015. And I don't know, that's it.

THE CHAIR: Okay.

MS. REID: Thank you.

THE CHAIR: Let me see if there are any questions for you.

(No response)

THE CHAIR: There are not, but we really appreciate your coming.

MS. REID: Okay.

THE CHAIR: Okay, back to speakers in favor. The first is Philip Habib. And then Ross Moskowitz.

You can take that down, gosh, that tiny photograph.

COMM. CANTOR: Time's up.

(Laughter)

THE CHAIR: Phil, keep going to three minutes, but then I'll ask you to continue because I think --

MR. HABIB: All right. I'll quickly go through because I do believe that a fairly detailed presentation of the plan is appropriate.

My name is Philip Habib, and I assisted in preparing a site access plan. And what I'd like to do is sort of quickly go through the pieces, but I'd like to point to the beginning, which is the baseline condition.

At 15th Street where right now basically we have a vehicular entry into the site. And in the future all of 9A south of 17th Street to 14th Street will actually change for both pedestrians and bicyclists and access. So what I'd like to do is to begin at the north end, the famous 17th Street entrance.

Presently Chelsea Piers exits on 17th Street, they have their own green signal. 17th Street comes across on its own green signal, and 9A goes north-south on its own green signal. There will be a service road constructed from 17th

Street to 14th Street along the pier. The access point, one of the two access points at 17th Street allows vehicles which already exit 17th Street on their green to not only go left or right, but to come into the service road. So it's just capitalizing on an existing street and on an existing green signal. No changes to that. And no changes to the reduction of any green time or capacity to the exit at 17th Street. It's just capitalizing on an existing street.

As we move south, this 15th Street is gone. This is predominantly a vehicular crossing. In the future it's all pedestrian.

One of the issues as you can see here at 15th Street there is a right turn lane. Whenever there is a right turn lane on 9A, there cannot be a service road. There is no room between the highway and the pier.

So the second entrance to the site then is a right turn lane being relocated from 15th Street up to 16th Street. And so if you're coming south on 9A and you wish to enter the site, on 9A, for those who are not aware, you really cannot make a right turn on the through

lane on 9A, it's too fast. So the highway requires a right turn lane, just as there is one here, Pier 40, everywhere else. So the right turn lane then stores vehicles, and the signal, right turn signal comes up to allow the right turn to cross the bike path and the bike path signal turns red.

(Bell rings)

MR. HABIB: As we move quickly south, the bikeway is no longer zig-zagging, it is continuous, it's a continuous bikeway to 14th Street. No interruptions at all, except the pedestrians who cross at 15th Street.

The service road is two lanes, 22 feet along this edge. In two places where the service road is created, the greenway esplanade/pedestrian space is expanded over the water. This particular pedestrian space is the range of 20 or 21 feet. This one about 25 feet in width. So the pedestrian system is continuous. The bikeway system is continuous. This existing intersection already exists as a breakup of the bikeway. This breakup of the bikeway is converted to that breakup of the bikeway.

As we move south, the service road permits an additional lane for bus storage or for other vehicular storage, and then exits at 14th Street, which is this part of the plan. There are other parts of the plan, Community Board and DOT, as you know, have been very involved. Right now, right here at 14th Street that crossing is about a hundred feet in length. The park is being extended and the crossings on both sides are being modified, actually cut in half in terms of its width. So the pedestrian system north-south along 14th Street to the site of 9A, and approximately to the site, is being reduced in size.

And, in addition to that as often occurs, like it's a major generators, taxis do penetrate into the site. We are trying to reduce that. Therefore, the project also includes a creation of a taxi widening lane along here which does not exist, so that vehicles coming up 9A in a taxi vehicle coming up 9A can drop off here and the pedestrian system used to access directly into the pier versus trying to meander around and come in from the north.

So the transportation plan has many

components, the pedestrian plan, bicycle plan, taxi plan, off-site plan and the circulation system. Which has been extensively reviewed by state DOT, which has jurisdiction over this, and city DOT, normal review process for traffic.

And that is how we got here today. Thank you.

THE CHAIR: I'm sure there are lots of questions for you, but could you just point out the number of traffic signals just on the drawing on the left?

MR. HABIB: Okay. I didn't really get down into the details but you asked. There is an existing signal here, existing.

THE CHAIR: That's the four phase?

MR. HABIB: That's not four phase. That's two phase.

THE CHAIR: I thought you said four phase.

MR. HABIB: It's three phase. It's okay.

It's exit from Chelsea Piers, exit on 17th Street, and north-south 9A. Those are the three phases. We have currently a signal at 16th

Street, which I know it's hard to see, is right there. And allows pedestrian crossing. It also allows a left turn onto 16th Street. We are introducing a right turn here and we are eliminating the signal for the southbound.

THE CHAIR: So there will be no signal at that right turn?

MR. HABIB: There will be a signal for the right turn and a signal for the left turn. But if you are heading south from 17th, your next stop is 15th.

THE CHAIR: I just want to get a number, an indication of the number of signals.

MR. HABIB: Okay.

THE CHAIR: So you're going to add a signal right there at 16th Street for the right turn lane?

MR. HABIB: Yes. So you're at 16th Street, you pull into the lane, you will get a right turn arrow. At the same time, this one comes up as a left turn arrow. And if you happen to be going through, it's a through movement with uncontrolled. So there will be, well, the block becomes this lane for through vehicles, which is a

predominant flow.

At 15th Street we are narrowing, eliminating flows and all the movements are turning onto 9A. Right now it's crazy.

At 14th Street, the existing signal remains at 14th Street. What happens at 14th Street, and this is a nuance, is that the signal for the left turn is timed for pedestrians to cross 9A. So what happens if you go out there and look, you will see that this is empty and it's still red, because pedestrian time has not been exhausted. So we are using some of that unused time to egress from the site at 14th Street. Not a lot of time, we don't have a lot of traffic on our service road, but it is available. So we are using it to egress and we are taking that time from the left turn movement.

THE CHAIR: Okay.

MR. HABIB: And so those are the signals. We are making them a little simpler, not reducing them, not necessarily increasing them.

THE CHAIR: So I think what I would probably like to see, the Commissioners as well, my questions didn't help me at all, is to actually

have a blow up of the 17th Street intersection because you haven't shown any -- you don't have a graphic showing that Chelsea Piers is exiting there. We really have to understand the number of lanes, in which direction they're going to go in, and some indication, a way to indicate the traffic lights. But even more important, there's a conventional device that traffic experts use for the peak volumes, and what they are. Because I can't, just a little pink line, it's not going to show me the number of lanes and where they're going and what you expect for peak use. And I think that there are several -- and the same thing goes for the right lane. I really don't understand, I thought the speaker was very compelling about the danger to bicyclists. We really want to understand that.

I think we have had universal enthusiasm, we've heard for the reuse of Pier 57, I think everybody is very excited about that. I think the biggest questions have to do with just access to the site, safety of pedestrians, safety for bicyclists. And the ability to accommodate, you have two, you know, heavy, heavy users of 9A

at perpendicular, you know, cross grain connections. And we have to make sure it's smooth.

So I'm sure the other Commissioners will have questions, but we have to resolve that issue to make sure everybody wins here.

Irwin, then Angela and Michelle.

COMM. CANTOR: Good morning, Phil.

MR. HABIB: Hi.

COMM. CANTOR: Afternoon, Phil. Three questions.

Number one, the chair alluded to the traffic study. Have you done it?

MR. HABIB: The traffic consultant has done a very extensive traffic study required for the Environmental Impact Statement, as you are probably aware. Very thick. There has been review by state agencies, city agencies of this. And that is how we have been certified into the ULURP process.

So there's been a lot of review of the traffic. The traffic has asked, as an example, to analyze the worst case conditions,

which I think they are doing, which is the occupancy of the film festival, which is the heaviest typical condition. All of that is already documented in the EIS.

COMM. CANTOR: When you say they, have you not participated?

MR. HABIB: Well, I'm the physical planner, and so I understand transportation, but the actual number crunching is being done by the Schwartz Company. And I give them my two cents and they give me what they can do and so forth.

COMM. CANTOR: Okay. You are talking about southbound traffic, you are going to create an off lane.

MR. HABIB: Right turn lane.

COMM. CANTOR: Right there. What's the reservoir on that right lane?

MR. HABIB: It's about seven.

COMM. CANTOR: At the turn, in other words, the right.

MR. HABIB: Yeah, this one right here.

COMM. CANTOR: Yeah.

MR. HABIB: Well, this is a city

block, as you can visualize.

COMM. CANTOR: So it's 200 feet.

MR. HABIB: It's a little less. It's probably around 150 to 160 because there are transitions right there.

COMM. CANTOR: So perhaps six to seven cars?

MR. HABIB: In that range. For south.

COMM. CANTOR: Per what?

MR. HABIB: Every time that green comes up it stores about six cars.

COMM. CANTOR: Yeah, but the maximum storage you'd have is six to seven cars?

MR. HABIB: Six to seven cars, correct.

COMM. CANTOR: All coming southbound.

Now, you referenced 17th Street as a street that you intend to use.

MR. HABIB: Yes.

COMM. CANTOR: But I didn't hear you speak to the fact that you're adding to what is apparently, no, not what is apparently, what I

know is a congested street. You didn't address that.

MR. HABIB: No. Well, the EIS allows -- it's projecting, adding. It's currently one lane there, as you are aware, it is a bus stop. The EIS projects to expand that to two travel lanes, as you can see, and allow that to operate better, and this is EIS lingo, better than it would do without the project. However, I just want to continue, a part of that is vehicles coming up 9A and penetrating around into the site. We are attempting to eliminate the taxi or the for-hire component of that move by having a taxi drop off here so pedestrians walk right into the site.

COMM. CANTOR: Okay. But Mr. Gluck, if I understood him correctly, suggested there were three lanes there, one turning left, one turning right and one going straight on 17th Street. Did I understand him incorrectly?

MR. HABIB: Yeah, I think he was talking -- I don't know what he was talking about. But I think someone said that Chelsea Piers has three lanes exiting at their site.

COMM. CANTOR: Okay, so I misunderstood that. Thank you.

MR. HABIB: So this is just 17th Street, it's a cross street. So you are correct. That is to say, you know, is it reasonable that all the vehicles from the south and all the vehicles from the west would end up in this one street, and we said no. Introduce at least a combination of for-hire vehicles to have them have a lane on 9A to drop off or direct access into the site for those coming from the site.

COMM. CANTOR: Now, how does a northbound vehicle get to the site?

MR. HABIB: Well, if it's a taxi, if you want to actually get to the site, you get off right here and you come on up to 17th Street.

COMM. CANTOR: On 10th Avenue?

MR. HABIB: Yes, Tenth Avenue, I'm sorry, Tenth Avenue. And you come into the site directly as the extension of the service road that actually exists up here extending south.

COMM. CANTOR: So we have now created a situation at, is it 15th Street or 16th Street where they turn north, where they turn

east?

MR. HABIB: At First Avenue -- tenth Avenue and 17th Street, which is right here.

COMM. CANTOR: No, you're coming from the south.

MR. HABIB: Yeah, you're turning right.

COMM. CANTOR: Where do you make your right turn?

MR. HABIB: Yeah, this right, it's a double right. It's a fairly big --

COMM. CANTOR: Make a right onto Tenth, oh, okay, yeah, Tenth Avenue springs in, okay. So they come around to Tenth Avenue and then they hang up and they make a left on 17th Street.

MR. HABIB: Yeah, to 17th Street, exactly. And they come straight into the site directly that way.

And what we have tried to do, and I think successfully with the traffic study, is break up the demand into the site as much as possible. Seventy-four parking spaces. By the time the employees are there, they may be publicly

exited. There's very few parking spaces on the site compared to the numbers.

COMM. CANTOR: Yeah, but there are a lot of drop offs.

MR. HABIB: Yes.

COMM. CANTOR: The issue isn't the 74 cars.

MR. HABIB: Well, there will be a lot of -- a fair number of taxis, that is correct. So we are anticipating the ones at least coming from the south to drop off a fair number of them here.

COMM. CANTOR: Okay. But the self driver will be looking up to Tenth Avenue past the park, going up to 17th Street and coming down.

MR. HABIB: Yes. Yes. So there are three ways, three vehicular ways and numerous pedestrian ways. And I don't want to -- I know vehicles have been the subject, but we are --

COMM. CANTOR: Right.

MR. HABIB: -- aware of 10th Avenue.

COMM. CANTOR: So now you are adding traffic on the corner of 17th and Tenth, which now has to make a left while you've got traffic coming

from the east.

MR. HABIB: No, not at the same time.

COMM. CANTOR: Well, there is traffic coming from the east.

MR. HABIB: This guy?

COMM. CANTOR: That's coming down 17 in order to get to your site.

MR. HABIB: Yeah.

COMM. CANTOR: You're loading up 17th Street.

MR. HABIB: Yeah. 17th Street is an existing street that is being utilized exactly, just capitalizing on an existing street to access one of the two vehicular entrances.

COMM. CANTOR: Now, in the absence of seeing a traffic study, on 17th, I don't know what the traffic light situation is going to be, but you're going to have cars queuing north to make a left, and you're going to have cars coming from the east to continue straight onto the highway, to the site. Correct?

MR. HABIB: We're still talking about 17th?

COMM. CANTOR: Yeah. I'm talking about --

MR. HABIB: I actually -- I'm sorry.

COMM. DE LA UZ: You can't turn left.

COMM. LEVIN: Why not?

COMM. CANTOR: You're going to Tenth Street, to Tenth Avenue.

THE CHAIR: Can't they make a left if they're heading north?

(Inaudible)

COMM. CANTOR: No, no, no, I'm not talking about a left there. A guy coming from the south.

MR. HABIB: Coming from the south.

COMM. CANTOR: Going up Tenth Avenue.

MR. HABIB: Going up.

COMM. CANTOR: He's coming to 17th Street where he intends to make a left.

MR. HABIB: Make a left.

COMM. CANTOR: Okay. Now, that corner will now have a guy coming from the left and a guy coming from the east coming across.

MR. HABIB: Tenth Avenue.

COMM. CANTOR: And there is not going to be any conflict?

MR. HABIB: Well, there is an existing traffic signal between Tenth Avenue and 17th Street.

COMM. CANTOR: Yeah, I understand that.

MR. HABIB: And so some of our traffic is going to come up and just turn left on 17th on the green time that is allocated to Tenth Avenue.

COMM. CANTOR: Have you done, has --

MR. HABIB: That is also included in the analysis.

COMM. CANTOR: Have you included that in the analysis?

MR. HABIB: That is also included in the analysis.

THE CHAIR: Okay, so we'll get more of a traffic report on that, but let's let other commissioners speak.

MR. HABIB: Go ahead, I'm sorry.

THE CHAIR: Angela and then

Michelle.

COMM. BATTAGLIA: It's very concerning, the traffic is concerning, the pedestrian is concerning, the bicycle safety is concerning.

MR. HABIB: Yes.

COMM. BATTAGLIA: We know there will be a multitude of vehicles once this is open. It's a wonderful project, so we need to have some assurance that there be safety features and this will not be an absolute traffic nightmare, which it sounds that it can be. So two things. What compels a taxi to drop their passengers off there as opposed to going all the way around?

MR. HABIB: I think it's a five block distance. Because of the movement that is alternative to this.

COMM. BATTAGLIA: That I understand, but you have a tourist in a cab that wants to be dropped off right in front.

MR. HABIB: Then they will do that.

COMM. BATTAGLIA: Right. Especially on a day like today in high heels.

(Laughter)

COMM. BATTAGLIA: No, these are things that we must consider.

MR. HABIB: Actually, Commissioner, I've actually been out there, what I've actually seen periodically is that they stop right here anyway on 9A, and it's crazy, bad. So I think that with a little bit of -- yeah, the tourists, you're correct. But with a little bit of general knowledge by the cab industry, I think that may actually become a little bit more logical.

COMM. BATTAGLIA: And the other question I had, you are creating a employee service road, for lack of a better terminology.

MR. HABIB: Yes.

COMM. BATTAGLIA: That will -- brand new, from 17th down to 14th along --

MR. HABIB: It's sort of haphazard, but yeah, you are correct.

COMM. BATTAGLIA: And you contend that that's what will make the difference?

MR. HABIB: Well, it connects the project to the access system. I mean that's basically what it does. Right now, if we wanted to stay with what we had, we would have a right

turn right into the property. There's no way that's going to happen, right.

So because of all of these, whether it be Chelsea Piers or the ship terminals or sort of any of the other projects that actually end up with access and egress, you end up having to create this longitudinal space which then takes up space. And is then where we can't find that because it's the landmark building and this is actually pretty close to the -- requires the expansion of the esplanade over water. And this is already approved in the Hudson River Park Act, I think they can up go to 50 feet.

But this is, these extensions come with the service road, 16 foot bikeway, a buffer to Route 9A. All these pieces come together. The narrowest we have for pedestrian space here is around 18 feet to about 15 feet. The pier is not perfectly aligned to 9A, it kind of kinks a little bit. So we are trying to maintain a decent sized frontage for the pedestrian along 9A, along the service road as well. So it's a long answer to your question.

COMM. BATTAGLIA: Madam Chair, if I

may.

THE CHAIR: You have to be quick, only one.

COMM. BATTAGLIA: Very quickly, if I could.

THE CHAIR: The other Commissioners may have questions too.

COMM. BATTAGLIA: Okay.

I was surprised that the Community Board was satisfied with the information provided on traffic and pedestrian safety, with the exception of intersection of Tenth and 15th. Can you address that? They were asking for a split signal on these matters.

MR. HABIB: They -- yes. And what happened, it actually happened in a couple of different places, is that the main 14th Street, actually it happens also on 23rd, ends and the demand for traffic comes up 14th Street and Tenth Avenue and makes a left. So it's kind of a through movement that was turned into a left turn when this part, this thing was built.

COMM. BATTAGLIA: Thank you.

MR. HABIB: And that is the purpose

of the Community Board's -- I think it's been going on for a while actually. It's not just our project.

COMM. BATTAGLIA: Thank you.

Thank you, Madam Chair.

THE CHAIR: Michelle and then Betty.

COMM. DE LA UZ: Mr. Habib, thanks for your detailed comments, and thank you for I'm sure all of the conversations that you've already had. I just want to ask a couple of questions about whether or not a couple of scenarios might have already been examined.

I'm wondering if you at all examined making the right turn moving it farther south to 16th Street rather than 15th Street, because that might answer some of the questions about --

MR. HABIB: I'm sorry.

COMM. DE LA UZ: -- the queuing, the right turn into the service road.

MR. HABIB: Well, the right turn actually is at 16th Street. See, right now the right turn lane exists at 15th, and we are pushing it up to 16th Street.

COMM. DE LA UZ: I'm sorry -- okay.

MR. HABIB: So why didn't we go to 17th Street, that was your question?

COMM. DE LA UZ: Right.

MR. HABIB: There was no room. Chelsea Piers has -- I love Chelsea Piers. Chelsea Piers has a very narrow sidewalk in front of their building, and they have a very large service road, and what is left is essentially a bikeway with a small buffer, like this. To create a right turn lane there would then push the service road off Chelsea Piers or reduce its size because we would end up taking up service road space with Chelsea Piers. So that was not envisioned to be, you know, realistic.

COMM. DE LA UZ: Was that even discussed with Chelsea Piers?

MR. HABIB: I think that no one wanted to actually go into Chelsea Piers and reduce their service road. They have all their activity, there is actually I think a gate there.

COMM. DE LA UZ: There is.

MR. HABIB: An exit gate for parking and stuff like that. So that was basically one of our givens, not to really address or deal with the

adjacent property.

And, you know, we also thought about, you know, could we make a quick right here. But that is when, you know, we could not egress 9A at a high speed in conflict with the bikeway. You have to have a right turn lane to slow down. You can't turn from a moving lane and it does -- and nowhere on 9A is that permitted, for that reason.

COMM. DE LA UZ: And did you at all examine shifting the bike lane perhaps into the esplanade, that eliminates one conflict, creates others.

MR. HABIB: Yes, we looked at that too. And that is the question. Here we have defined, well, this one exists already, a defined crossing, a signalized crossing where if you can visualize a typical left turn lane, it doesn't get that much green time. And so in this particular case the left turn and the right turn get the same green time. So my guess is that the bikeway will have the free flow 85 percent of the time because the conflict move is a turning line, not a major improvement. And so that is a better conflict that taking the bikeway and pushing it against the

Goldman Sachs building, if you will, that's how it's done, and having all the taxis drop off from the service road on that side and randomly cross the bikeway. All the goods that are being delivered, randomly crossing the bikeway. And so to trade that off against one crossing was not -- didn't work.

COMM. DE LA UZ: And I just ask, you know, I think the Chair's request for the blown up map for the detail is absolutely necessary.

MR. HABIB: Yes.

COMM. DE LA UZ: And I think clearly indicating where you're promoting the pedestrian uses would be especially helpful for us to understand.

MR. HABIB: That's fine.

THE CHAIR: Betty.

COMM. CHEN: Thank you.

Two questions about the 17th Street intersection.

MR. HABIB: Go ahead.

COMM. CHEN: The first is if someone is driving southbound and they're approaching the

complex, when they get to 17th Street, and just to the right you have a more generous entrance for the people turning off of 17th?

MR. HABIB: Coming down 9A.

COMM. CHEN: But further ahead is the actual right hand --

MR. HABIB: Yes. There will have to be signage for no right turn, signage typical --

COMM. CHEN: So I'm just wondering if people would be confused as they're approaching that.

MR. HABIB: Well, that doesn't really --

COMM. CHEN: If you look to the right and it looks like you could just drive right in instead of going a block further.

MR. HABIB: It does, yeah. Maybe a bigger graphic might be appropriate. Because actually this, it's not as evident that you can actually do this. First of all, it's hard to see the intersection because of how it's configured, there is a greenway along it. But this was also reviewed with DOT, the state DOT, to either prohibit right turn with a separate sign, or put

only. But it was not anticipated that this would be, how I would say logical but it wouldn't be --

COMM. CHEN: I'm just thinking if it's not intuitive or obvious they would get back ended when they get to that intersection and hesitate, you know, how to --

MR. HABIB: And we will be doing signage to reinforce that. And whether the signing says exit at 16th Street or not, it was not anticipated to be as big a deal as this guy right here, where there was going to be a raised speed hump at the crossing, and that's actually been more of sort of a design thing than the driver there.

COMM. CHEN: And the second question just has to do with that capacity of six to seven cars as you're about to make that right hand turn.

MR. HABIB: Yes.

COMM. CHEN: And I know you said there's a reasonable worst case scenario in the DEIS. So are you saying that that's six to seven cars, forty feet --

MR. HABIB: This is going to handle --

COMM. CHEN: -- is accurate for a reasonable worst case?

MR. HABIB: The short answer is yes. The long answer is --

COMM. CHEN: But that was keyed towards the Tribeca Film Festival.

MR. HABIB: Yes.

COMM. CHEN: Did that address the dinner boat cruise kind of peak that the other testimony talked about?

MR. HABIB: I think the next speaker is going to talk about cruises. But for what was analyzed just so that generally, we anticipate about 60 percent of the demand using 17th Street, and about 40 percent of the demand using the right turn. That is how the -- because the right turn services just the southbound movement on 9A, whereas 17th Street sort of deals with Midtown as well as some of the southbound who are doing a reverse move back into the site.

So the analysis has been done that shows that this movement can easily be handled. I think the numbers that I saw, and I'm just sort of trying to remember now, about 60 percent of the

cars per hour making that right turn. This signal comes up every two minutes. Which means that it comes up 30 times per hour-ish. At 60 to 70 vehicles per hour, the average flow in the right turn is two to two and a half cars every time it turns green.

COMM. CHEN: Okay. Thank you.

THE CHAIR: Other questions this side of the table?

COMM. CANTOR: May I?

THE CHAIR: I'm sorry, Irwin.

COMM. CANTOR: Do you know how many drop offs there are on the pier?

MR. HABIB: In the future?

COMM. CANTOR: Yes.

MR. HABIB: The EIS has it, and I could --

COMM. CANTOR: Excuse me, how many entrances I should ask.

MR. HABIB: Along these entrances?

COMM. CANTOR: Yeah.

MR. HABIB: I think it may be, if I'm not wrong, it's 100 to 200 drop offs per hour, in that range.

COMM. CANTOR: Okay. But there are, how many entrances are there to the pier, the headhouse?

MR. HABIB: Okay. So that's where these guys come in.

COMM. CANTOR: I'll tell you where I'm going.

MR. HABIB: Okay, go ahead.

COMM. CANTOR: I'll tell you where I'm going. I now finally came south and I made my right turn and I'm now going to go into the area where I did the drop off.

MR. HABIB: Right.

COMM. CANTOR: At the same time that I did, guys that are coming from 17th Street have gone into the drop off. And you've only got a two lane road here, okay. And has your analyses included the time of dropping off --

MR. HABIB: Drop offs, exactly.

COMM. CANTOR: -- people getting out of the car.

MR. HABIB: Getting into the car, paying the fare, yes.

THE CHAIR: Yes, okay. No, no, I'm

assuming it's not a taxi, I'm assuming it's a private car.

MR. HABIB: Okay.

COMM. CANTOR: Because once again I would ask, it seems to me there's going to be a queue right here on Pier 57 which could back up very easily to the highway. And I'm just asking that you have a --

MR. HABIB: We will do the arithmetic and submit that to you in more detail, yes, that's fine.

THE CHAIR: Any other questions for Phil?

COMM. DOUEK: Just a question.

THE CHAIR: Joseph.

COMM. DOUEK: Do you think taking a cue from Chelsea Piers and having a dedicated traffic agent on the 17th Street entrances would be something the applicant would look to do?

MR. HABIB: I'm thinking about the start of the question, but I would say that yes, I think that a traffic management plan needs to be implemented. I'm not a hundred percent sure it has to be here.

COMM. DOUEK: Okay.

THE CHAIR: Thanks, Phil.

MR. HABIB: Okay.

THE CHAIR: We appreciate it.

Ross Moskowitz is the next speaker. And I'll tell you who's going to follow Ross. Lin Zang and then AJ Pietrantone.

MR. MOSKOWITZ: Madam Chair, I'm Ross Moskowitz, counsel to Young Woo. Thank you very much. A couple of observations and I will walk you through the actions.

One, first of all, I'd like to thank City Planning staff for their technical assistance on a very complicated project. As you know, waterfront properties are complicated enough, but the technical assistance was greatly appreciated by the staff.

Two, contrary to Mr. Habib, I am not a dinner cruise expert, I'm just a lawyer. Having said that, I'd like to suggest that any further discussion on the Spirit Cruise, we will respond in writing but I will give you the preview. We have not had any conversations. It's ironic that Chelsea Piers is citing their own tenant thinking

of competition with us. We have no desire for dinner cruises. We will put in writing many of the things you have asked for today obviously will be responded in writing. But perhaps we can not have any more conversation on that.

Third, again we will put in writing, it makes it seem like we just started talking to Chelsea Piers. We have been talking to them for a while. Our landlord is their landlord too. They have been talking to them for a while. And just because they don't like what they're hearing doesn't mean we haven't been speaking with them. So we'll respond to that in writing as well.

So it's great that everyone is supportive of the project. It seems to be a traffic discussion, and Commissioner Cantor, we will of course address that.

COMM. CANTOR: Thank you.

MR. MOSKOWITZ: And I think Commissioner Burden's suggestion of the blow ups is good for a lot of reasons, and we will be happy to provide that.

I'm here to discuss one of the

actions, the rezoning of the M1-5 district, just two highlights for the Commission on that.

One is that gives us a lot of flexibility, as you could expect. This is multi-tenanted type of facility and we are still trying to determine that mix. You have heard a little bit about what that mix will look like, but the M1-5 uses that flexibility.

And second leads us to the second action, which we have talked about as well, this zoning allows us to apply for the special permit, for the 74.922. You've heard the discussion on that, that we are not intending to do the big box. But because of the relationship with Urban Space Management as a tenant, we would have to lease more than 100,000 square feet. That of course would run afoul of the 10,000 square foot limitation, which is one of our actions.

The third bucket is special permits with regard to the waterfront. As you know, it's waterfront, we're non compliant as we speak. So anything that we are doing here, whether it's the visual corridor and the like, requires a special permit through the Commission.

The fourth bucket we also briefly discussed, which is the accessory parking garage. We are permitted 35 accessory spaces. We'd like a modest increase to 74 spaces. We believe those, unlike, this is not like Chelsea Piers, which is transient, this will be purely accessory for the visitors and tenants of this establishment.

And the last, which is I know near and dear to the chairperson, is the waterfront regulations, which is, you know, under section 62(A)(1)(1), which is really a balancing test which is to show how we comply with the waterfront, not exactly to the T of the regulations, but overall the balance, the open space and the like that we are providing, which we think ultimately meets the intent and the challenge of the resolution and the regulations on the waterfront.

(Bell rung)

THE CHAIR: Wow, pretty good.

MR. MOSKOWITZ: That's pretty good I'd say.

THE CHAIR: Let me see if there any questions for you.

MR. MOSKOWITZ: Sure.

(No response)

THE CHAIR: No, thanks a lot.

MR. MOSKOWITZ: Thank you.

THE CHAIR: Lin Zeng.

MS. ZENG: Hello again. Good afternoon. My name is Lin Zeng, from Manhattan Borough President Scott Stringer's office. Thank you for the opportunity to testify.

The borough president supports the redevelopment project at Pier 57. The proposed actions will facilitate the renovation of the pier, it will facilitate the development of a new public marketplace, and improve open space areas for a growing residential community along Manhattan's West Side. Approval of this project will reactivate and connect Pier 57 to the rest of the Hudson River Park.

The proposed public marketplace is an appropriate use for the refurbished pier building. While the marketplace will occupy approximately 100,000 square feet of floor area, it will be divided into individual work sale stalls for independent designers and food

purveyors. This business model not only provides a suitable location and conditions for small businesses to grow, it also creates a unique public space that benefits the community at large. The bulk modifications are necessary to bring the existing building into compliance to allow for open space improvements on the pier's perimeter, and for additions on the rooftop.

After completion, this project will add approximately two and a half acres of open space to existing park for passive recreation, public events and performances throughout the year. The applicants also seek additional accessory parking spaces at the pier to accommodate prospective new users at the site. The proposed facility will be reserved only for the owners, occupants, employees, customers, and visitors of the Pier and not as a public parking garage.

The community has expressed concerns on the allowable maximum density and potential big box and hotel uses that are permitted under the proposed M1-5 zoning district. If those uses and greater density are realized,

then they would certainly detract from the park's open space and recreation purposes, and should be discouraged.

Pier 57 fortunately is governed by several regulatory safeguards that will prevent any significant changes to what is currently being proposed. Pier 57 is listed under the National Registers of Historic places, and requires state oversight on any changes to the pier's physical form.

In addition to zoning regulations, allowable uses are also governed by the Hudson River Park Trust Act, which currently prohibits hotel use in the park. The Trust will also include restrictions on big box retail stores in its lease with the developer. These proposed uses are appropriate, they complement the passive recreational activities in the park, and they generally reflect nearby uses east of the pier.

Further, the proposed project will reactivate a historic structure, enhance waterfront access, and contribute to great public benefit. Therefore, the Manhattan Borough President gives his full support of the Pier 57

redevelopment project.

THE CHAIR: Thank you so much for coming on behalf of the borough president, we appreciate it.

MS. ZENG: Thank you for your time.

THE CHAIR: Thanks.

The next speaker is AJ Pietrantone. And then Pamela Wasserstein.

MR. PIETRANTONE: Good afternoon, Madam Chair, the Commissioners. I appreciate the opportunity to be here. My name is AJ Pietrantone. I'm the executive director of the Friends of Hudson River Park, a designated fundraising partner with Hudson River Park Trust. Our mission is to secure resources for the completion, repair and enhancement of Hudson River Park. We create opportunities for public contributions too, participation in the park's operations and growth, to guarantee its future for generations of New Yorkers and visitors from around the world.

I'm also a member of the Pier 57 Working Group of the Hudson River Park Trust's advisory council, and a primary component of the

proposed Hudson River Park Neighborhood Improvement District.

I'm here this morning to urge your approval of this project, perhaps taking it up to a higher level to remind us why it has been proposed. The redevelopment of Pier 57 is the first significant new commercial development since the passage of the Hudson River Park Act of 1998. As such, it will not only enhance and increase the public open space within Hudson River Park, but also provide desperately needed revenue to the Trust for its operations and maintenance. As the Park receives no government funds for its operations and maintenance, the designated commercial development areas within the park are critical for its long term financial stability and opportunities to make this historic waterfront accessible to the public.

Equally important is the need to renovate legacy assets such as Pier 57 so that the reuse and ongoing maintenance can become more efficient and their space made available for the public for its enjoyment and appreciation as the park act intended. We anxiously await completion

of this project that will provide an uninterrupted stretch of park from 14th to 29th Street.

In addition to the financial and open space benefits this project will provide the Trust and public, it will help to knit together the park with the surrounding neighborhoods, adding variety to existing recreational opportunities and amenities, and providing additional opportunities for the many employees and residents centered in this West Chelsea neighborhood, as well as the outlet for the additional visitors it currently draws.

The planning and community involvement on this project has been extraordinary since the RFP process began in 2008. Along with the details that require close examination, analysis of impacts and other information provided, we believe that the due diligence of the applicant has resulted in an attractive environmental amenity and reasonable resolution of the estimated results, while addressing the primary community concerns. Furthermore, there is no reason to believe that moving forward the Hudson River Park Trust will not continue to

analyze and examine the actual patterns of use and continue to enhance the experience of park users and the community in conjunction with all its stakeholders. We have seen this implemented in other areas of the park in concert with both community boards and public officials with a high degree of success.

We look forward to that dialogue. We will continue to make Hudson River Park the amazing resource it is for us today.

Thank you.

THE CHAIR: Thank you, thanks so much. Let me see if there are questions for you. Yes, Michelle.

COMM. DE LA UZ: Just one brief question, and I'm not sure you're the person to ask, but since you had raised money you probably know the answer. The 1.6 acre open space, who's going to be paying for the ongoing maintenance of that along the esplanade?

MR. PIETRANTONE: I believe that the developer is paying for the open space on the pier, but the esplanade open space will be the responsibility of the Trust.

COMM. DE LA UZ: Thank you.

THE CHAIR: Any other questions?

(No response)

THE CHAIR: Thank you for coming.

Pamela Wasserstein is the next speaker, to be followed by Eldon Scott.

MS. WASSERSTEIN: Hi, good afternoon. I'm Pam Wasserstein. I'm director of corporate development at Tribeca Enterprises, which is the parent company of the Tribeca Film Festival.

We are very honored that since the start of Pier 57 planning we have partnered with Young Woo to offer a public cultural element in the redevelopment plan. The Pier's two and a half acres of open space include 1.8 acres on the rooftop. We intend to provide free cultural programming there, including an outdoor home for the Tribeca Film Festival, and a summer film screening series, as well as public art, live performance and special events.

We are very proud to support the Pier 57 redevelopment project, and we look forward to participating in the establishment of what we

believe will be an important cultural hub for the neighborhood and for New York.

Thank you.

THE CHAIR: Thank you very much. I'll see if there are any questions for you. There are not. Thanks for being -- oh, I'm sorry, Anna. I didn't see your hand.

COMM. LEVIN: Actually I did have a question. And that is, how big a crowd do you think your most successful event will draw?

MS. WASSERSTEIN: So the maximum capacity, and, you know, the developers can speak to this as well, the maximum capacity for the larger area that could seat a screening, for example, is currently planning for I think a thousand people. I expect that that wouldn't be very frequent, but that would kind of be the maximum there. And obviously the capacity for the complete roof is a bit higher than that.

COMM. LEVIN: And you also have plans to use other space for, you know, fundraisers, parties, special event kind of things?

MS. WASSERSTEIN: We may. You mean

interior spaces?

COMM. LEVIN: Yeah.

MS. WASSERSTEIN: Yeah, we absolutely may. There's not a set plan right now, but we have a close working relationship with Young Woo. And, you know, we're excited about what's going on in the interior as well. And we think that our partners and sponsors will be excited about this too.

COMM. LEVIN: Thank you.

THE CHAIR: Any other questions for Ms. Wasserstein?

(No response)

THE CHAIR: Thank you for being here.

MS. WASSERSTEIN: Thanks.

THE CHAIR: The next speaker will be Eldon Scott, to be followed by Jared Chausow.

MR. SCOTT: Hi. My name is Eldon Scott and I'm the president of the Urban Space Management, USA. Urban Space is the proposed tenant of the public market component of Pier 57, which incorporates approximately 300 shipping containers on four market levels. The market

incubates small businesses in the creative industries, what we call the creative industry sector, which includes retail, art, fashion and food.

Urban Space is a well-known creator of both permanent and seasonable public markets, most notably Camden Locks and Spitalfields in London, and the holiday markets in Union Square and in Grand Central terminal in New York City. We also co-developed the DeKalb Market with Young Woo, which consisted of approximately 60 reused shipping containers in downtown Brooklyn. And this project was named one of the top ten architectural projects of 2011 by the New York Observer, and best retail project of 2011 by the Brooklyn Chamber of Commerce.

I can talk a little bit more, but we're mostly a daytime activity, at DeKalb we're primarily a daytime activity.

We enthusiastically support this project and look forward to the opportunity to create and facilitate a retail community marketplace for small business owners and entrepreneurs to thrive in Manhattan.

THE CHAIR: Great. Let me see if there are questions for you.

(No response)

THE CHAIR: There aren't, but thank you for being here.

MR. SCOTT: Thank you.

THE CHAIR: Jared Chausow. And then Jeff Smithline and then Edward Applebome.

MR. CHAUSOW: You actually got that right.

My name is Jared Chausow. I'm here on behalf of Senator Hoylman, and I'll be summarizing his testimony.

(Reading:) My name is Brad Hoylman and I represent New York State's 27th Senate District, which includes Pier 57 as well as the surrounding neighborhood. Thank you for the opportunity to testify regarding the ULURP applications regarding the proposed redevelopment of Pier 57 submitted by HRPT and Hudson Eagle LLC.

As a longtime supporter of Hudson River Park, I urge the New York City Planning Commission to approve these applications, subject to the conditions set forth in Manhattan Community

Board 4's December 18th, 2012 letter to the Commission. The plan will transform Pier 57 from a vacant pier into an innovative cultural and commercial destination, while restoring and preserving its historical architectural character. I am especially pleased by the proposed redevelopment's creation of 2.5 acres of new public open space. Its restoration of an historic landmark that is listed on the state and National Registers of Historic Places, and its activation of a long underutilized part of our waterfront. All programming on the rooftop open space, which constitutes the bulk of the proposal's total open space would be free and open to the public.

I also appreciate that the developer has committed to fostering dynamic retail and restaurant uses, partnering with the Urban Space Management to create a public marketplace modeled on existing year-round markets in London, in four levels of repurposed shipping containers retrofitted with ADA compliant access. Crucially, according to the draft DEIS, "big box" retail would be prohibited under Hudson Eagle's proposed lease with HRPT.

In addition, the applicant is seeking federal tax credits from the US Department of the Interior, which would require the developer to adhere to the secretary's standards for rehabilitation of historic properties, thereby helping to ensure its contextual appropriateness. That said, I share CB 4's concerns that the development envelope and uses that would be permitted if the discretionary actions were approved, would enable as-of-right development perhaps by a future developer that would have significant adverse impacts on the surrounding community. For example, while the applicant's proposal includes a floor area ratio of just 2.23, the requested zoning map amendment to M1-5 would permit a maximum FAR of 5.0, which is far too high for this historic property in Hudson River Park.

It is also of grave concern that M1-5 zones allow hotel and "big box" retail uses. And while the Hudson River Park Act does not currently allow such uses, I echo CB 4's stated desire for an additional measure of protection from such uses in the future. Likewise, while the aforementioned restriction on "big box" retailers

included in the lease is a positive step, there must be an additional restriction on this use that is not predicated on occupancy of the site by the applicant.

Certainly I hope and anticipate that the proposed development will endure through and perhaps beyond the term of its lease. But its longevity cannot be guaranteed. The zoning map amendment under consideration today has no expiration date. And therefore, CPC must account for all of the possibilities it would engender. However, it is my understanding that the City cannot use a restrictive declaration on the site because it is state owned parkland. To ensure that non contextual or otherwise undesirable development is not permitted on Pier 57, I request that CPC work with me, HRPT, CB 4 and other elected officials and government agencies to craft a set of binding restrictions for the site that reflect the vision of this application. My office has already had preliminary discussions to explore the feasibility of such restrictions with liaisons at the New York State Office of Parks, Recreation and Historic Preservation.

(Bell rung)

MR. CHAUSOW: CPC and HRPT. And I'll end here. Notwithstanding these concerns, I strongly support the proposed Pier 57 redevelopment, and again urge CPC to approve these applications subject to the conditions sought by CB 4.

THE CHAIR: Thanks for coming on behalf of the senator, we appreciate it.

The next speaker is Jeff Smithline. And then Edward Applebome.

MR. SMITHLINE: Hi. My name is Jeff Smithline, I'm from Sam Schwartz Engineering. We did the transportation analysis and all the work that went into the draft EIS.

So, you know, just to go through that real quick. We looked at five peak hours, including two peak hours that cover the event. We did a weekly event peak and a Saturday event peak. We also looked at 16 intersections, I think with 90 locations that included sidewalks, corners and crosswalks. So we really did study this. It's a 92 page chapter and it's full of information. So all the traffic volumes are there.

The trip generation we had, I think it was eight different land uses. For each of these land uses we broke it down into different assumptions. Trip rates, modal splits, they all got vetted with City DOT. They'd like to err on the conservative side so that conservativeness is laid into all eight land uses, and when they're all combined, believe me, it becomes a very conservative analysis.

We did identify significant impacts. There were five intersections that had them. The mitigation chapter does propose signal timing changes to bring all those impacts back to the same or better level of service as what would be in the no action condition.

There were questions that came up about the 16th Street right turn. The right turn is 140 feet long, that's the length of the data that's being provided. The ECS analysis, that's the software that we're required to use by City DOT for the EIS does give us the queue lengths for that right turn. The right turn during any peak does not exceed a hundred feet. So that's about five vehicles. So it would be five vehicles.

Philip went through and explained, you know, sort of the arithmetic behind that. But the analysis software also does confirm that it ranges from two to five vehicles during, you know, any of those five peak hours.

You know, one of the benefits that I also want to point out is, well, first just going to 17th Street, that is, you know, one of the access point locations. We are not proposing any signal timing changes for the Chelsea Piers exit. We will still have the same amount of green time that it has today. So there will be no negative impact on their level of service for their exit.

And just from being out there and actually watching the exit, one of the things that I did notice is that because the block of 16th to 17th Street on Route 9A southbound is so short, it's actually one of the shortest blocks along 9A, sometimes at the signal at 16th when southbound traffic is stopped, it does queue back and extend to 17th Street. So when the Chelsea Piers exit, when they get a green light, sometimes there's nowhere for them to go, and that does cause some

impacts along the Chelsea Piers frontage.

Now, one of the big benefits of this project is that it's eliminating the through signal at 16th Street.

(Bell rung)

MR. SMITHLINE: So now traffic when it starts to queue up will be able to pull all the way down to 15th Street and start to queue there. So that when Chelsea Piers and when 17th Street gets a green light, there will be a space to move into, which will help alleviate a lot of the existing problems that they have today at Chelsea piers.

THE CHAIR: Great, thanks. Let me see if there are questions for you. Yes, Irwin.

COMM. CANTOR: On that last comment, you have now said that you can probably queue five cars. Therefore, anything beyond five -- and I think that Philip said it's a two minute light.

MR. SMITHLINE: Yeah, well, it's actually 140 feet long, which queues up about seven cars.

COMM. CANTOR: Okay. Anything beyond that backs up onto Route 9A.

MR. SMITHLINE: Yes, it would.

COMM. CANTOR: Okay. And I think you said or he said certainly on 17th Street he said it was a two minute light. What's the right turn light?

MR. SMITHLINE: Well, the whole cycle there is two minutes. So some portion of that two minutes would be for 9A.

COMM. CANTOR: So you've got to hope that there's only six cars in the queue.

MR. SMITHLINE: Right. And that's what the analysis does bear out, that it's no more than five during any peak hour.

COMM. CANTOR: Okay.

MR. SMITHLINE: And I mean some of the reason why that happens is really two-fold. One, there's not a lot of parking on the site, so the auto modal split is low. Two is that it is a long phase. Even though it's just a right turn, you know, it also satisfies the left turn, but that's also when the pedestrians will cross at 16th. So it has to be long enough to get pedestrians across the entire highway. And that's why that right turn phase is long.

COMM. CANTOR: That's wider than Queens Boulevard.

MR. SMITHLINE: Wider than some portions of Queens Boulevard.

COMM. CANTOR: Yes.

Does the software include the overlap of people and cars which have a tendency to run a yellow and people which have a tendency to be halfway through?

MR. SMITHLINE: It does account for some running of the yellow, yes. But it's not a traffic simulation, so it doesn't show it graphically. It's based on empirical data and empirical equations, so it's a mathematical equation.

COMM. CANTOR: Okay.

THE CHAIR: Michelle, you have a question.

COMM. DE LA UZ: Can you just comment on whether or not the worst case scenario in terms of peak traffic times accounts for the potential for dinner cruises or any use that would be high demand like that?

MR. SMITHLINE: The analysis that we

did for our site did not include any dinner cruises because at the time, and I think that's still the case, there are no dinner cruise use as part of this development.

COMM. DE LA UZ: How about water taxi?

MR. SMITHLINE: Water taxi is discussed in the EIS, it's not included in the traffic analysis. What we actually explain in the EIS is that there's somewhat of an offset between a water taxi. And we use this logic on other sites as well. Where it's going to attract some new trips, you know, I think most of it will be on foot or by transit. But it will also take trips away from what the site would generate. So it's somewhat of an offset.

COMM. DE LA UZ: Thank you.

THE CHAIR: Any other questions for Mr. Smithline? Yes, Anna.

COMM. LEVIN: Just following up on Michelle's question. We heard comments from Messrs. Masyr and Gluck that there was inadequate information about the marina scenario and the multiple event scenario. I think you partially

addressed the dinner cruise issue. What assumptions are you making about use of the marina and the generation there, and what assumptions are you making about special events?

MR. SMITHLINE: All right. Well, for special events we assume a 2,500 person event on the rooftop, which is what the limit size for the events would be, a maximum limit. The majority of those events would not be 2,500 people, but that was the reasonable worst case we looked at.

COMM. LEVIN: Okay. And is the rooftop the only special event space?

MR. SMITHLINE: I believe it is.

COMM. LEVIN: Does any of the restaurant space have capacity for special events?

MR. SMITHLINE: I'm not aware of -- I don't know if they've all been laid out in that kind of detail yet.

COMM. LEVIN: Okay. But anyway, not that you know of?

MR. SMITHLINE: But for a special event happening at the restaurant, the restaurant wouldn't be open for regular patrons. So, you

know, there would be an offset there as well.

COMM. LEVIN: And what assumptions did you make about marina use that was not dinner cruises?

MR. SMITHLINE: We just counted the number of slips that are proposed and we used the generally accepted rates for, you know, that's been approved in other EIS's. So it's a standard trip rate for a marina.

COMM. LEVIN: So it's mostly assuming private --

MR. SMITHLINE: Well, it's based on sample counts that were done at other marinas. So it's sort of an average marina type use.

COMM. LEVIN: Thank you.

THE CHAIR: Any other questions for Mr. Smithline?

(No response)

THE CHAIR: Thanks for coming, thank you for your testimony.

Edward Applebome.

MR. APPLEBOME: Good afternoon. My name is Edward Applebome. I'm the president of AKRF. We were the lead firm for the preparation

of the Environmental Impact Statement. I just wanted to follow up and clarify a few points that were made.

In terms of the program that was analyzed for the project, there is a very specific reasonable worst case program. It reflects the maximum amount of development conservatively that we expect to occur on the site. So there's not sort of a wishy-washy gray area there. We have accounted for the maximum amount of development that's expected to occur under the approvals.

In terms of the marina, the marina operation is not expected to include charter or dinner cruises, so we don't account for them. It's not designed for them, the water depth doesn't support it, so it's not part of the analysis of the project.

The transportation studies, as with the other studies, are consistent with the SEQRA manual. They're very detailed. We look at traffic, we look at pedestrians, we look at pedestrian safety, we look at parking, we look at public transportation. It's a long chapter. It carries all of those analyses forward, consistent

with EIS's from major projects. So you should all be reviewing those pieces.

The travel demand estimates are done consistent with the SEQRA manual, consistent with other analyses of waterfront projects. They were reviewed by City DOT, they were reviewed by State DOT. The treatment of the marina is consistent with how we have analyzed marinas for other waterfront projects, including Hudson River Park, Brooklyn Bridge Park, and probably other marina projects in the city.

Marinas, in fact, are actually very low generators because, if you're familiar with boat slips, a lot of times it's just a boat sitting at a slip and they don't generate the kinds of activities that you would from some other uses.

And in terms of the banquet operations, the project does not anticipate banquet operations and so that's not accounted for as part of the EIS.

THE CHAIR: Thanks. Let me see if there are questions for you.

(No response)

THE CHAIR: There are not. Thank you, thanks for coming, we appreciate your testimony.

The next speaker is Laurie Silberfeld.

MS. SILBERFELD: Good afternoon, Chair and Commissioners. I'm the general counsel for Hudson River Park. I appreciate the opportunity to speak.

I just wanted to make one short clarification with respect to special events I believe one of the questions were asked. The MOU that we have entered into with the developer and will be converted to a lease once it's done, specifically does not allow for special events, so banquets, the sort of use that you see up at Chelsea Piers.

THE CHAIR: Okay. Maybe there are other questions for you, wait one second. Michelle has a question.

COMM. DE LA UZ: Maybe you can speak to this. I'm glad that Mr. Applebome talked about the water depth not supporting the boats that could have dinner cruises. But do you know why we

heard that the Park was in -- the Trust was in conversation with Spirit Cruises?

MS. SILBERFELD: The Trust has not been in conversations with Spirit Cruises. And as has been previously explained by Mr. Moskowitz, neither has Young Woo. So I'm not certain. Perhaps, you know, it's one of those rumors that doesn't --

COMM. DE LA UZ: Is there any intention to bring dinner cruises to the marina in any way?

MS. SILBERFELD: There is no intention.

COMM. DE LA UZ: Thank you.

THE CHAIR: Any other questions?

(No response)

THE CHAIR: Thanks for coming, thanks for answering the question.

MS. SILBERFELD: Thank you.

THE CHAIR: Is there anyone who has not spoken on this item who would like to do so?

(No response)

THE CHAIR: Okay. In addition to accepting comments into today's hearing, written

comments on the Draft Environmental Impact Statement may be submitted to the Trust as indicated in their public notice and on their Web site. Written comments on the DEIS following today's public hearing will be accepted until five p.m. on February 4, 2013.

Thank you all so much. This hearing is closed.

(Time noted: 1:20 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
) SS:
COUNTY OF ORANGE)

I, KARI L. REED, a Registered Professional Reporter (Stenotype) and Notary Public with and for the State of New York, do hereby certify:

I reported the proceedings in the within-entitled matter and that the within transcript is a true record of such proceedings.

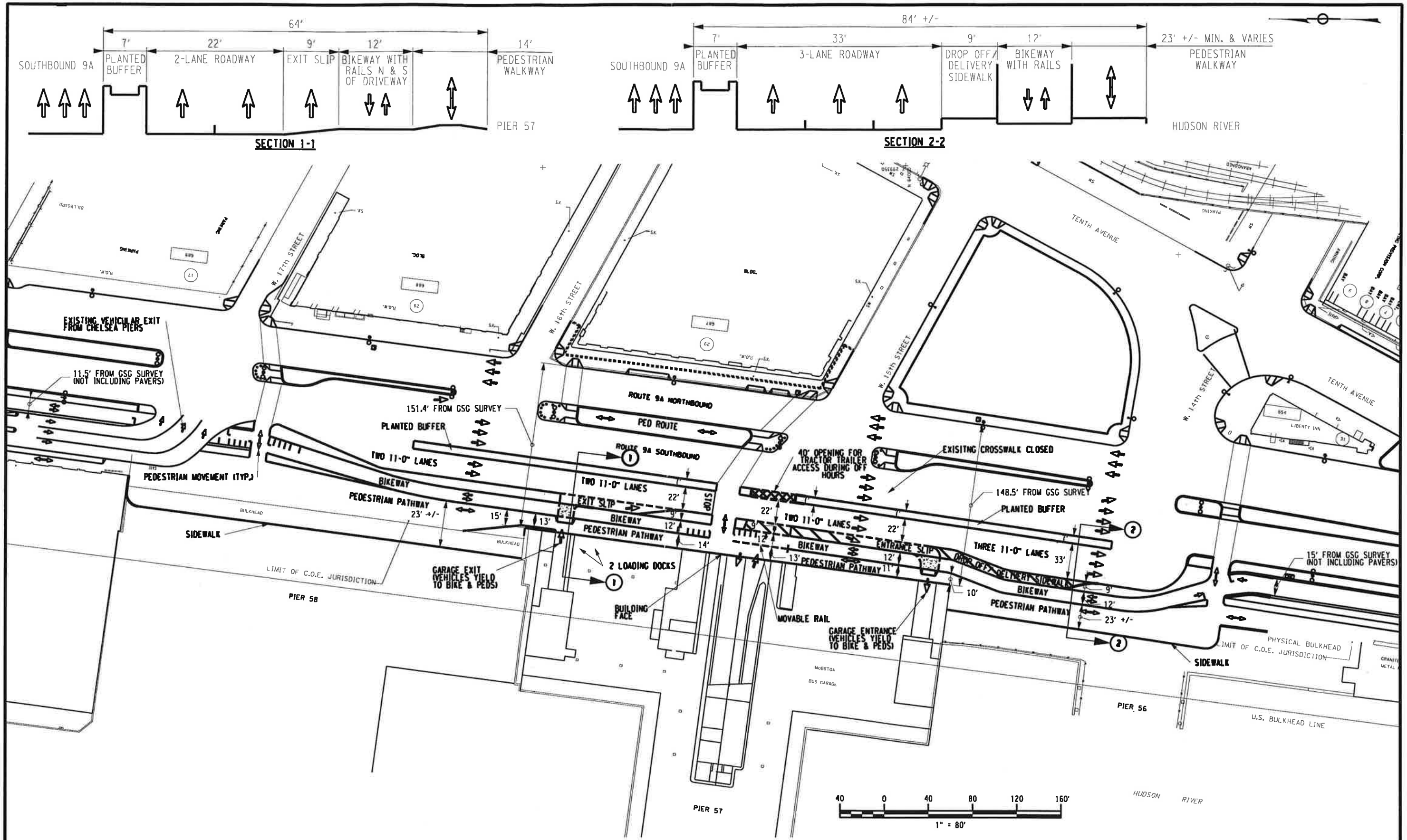
I further certify that I am not related, by blood or marriage, to any of the parties in this matter and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of January, 2013.

_____
KARI L. REED, RPR

E-3

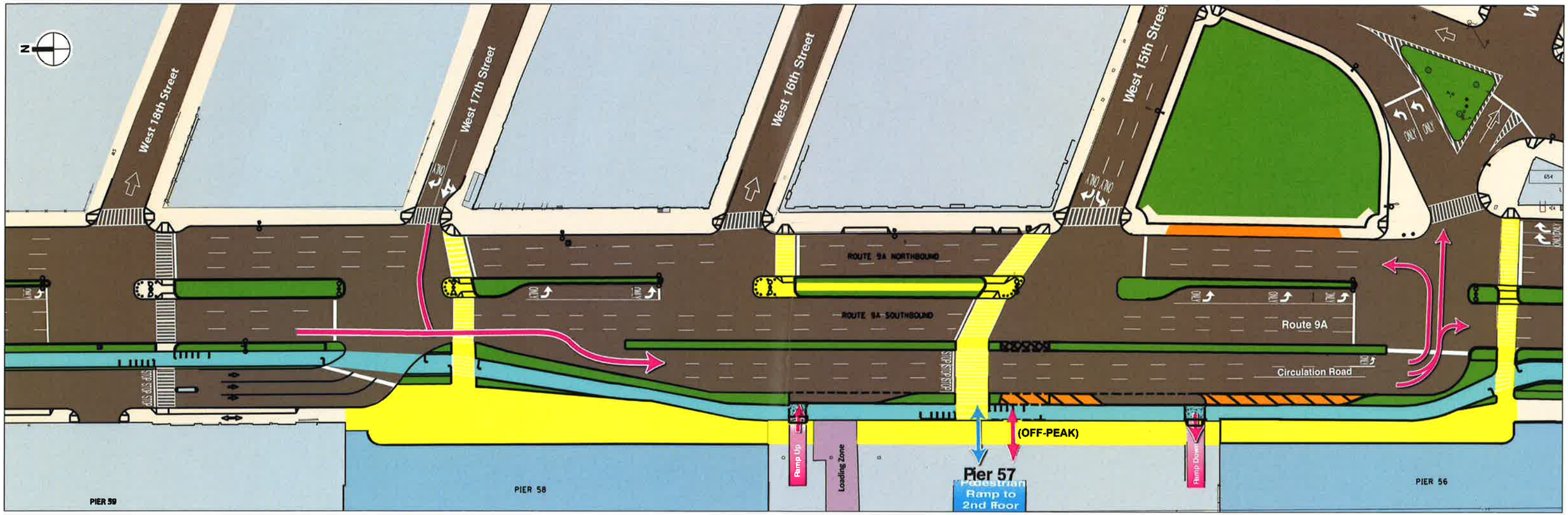
Alternative Access Plans Submitted by Chelsea Piers



PRELIMINARY SCHEMATIC

PIER 57	
ACCESS STUDY ALTERNATIVE	AECOM
SHEET 1 OF 1	
9/13/2012	

ACCESS STUDY ALTERNATIVE 2: PRELIMINARY SCHEMATIC



- *Vehicular Access and Egress*
- *Pedestrian Access and Egress*
- *Proposed Taxi Lay-by Lane*
- *Drop-Off / Delivery Sidewalk*
- *Route 9A Bikeway*
- *Median / Open Space*
- *Sidewalks*
- *Pedestrian Walkway & Crosswalks Serving Pier 57*
- *Buildings*
- *Roadways*

DRAFT FEBRUARY 1, 2013

February 22, 2013

NOTICE OF COMPLETION

FINAL ENVIRONMENTAL IMPACT STATEMENT

PIER 57 REDEVELOPMENT PROJECT

Pursuant to the State Environmental Quality Review Act (Article 8 of the New York State Environmental Conservation Law) and the regulations adopted pursuant thereto (6 NYCRR Part 617), a Final Environmental Impact Statement ("FEIS") has been prepared for the proposed Pier 57 Redevelopment Project (the "Project"), and copies thereof are available online or upon request to the offices of the lead agency as set forth below.

Project Location:	The Project site is located within Hudson River Park at approximately West 15th Street.
Project Description:	The Project involves the repair and rehabilitation of the historic Pier 57 structure and the redevelopment of the site with approximately 428,000 gross square feet of retail, restaurant, other commercial, and educational and cultural uses; 110,000 gross square feet of public open space; a 141-slip marina; and an approximately 75-space accessory parking garage.
SEQRA Classification:	Type 1
Lead Agency:	Hudson River Park Trust Pier 40 353 West Street, 2nd floor New York, NY 10014
Lead Agency Contact:	Noreen Doyle Executive Vice President Hudson River Park Trust 353 West Street, Pier 40, 2nd floor New York, NY 10014 (212)627-2020

The Executive Summary of the FEIS that describes the Project and its potential impacts is incorporated in this Notice of Completion and made a part hereof.

The DEIS for the Project was issued by the lead agency, Hudson River Park Trust ("HRPT"), on October 25, 2012, and copies of the DEIS were made available for review and comment by the public on the HRPT website and at HRPT's offices. A public hearing on the Draft Environmental Impact Statement (DEIS) was held on January 23, 2013 at Spector Hall at the New York City Department of City Planning located at 22 Reade Street, New York, NY 10007. The hearing was in conjunction with the City Planning Commission's public hearing on the project's land use applications pursuant to the Uniform Land Use Review Procedure (ULURP). The public comment period on the DEIS remained open until 5:00 PM on Monday, February 4, 2013.

Copies of the FEIS are available for inspection at HRPT, Pier 40, 353 West Street, 2nd floor New York, NY 10014. A CD of the entire FEIS and/or a paper copy of the executive summary of the FEIS are available at no charge upon request. Paper copies of the complete FEIS are available for purchase. The FEIS is also available at HRPT's web site at http://www.hudsonriverpark.org; on this home page, scroll to the bottom right and click the Pier 57 link under "Official Notices." To inspect and/or obtain copies of the FEIS from HRPT, please call (212) 627-2020 or e-mail Pier57comments@hrpt.ny.gov.

This Notice has been sent to:

Honorable Andrew M. Cuomo, Governor of New York State
Honorable Michael R. Bloomberg, Mayor of New York City
Honorable Jerrold Nadler, Member of United States Congress
Honorable Brad Hoylman, New York State Senator
Honorable Daniel Squadron, New York State Senator
Honorable Richard N. Gottfried, Member, New York State Assembly
Honorable Deborah Glick, Member, New York State Assembly
Honorable Christine Quinn, Speaker, New York City Council
U.S. Army Corps of Engineers
NYS Department of Environmental Conservation
NYS Department of Transportation
NYS Office of Parks, Recreation and Historic Preservation
NYS Department of State
Mayor's Office of Environmental Coordination
NYC City Planning Commission
NYC Department of City Planning
NYC Department of Transportation
NYC Landmarks Preservation Commission
NYC Department of Parks and Recreation
NYC Department of Environmental Protection
Manhattan Borough President's Office
Manhattan Community Board # 4
Manhattan Community Board #2
Manhattan Community Board #1
Friends of Hudson River Park
Chelsea Waterside Park Association
Chelsea-Village Partnership
Chelsea Piers Management
Chelsea Cultural Partnership
Council of Chelsea Block Associations
Hudson River Watertrail Association
Pier 57 Working Group
NYC Clean Air Campaign
Sierra Club, Hudson River Estuary Committee
West Fifteenth Street 100 & 200 Block Association
Patricia Dillon
David Howe
Dana Hudes
John Sherratt