Appendix B: Waterfront Revitalization Consistency Assessment

FOR INTERNAL USE ONLY	WRP No. WRP#23-221
Date Received: _____	DOS No. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's Coastal Zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)* which has been approved as part of the State's Coastal Management Program.

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, the New York City Department of City Planning, or other city or state agencies in their review of the applicant's certification of consistency.

A. APPLICANT INFORMATION

Name of Applicant: Queens Future, LLC

Name of Applicant Representative: c/o Nancy Doon, VHB

Address: One Penn Plaza, Suite 715, New York, NY 10119-0800

Telephone: 212-857-7312 Email: NDoon@vhb.com

Project site owner (if different than above): City of New York

B. PROPOSED ACTIVITY

If more space is needed, include as an attachment.

1. Brief description of activity

Queens Future LLC (the "Applicant") proposes to redevelop approximately 78 acres of underutilized, largely asphalt surface parking areas located west of Seaver Way and adjacent to Citi Field with a major mixed-use development (the "Queens Future Project" or "Proposed Project").

The Queens Future Project is anticipated to be comprised of up to approximately 3.7 million square feet (sf) of new construction, with destination entertainment including a music hall, hotel, a gaming facility, convention and meeting space, restaurant and retail space, and office and community facility uses. The Proposed Project would also include public park space —at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation—and other public realm improvements as well as structured parking facilities to accommodate up to 13,750 spaces.

The parking areas that compose the majority of the Development Site are located in Flushing Meadows Corona Park, which is mapped parkland. They provide parking for the adjacent Citi Field baseball stadium. The property is owned by the City of New York (the City) and predominantly leased to Queens Ballpark Company, L.L.C. (Ballpark, LLC), pursuant to state law enacted in 1961 in connection with the construction of Shea Stadium. Shea Stadium was later demolished and replaced with Citi Field.

2. Purpose of activity

The surface parking surrounding Citi Field is used only on game days during baseball season (generally April through October), for certain other private events held at Citi Field, and for certain other scheduled events in Flushing Meadows Corona Park, including the U.S. Open. Up to 1,795 spaces are designated for commuter parking on business days. Otherwise, this approximately 53 acres of asphalt parking underutilized and not available to the public. As a result, the site currently provides limited amenities to the local community, with few opportunities for recreation, dining, or entertainment in the area immediately surrounding Citi Field. Beyond attending events at the existing stadium, the site provides visitors with few options to remain in the area, failing to deliver on the tourism and economic development potential a major sporting facility offers to Queens.

The Queens Future Project is an opportunity to transform these underutilized parking lots into a unique mixed-use recreational, commercial, and entertainment hub with extensive, landscaped public park space and other amenities for public recreation. The redevelopment would promote economic development, enhance the visitor experience, increase tourism, and create thousands of quality jobs for area residents. Furthermore, the Proposed Project would include the many infrastructure improvements described above that would facilitate public enjoyment of the new development and complement the existing major public and private investment in Willets Point and surrounding neighborhoods. New public park space, transit and highway improvements, and other public amenities proposed as part of the Queens Future Project are made possible with the creation of the mixed-use recreational and entertainment hub.

C. PROJECT LOCATION

Borough: Queens Tax Block/Lot(s): Block 1787, Lots 1 and p/o 20; Block 2018, p/o 1500

Street Address: 123-01 Roosevelt Avenue

Name of water body (if located on the waterfront): _____

D. REQUIRED ACTIONS OR APPROVALS

Check all that apply.

City Actions/Approvals/Funding

City Planning Commission ☑ Yes ☐ No

- ☑ City Map Amendment
- ☑ Zoning Map Amendment
- ☐ Zoning Text Amendment
- ☐ Site Selection – Public Facility
- ☐ Housing Plan & Project
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____
- ☐ Zoning Certification
- ☐ Zoning Authorizations
- ☐ Acquisition – Real Property
- ☐ Disposition – Real Property
- ☑ Other, explain: Additional land use actions as needed
- ☐ Concession
- ☐ UDAAP
- ☐ Revocable Consent
- ☐ Franchise

Board of Standards and Appeals ☐ Yes ☑ No

- ☐ Variance (use)
- ☐ Variance (bulk)
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____

Other City Approvals

- ☐ Legislation
- ☐ Rulemaking
- ☐ Construction of Public Facilities
- ☐ 384 (b) (4) Approval
- ☑ Other, explain: Approvals by the NYCDOT, NYC Parks, and NYCDEP, as applicable
- ☐ Funding for Construction, specify: _____
- ☐ Policy or Plan, specify: _____
- ☐ Funding of Program, specify: _____
- ☐ Permits, specify: _____

State Actions/Approvals/Funding

- ☐ State permit or license, specify Agency: _____ Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☑ Other, explain: Approval of state legislation; Additional NYSDOT and NYCDOT approvals and approval from Gaming Commission

Federal Actions/Approvals/Funding

- ☐ Federal permit or license, specify Agency: _____ Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☐ Other, explain: _____

Is this being reviewed in conjunction with a Joint Application for Permits? ☐ Yes ☑ No

E. LOCATION QUESTIONS

1. Does the project require a waterfront site? ☐ Yes ☑ No
2. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land under water or coastal waters? ☐ Yes ☑ No
3. Is the project located on publicly owned land or receiving public assistance? ☑ Yes ☐ No
4. Is the project located within a FEMA 1% annual chance floodplain? *(6.2)* ☑ Yes ☐ No
5. Is the project located within a FEMA 0.2% annual chance floodplain? *(6.2)* ☑ Yes ☐ No
6. Is the project located adjacent to or within a special area designation? *See Maps – Part III of the NYC WRP. If so, check appropriate boxes below and evaluate policies noted in parentheses as part of WRP Policy Assessment (Section F).* ☑ Yes ☐ No

   ☐ Significant Maritime and Industrial Area (SMIA) (*2.1*)
   ☑ Special Natural Waterfront Area (SNWA) (*4.1*)
   ☐ Priority Maritime Activity Zone (PMAZ) (*3.5*)
   ☐ Recognized Ecological Complex (REC) (*4.4*)
   ☐ West Shore Ecologically Sensitive Maritime and Industrial Area (ESMIA) (*2.2, 4.2*)

F. WRP POLICY ASSESSMENT

Review the project or action for consistency with the WRP policies. For each policy, check Promote, Hinder *or* Not Applicable (N/A). *For more information about consistency review process and determination, see* ***Part I*** *of the NYC Waterfront Revitalization Program. When assessing each policy, review the full policy language, including all sub-policies, contained within* ***Part II*** *of the WRP. The relevance of each applicable policy may vary depending upon the project type and where it is located (i.e. if it is located within one of the special area designations).*

For those policies checked Promote *or* Hinder, *provide a written statement on a separate page that assesses the effects of the proposed activity on the relevant policies or standards. If the project or action promotes a policy, explain how the action would be consistent with the goals of the policy. If it hinders a policy, consideration should be given toward any practical means of altering or modifying the project to eliminate the hindrance. Policies that would be advanced by the project should be balanced against those that would be hindered by the project. If reasonable modifications to eliminate the hindrance are not possible, consideration should be given as to whether the hindrance is of such a degree as to be substantial, and if so, those adverse effects should be mitigated to the extent practicable.*

		Promote	Hinder	N/A
1	**Support and facilitate commercial and residential redevelopment in areas well-suited to such development.**	☑	☐	☐
1.1	Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.	☑	☐	☐
1.2	Encourage non-industrial development with uses and design features that enliven the waterfront and attract the public.	☑	☐	☐
1.3	Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.	☑	☐	☐
1.4	In areas adjacent to SMIAs, ensure new residential development maximizes compatibility with existing adjacent maritime and industrial uses.	☐	☐	☑
1.5	Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2.	☑	☐	☐

		Promote	Hinder	N/A
2	**Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.**	☐	☐	☑
2.1	Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas.	☐	☐	☑
2.2	Encourage a compatible relationship between working waterfront uses, upland development and natural resources within the Ecologically Sensitive Maritime and Industrial Area.	☐	☐	☑
2.3	Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas or Ecologically Sensitive Maritime Industrial Area.	☐	☐	☑
2.4	Provide infrastructure improvements necessary to support working waterfront uses.	☐	☐	☑
2.5	Incorporate consideration of climate change and sea level rise into the planning and design of waterfront industrial development and infrastructure, pursuant to WRP Policy 6.2.	☐	☐	☑
3	**Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.**	☐	☐	☑
3.1.	Support and encourage in-water recreational activities in suitable locations.	☐	☐	☑
3.2	Support and encourage recreational, educational and commercial boating in New York City's maritime centers.	☐	☐	☑
3.3	Minimize conflicts between recreational boating and commercial ship operations.	☐	☐	☑
3.4	Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.	☐	☐	☑
3.5	In Priority Marine Activity Zones, support the ongoing maintenance of maritime infrastructure for water-dependent uses.	☐	☐	☑
4	**Protect and restore the quality and function of ecological systems within the New York City coastal area.**	☑	☐	☐
4.1	Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas.	☑	☐	☐
4.2	Protect and restore the ecological quality and component habitats and resources within the Ecologically Sensitive Maritime and Industrial Area.	☐	☐	☑
4.3	Protect designated Significant Coastal Fish and Wildlife Habitats.	☐	☐	☑
4.4	Identify, remediate and restore ecological functions within Recognized Ecological Complexes.	☐	☐	☑
4.5	Protect and restore tidal and freshwater wetlands.	☐	☐	☑
4.6	In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location.	☑	☐	☐
4.7	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.	☐	☐	☑
4.8	Maintain and protect living aquatic resources.	☐	☐	☑

		Promote	Hinder	N/A
5	**Protect and improve water quality in the New York City coastal area.**	☑	☐	☐
5.1	Manage direct or indirect discharges to waterbodies.	☑	☐	☐
5.2	Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.	☑	☐	☐
5.3	Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.	☐	☐	☑
5.4	Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.	☐	☐	☑
5.5	Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies.	☑	☐	☐
6	**Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.**	☑	☐	☐
6.1	Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.	☑	☐	☐
6.2	Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in *New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms*) into the planning and design of projects in the city's Coastal Zone.	☑	☐	☐
6.3	Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.	☐	☐	☑
6.4	Protect and preserve non-renewable sources of sand for beach nourishment.	☐	☐	☑
7	**Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.**	☑	☐	☐
7.1	Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.	☑	☐	☐
7.2	Prevent and remediate discharge of petroleum products.	☐	☐	☑
7.3	Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.	☐	☐	☑
8	**Provide public access to, from, and along New York City's coastal waters.**	☑	☐	☐
8.1	Preserve, protect, maintain, and enhance physical, visual and recreational access to the waterfront.	☑	☐	☐
8.2	Incorporate public access into new public and private development where compatible with proposed land use and coastal location.	☐	☐	☑
8.3	Provide visual access to the waterfront where physically practical.	☑	☐	☐
8.4	Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.	☐	☐	☑

		Promote	Hinder	N/A
8.5	Preserve the public interest in and use of lands and waters held in public trust by the State and City.	☐	☐	☑
8.6	Design waterfront public spaces to encourage the waterfront's identity and encourage stewardship.	☐	☐	☑
9	**Protect scenic resources that contribute to the visual quality of the New York City coastal area.**	☑	☐	☐
9.1	Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.	☑	☐	☐
9.2	Protect and enhance scenic values associated with natural resources.	☑	☐	☐
10	**Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.**	☑	☐	☐
10.1	Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.	☑	☐	☐
10.2	Protect and preserve archaeological resources and artifacts.	☑	☐	☐

G. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved 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's Name: Nancy Doon, AICP, VHB

Address: One Penn Plaza, Suite 715, New York, NY 10119-0800

Telephone: 212-857-7312 Email: NDoon@vhb.com

Applicant/Agent's Signature: Nancy Doon

Date: 09/20/2024

Submission Requirements

For all actions requiring City Planning Commission approval, materials should be submitted to the Department of City Planning.

For local actions not requiring City Planning Commission review, the applicant or agent shall submit materials to the Lead Agency responsible for environmental review. A copy should also be sent to the Department of City Planning.

For State actions or funding, the Lead Agency responsible for environmental review should transmit its WRP consistency assessment to the Department of City Planning.

For Federal direct actions, funding, or permits applications, including Joint Applicants for Permits, the applicant or agent shall also submit a copy of this completed form along with his/her application to the NYS Department of State Office of Planning and Development and other relevant state and federal agencies. A copy of the application should be provided to the NYC Department of City Planning.

The Department of City Planning is also available for consultation and advisement regarding WRP consistency procedural matters.

New York City Department of City Planning
Waterfront and Open Space Division
120 Broadway, 31st Floor
New York, New York 10271
212-720-3696
wrp@planning.nyc.gov
www.nyc.gov/wrp

New York State Department of State
Office of Planning and Development
Suite 1010
One Commerce Place, 99 Washington Avenue
Albany, New York 12231-0001
518-474-6000
www.dos.ny.gov/opd/programs/consistency

Applicant Checklist

- ☑ Copy of original signed NYC Consistency Assessment Form
- ☑ Attachment with consistency assessment statements for all relevant policies
- ☐ For Joint Applications for Permits, one (1) copy of the complete application package
- ☑ Environmental Review documents
- ☑ Drawings (plans, sections, elevations), surveys, photographs, maps, or other information or materials which would support the certification of consistency and are not included in other documents submitted. All drawings should be clearly labeled and at a scale that is legible.
- ☑ Policy 6.2 Flood Elevation worksheet, if applicable. For guidance on applicability, refer to the WRP Policy 6.2 Guidance document available at www.nyc.gov/wrp

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B

WRP Consistency Assessment

The New York City Waterfront Revitalization Program (WRP) establishes the City's policies and objectives for maximizing benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among those objectives. The Project Area is located within the City's Coastal Zone (**Figure B-1**) and the Proposed Actions are consequently subject to the policies of New York City's Waterfront Revitalization Program (WRP).

The WRP Consistency Assessment Form (CAF) is used to identify the relevant WRP policies; the CAF is included in this appendix. For all relevant policies, a written assessment to determine consistency with the applicable WRP policy is provided.

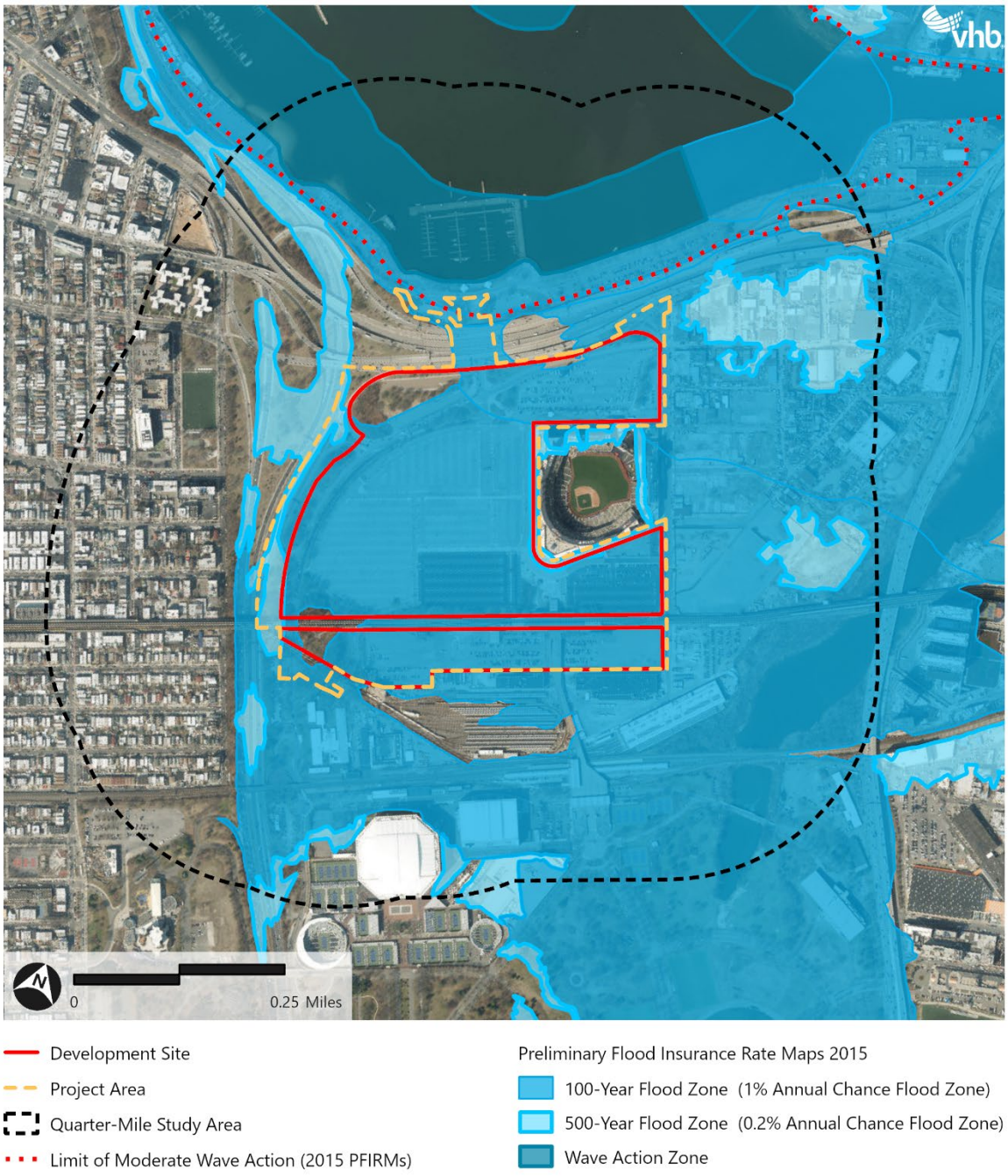
As described in **Chapter 1, Project Description,** Queens Future, LLC (the Applicant) proposes to redevelop approximately 78 acres of underutilized, largely asphalt surface parking areas located west of Seaver Way and adjacent to Citi Field (the Development Site) with a major mixed-use development (the Queens Future Project, or Proposed Project). The parking areas that comprise the majority of the Development Site are located in Flushing Meadows Corona Park, which is mapped parkland, while a small portion on the northwest corner of the Development Site is located within the boundary of the Grand Central Parkway right-of-way and a small portion on the northeast corner of the Development Site is located within the boundary of Northern Boulevard. The Project Area extends slightly beyond the Development Site. These areas include additional parcels that would contain roadway improvements, highway access improvements, and improved connections to the Mets-Willets Point NYCT No. 7 Train Subway Station from the portion of the Development Site to the south of the subway station.

The Queens Future Project is anticipated to be comprised of up to approximately 3.7 million square feet of new construction, with destination entertainment that includes a music hall, hotel, a gaming facility,[1] convention and meeting space, restaurant and retail space, and office and community facility space. The Proposed Project would also include public park space—at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation—

[1] The inclusion of a gaming facility is contingent upon receiving a gaming license from the New York State Gaming Commission.

and other public realm improvements as well as structured parking facilities to accommodate up to 13,750 spaces.

Figure B-1 Flood and Coastal Zone Map



Source: DCP Flood Hazard Mapper; FEMA

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

Policy 1.1: Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.

The Proposed Project would change the land uses on the Development Site, transforming approximately 78 acres of underutilized, largely asphalt surface parking areas into a mix of entertainment uses, public park space, and public realm improvements. The Proposed Project would create a more inviting, open, and active space for local visitors and employees as well as area residents and workers. As described in **Chapter 2, Land Use, Zoning and Public Policy**, the Proposed Project would be an appropriate use in this area of the Coastal Zone because the entertainment uses are consistent with those existing and planned in the surrounding area, including the major entertainment destinations of Citi Field, the planned soccer stadium in Willets Point, Flushing Bay Marina and Promenade, and Flushing Meadows Corona Park, which contains entertainment uses and other destinations such as the USTA Tennis Center, Queens Museum, Queens Zoo, and Queens Botanical Garden. The proposed restaurant and retail uses would be supportive of existing entertainment uses as well as the new neighborhood proposed to the east. The proposed public park space would introduce a new amenity for local residents and visitors. Importantly, the Proposed Project would redevelop existing underutilized land that currently serves as surface parking lots for the adjacent Citi Field stadium with the uses discussed above. Moreover, as discussed in detail below, the Proposed Project would improve access to the waterfront for the public by providing new public park space and pedestrian and bike connections. The Project Area is also well-served by roadways, public transportation, and infrastructure. Therefore, the Proposed Project would promote this policy.

Policy 1.2: Encourage non-industrial development with uses and design features that enliven the waterfront and attract the public.

The Proposed Project is a non-industrial development. It includes the development of up to approximately 3.7 million sf of new construction, including destination entertainment that includes a music hall, hotel, a gaming facility, convention and meeting space, and restaurant and retail space as well as office and community facility space. The Proposed Project would also include at least 20 acres of public park space and structured parking facilities to accommodate up to 13,750 spaces. The newly created public park spaces would provide areas for gathering, play, and respite, thereby attracting the public.

The Proposed Project would improve access to the Flushing Bay Promenade, enlivening the waterfront area. Under existing conditions, the Project Area is not open to the public because Citi Field is a closed parking lot and there is no direct access from the southern portion of Flushing Meadows Corona Park to the bay. The public park space would include a major north-south area with landscaping and walking paths, creating a pedestrian connection from the southern portion of Flushing Meadows Corona Park and the subway station farther north. Lighting improvements and a protected zone for bikes and pedestrians are proposed under the Whitestone Expressway near Boat

Basin to improve the pedestrian experience and the safety of the path to the waterfront. Additional bike paths would be added providing further connection to the waterfront. Therefore, the Proposed Project would promote this policy.

Policy 1.3: Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.

The Project Area is well served by multiple modes of public transit, including bus and subway. Transit access includes the Q48 bus route, the MTA No. 7 Line, and the Long Island Rail Road (LIRR), which all run along Roosevelt Avenue located to the south of the Project Area. The MTA No. 7 Line has a subway stop at the Mets-Willets Point NYCT No. 7 Train Subway Station.

As described in **Chapter 11, Water and Sewer Infrastructure**, the Proposed Project would introduce measures to improve water and sewer infrastructure and stormwater management and create open space. Stormwater quantity for the Proposed Project would be managed through a combination of decreases in impervious area and detention structures. Stormwater quality requirements would be met through a combination of green infrastructure practices (such as green roofs and infiltration trenches) and manufactured treatment. Furthermore, the Proposed Project would introduce approximately 20 acres of public park space, which would improve the connectivity of the Development Site with Flushing Bay and Flushing Meadows Corona Park and provide additional sources of recreation and new public facilities for the surrounding community.

Therefore, the Proposed Actions would promote this policy.

Policy 1.5: Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2.

As discussed in detail under Policy 6.2, the Proposed Project would be designed with consideration of climate change and sea level rise. A majority of the Development Site has a Base Flood Elevation (BFE) of 12 feet North American Vertical Datum of 1988 (NAVD88). The BFE in the northernmost portion of the Development Site is 13 ft NAVD88, as established by the Federal Emergency Management Agency (FEMA) 2007 effective Flood Insurance Rate Map. The design flood elevation (DFE) is 15 ft NAVD88, according to regulations set forth in the NYC Building Code (2022) Amendment regarding flood-resistant construction, as well as sea-level rise recommendations by the NYC Climate Resiliency Design Guidelines (2020). However, the first occupiable floor within the Areas of Development buildings would be designed to an elevation of 20 feet NAVD88, which is 12 feet above site elevation, to incorporate possible future revisions to the base flood elevation by FEMA or the City. The uses located in the Areas of Development that are located at or below the design flood elevation would contain parking and loading, as well as a bus lounge, restrooms, some areas associated with the live music venue, storage, lobbies, elevators, and water tanks. Given the location of these uses, the Applicant would employ wet floodproofing measures and would comply with all flood load provisions and code requirements. Therefore, the Proposed Project would promote this policy.

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

Policy 4.1: Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas.

The entirety of the Project Area and the surrounding areas from Flushing Bay to the north and Flushing Meadows Corona Park occur within the Special Natural Waterfront Area (SNWA), specifically known as the East River/Long Island Sound Area. The Project Area primarily consists of paved surface parking and roadways with a limited amount of buffer vegetation. As discussed in **Chapter 9, Natural Resources**, habitat replacement under the Proposed Project would result in an overall expansion of vegetated habitats and a reduction in unvegetated/impervious surfaces—thereby improving habitat conditions and resulting in a net ecological benefit for the Development Site. The Proposed Project would result in a net increase in pervious surfaces at the Project Area from 17.5 acres (18 percent) of existing site coverage to 24.3 acres (25 percent) of proposed site coverage.

As the quality and quantity of vegetated habitats and trees would increase significantly as compared to existing conditions, habitat conditions for resident wildlife at the post-construction Development Site would improve. Due to the overall expansion of vegetated habitat, the existing species of fauna adapted to landscaped settings within urban areas would continue to utilize the Development Site at increased species population densities. Significantly, the proposed expansive plantings would create habitat and foraging opportunities for birds and insects, including important pollinator species.

Direct effects on wildlife from habitat loss due to tree removal under the Proposed Project would not be permanent and would be fully mitigated over time through tree replacement measures and expansion of vegetated habitats. Mitigation for tree removal under the Proposed Project would consist of installation of numerous new trees throughout the Project Area. Tree replacement would occur at a ratio that would result in a significantly higher number of trees in the Project Area following implementation of the Proposed Project, as compared to existing conditions.

Similar to existing conditions, the vegetated landscaped habitats that would occur in the Project Area following implementation of the Proposed Project would include the Mowed Lawn, Mowed Lawn with Trees, and Flower Herb Garden communities, as defined in the *Ecological Communities of New York State (ECNYS)*[2], though at increased acreage for each. Under existing conditions, the existing 80.5-acre paved surfaces within minimal vegetation currently renders the vast majority of the Project Area and is largely insignificant from an ecological perspective. Significantly, the Proposed Project would preserve/improve existing vegetated habitats and create new habitat blocks, thereby avoiding further habitat loss or fragmentation and enhancing a site located within an identified SNWA. Following implementation of the Proposed Project, it is the intent of the Applicant to maintain the ecological integrity of the landscaped habitats to be installed at the Development Site. Once a final landscape design has been completed, an appropriate monitoring and adaptive management plan would be developed in accordance with applicable industry standards and best management

[2] Edinger, G.J., et al. (editors). 2014. *Ecological Communities of New York State*. Second Edition. New York Natural Heritage Program, NYSDEC.

practices for maintaining landscaped habitats. Therefore, the Proposed Project would improve habitat conditions and result in a net ecological benefit to ecological resources within the Project Area.

Therefore, the Proposed Project would promote this policy.

Policy 4.6: In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location.

As discussed in **Chapter 9, Natural Resources**, the vast majority (80.5 acres or 82 percent of existing site coverage) of the 98.0-acre Project Area is comprised of unvegetated, impervious surfaces created in association with the existing site usage as surface parking and roads. The Project Area also includes areas of pervious surfaces, including turf grass areas with trees, vegetated parking lot islands and roadside borders, street tree pits, and other mostly landscaped vegetated habitats totaling 17.5 acres, or 18 percent of existing site coverage. Based on the foregoing, the existing habitats that occur in the Project Area have been created by humans or significantly altered by human activity. Such habitats, as defined in the *CEQR Technical Manual*, are "terrestrial cultural communities," which refers to communities that are "*substantially different from the character of the substrate or resident community as it existed prior to human influence*."

Implementation of the Proposed Project would result in a reduction in impervious surfaces and an expansion of pervious surfaces, including vegetated habitats, from 18 percent to 24 percent of site coverage. The majority of the new vegetated habitats would be created within areas that are currently occupied by paved surfaces, resulting in conversion from unvegetated/impervious surfaces to a mosaic of landscaped habitats, including open lawns, picnicking areas, sports fields, gardens, and other habitats to be established within six open space areas for use a public park space. The landscaped habitats would be representative of the Mowed Lawn, Mowed Lawn with Trees, and Flower Herb Garden communities, as defined in the New York Natural Heritage Program publication *Ecological Communities of New York State* (Edinger, et. al., 2014). Moreover, many existing trees within the Project Area would be preserved, and installation of new trees and under the Proposed Project would occur at a replacement ratio that would result in a significantly higher number of trees within the Project Area, as compared to existing conditions. Based on the foregoing, the quality and quantity of vegetated habitats and trees would increase significantly as compared to existing conditions, resulting in improved vegetative habitat diversity and increased habitat opportunities for resident wildlife within the post-construction Project Area.

Considering the existing terrestrial cultural conditions at the Project Area described above, and taking into account the proposed future use of the Project Area as a major mixed-use development, implementation of the Proposed Project would accomplish the two primary goals of this policy by achieving a net ecological benefit through habitat expansion and enhancement, while providing substantial societal benefits through creation of new public park space for passive and active recreational uses.

Therefore, the Proposed Project would promote this policy.

Policy 4.7: 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.

As discussed in **Chapter 9, Natural Resources**, based on review of the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper[3] and EAF Mapper[4] and correspondence from the New York Natural Heritage Program (NYNHP), dated April 7, 2023, there are currently no NYNHP records of New York State-listed plants, wildlife, or significant natural communities for the Project Area or vicinity. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) resources list for the Project Area includes three federally listed birds and one mammal including the red knot (*Calidris canutus rufa*), piping plover *(Charadrius melodus*), roseate tern (*Sterna dougallii dougallii*), and northern long-eared bat (*Myotis septentrionalis*). The Project Area and vicinity do not provide suitable habitat for red knot, piping plover, or roseate tern, and there are no NYNHP records of these species for the Project Area or vicinity.

Summer roost habitat for Northern Long-eared Bat includes live trees or snags (standing dead trees) that are three inches diameter or greater and have exfoliating bark, cracks, crevices, and/or cavities. Unsuitable habitat for Northern Long-eared Bat includes "*Trees found in highly developed urban areas (e.g., street trees, downtown areas).*"[5] Furthermore, according to the USFWS Final Listing for Northern Long-eared Bat, "*tree removal that occurs at any time of year in highly developed urban areas (e.g., street trees, downtown areas)"* is unlikely to result in "take" (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) of this species. [6] Moreover, there are no NYNHP records of Northern Long-eared Bat for the Project Area or vicinity, and, based on the NYSDEC's *Northern Long-eared Bat Occurrences by Town* map, there are no records for species occurrences within the Borough of Queens, the adjoining Borough of Brooklyn to the southwest, or the adjoining Towns of Hempstead and North Hempstead in Nassau County to the east.[7] Based on these factors, Northern Long-eared Bat is not expected to occur within the Project Area and vicinity. Based on the foregoing, the Project Area does not provide suitable habitat for the four species on the IPaC resources list.

Notwithstanding the above, the Proposed Project would significantly increase the quality and quantity of vegetated habitats and trees as compared to existing conditions. Thus, habitat conditions for resident wildlife would improve. Due to the overall expansion of vegetated habitat, the existing faunal assemblage of species adapted to landscaped settings within urban areas would continue to utilize the Development Site at increased species population densities, as compared to current conditions. Moreover, As discussed in **Chapter 9, Natural Resources,** the Proposed Project would

3 New York State Department of Environmental Conservation. Environmental Resource Mapper. Available at: https://www.dec.ny.gov/animals/38801.html Accessed June 2023.

4 New York State Department of Environmental Conservation. EAF Mapper. Available at: https://gisservices.dec.ny.gov/eafmapper/ Accessed June 2023.

5 United States Fish and Wildlife Service. 2023. Range-Wide Indianan Bat and Northern Long-eared Bat Survey Guidelines.

6 87 FR 73488. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat. November 30, 2022.

7 New York State Department of Environmental Conservation. Protection of Northern Long-eared Bat. Available at: https://www.dec.ny.gov/animals/106090.html. Accessed June 2023.

not result in significant direct or indirect adverse effects to the tidal wetland habitats and resident flora and fauna of Flushing Bay.

Therefore, the Proposed Project would promote 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.

As described in **Chapter 11, Water and Sewer Infrastructure**, the Proposed Project would introduce measures to improve water and sewer infrastructure and stormwater management and create open space. Stormwater quantity for the Proposed Project would be managed through a combination of decreases in impervious area and detention structures. Stormwater quality requirements would be met through a combination of green infrastructure practices (such as green roofs and infiltration trenches) and manufactured treatment. These measures would allow the development to discharge at a rate that would not exacerbate the surcharged conditions of the downstream storm sewers, in accordance with NYCDEP regulations. The Development Site is currently served by a separated sewer system and would continue to be served by a separated system in the With-Action condition, therefore, the Proposed Project would not result in increased flows to the City's combined sewer system that may be discharged as CSO's during rain events, and it would not result in an increase in CSO volumes/frequencies. A Stormwater Pollution Prevention Plan (SWPPP), consisting of both temporary erosion and sediment controls and post-construction stormwater best management practices Best Management Practices (BMPs) for the Development Site, would be developed and implements during construction. Furthermore, the conversion of approximately 78 acres of largely impervious asphalt surface parking lots to at least 20 acres of pervious, public park space would significantly reduce the volume of stormwater runoff generated from the site over the existing condition. With these measures in place, the Proposed Project would promote this policy.

Policy 5.2: Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.

See response to Policy 5.1. During construction and when the project is in operation, the Proposed Project would include various measures to protect waterbodies from direct or indirect discharges of stormwater, pollutants, and/or sediments. All project work would be performed under the New York State Department of Environmental Conservation (NYSDEC)-approved SWPPP to be prepared in accordance with the terms and conditions of the State Pollutant Discharge Elimination System (SPDES) permit program. No project work or equipment and materials storage would occur within or adjacent to wetlands, and various project erosion and silt controls would be installed and maintained pursuant to the guidelines set forth in the *New York State Standards and Specifications for Erosion and Sediment Control* (2016). Green stormwater management practices as discussed above under Policy 1.3 would be incorporated to support retention and detention volume requirements.

With the implementation of these strategies, the Proposed Project would minimize nonpoint discharge into coastal waters of excess nutrients, organics, eroded soils, and pollutants, and to

control stormwater runoff from roadways and other developed areas. Therefore, the Proposed Project would promote this policy.

Policy 5.5: Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies.

As described in **Chapter 11, Water and Sewer Infrastructure**, the Proposed Project would introduce measures to improve water and sewer infrastructure and stormwater management and create open space. Stormwater quantity for the Proposed Project would be managed through a combination of decreases in impervious area and detention structures. Stormwater quality requirements would be met through a combination of green infrastructure practices (such as green roofs and infiltration trenches) and manufactured treatment. Therefore, the Proposed Actions would promote this policy.

Policy 6: Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future condition created by climate change.

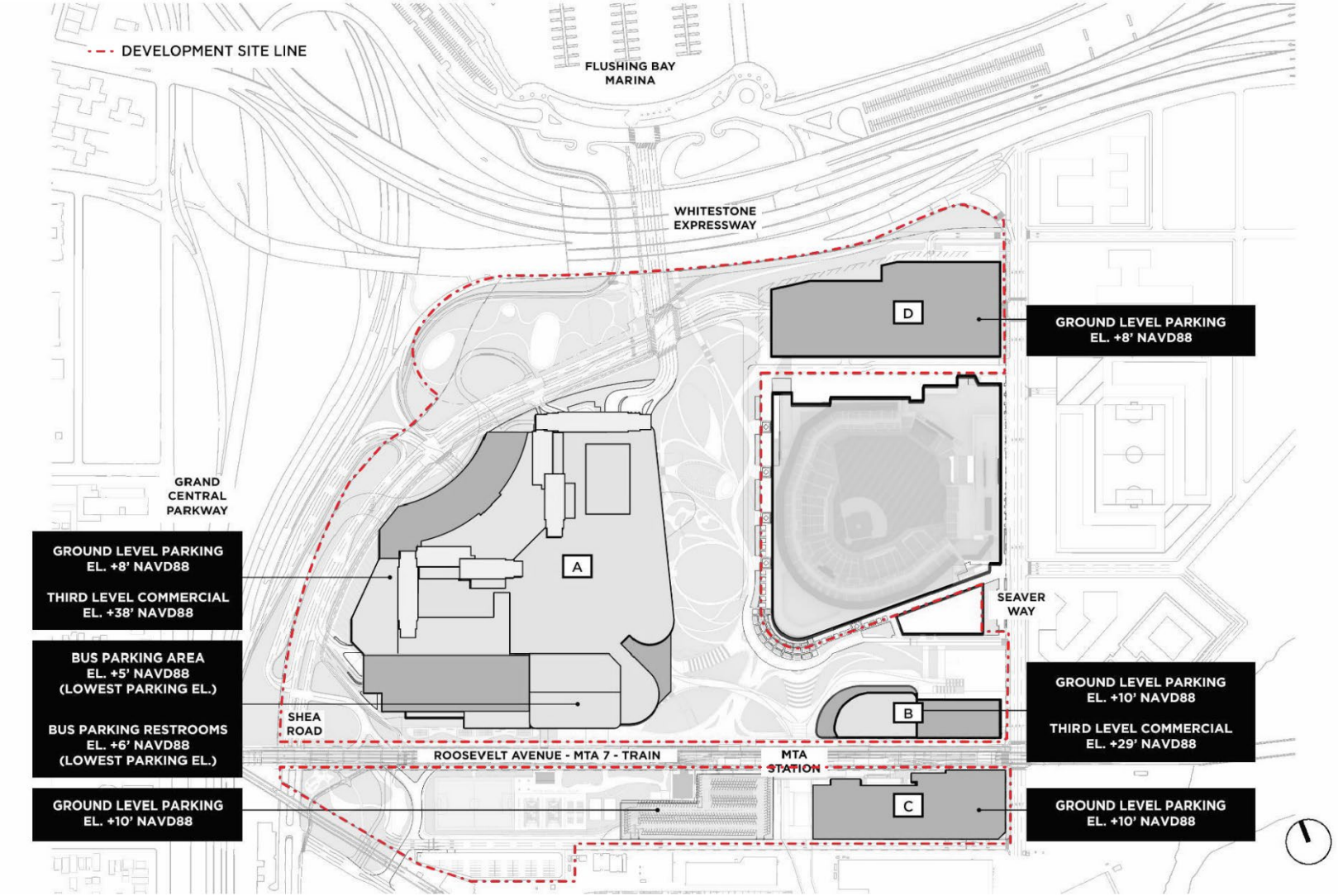
Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.

According to the Preliminary Flood Insurance Rate Map (PFIRM) for Queens County, New York dated September 5, 2007 (Map Number 3604970113F), the Development Site is located within the 1% annual chance flood hazard area, Zone AE (an area of high flood risk subject to inundation by the 1% annual chance flood event). Under Policy 6, the primary goal of projects in coastal areas is to reduce risks posed by current and future coastal hazards, particularly major storms that are likely to increase due to climate change and sea level rise. A majority of the Development Site has a BFE of 12 feet NAVD88. The northeastern portion of the Development Site has a BFE of up to 13 feet NAVD88. The first occupiable floor for the Areas of Development buildings would be designed to an elevation of 20 feet NAVD88, which is 12 feet above site elevation, to incorporate possible future revisions to the base flood elevation by FEMA or the City. The uses located in the Areas of Development that are located at or below the design flood elevation would be restricted to parking and loading. The Proposed Project would be constructed in accordance with Building Code Appendix G "Flood Resistant Construction." With these measures in place, the Proposed Project would promote this policy.

Policy 6.2: Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms) into the planning and design of projects in the city's Coastal Zone.

Guidance provided by the New York City Department of City Planning (DCP) includes a detailed methodology to determine the consistency of a project with Policy 6.2. This guidance identifies three basic steps to determine the consistency of a project with this policy: (1) identify vulnerabilities and consequences; (2) identify adaptive strategies; and (3) assess policy consistency. This assessment is based on the elevation drawings provided in **Figure B-2** and **Figure B-3**.

Figure B-2 Site-Wide Elevation



Source: SHoP Architects

1. Identify vulnerabilities and consequences

1(a). Complete the Flood Elevation Worksheet to identify current and future flood elevations in relation to the elevations of the site and project features.

See attached Flood Evaluation Worksheets.

1(b). Identify any project feature that may be located below the elevation of the 1-Percent Floodplain over the lifespan of the project under any sea level rise scenario.

For this assessment, building features are defined in one of four categories:

- (1) vulnerable: project features that have the potential to incur significant damage if flooded;
- (2) critical: project features that if damaged would have severe impacts on the project and its ability to function as designed;
- (3) potentially hazardous: project features that if damaged or made unsecure by flooding could potentially adversely affect the health and safety of the public and the environment; and
- (4) other: project features that are entirely open and unenclosed spaces, except the open storage of potentially hazardous materials, which may be damaged by flooding, but are not likely to present significant consequences and are more easily repaired.

The Flood Elevation Worksheets were prepared for the Proposed Project and are attached. This tool identifies current and future flood elevations in relation to the elevations of the site and project features, presents a range of future flood elevations in relation to the elevations of the site and project features, and presents a range of future flood elevations as affected by sea level rise, from high (90th percentile) to low (10th percentile), where the "high estimate" represents a high-end projected increase in flood elevation.

According to the New York City Panel on Climate Change (NPCC), sea level rise projections in the middle range (25th to 75th percentile) in New York City are likely to have an increase of 4 to 8 inches by the 2020s, 11 to 21 inches by the 2050s, 18 to 39 inches by the 2080s, and 22 to 50 inches by 2100. Under the "high estimate" scenario (90th percentile), sea level rise projections reach 10 inches by the 2020s, 30 inches by the 2050s, 58 inches by the 2080s, and 75 inches by 2100. Sea level rise projections are relative to a 2000-2004 base period (the most recent projections from the NPCC were issued in 2015).

According to the Preliminary Flood Insurance Rate Map (PFIRM) for Queens County, New York dated September 5, 2007 (Map Number 3604970113F), the Development Site is located within the 1% annual chance flood hazard area, Zone AE (an area of high flood risk subject to inundation by the 1% annual chance flood event). A majority of the Development Site has a BFE of 12 NAVD88. The northeastern portion of the Development Site has a BFE of up to 13 feet NAVD88 (see attached worksheets and **Figure B-1**). Based on the NPCC "high estimate" scenario, the 1% annual chance flood BFE for the Development Site could increase up to 13.83 feet in the 2020s, 15.50 feet in the 2050s, 17.83 feet in the 2080s, and up to 19.25 feet by 2100 (NAVD88) as compounded by sea level rise projections (see **Table B-1**).

The Proposed Project's buildings are anticipated to have a lease of 99 years, or until 2129, when adaptive reuse in the form of major rehabilitation or reconstruction is assumed. The Proposed Project's buildings, parking garages, and open space are evaluated for projected flood levels through 2100 (the farthest data projection currently available). Most of the Proposed Project's vulnerable

features, such as the commercial uses, would be elevated well above the BFE except for structured parking uses which would occupy the lowest floors below the BFE. The primary resiliency strategies include: (1) dry floodproofing and wet floodproofing, (2) elevating critical mechanical equipment, and (3) introducing approximately 20 acres of public park space which would contain substantial permeable surfaces. Other ecological and stormwater related mechanisms are described in the other sections.

Table B-1 2020 Floodplain Elevations with Projected Sea Level Rise

Decade	Low Estimate – 10th percentile (ft)	Mid-Range – 25th to 75th percentile (ft)		High Estimate – 90th percentile (ft)
13 Foot Base Flood Elevation				
2020	13.17	13.33	13.67	13.83
2050	13.67	13.92	14.75	15.50
2080	14.08	14.50	16.25	17.83
2100	14.25	14.83	17.17	19.25
12 Foot Base Flood Elevation				
2020	12.17	12.33	12.67	12.83
2050	12.67	12.92	13.75	14.50
2080	13.08	13.50	15.25	16.83
2100	13.25	13.83	16.17	18.25

Sources: DCP Flood Hazard Mapper, NYC Panel on Climate Change

Area of Development A

The lowest floor elevation of the commercial building within Area of Development A would occur at a BFE of approximately 5 feet NAVD88, which would consist of structured parking (see **Figure B-2**). According to the Flood Elevation Worksheets, Area of Development A is categorized as vulnerable because the structured parking and associated uses such as bus parking, bus lounge and restrooms, storage, elevators and lobbies, and water storage tanks are below the floodplain and these areas have the potential to be significantly damaged if flooded. However, the remainder of the building would not be impacted by 100-year flood heights based on the high estimates through 2100. The building would also contain commercial uses starting on the third floor or a height of 38 feet NAVD88.

Measures to protect vulnerable and critical features within Area of Development A include elevating and wet and dry floodproofing. For the areas wet floodproofed, there would be sufficiently sized, located, and numbered flood openings in accordance with FEMA requirements. There would be at least two wall openings per enclosed area, each on different walls, which would be distributed evenly around the perimeter of the building. Wet floodproofing measures would also include the use of flood damage-resistant materials and finishes for structural flooring materials, finish flooring materials, structural wall and ceiling materials, and finish wall and ceiling materials, such as concrete, clay tile, pressure-treated plywood, and glass block, among other materials. The use of the portions of Area of Development A with wet floodproofing would be limited to parking so that in the case of a flood emergency, vehicles can be relocated. The details of the specific wet floodproofing measures for the specific building materials will be determined as the design is further advanced.

Dry floodproofing is a combination of measures that results in a structure, including the attendant utilities and equipment, being watertight with all elements substantially impermeable and with structural components having the capacity to resist flood loads. Dry floodproofing within Area of Development A would be employed using flood damage-resistant materials and techniques to render the enclosures substantially impermeable to floodwater. Sump pumps would be provided to remove water accumulated due to any passage of vapor and seepage of water during a flooding event. The details of the specific dry floodproofing building components will be determined as the design is further advanced.

Because the proposed building within Area of Development A would be designed with a combination of wet and dry floodproofing, either measure would be applicable in any future flood event.

In addition to the commercial uses being elevated far above the DFE, the mechanical equipment would be located at a height of approximately 20 feet NAVD88.

Area of Development B

The lowest floor elevation of the proposed building in Area of Development B would occur at a BFE of 10 feet NAVD88, which would also consist of structured parking (see **Figure B-2**). The proposed building in Area of Development B is categorized as vulnerable because the structured parking has the potential to be significantly damaged if flooded. The building would also contain commercial uses starting on the third level or a height of 29 feet NAVD88. According to the Flood Elevation Worksheets, the structured parking in Area of Development B would be vulnerable to 100-year floods under current and future sea level rise conditions. However, the remainder of the building would not be impacted by 100-year flood heights based on the high estimates through 2100. Wet floodproofing would be adopted by restricting uses below the recommended DFE to only parking.

Area of Development C

Area of Development C would consist of a structured parking garage on the east side of the Mets-Willets Point NYCT No. 7 Train Subway Station and a surface parking lot on the west side of the subway station (see **Figure B-2**). The lowest elevation of the structured parking garage and the surface parking lot proposed in Area of Development C would be constructed at an elevation of 10 feet NAVD88. According to the Flood Elevation Worksheets, the structured parking in Area of Development C would be vulnerable to 100-year floods under current and future sea level rise conditions. However, the remainder of the building would not be impacted by 100-year flood heights based on the high estimates through 2100. Measures to protect vulnerable features within Area of Development C include wet floodproofing, which would be adopted by limiting the use in these areas to parking so that in the case of a flood emergency, vehicles can be relocated. The surface parking lot in Area of Development C is not a vulnerable or critical feature of the Proposed Project for the continued operation of the proposed uses. Therefore, flood-related impacts on the surface parking lot would be minimal.

Area of Development D

The lowest floor elevation of the structured parking proposed in the Area of Development D would be constructed at an elevation of 8 feet NAVD88 (see **Figure B-2**).[8] According to the Flood Elevation Worksheets, the structured parking in Area of Development D would be vulnerable to 100-year floods under current and future sea level rise conditions. However, the remainder of the building would not be impacted by 100-year flood heights based on the high estimates through 2100. Measures to protect vulnerable and critical features within Area of Development D include wet floodproofing, which would be adopted by limiting the use in these areas to only parking so that in the case of a flood emergency, vehicles can be relocated.

Public Park Open Spaces

The Proposed Project would include site-wide public park open spaces that range in elevations of 8 feet NAVD88 to 13 feet NAVD88 (see **Figure B-2** and **Figure B-3**). The majority of the open spaces are at current grade as the grade within the Development Site ranges from about elevation 7 to 12 feet. Open Space 1 (OS-1), OS-4 and OS-6 would be constructed at an elevation of 11 feet NAVD88. OS-2 is proposed to be constructed at an elevation of 13 feet NAVD88. OS-3 would occur at an elevation of 8.42 feet NAVD88. The BFE in these areas of the Development Site is 12 feet NAVD88, and therefore, the proposed public park open spaces would be below the BFE except for OS-2. One open space, OS-5, would occur at an elevation of 9 feet NAVD88 and would be located in the northeastern portion of the Development Site. The BFE in this area of the Development Site is 13 feet NAVD88, and therefore this proposed public park open space would be 4 feet below the BFE.

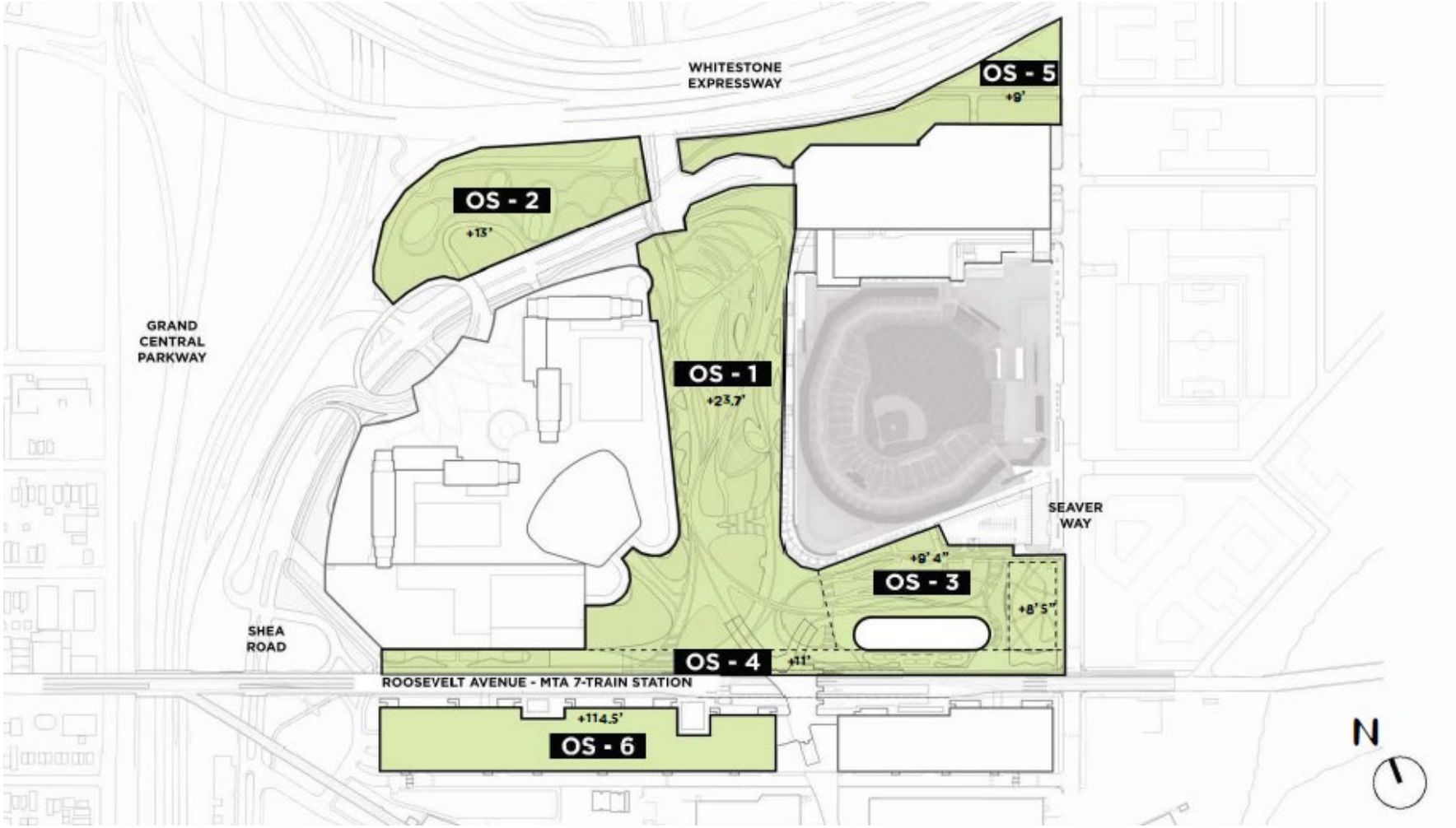
Table B-2 Proposed Open Space Elevations

Proposed Open Space	Lowest Elevation (NAVD88)
OS-1	11
OS-2	13
OS-3	8.42
OS-4	11
OS-5	9
OS-6	11

According to the Flood Elevation Worksheets, the open spaces would be vulnerable to 100-year floods under current and future sea level rise conditions. However, because open space is considered a non-vulnerable use, flood-related impacts would be minimal. Additionally, these open space improvements would increase permeable surface and softscape across the Development Site, and coupled with stormwater management strategies, these measures would contribute to water retention during floods and mitigate the impacts of sea level rise and flooding.

[8] Unlike the rest of the Proposed Project in which the BFE occurs at an elevation of 12 feet NAVD88, the Area of Development D occurs at a BFE of 13 feet NAVD88.

Figure B-3 Proposed Open Space Elevations



Source: SHoP Architects

1(c). Identify any vulnerable, critical, or potentially hazardous features that may be located below the elevation of Mean Higher High Water over the lifespan of the project under any sea level rise scenario.

Based on the range of sea level rise predictions described above, Mean Higher High Water (MHHW) at the National Oceanic and Atmospheric Administration (NOAA) Station nearest the Project Area (Worlds Fair Marina #8517251) could be 9.84 feet NAVD88 by 2100 under the "high estimate" (90th percentile) scenario. Current tidal and flood heights in the Development Site are 3.59 feet NAVD88, as adjusted for changes in sea level since the 1983-2001 tidal epoch. As shown in the figure in the attached Flood Evaluation Worksheets, except for the structured parking, no vulnerable, critical, or hazardous features would be located below the elevation of MHHW over the lifespan of the project under any sea level rise scenario.

1(d). Describe how any additional coastal hazards are likely to affect the project, both currently in the future, such as waves, high winds, or debris.

Wave action hazards (i.e., Zone VE or Coastal A Zone) have not been designated for the Development Site and the Development Site is not subject to the Limit of Moderate Wave Action (LiMWA). The LiMWA identifies areas that will be affected by waves with a 1.5-foot wave height or greater within the Coastal A Zone. Given that the Project Area is not located in a wave action hazard zone, or the LiMWA, it is unlikely that any of the Proposed Project components would experience damage from coastal hazards such as wave action during a 1% annual chance flood event over the project lifespan.

2. Identify adaptive strategies

2(a). For any features identified in Step 1(b), identify adaptive strategies:

The Proposed Project would incorporate floodproofing measures to protect from current and future flood risk that would comply with Appendix G of the NYC Building Code. The entire ground floors of the proposed buildings in Area of Development A, Area of Development B, Area of Development C (parking structure), and Area of Development D would utilize wet flood-proofing measures. To improve the resiliency of the buildings and parking structures, sensitive building features for the building in Area of Development A such as the electrical switchgear, fire pumps, gas pumps, fire alarms, and security systems would be located above the recommended design elevation at heights of approximately 10 to 20 feet NAVD88.

Further onsite improvements would contribute to the resiliency of the Development Site and surrounding area. These improvements include green stormwater management practices, which would be incorporated to support retention and detention volume requirements. Furthermore, the conversion of approximately 78 acres of largely impervious asphalt surface parking lots to a new development that includes at least 20 acres of pervious, public park space with vegetation that would employ a combination of strategies to quickly recover from both small and large storms, would promote the reduction of the level of impact of heavy rainfall from short-duration, intense storms on the sewer infrastructure, and would reduce the incidence of pooling and flood-related impacts on adjacent sites.

The Climate Resiliency Guidelines developed by the Mayor's Office of Resiliency recommend designing adaptive strategies for a proposed project with features below the projected elevation of the "middle range estimate" MHHW (50th percentile) scenario and sea level rise combined, over a project's anticipated useful life. The proposed buildings are anticipated to have a lifespan of about 50

years (around 2080), when adaptive reuse in the form of major rehabilitation or reconstruction is anticipated to be required. The MHHW compounded by the effects of sea level rise in the 50th percentile scenario at the Project Area is projected to be 6.01 feet NAVD88 by year 2080. All elements of the Proposed Project would be elevated above this level as described above.

If retrofits of vulnerable elements of the building are required prior to the 2080's, there are some adaptive strategies that can be undertaken. For example, as shown in the Flood Evaluation Worksheets, in a 100-year flood occurring with the sea level rise that is projected for the 2050's (an additional 0.67-2.5 feet) the water level would rise 15.5 feet NAVD88. In this flooding scenario, the structured parking in the Area of Development D would be about 6.5 feet underwater. This means that in the future, there could be potential damage to paving materials and facades within these areas, or potentially increased flood insurance costs. Measures to adapt and protect the site would rely on the implementation of best practices and technology available at that time. These may include but not be limited to structural changes, such as considering the implementation of a passive barrier strategy to protect any vulnerable features. Operational changes may include moving vulnerable uses to a higher elevation.

2(b). Describe any additional measures being taken to protect the project from additional coastal hazards such as waves, high winds, or debris.

As discussed above, none of the Proposed Project buildings intersects the LiMWA and the Project Area is not located in the Zone VE or Coastal A Zone. Therefore, the northernmost façades of these buildings are not anticipated to be impacted from wave action and other coastal hazards such as waves, winds, or debris.

2(c). Describe how the project would affect the flood protection of adjacent sites, if relevant. How would the project lead to increased flooding on adjacent sites? How would the project protect upland sites from coastal hazards? Does the project complement or conflict with planned, adjacent flood protection projects?

Because the floodplain within New York City is controlled by astronomic tide and meteorological forces (e.g., nor'easters and hurricanes) and not by fluvial flooding, the Proposed Project would not have the potential to adversely affect the floodplain or result in increased coastal flooding at adjacent sites or within the study area. During and following construction, activities within the Development Site would be completed in accordance with applicable stormwater regulations. Furthermore, the conversion of approximately 78 acres of largely impervious asphalt surface parking lots to a new development that includes at least 20 acres of pervious, public park space with vegetation that can withstand high water levels, would promote the reduction of level impact of heavy rainfall from short-duration, intense storms on the sewer infrastructure, and would reduce the incidence of pooling and flood-related impacts on adjacent sites.

Therefore, the construction and operation of the Proposed Project would not exacerbate future projected flooding conditions on adjacent sites.

3. Assess policy consistency

Based on this information, the Proposed Actions would promote Policy 6.2. As described above, Area of Development A, Area of Development B, and the parking garages would be wet flood proofed, the commercial spaces would be constructed at a higher elevation than the BFE, and critical equipment such as the mechanicals would be elevated out of the floodplain for the Proposed Project's

anticipated lifespan. Vulnerable features below the projected elevation of the future high 1% chance annual flood and sea level rise would be made resilient through the implementation of site-specific and area-wide adaptive strategies such as those described above. Furthermore, the conversion of approximately 78 acres of largely impervious asphalt surface parking lots to a new development with 20 acres of public park space with vegetation that can withstand high water levels, would promote the reduction of level impact of heavy rainfall from short-duration, intense storms on the sewer infrastructure, and would reduce the incidence of pooling and flood-related impacts on adjacent sites.

Policy 7: Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.

Policy 7.1: Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.

As described in **Chapter 12, Solid Waste and Sanitation Services,** none of the additional solid waste generated by the Proposed Project would be handled by the New York City Department of Sanitation (DSNY), and a majority of the solid waste would be handled by private carters.

Solid waste would be transported to an appropriately licensed facility in accordance with applicable transportation regulations. Generation of hazardous waste, toxic pollutants, or substances hazardous to the environment is not expected as part of the Proposed Project. If hazardous waste is encountered during construction of the site, or is generated as part of future site uses, it would be managed in a manner consistent with applicable laws and regulations such as the Resource Conservation and Recovery Act (RCRA). Unenclosed storage of industrial materials is also not expected as part of the Proposed Project. Materials handled and stored on site would be subject to the Occupational Safety and Health Administration's (OSHA) regulations. For these reasons, the Proposed Project is consistent with this policy.

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

Policy 8.1: Preserve, protect, maintain, and enhance physical, visual and recreational access to the waterfront.

The Proposed Project would enhance physical, visual, and recreational access to the waterfront. The Proposed Project would provide new connections to existing waterfront spaces via the delivery of new public park space and pedestrian and bike connections and the provision of wayfinding from upland areas to Flushing Bay.

The Proposed Project would create at least 20 acres of public park space open to the public that would serve as a new connection between Flushing Bay and the upland neighborhoods. Under existing conditions, the Project Area is not open to the public and there is no direct access from the southern portion of Flushing Meadows Corona Park and the subway station to Flushing Bay. The public park space would include a major north-south linear area with landscaping, walkways, and passive recreation areas. The newly created public park open spaces would provide areas for gathering, play, and respite. This park space creates a welcoming pedestrian connection through the Project Area and toward Flushing Bay and the Flushing Bay Promenade.

Several improvements are proposed for the roadways closest to Flushing Bay. Specifically, a pedestrian/bike bridge over the highway ramps would replace the existing at-grade crosswalk at the ramp from the westbound Grand Central Parkway to the eastbound Whitestone Expressway, enhancing pedestrian and cycling safety. Improvements to the crosswalks would enhance safety and would reflect the higher number of expected pedestrian crossings at these locations due to the Proposed Project. Lighting improvements and a protected zone for bikes and pedestrians are proposed under the Whitestone Expressway near Boat Basin to improve pedestrian experience and safety to the waterfront. Bicycle lanes would be included under the Whitestone Expressway to create a protected bike lane connection along the northern edge of the Development Site. A shared path is proposed from Boat Basin to Seaver Way within the northeastern portion of the Development Site to connect to the proposed bike lanes in the Willets Point neighborhood.

The improvements along the pathways to the waterfront would strengthen connections to and from the Project Area including a connection to the Mets-Willets Point NYCT No. 7 Train Subway Station and to the Passerelle Bridge. These measures would provide visual access to Flushing Bay and the areas along the waterfront. For these reasons, the Proposed Project would promote this policy.

Policy 8.3: Provide visual access to the waterfront where physically practical.

As mentioned above and detailed in **Chapter 8, Urban Design and Visual Resources**, Flushing Bay and the Flushing Bay Promenade are visual resources. Under existing conditions, views of Flushing Bay are not visible from at-grade locations to the south due to topography, distance, and the elevated Whitestone Expressway.

Views from within the Flushing Bay Promenade and in the area of the Candela Structures would not substantially change with the Proposed Project. As new development associated with the Proposed

Project would be located south of these resources, it is not expected that the new development would block views of these resources. Instead, the Proposed Project would improve view corridors towards these resources as new walkways would be constructed which would provide for enhanced and safer pedestrian connections between the Flushing Bay Promenade and Flushing Meadows Corona Park. Therefore, the Proposed Project would be consistent with Policy 8.3.

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

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

Views to the Flushing Bay waterfront from the Development Site are currently blocked by the approximately 35-foot-tall Whitestone Expressway. The Proposed Project would create at least 20 acres of public park space through new landscaping, walkways, and passive and active recreation areas. These newly created public park open spaces would provide areas for gathering, play, and respite. It would introduce critical pedestrian and cycling connections to transit and other surrounding open spaces including the Flushing Bay Promenade and the Flushing Meadows Corona Park and provide connectivity within the Development Site. Additionally, the Proposed Project would introduce variations in topography on the Development Site such that pedestrians would be able to see the waterfront from various places on the Development Site. These measures would be compatible with existing scenic elements and would introduce a new visual resource (i.e., in the form of the proposed open spaces) that would improve urban design, thereby improving visual quality and the areas along the waterfront. For these reasons, the Proposed Project would promote this policy.

Policy 9.2: Protect and enhance scenic values associated with natural resources.

See response to Policy 9.1. The Proposed Project would not adversely affect views to Flushing Bay and would create at least 20 acres of public park space through new landscaping, walkways, and passive and active recreation areas. These newly created public park open spaces would enhance connectivity to the Flushing Bay Promenade and views to Flushing Bay. Therefore, the Proposed Project would promote this policy.

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

Policy 10.1: Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.

There are no historic resources with an association to the coastal culture of New York City located within the study area for the Proposed Project. The Proposed Project would not result in any direct impacts to historic resources, as no historic resources would be physically affected by the Proposed Project. If the Proposed Project were to result in any potential indirect or contextual impacts to historic resources, consultation with the New York State Historic Preservation Office would identify measures to avoid or minimize such impacts. Therefore, the Proposed Project would promote this policy.

Policy 10.2: Protect and preserve archaeological resources and artifacts.

No archaeological sites have been previously recorded within the Development Site, which is the location where new ground disturbance is proposed. Additionally, due to the extensive prior ground disturbance within the Development Site which would have destroyed any potential archaeological resources, there are no archaeological concerns for the Proposed Project. Therefore, the Proposed Project would promote this policy.

NYC Waterfront Revitalization Program - Policy 6.2 Flood Elevation Workhsheet

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Enter information about the project and site in highlighted cells in Tabs 1-3. Tab 4, "Summary Charts" contains primary results. Tab 5, "0.2%+SLR" produces charts to be used for critical infrastructure or facilities. Tab 6, "Calculations" contains background computations. Appendix A contains tide elevations for station across the city to be used for the elevation of MHHW if a site survey is not available. Non-highlighted cells have been locked.

Background Information	
Project Name	Queens Future
Location	Queens Block 1787 - Portions of Lot 20 and Lot 1; Queens Block 2018 - A portion of Lot 1500
Type(s)	☑ Residential, Commercial, Community Facility ☑ Parkland, Open Space, and Natural Areas ☐ Tidal Wetland Restoration ☐ Critical Infrastructure or Facility ☐ Industrial Uses ☐ Over-water Structures ☐ Shoreline Structures ☐ Transportation ☐ Wastewater Treatment/Drainage ☐ Coastal Protection
Description	Queens Future LLC (the "Applicant") proposes to redevelop approximately 78 acres of underutilized, largely asphalt surface parking areas located west of Seaver Way and adjacent to Citi Field with a major mixed-use development (the "Queens Future Project" or "Proposed Project") comprised of up to approximately 3.7 million square feet (sf) of new construction, with destination entertainment including a music hall, hotel, a gaming facility, convention and meeting space, restaurant and retail space, and office and community facility uses. The Proposed Project would also include at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation and other public realm improvements as well as structured
Planned Completion Date	2030
Expected Project Lifespan	2129

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For technical assistance on using this worksheet, email wrp@planning.nyc.gov, using the message subject "Policy 6.2 Worksheet."

Last update: Sept. 7, 2018

Establish current tidal and flood heights.

	FT (NAVD88)	Feet	Datum	Source
MHHW	3.59	**3.59**	**NAVD88**	*Appendix A*
1% flood height	12.00	**12.00**	**NAVD88**	*DCP Flood Hazard Mapper*
Design flood elevation	13.00	**13.00**	**NAVD88**	*DCP Flood Hazard Mapper*
As relevant:				
0.2% flood height	-->			

Data will be converted based on the following datums:

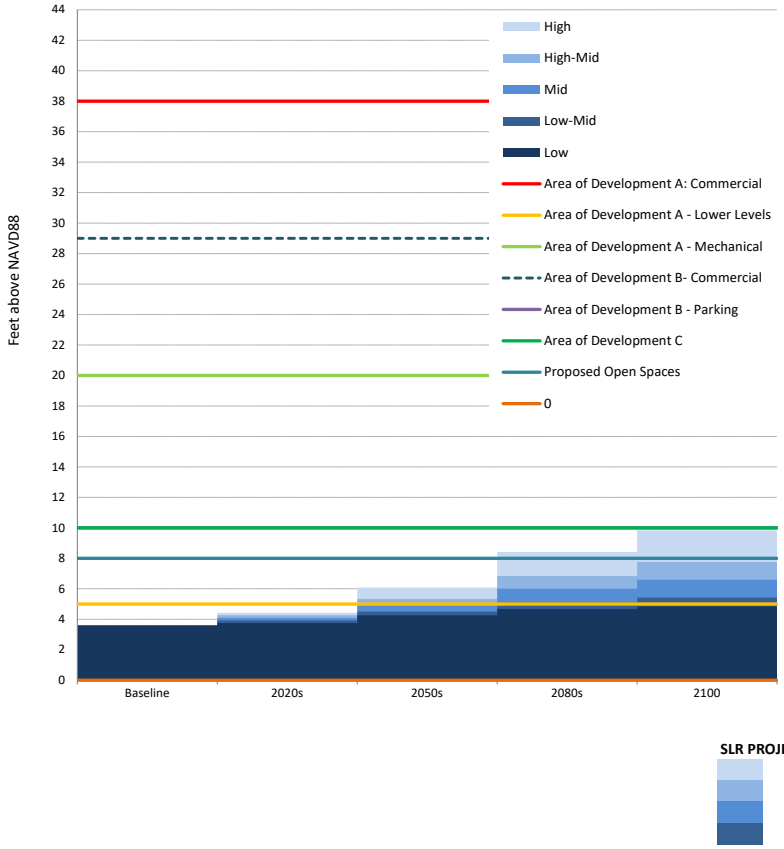
Datum	FT (NAVD88)
NAVD88	*0.00*
NGVD29	*-1.10*
Manhattan Datum	*1.65*
Bronx Datum	*1.51*
Brooklyn Datum (Sewer)	*0.61*
Brooklyn Datum (Highway)	*1.45*
Queens Datum	*1.63*
Richmond Datum	*2.09*

Describe key physical features of the project.

Feature *(enter name)*	Feature Category	Lifespan	Elevation	Units	Datum	Ft	Ft Above NAVD88	Ft Above MHHW	Ft Above 0.2% flood height
Area of Development A: Commercial	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2080	38.0	Feet	NAVD88	*38.0*	*38.0*	*34.4*	*#VALUE!*
Area of Development A: Contains the first floor of commercial uses									
Area of Development A - Lower Level	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2080	5.0	Feet	NAVD88	*5.0*	*5.0*	*1.4*	*#VALUE!*
Area of Development A: Ground floor of structured parking which contains bus parking, bus lounge and restrooms, storage, elevators and lobbies, water storage tanks (located in the parking level at an elevation of approximately 8 feet NAVD88)									
Area of Development A - Mechanical	☐ Vulnerable ☑ Critical ☐ Potentially Hazardous ☐ Other	2080	20.0	Feet	NAVD88	*20.0*	*20.0*	*16.4*	*#VALUE!*
Area of Development A: Mechanical equipment									
Area of Development B- Commercial	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2080	29.0	Feet	NAVD88	*29.0*	*29.0*	*25.4*	*#VALUE!*
Area of Development B: Contans the first floor of community facility space. No mechanical equipment located below DFE									
Area of Development B - Parking	☑ Vulnerable ☑ Critical ☐ Potentially Hazardous ☐ Other	2080	10.0	Feet	NAVD88	*10.0*	*10.0*	*6.4*	*#VALUE!*
Area of Development B: Ground floor of structured parking									
Area of Development C	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☑ Other	2080	10.0	Feet	NAVD88	*10.0*	*10.0*	*6.4*	*#VALUE!*
Area of Development C: Ground floor of structured parking garage and a surface parking lot. No mechanical located below DFE									
Proposed Open Spaces	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☑ Other	2080	8.0	Feet	NAVD88	*8.0*	*8.0*	*4.4*	*#VALUE!*
Lowest point of OS									
	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2080		Feet	NAVD88				

Assess project vulnerability over a range of sea level rise projections.

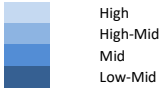
Mean Higher High Water + Sea Level Rise



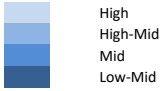
1% Flood Elevation + Sea Level Rise

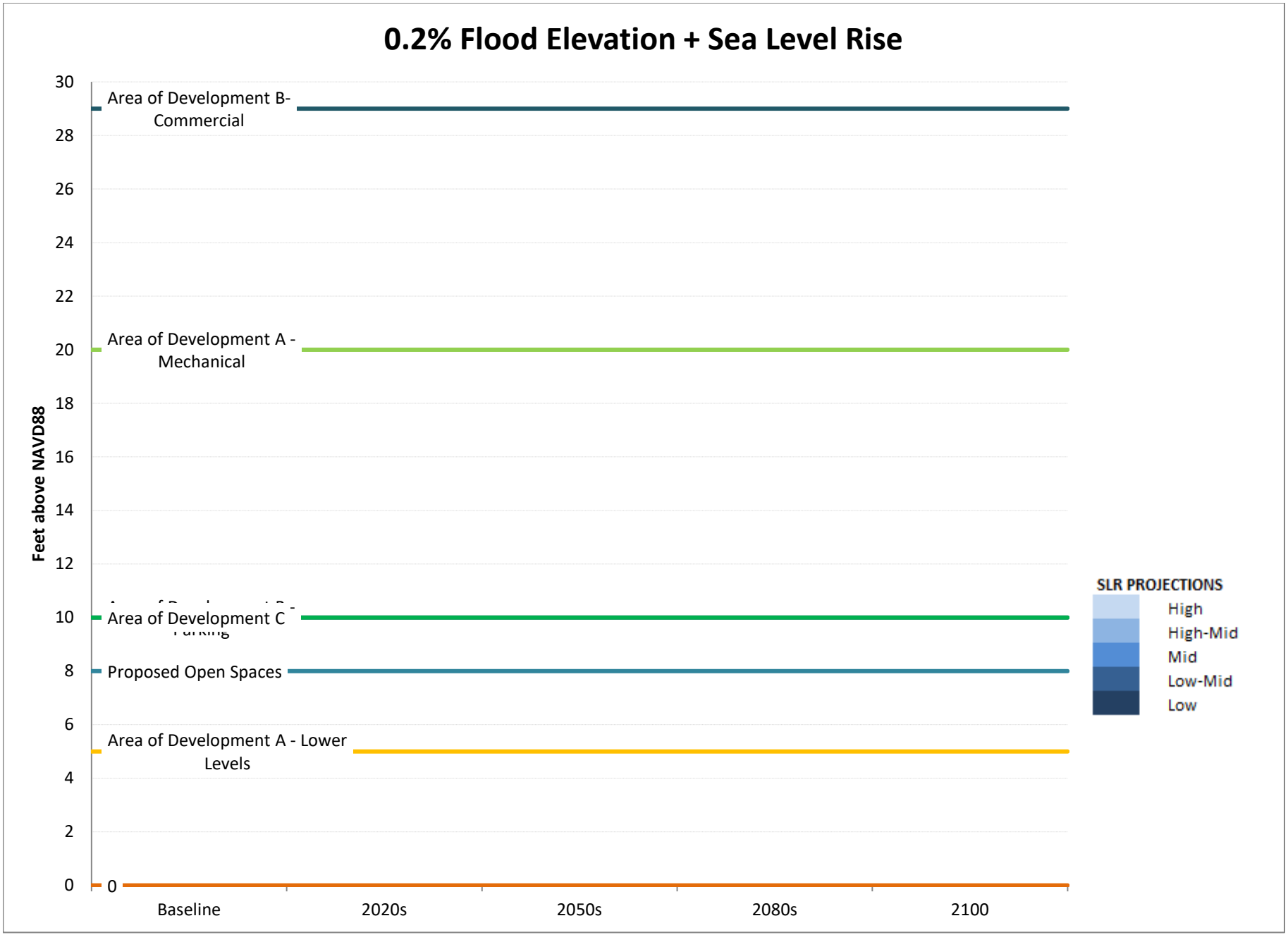


SLR PROJECTIONS



SLR PROJECTIONS




0.2% Flood Elevation + Sea Level Rise
Feet above NAVD88
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Area of Development B- Commercial
Area of Development A - Mechanical
Area of Development C
Proposed Open Spaces
Area of Development A - Lower Levels
0
Baseline
2020s
2050s
2080s
2100
SLR PROJECTIONS
High
High-Mid
Mid
Low-Mid
Low

SLR (ft)

	Low	Low-Mid	Mid	High-Mid	High	
Baseline	0.00	0.00	0.00	0.00	0.00	**2014**
2020s	0.17	0.33	0.50	0.67	0.83	**2020s**
2050s	0.67	0.92	1.33	1.75	2.50	**2050s**
2080s	1.08	1.50	2.42	3.25	4.83	**2080s**
2100	1.25	1.83	3.00	4.17	6.25	**2100**

MHHW+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	3.59	3.59	3.59	3.59	3.59
2020s	3.76	3.92	4.09	4.26	4.42
2050s	4.26	4.51	4.92	5.34	6.09
2080s	4.67	5.09	6.01	6.84	8.42
2100	4.84	5.42	6.59	7.76	9.84

1%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	12.00	12.00	12.00	12.00	12.00
2020s	12.17	12.33	12.50	12.67	12.83
2050s	12.67	12.92	13.33	13.75	14.50
2080s	13.08	13.50	14.42	15.25	16.83
2100	13.25	13.83	15.00	16.17	18.25

0.2%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2020s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2050s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2080s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2100	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

	0	1
Area of Development A: Comr	38	38
Area of Development A - Low	5	5
Area of Development A - Mec	20	20
Area of Development B- Comr	29	29
Area of Development B - Park	10	10
Area of Development C	10	10
Proposed Open Spaces	8	8
0	0	0
DFE	13.00	13.00

SLR (in)				
Low	**Low-Mid**	**Mid**	**High-Mid**	**High**
0	0	0	0	0
2	4	6	8	10
8	11	16	21	30
13	18	29	39	58
15	22	36	50	75

NOAA Tide Station Data

(to be used only when a site survey is unavailable)

Station ID	*Station Name*	*Source MHHW (Feet, NAVD88)**	*Adjusted MHHW (Feet, NAVD88)**
8518687	Queensboro Bridge	2.27	2.60
8530095	Alpine	2.11	2.44
8516614	Glen Cove	3.72	4.05
8516990	Willets Point	3.72	4.05
8518639	Port Morris	3.33	3.66
8518699	Williamsburg Bridge	2.14	2.47
8518750	The Battery	2.28	2.61
8531680	Sandy Hook	2.41	2.74
8518490	New Rochelle	3.71	4.04
8531545	Keyport	2.66	2.99
8516891	Norton Point	2.08	2.41
8517201	North Channel	2.72	3.05
8517137	Beach Channel	2.10	2.43
8517756	Kingsborough	2.13	2.46
8519436	Great Kills	2.22	2.55
8531142	Port Reading	2.82	3.15
8519483	Bergen Point	2.56	2.89
8519050	USCG	2.28	2.61
8518902	Dyckman St	2.01	2.34
8517251	Worlds Fair Marina	3.59	3.92
8518668	Horns Hook	2.54	2.87
8518643	Randalls Island	2.60	2.93
8518526	Throggs Neck	3.68	4.01

* MHHW values include an addition 0.33 feet to account for changes in sea level since the 1983-20(

Source
NOAA Tides and Currents
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)1 tidal epoch.




Alpine
8530095
New
Rochelle
8518490
Dyckman St
8518902
Glen Cove
8516614
Randalls
Island
8518643
Port
Morris
8518639
Throggs
Neck
8518526
Willets
Point
8516990
Worlds Fair
Marina
8517251
Queensboro
Bridge
8518687
Horns Hook
8518668
Williamsburg
Bridge
8518699
The Battery
8518750
North
Channel
8507201
Norton
Point
8516891
CG
9050
Beach
Channel
8517137
Kingsborough
8517756
Sandy Hook
8531680

NYC Waterfront Revitalization Program - Policy 6.2 Flood Elevation Workhsheet

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Background Information	
Project Name	New Green Willets
Location	Queens Block 1787 - Portions of Lot 20 and Lot 1; Queens Block 2018 - A portion of Lot 1500
Type(s)	☑ Residential, Commercial, Community Facility ☑ Parkland, Open Space, and Natural Areas ☐ Tidal Wetland Restoration ☐ Critical Infrastructure or Facility ☐ Industrial Uses ☐ Over-water Structures ☐ Shoreline Structures ☐ Transportation ☐ Wastewater Treatment/Drainage ☐ Coastal Protection
Description	Queens Future LLC (the "Applicant") proposes to redevelop approximately 78 acres of underutilized, largely asphalt surface parking areas located west of Seaver Way and adjacent to Citi Field with a major mixed-use development (the "Queens Future Project" or "Proposed Project") comprised of up to approximately 3.7 million square feet (sf) of new construction, with destination entertainment including a music hall, hotel, a gaming facility, convention and meeting space, restaurant and retail space, and office and community facility uses. The Proposed Project would also include at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation and other public realm improvements as well as structured
Planned Completion Date	2030
Expected Project Lifespan	2129

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Last update: Sept. 7, 2018

Establish current tidal and flood heights.

	FT (NAVD88)	Feet	Datum	Source
MHHW	3.59	**3.59**	**NAVD88**	*Appendix A*
1% flood height	13.00	**13.00**	**NAVD88**	*DCP Flood Hazard Mapper*
Design flood elevation	14.00	**14.00**	**NAVD88**	*DCP Flood Hazard Mapper*
As relevant:				
0.2% flood height	-->			

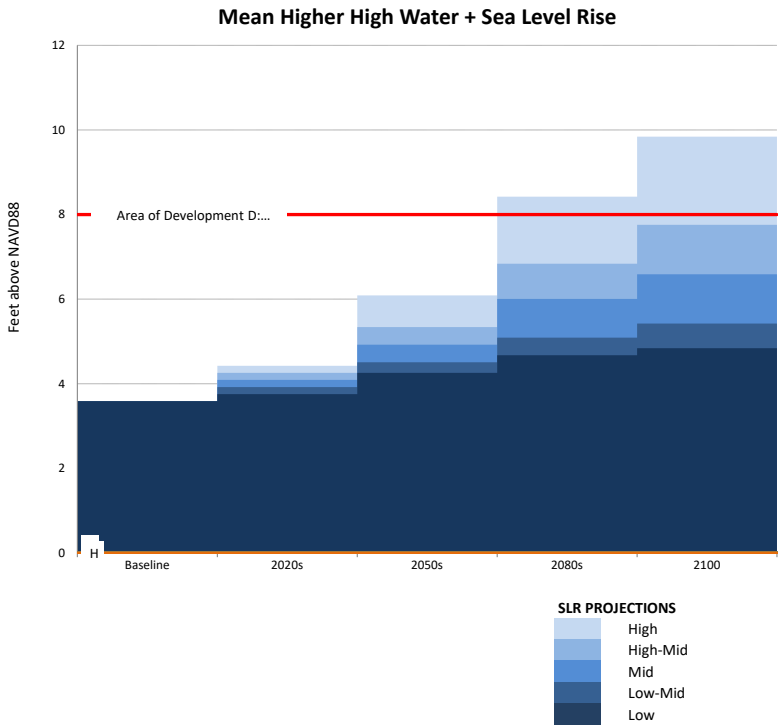
Data will be converted based on the following datums:

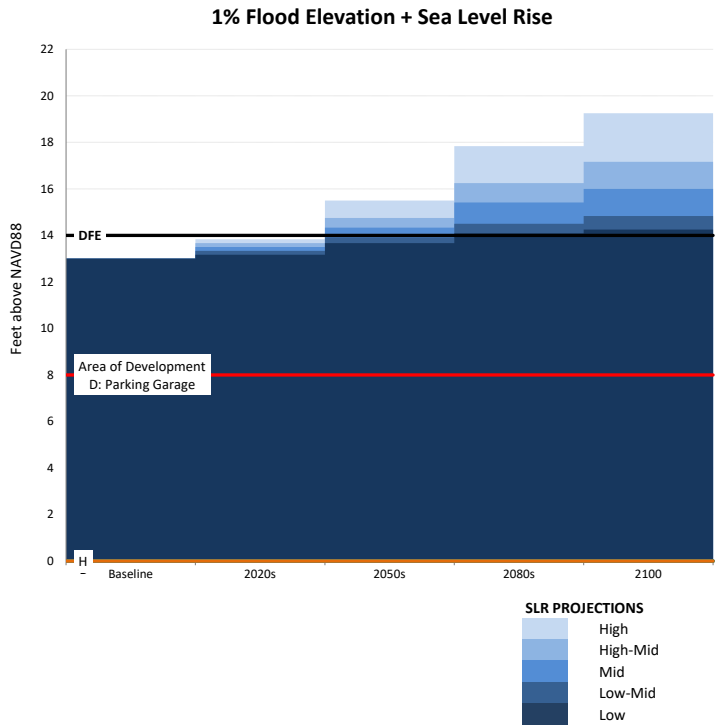
Datum	FT (NAVD88)
NAVD88	*0.00*
NGVD29	*-1.10*
Manhattan Datum	*1.65*
Bronx Datum	*1.51*
Brooklyn Datum (Sewer)	*0.61*
Brooklyn Datum (Highway)	*1.45*
Queens Datum	*1.63*
Richmond Datum	*2.09*

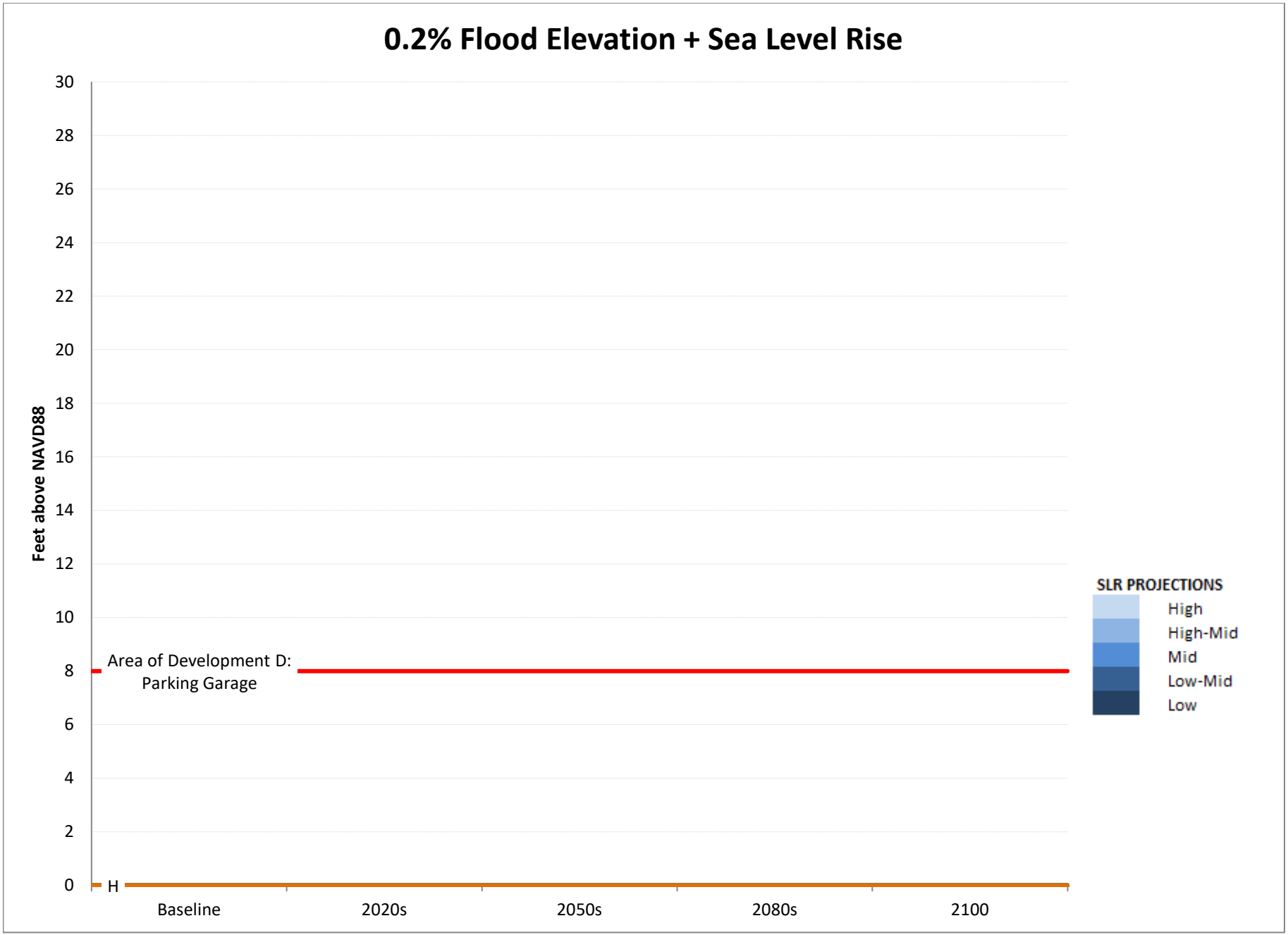
Describe key physical features of the project.

Feature *(enter name)*	Feature Category	Lifespan	Elevation	Units	Datum	Ft	Ft Above NAVD88	Ft Above MHHW	Ft Above 0.2% flood height
Area of Development D: Parking Garage	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☑ Other	2080	8.0	Feet	NAVD88	*8.0*	*8.0*	*4.4*	*#VALUE!*
Area of Development D: Ground floor of structured parking garage. No mechanical located below DFE									
B	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
C	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
D	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
E	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
F	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
G	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									
H	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88				
Description of Planned Uses and Materials									

Assess project vulnerability over a range of sea level rise projections.






0.2% Flood Elevation + Sea Level Rise
Feet above NAVD88
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Area of Development D:
Parking Garage
H
Baseline
2020s
2050s
2080s
2100
SLR PROJECTIONS
High
High-Mid
Mid
Low-Mid
Low

	SLR (ft)					
	Low	**Low-Mid**	**Mid**	**High-Mid**	**High**	
Baseline	0.00	0.00	0.00	0.00	0.00	**2014**
2020s	0.17	0.33	0.50	0.67	0.83	**2020s**
2050s	0.67	0.92	1.33	1.75	2.50	**2050s**
2080s	1.08	1.50	2.42	3.25	4.83	**2080s**
2100	1.25	1.83	3.00	4.17	6.25	**2100**

MHHW+SLR (ft above NAVD88)

	Low	**Low-Mid**	**Mid**	**High-Mid**	**High**
Baseline	3.59	3.59	3.59	3.59	3.59
2020s	3.76	3.92	4.09	4.26	4.42
2050s	4.26	4.51	4.92	5.34	6.09
2080s	4.67	5.09	6.01	6.84	8.42
2100	4.84	5.42	6.59	7.76	9.84

1%+SLR (ft above NAVD88)

	Low	**Low-Mid**	**Mid**	**High-Mid**	**High**
Baseline	13.00	13.00	13.00	13.00	13.00
2020s	13.17	13.33	13.50	13.67	13.83
2050s	13.67	13.92	14.33	14.75	15.50
2080s	14.08	14.50	15.42	16.25	17.83
2100	14.25	14.83	16.00	17.17	19.25

0.2%+SLR (ft above NAVD88)

	Low	**Low-Mid**	**Mid**	**High-Mid**	**High**
Baseline	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2020s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2050s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2080s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2100	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

	0	1
Area of Development D: Parki	8	8
B	0	0
C	0	0
D	0	0
E	0	0
F	0	0
G	0	0
H	0	0
DFE	14.00	14.00

SLR (in)				
Low	**Low-Mid**	**Mid**	**High-Mid**	**High**
0	0	0	0	0
2	4	6	8	10
8	11	16	21	30
13	18	29	39	58
15	22	36	50	75

NOAA Tide Station Data

(to be used only when a site survey is unavailable)

Station ID	*Station Name*	*Source MHHW (Feet, NAVD88)**	*Adjusted MHHW (Feet, NAVD88)**
8518687	Queensboro Bridge	2.27	2.60
8530095	Alpine	2.11	2.44
8516614	Glen Cove	3.72	4.05
8516990	Willets Point	3.72	4.05
8518639	Port Morris	3.33	3.66
8518699	Williamsburg Bridge	2.14	2.47
8518750	The Battery	2.28	2.61
8531680	Sandy Hook	2.41	2.74
8518490	New Rochelle	3.71	4.04
8531545	Keyport	2.66	2.99
8516891	Norton Point	2.08	2.41
8517201	North Channel	2.72	3.05
8517137	Beach Channel	2.10	2.43
8517756	Kingsborough	2.13	2.46
8519436	Great Kills	2.22	2.55
8531142	Port Reading	2.82	3.15
8519483	Bergen Point	2.56	2.89
8519050	USCG	2.28	2.61
8518902	Dyckman St	2.01	2.34
8517251	Worlds Fair Marina	3.59	3.92
8518668	Horns Hook	2.54	2.87
8518643	Randalls Island	2.60	2.93
8518526	Throggs Neck	3.68	4.01

* MHHW values include an addition 0.33 feet to account for changes in sea level since the 1983-20(

Source
NOAA Tides and Currents
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)1 tidal epoch.




Alpine
8530095
New
Rochelle
8518490
Dyckman St
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Island
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Port
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