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NOTICE OF COMPLETION OF

FRESH KILLS PARK FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT

MARCH 13, 2009

Project Identification
CEQR NO. 06DPR0024
ULURP Nos. 080321MMR, N080419ZRR, 080420ZMR
SEQRA Classification: Type I

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Pursuant to Rules of Procedure for City Environmental Quality Review of 1991 as found in 62 RCNY Chapter 5 and Mayoral Executive Order No. 91 of 1977 (CEQR), and Article 8 of the State Environmental Conservation Law, the State Environmental Quality Review Act (SEQRA) and SEQRA regulations as found in 6 NYCRR Part 617, a Final Generic Environmental Impact Statement (FGEIS) has been prepared for the actions described below. Copies of the FGEIS are available for public inspection at the office of the undersigned as well as at local libraries and on the New York City Department of Parks & Recreation website at www.nyc.gov/parks. The proposal, as described in greater detail in this Notice of Completion involves a number of actions by the New York City Department of Parks & Recreation, as well as a number of State and Federal agencies related to the proposal to develop Fresh Kills Park on Staten Island.

S/
Joshua Laird, Assistant Commissioner for Planning & Parklands

New York City Department of Parks & Recreation

A. INTRODUCTION

The City of New York, with the New York City Department of Parks & Recreation (DPR) as lead agency, is proposing the mapping and development of Fresh Kills Park. The project site is an approximately 2,163-acre property, the majority of which is currently Fresh Kills Landfill. The property is City-owned and under the jurisdiction of the New York City Department of Sanitation (DSNY) and the New York City Department of Parks & Recreation (DPR), and includes a small portion under the jurisdiction of the New York City Department of Environmental Protection (DEP). The project site is located in the southwest portion of Staten Island and within both Staten Island Community Boards 2 and 3. The boundaries of the project site are defined by parkland and residential uses, waterways, and both City and State roadways. The eastern boundary is Richmond Avenue, which is under the jurisdiction of the New York City Department of Transportation (NYCDOT). Along the eastern side of Richmond Avenue is the City's LaTourette Park which is hydrologically connected with the project site by Richmond Creek. In addition to Richmond Creek, Main Creek, the Great Fresh Kills, and the Little Fresh Kills waterways cross the project site. The Arthur Kill shoreline forms the site's western boundary. The southern boundary is Arthur Kill Road, a City street. The West Shore Expressway (New York State Highway Route 440), which is under the jurisdiction of the New York State Department of Transportation (NYSDOT), bisects the project site.

Since the late 1940's, Fresh Kills Landfill operated as the City's principal municipal solid waste landfill, receiving household and municipal solid waste between 1948 and 2001. A state law passed in 1996 mandated that solid waste landfill operations cease at Fresh Kills by December 31, 2001; landfilling subsequently ended on March 22, 2001. This law was passed after many decades of local opposition to the landfill, which included lawsuits and other mechanisms to close the landfill that were brought by local residents, community groups, and their representatives. The Fresh Kills Landfill was temporarily reopened for the placement of materials from the World Trade Center site after the attacks of September 11, 2001; during this time, no other materials were brought to the landfill. Large portions of the site are defined by four solid waste landfill sections—identified as Landfill Sections 3/4, 2/8, 6/7, and 1/9. The numbering system for the landfill sections was applied to Fresh Kills by DSNY when it was an operating landfill and is used in this Generic Environmental Impact Statement (GEIS) when referring to the four landfill sections. The four landfill sections are regulated as Solid Waste Management Units (SWMUs) by the New York State Department of Environmental Conservation (NYSDEC). Approximately 987 acres or 46 percent of the project site is regulated by NYSDEC and managed by DSNY as SWMUs. With the cessation of solid waste disposal operations at Fresh Kills Landfill, final closure and post-closure activities are underway. DSNY completed closure construction at Landfill Sections 3/4 in 1996 and at 2/8 in 1997. Final closure design has been approved by NYSDEC and closure construction is underway at Landfill Section 6/7. At Landfill Section 1/9, final closure design has been approved by NYSDEC and subbase grading, an early stage of closure construction, has begun.

Additionally, the project site includes lands around the landfill sections that contain facilities once used by DSNY when the site was still receiving solid waste (e.g., Plants 1 and 2). In addition, there is land occupied by the Fresh Kills Landfill environmental control, maintenance and monitoring systems that will remain active for at least 30 years after closure construction is complete. The monitoring systems were installed by DSNY in accordance with a design approved by NYSDEC. NYSDEC also regulates activities in these environmental compliance buffer areas around the SWMUs.

Lastly, the project site also includes land that is essentially an undeveloped buffer and contains no landfill-related facilities or monitoring equipment. These include, for example, natural areas such as the Isle of Meadows.

Fresh Kills Landfill is proposed to be converted to Fresh Kills Park. Total acreage of the proposed park is 2,163 acres. In addition, there would be approximately 7 miles of roads within the project, including park roads and new service roads along the West Shore Expressway. The roads would provide access to the park as well as new connections between Richmond Avenue and the West Shore Expressway for the local

public. The proposed project is an extensive and complex planning and development project, one of the largest in the history of the City of New York. Upon completion, Fresh Kills Park will be the City's second-largest park (after Pelham Bay Park in the Bronx, which covers 2,765 acres), will more than double the size of the Staten Island Greenbelt, and will be almost three times the size of Central Park. The enormity of the proposed project is magnified by its location on what is the City's largest municipal solid waste landfill, which, although closed, requires at least 30 more years of management and monitoring to ensure that the landfill does not adversely impact the environment, the surrounding neighborhoods, or the proposed park users. It is therefore expected that park development would be implemented in multiple phases through 2036 with designs that are expected to evolve over time.

If development of the proposed park is approved, it would dramatically transform the project site over the next 30 years from an underutilized City waterfront property that includes a closed municipal solid waste landfill into a major recreational facility for the City and region. It would also provide substantial natural landscape enhancement and create an entirely new environment at the site. The proposed park would feature recreational fields; landscaped areas and enhanced ecological landscapes; new park roads and connecting roads, including a new connection with the West Shore Expressway and a signature bridge across Fresh Kills Creek; water access for motorized and non-motorized craft; cultural, entertainment and commercial facilities (e.g., amphitheater, restaurants, event and banquet space); and the supporting park operations, maintenance facilities, and parking. The proposed park roadways would connect the park with Richmond Avenue on the east and the West Shore Expressway on the west. Vehicular access would be supported by the necessary service roads, parking, and transit facilities (e.g., bus stops). Existing natural areas, such as the Isle of Meadows, would continue to be protected.

This Generic Environmental Impact Statement (GEIS) was prepared to describe and analyze the proposed project, which is a major capital investment with a long-term, multi-phased implementation program. There are many City, State, and Federal land use and environmental approvals that are necessary to implement the proposed park. With respect to local (City) regulations, the following approvals are proposed:

- Amendment to the City map to establish as parkland those portions of this project site that are not currently mapped as parkland;
- Amendment to the City map to eliminate unbuilt paper streets;
- Amendment to the City map to map a public place to serve as the right-of-way for the future vehicular road system, which entails demapping a small portion of the existing mapped parkland;
- A zoning map amendment to assign a zoning district (M1-1) to the areas being de-mapped as park and simultaneously mapped as public place.
- A zoning map amendment to vacate the NA-1 zoning where it currently exists on the site; and
- A zoning text amendment to remove "Fresh Kills Park" from Section 105-941 of the current zoning text.

A State legislative action was approved previously for the alienation of parkland along these segments of proposed road corridors (Chapter 659 of the 2007 Laws of the State of New York) because the proposed park roads would pass through existing mapped parkland (portions of the project site are already mapped parkland, although they have never been publicly accessible). The proposed mapping actions examined in this FGEIS would redefine the limits of the parkland and establish a public place corridor for park roadways. The proposed actions would increase the amount of public parkland mapped at the site by 1,433 acres, creating a total of 1,895 acres of mapped parkland. The total site size is 2,163 acres, including this mapped parkland, the public place corridor, and navigable waters west of the West Shore Expressway bridge.

To assess the potential environmental impacts of the proposed park, DPR and the Department of City Planning (DCP) developed a reasonable worst-case development scenario (RWCDS) which was presented in the *Fresh Kills Park Final Scope of Work to Prepare a Generic Environmental Impact Statement* as

completed on August 31, 2006. This RWCDS was developed to cover the range of potential uses for impact analysis used in this FGEIS since the proposed project is a multi-year, multi-phased project, and it is fully expected that park design will evolve over the next few decades as individual capital projects are advanced. Therefore, the objective of the RWCDS is to allow flexibility in future park designs by examining a range of possible uses in the GEIS. The RWCDS identifies programmatic land uses and activities based on different land cover types and activities, including active recreational paved surfaces (for skateboarding, basketball), active recreational field surfaces (for baseball, soccer), active recreational indoor surfaces (for indoor track and field), commercial uses (retail and restaurants, cafés, banquet hall), natural landscapes with public access (restored marshes with a boardwalk), meadows and forests (with paths), water recreation (kayaking and boating facilities), and an amphitheater for outdoor events. In order to understand the maximum potential impacts of the proposed circulation system, all park roads are presented in the RWCDS as four-lane-wide roads.

Since the proposed project is very large and park development would occur over many decades, the GEIS has two impact analysis years: 2016 and 2036. The near-term projects are analyzed in the 2016 analysis year and full build out is analyzed in the 2036 analysis year. While the analyses presented in this GEIS are comprehensive, based on the current RWCDS assumptions and designs, it is expected that subsequent and supplemental environmental reviews may be necessary as project design advances to implementation. For example, DPR is currently conducting a separate environmental review for the Roads through East Park. A Draft Scope of Work to Prepare a Supplemental Environmental Impact Statement (SEIS) for the East Park Roads was released on February 24, 2009. The purpose of the SEIS is to examine in greater detail the potential impacts of the East Park Roads and to examine additional alignment alternatives. Another example of a project requiring an SEIS would be the proposed Signature Bridge. Although this bridge is not expected to be developed for many years into the future, it is expected that the Signature Bridge would require a further evaluation of impacts.

The above-described actions are subject to both City Environmental Quality Review (CEQR) and the City's Uniform Land Use Review Procedure (ULURP). This FGEIS has been prepared in accordance with the *Fresh Kills Park Final Scope of Work to Prepare a Generic Environmental Impact Statement* issued on August 31, 2006, Executive Order No. 91 of 1977, CEQR regulations, and follows the guidance of the *CEQR Technical Manual* (October, 2001).

B. PROJECT DESCRIPTION

BACKGROUND TO THE PROPOSED PROJECT

SITE HISTORY

Before solid waste landfilling operations began, natural conditions at the project site were almost entirely coastal marsh and creeks. In 1948, to address its increasing solid waste disposal needs, the City of New York opened the Fresh Kills Landfill as part of a network of municipal solid waste landfills. In the decades that followed, Fresh Kills became the City's principal landfill facility for the disposal of collected household and municipal solid waste. By 1991, Fresh Kills was the City's only operating landfill. At its peak, Fresh Kills received as many as 29,000 tons of solid waste per day.

Landfill operations at Fresh Kills predated the existence of Federal and State regulations pertaining to the design and operation of solid waste landfills. To enable the Fresh Kills Landfill to come into compliance with the Part 360 regulations for solid waste management facilities, NYSDEC entered into a consent order that allowed DSNY to continue operating the Fresh Kills Landfill while the City made environmental and operational improvements at the landfill. A review of a Part 360 permit application for Fresh Kills Landfill was subsequently terminated when a state law was passed in 1996 requiring the landfill to cease accepting solid waste by December 31, 2001. Fresh Kills Landfill received its last barge of solid waste on March 22, 2001. Subsequently, landfill closure construction needed to be completed in accordance with a NYSDEC-approved closure plan under a Consent Order. After the World Trade Center

attack of September 11, 2001, the effect of the 1996 law was suspended by Emergency Order of the Governor of New York to temporarily allow placement of materials from the World Trade Center site. No other materials were brought to Fresh Kills during this temporary suspension of the closure.

Today, as a result of its history as a significant landfilling operation, much of the project site is a highly engineered complex of man-made infrastructure and artificial landscapes. Final closure construction was completed at Landfill Sections 3/4 (within the area proposed as North Park) and 2/8 (within the area proposed as South Park) in the mid 1990s. Closure of Landfill Section 6/7 (within the area proposed as East Park) and Landfill Section 1/9 (within the area proposed as West Park) is currently underway. Despite many decades of disturbance to natural ecosystems and the effect of 50-plus years of solid waste landfilling operations at the site, the project site retains many significant ecological assets, including hundreds of acres of salt marsh and an extensive network of tidal creeks.

PROJECT PURPOSE AND NEED

The purpose of the proposed Fresh Kills Park project is to create a new public amenity with waterfront access and recreational activities at the City's Fresh Kills property, along with extensive new landscapes. As a result of the use of the site for the past 50-plus years as a municipal solid waste landfill, the large waterfront City-owned parcel has been closed to the public. However, the cessation of municipal solid waste landfilling operations in 2001 opened the possibility of transforming this large City property into a unique and significant public open space for use by neighborhood residents, residents of Staten Island, the City of New York, the region as a whole, and national and international visitors to New York City. It also presented the opportunity to meet local and regional needs for active recreational fields, enhanced landscapes, new park roads and connections to a regional highway, water access for both motorized and non-motorized craft and new cultural entertainment and commercial facilities.

Transforming Fresh Kills Landfill into Fresh Kills Park marks a commitment by the City to create a vast new open space with extensive waterfront access and the accompanying recreational and cultural amenities. The proposed park would provide a number of public benefits, including protecting ecological habitats; providing hundreds of acres of land for active and passive recreation; promoting public waterfront access; and improving site access and the local transportation networks through new park roads and bikeways, walkways, and trails that would not only connect local roadways with the park and the West Shore Expressway, but also provide hiking and biking connections with existing adjacent parks, such as William T. Davis Wildlife Refuge to the north and LaTourette Park and the Staten Island Greenbelt to the east. In sum, the proposed Fresh Kills Park would establish a much-needed and vast new public park resource for the City of New York.

DESCRIPTION OF THE PROJECT SITE

SITE OWNERSHIP

The project site is all City-owned land comprised of multiple blocks and lots, under the jurisdiction of either DPR or DSNY, with the latter having jurisdiction over the majority of the land. A small portion of the site is also DEP land.

CURRENT ZONING AND MAPPED PARKLANDS

ZONING

The proposed site has four City zoning districts and two overlying special zoning districts. The underlying districts are M1-1, M2-1, M3-1, and R3-2. Open space and recreational facilities are allowed in the R3-2 and M1 districts, but are not allowed in the M3-1 and M2-1 districts.

There are also two special districts mapped over Fresh Kills: the Special Natural Area District (NA-1) and the Special South Richmond Development District (SRD). The NA-1 zoning special district was created by the City to preserve the unique natural habitats and topography of Staten Island. The SRD was

approved by the City in the mid-1970s to guide future development and land use in the South Richmond area of Staten Island.

MAPPED PARKLAND

Portions of the project site are currently mapped as parkland although they are not publicly accessible. Because the proposed park roads would pass through existing mapped parkland on the project site, a State legislative action was approved for the alienation of parkland along these segments of proposed road corridors (Chapter 659 of the 2007 Law, State of New York). However, as described in greater detail below, historically none of this mapped parkland has been publicly accessible and the proposed project provides a significant increase in mapped parkland and would provide for public access to the currently and newly mapped parkland on the site for the first time.

PROPOSED PROJECT

Fresh Kills Landfill is proposed to be converted to Fresh Kills Park. Total acreage of the proposed park is 2,163 acres. In addition, there would be approximately 7 miles of roads within the project, including park roads and new service roads along the West Shore Expressway. The roads would provide access to the park as well as new connections between Richmond Avenue and the West Shore Expressway for the local public. The proposed project is an extensive and complex planning and development project, one of the largest in the history of the City of New York. Upon completion, Fresh Kills Park will be the City's second-largest park (after Pelham Bay Park in the Bronx, which covers 2,765 acres), will more than double the size of the Staten Island Greenbelt, and will be almost three times the size of Central Park. The enormity of the proposed project is magnified by its location on what is the City's largest municipal solid waste landfill, which, although closed, requires at least 30 more years of management and monitoring to ensure that the landfill does not adversely impact the environment, the surrounding neighborhoods, or the proposed park users. It is therefore expected that park development would be implemented in multiple phases through 2036 with designs that are expected to evolve over time.

If development of the proposed park is approved and constructed, it would dramatically transform the project site over the next 30 years from an underutilized City waterfront property that includes a closed municipal solid waste landfill into a major recreational facility for the City and region. It would also provide substantial natural landscape enhancement and create an entirely new environment at the site. The proposed park would feature recreational fields; landscaped areas and enhanced ecological landscapes; new park roads and connecting roads, including a new connection with the West Shore Expressway and a signature bridge across Fresh Kills Creek; water access for motorized and non-motorized craft; cultural, entertainment and commercial facilities (e.g., amphitheater, restaurants, event and banquet space); and the supporting park operations, maintenance facilities, and parking. The proposed park roadways would connect the park with Richmond Avenue on the east and the West Shore Expressway on the west. Necessary service roads, parking, and transit facilities (e.g., bus stops) would be provided to support vehicular access. Existing natural areas, such as the Isle of Meadows, would continue to be protected. A more detailed description of the proposed project is provided in the FGEIS.

With respect to the existing DSNY solid waste management facilities on the project site and in adjacent areas, the City would ensure that all management and maintenance agreements and permit obligations relative to the closure and post-closure requirements pertaining to the Fresh Kills Landfill would be fulfilled, even with the construction of the proposed park.

C. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would create new open spaces over a closed municipal solid waste landfill with new habitats and recreational facilities. It would complement the predominantly residential and park uses in the study area by providing extensive new habitats and additional recreational space for residents and visitors alike. These proposed uses would be compatible with and support the land uses found in the surrounding area and would represent a significant positive change over the future without the project. The proposed park mapping would be compatible with the nearby zoning and mapped parklands. It would not conflict with current public policy for the area; rather, it would be consistent with and support City policies as they relate to Fresh Kills. These are positive impacts of the proposed project. For all these reasons, the proposed project would not result in any significant adverse impacts related to land use, zoning, or public policy. There are no potential adverse impacts to the project site or the surrounding wetlands or natural areas if the existing NA-1 zoning designation is removed. The NA-1 designation is proposed to be removed in order to reflect the existing conditions at the site which, although it contains tidal and freshwater wetlands, is also a closed and highly engineered landfill.

SOCIOECONOMICS CONDITIONS

The proposed project would not result, either directly or indirectly, in a significant adverse socioeconomic impact. Because there is no existing or planned residential use on the project site, direct residential displacement would not occur as a result of the proposed project, nor would the proposed project result in the indirect displacement of residents. There were potentially two businesses affected by the proposed park mapping. One is a nursery (flower) business and the other is a trailer rental business. Although the park mapping is not yet in place, the flower business has already chosen to vacate the site. The trailer rental business is adjacent to an existing gas station and leases the parcel from the City to provide access to the site from Arthur Kill Road. The City has proposed to exclude this parcel from the park mapping so that the business may retain its month-to-month lease. In addition, no private employment currently on the project site would be displaced. The proposed project would not displace neighborhood businesses or special or unique manufacturing operations, nor is it likely to alter existing economic patterns. In addition, no indirect (secondary) displacements impacts are expected with the proposed project. The proposed project would expand on-site employment with private concessions and park maintenance and operations. This is a positive socioeconomic impact of the proposed project. For all these reasons, it is concluded that the proposed project would not result in any significant adverse impacts.

COMMUNITY FACILITIES

Because the proposed project would not add any residential units to the area, it would not meet the threshold for analysis of public schools, libraries, health care facilities, and day care centers. With respect to police, fire protection, and hospitals services, CEQR guidelines require a detailed assessment only when a project would have a direct effect on those services. Because the proposed project would not directly affect any police precinct houses, fire stations, or hospitals, a detailed assessment of these services is not required. In addition, the proposed project would not result in direct effects on the physical operations of, or access to and from, any NYPD precinct house. It is NYPD policy to make continued adjustments in the deployment of personnel and equipment. Thus, the proposed project would not result in significant adverse impacts to police protection services. Likewise, the proposed project would not result in any direct effects to FDNY facilities and services would be provided as needed. FDNY does not allocate personnel based on proposed or potential development, and it is expected that FDNY would continue to evaluate the need for personnel and equipment and make necessary adjustments to adequately serve the area. In addition, it should be recognized that the roads being proposed as part of the project would have the added benefit of allowing emergency responders to quickly respond to emergencies without having to travel around the perimeter of Fresh Kills. The landfill roads would provide emergency

responders with a more direct route between Richmond Avenue and the West Shore Expressway. Therefore, the proposed project would not result in significant adverse impacts to fire protection services.

OPEN SPACE

The proposed project would have the positive impact of creating a significant new publicly accessible open space and dramatically increasing recreational opportunities along and adjacent to the waterfront. Although the proposed project would also add new worker populations to the area with the proposed commercial and cultural facilities, these additional populations are limited. The amount of new open space acreage and existing open space acreage newly made available for use by the public, for both passive and active use and extensive new habitats, more than offsets this demand. Thus, it is concluded that the proposed project would result in significant quantitative and qualitative open space benefits for local residents, the Borough, and the City as a whole.

SHADOWS

Shadows from structures proposed in the park would be limited and the project design would seek to avoid any of the impacts on proposed sun-sensitive resources, including open spaces and landscaping. In addition to any smaller scale wind turbines constructed for DPR-facilities, the proposed project may also include a future commercial wind power concession. Assumed in this FGEIS is up to five commercial-scale wind turbines that would be installed within North, South, and East Parks. Shadows from such a structure would be very narrow. For this reason, although the shadows would extend a great distance given the height of typical commercial-scale wind turbines, shadows would not be expected to impact open space users and activities that are proposed on top of the landfill sections, nor would they be expected to impact in any way the planting program that is proposed in these areas. If the proposed park is approved, a commercial wind turbine project may be operated as a separate concession requiring its own permits and approvals, and would be subject to a separate environmental review.

HISTORIC RESOURCES

ARCHAEOLOGICAL RESOURCES

A Phase 1A Archaeology study prepared for the project concluded that portions of the project site are sensitive for precontact and historic-period archaeological resources. As DPR capital projects move forward, it is recommended that individual construction projects be reviewed by an archaeologist to determine if the project could impact any archaeologically sensitive areas identified in the Phase 1A archaeological documentary study. If it is determined that impacts are possible, further investigation such as Phase 1B archaeological testing would be necessary to identify the presence or absence of archaeological resources.

ARCHITECTURAL RESOURCES

One architectural resource (the New York City Landmark [NYCL] Sleight Family Cemetery, a.k.a. Blazing Star Burial Ground) was identified on the project site. Four S/NR-eligible architectural resources and nine potential architectural resources were identified in the study area. The proposed project is not expected to result in any direct or indirect adverse impacts to these architectural resources. No construction is currently planned within close proximity of the Sleight Family Cemetery: however, as project implementation progresses, if any construction activity is planned within 90 feet of this resource, a Construction Protection Plan may need to be prepared to ensure that the resource would not be inadvertently affected by construction-period impacts.

URBAN DESIGN AND VISUAL RESOURCES

PROJECT SITE

The proposed park would provide a dramatic urban design benefit by creating new upland and wetland habitats, recreational waterfront activities, passive and active athletic facilities and dining and entertainment amenities. Expansive views within the project site of attractive and enhanced ecological habitats would also be created.

Although a number of existing buildings associated with landfill operations would be retained, the number of on-site structures related to the landfill operations would be reduced and the context of the project site would be greatly improved by the addition of park-related structures, restored habitat, and recreational spaces.

The proposed park would also create a public streetscape across the site where none currently exists. Existing DSNY haul roads currently off-limits to the public would be redeveloped for public use as park roads, or removed and converted to open space. The proposed park roads would include a landscape ribbon, lighting, and other pedestrian and public amenities. New paths and trails built in conjunction with the park road system would create cycling and running opportunities and a street life in this area would evolve during both daytime and evening hours.

The ecological restoration that would occur on site would drastically enhance not just the environmental but the aesthetic qualities of Fresh Kills. The creation of attractive open spaces would soften the visual intrusion of the landfill's massive infrastructure on the adjacent neighborhoods and new landscaping that would enhance not only the environmental functionality of the site but also its aesthetics. Overall, no significant adverse impacts would occur on the project site, as proposed uses would provide a dramatic improvement compared to the future condition without the development of the park.

Lastly, the proposed project would provide new public views from the site to the New York/New Jersey area. Views from the top of landfill sections, or mounds, would be made accessible to the public for the first time. Views along existing and new roads would be designed such that driving through the park is a unique visual experience, with views of dramatic topography and habitats. Iconic views to the William T. Davis Wildlife Refuge, the Staten Island Greenbelt, and Arden Heights Woods would also be emphasized. These are positive impacts of the proposed project.

STUDY AREA

The uses proposed for the project site would be compatible with and complementary to existing uses in the study area, and would increase recreational opportunities for Staten Islanders and New York metro region residents, enlarging valuable natural areas such as the Staten Island Greenbelt, and enhancing the visual quality of the neighborhood. The proposed roads would serve to provide connectivity with this area of Staten Island.

Views from the surrounding neighborhood are expected to be greatly enhanced, as the proposed project would attract positive attention and begin to serve as a visual amenity rather than a detraction. At final build-out, views from the entire park perimeter—of both land and water—would be greatly improved with the project. For the study area as a whole, the proposed project would not have any significant adverse impacts on visual resources, as the project would represent a dramatic improvement in the visual character of the project site. In sum, impacts of the proposed project with respect to urban design and visual resources are positive. As stated above, if the proposed park is approved, a commercial wind turbine project may be operated as a separate concession requiring its own permits and approvals, and would be subject to a separate environmental review that would further analyze urban design and visual character impacts.

NEIGHBORHOOD CHARACTER

The proposed park would provide recreational opportunities and public access to the waterfront on the Fresh Kills Landfill site. The proposed park would positively alter the project site's land use and urban design characteristics. It would also result in increases in traffic, pedestrian activity, and noise levels; however, these changes overall would not be significantly adverse with respect to neighborhood character. To the contrary, the proposed project is expected to have a positive effect on neighborhood character. The proposed project would enliven the project site by providing recreational amenities that would draw visitors to the area. The character of the surrounding neighborhoods would also be improved by the new recreational opportunities and waterfront access that is proposed with the park. In addition, there would be benefits of improved local traffic circulation.

NATURAL RESOURCES

INTRODUCTION

The park also includes a number of proposed elements with the potential to affect the existing terrestrial and aquatic resources, including: nighttime lighting; roads; stormwater management and water quality; structures over water; wind turbines; habitat fragmentation and wildlife avoidance response and increased human use. Provided below is a summary of those potential impacts.

NIGHTTIME LIGHTING

Measurements of current light levels within the project site would not be appropriate for use in projecting future nighttime light levels. However, it is planned that there will be limited light sources at the park and measures to reduce light pollution would be part of the design and would be consistent with safety requirements for lighting parks and road features.

Some examples of lighting strategies to protect natural resources include use of a limited, non-continuous lighting schedule in areas where darkness is preferred (reducing light use during low use periods), the use of shielding devices and cutoff-type luminaries with visors or hoods, reduction of ground-reflected light and upward light emissions (which accounts for up to 20 percent of 'sky glow' or atmospheric light pollution) by assigning proper directionality and pole heights suited to the appropriate use, limiting or adjusting illumination of non-target structures (i.e., bridges, secondary roads, etc.) to minimize light trespass, and using light sources suitable for the surface material of roadways or pathways (i.e. concrete vs. asphalt surfaces reflect light differently).

With the exception of areas of Fresh Kills Park where human activity would necessitate light while open to the public (i.e., park facilities open after dark, with associated roadways, road crossings and parking areas), most walkways or roadways traversing parklands would not require overnight lighting. For areas being illuminated through the night, minimizing glare and avoiding lights that illuminate structures in silhouette would be appropriate in these cases. Careful design and planning of lighting arrays would minimize many significant adverse impacts associated with the proposed project in relation to wildlife activity.

PARK ROADS

Development of the park roads has the potential to result in direct impacts to natural resources through the loss of habitat temporarily impacted during road construction or permanently impacted by the new road. Operation of the park roads also has the potential to result in long-term adverse impacts to aquatic resources, including:

- Contamination of stormwater runoff (i.e., oil and grease, and application of road salt); and
- Hydrologic changes associated with the impervious surface of the roadway.

Roadway sections with the greatest potential to have adverse impacts to natural resources include:

- South segment of the Confluence Loop Park Road where the roadway runs adjacent to stormwater basins C1 and C2 (e.g., The Marsh and The Sunken Forest portions of the Confluence);
- The Forest Hill Road Connection as it runs through the wetland and stormwater basin system east of Landfill Section 6/7 and where it separates the woodland habitats proposed for restoration at the southern portion of the East Park;
- South Segment of the Confluence Loop Park Road where it separates any habitat restoration areas proposed for the Terrace portion of the Confluence from the habitat restoration proposed for Section 2/8 within the South Park; and
- The Richmond Hill Road Connection as the roadway runs through the stormwater management basin system on the east side of Landfill Section 6/7 (Yukon Avenue) and crosses over Landfill Section 6/7 (Yukon saddle) through proposed meadow habitat restoration areas.

These roadway corridors have the potential to result in long-term adverse impacts to wildlife due to:

- Habitat fragmentation—Roadways can impede wildlife movement between or within habitat areas, subdividing species into smaller subpopulations.
- Degradation and loss of quality habitat due to wildlife avoidance response—Noise, reduced air quality, light pollution, increased human activity and invasive exotic plant species along the road edge can lower the quality of the habitat adjacent to the roadway.
- Decreased wildlife biodiversity.
- Direct loss of wildlife individuals due to impact with vehicles—Road type, adjacent habitat and abundance of individuals have been found to influence the number of deer, elk and other ungulates/vehicle collisions along roadways. Wildlife/vehicle collisions are also affected by the length of road barrier and presence of median structure that limits or slows crossing.
- Decreased access to habitat vital to the lifecycle of certain species—Amphibians and turtles may be cut off from aquatic or upland habitat necessary for breeding or foraging (Evink 2002).

Design measures that would minimize the potential for roadways to result in significant adverse impacts to aquatic resources include:

- Collection and treatment of stormwater runoff from roadways;
- Road-side maintenance using Integrated Pest Management Plan (IPM) strategies prepared for the park to minimize the potential for adverse effects to stormwater runoff quality; and
- Maintain hydrologic connection between existing wetlands and surface water bodies using viaducts where feasible, and culverts designed to facilitate movement of aquatic organisms, and to minimize impairment of flow pattern.

Measures that would minimize the potential for roadways to result in significant adverse impacts to terrestrial wildlife include the following:

- Incorporating measures to mitigate potential impairments to wildlife movement by incorporating wildlife underpass features into culverts constructed under the park roads to maintain stormwater drainage and flow patterns, or separate wildlife underpass features where feasible.
- Using viaducts where feasible to minimize impairment of wildlife movement under roadways.
- Incorporating wildlife crossing warnings in roadway signage.
- Monitoring wildlife/vehicle collisions to identify the need for additional measures (e.g., speed reduction) to minimize wildlife losses and adverse effects to motorist safety due to collisions.
- Using vegetation that does not attract wildlife in roadside landscaping and keeping vegetation adjacent to the road low to provide wildlife with unobstructed view of oncoming traffic.

- Establishing vegetation screens along roadways to reduce traffic noise in certain habitat restoration areas.

STORMWATER MANAGEMENT AND WATER QUALITY

Stormwater runoff from impervious surfaces proposed under this project can carry pollutants (i.e., suspended solids, nutrients, fecal coliform bacteria, petroleum hydrocarbons, metals, chlorides, insecticides and herbicides) that can affect the water quality and aquatic habitats of the receiving waterbody.

Construction and operation of Fresh Kills Park would be covered by DEC State Pollution Discharge Elimination System (SPDES) permitting for stormwater discharges. This would include regulations governing both runoff during construction as well as runoff from roads and other impervious surfaces during the operation of the project. The proposed stormwater management system for the various phases of park development is designed to complement and enhance the aesthetic and ecological purpose of the proposed park and the overall stormwater management objective to improve upon the current hydrologic and water quality management of the Fresh Kills Landfill stormwater management system. The proposed management approach includes a mix of traditional stormwater conveyance and storage measures with Low Impact Development practices to be used in each subcatchment area.

HYDROLOGY ANALYSIS

A hydrologic analysis conducted of the proposed Fresh Kills Park stormwater management plan found that stormwater quality and quantity requirements would be met with the project with the implementation of Low Impact Development practices. For the portions of the park that would discharge to non-tidal waters, the proposed stormwater management plan would result in a decrease in the 10-year and 100-year, 24-hour storm event peak discharges. Therefore, the proposed stormwater management plan would provide peak stormwater control and water quality benefits. Additionally, the results of the pollutant loading conducted for the proposed stormwater management plan indicate that in general, the total annual loading of total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP) would decrease in 2016 and 2036 due to the overall decrease in impervious area that would occur as a result of the proposed project, and the proposed modifications to the existing stormwater basins. It is therefore conclude that the project's stormwater management plan would not result in significant adverse impacts to water quality or aquatic biota of the waterways that pass through the project site nor would the project adversely impact the water quality of the Arthur Kill.

OVER WATER STRUCTURES AND SHADING

The proposed project includes recreational elements and features that would provide access to the waters of the Arthur Kill, Great and Little Fresh Kills, and Main and Richmond Creeks. Providing permanent waterfront access structures has the potential to result in potential long-term impacts to fish and benthic macroinvertebrates due to shading of aquatic habitat. Proposed overwater project elements would include floating docks and piers, the proposed Fresh Kills road system (with the proposed Signature Bridge), viaducts over wetlands, and new pedestrian/bicycle bridges over Main and Richmond Creeks.

Shading of estuarine habitats is a concern because decreased light levels can lower productivity of primary aquatic producers and adversely affect fish and invertebrates that use these areas to provide passage for various life stages, and as important areas for feeding, refuge and spawning. Alteration of light regimes by overwater structures and activities such as docks, floats, piles, and moored vessels can limit plant growth and result in altered animal behavior and assemblages.

Shading can adversely impact habitat for certain fish species because of the species dependence on sight and light for feeding, prey capture, schooling (due to dispersal under low light conditions), spatial orientation, predator avoidance and migration (change in migratory route to deeper waters to avoid

shaded areas). Design measures that would minimize the potential for overwater structures to adversely impact aquatic resources include:

- Locating overwater structures over sufficiently deep waters to avoid intertidal and shade impacts and to minimize the need for dredging;
- Designing overwater structures to be multi-use facilities in order to reduce the overall number of such structures; and
- Implementing measures to increase ambient light transmission under piers and docks.

COMMERCIAL WIND TURBINES

In addition to smaller-scale wind turbines to be used to power DPR facilities, under consideration is the potential placement of up to five commercial wind turbines in the park. This could increase the potential for wildlife mortality, specifically for migrating and resident wildlife. As the proposed project would be sited within a major migratory flyway, hundreds of migratory bird and bat species (each with the number of individuals varying from thousands to millions) are expected to pass through the project area each year. Several species are also known to breed in the project area. Given that any future commercial wind turbine project at Fresh Kills is expected to be a private concession, additional environmental review would need to be performed with a more refined designed. Potential measures for minimizing avian impacts include evaluating alternative locations within the proposed park that would minimize wildlife collision risk, reducing the overall height, operational restrictions, and a limited number of turbines.

WILDLIFE AVOIDANACE RESPONSE AND HABITAT FRAGMENTATION

Human Activity (Avoidance Response)

Human activity with the proposed project would include vehicular traffic on roads, upland and on-water recreation. Based on the current low-levels of human activity at the project site, increased human activity as a result of the proposed project would be expected to have some effect on wildlife populations. The degree to which significant adverse impacts would occur with respect to human activity is proportional to the degree of public access afforded into wildlife habitat, as well as any reduction in the ability of wildlife to move unimpaired from one habitat area to another. Impacts to wildlife that would be expected to occur with the proposed park would include noise, motion, and other direct effects on wildlife behavior as a result of pedestrian and non-motorized vehicle activity, increased predation rates in proximity to trail edges, and rare mortality associated with wildlife collisions with non-motorized vehicles (i.e., kayaks, bicycles, horses).

Habitat Fragmentation

The proposed roadway corridors have the potential to result in long-term adverse impacts to wildlife due to habitat and population fragmentation. Roadways can impede wildlife movement between or within habitat areas, subdividing species into smaller subpopulations and disrupting wildlife movement. However, the maintenance of corridors and connectivity between habitats can also positively affect movement and species richness.

One method for controlling the interaction between people and wildlife is to create a well-designed circulation network. For instance, sensitively siting roads and paths can help alleviate potential impacts. Where possible, proposed paths at Fresh Kills would re-use existing DSNY access roads. New proposed roads would largely follow the perimeter of existing mounds, leaving hundreds of on-mound acres uninterrupted.

The design of specific roads as well as the proposed paths and trails is also critical to minimizing impacts. For instance, trails that are properly designed, located, constructed and maintained can minimize potential impacts from humans active in and around wildlife habitats. The degree of impact associated with a trail and its potential to cause habitat fragmentation is site specific and highly dependent on the location,

design, construction and maintenance of the trail as well as the types of species, habitat, and corridor width in the habitats; use of the trail is a minor factor.

Consequently, design proposals at Fresh Kills Park would consider many well-established guidelines that have been demonstrated to minimize impact on wildlife communities, and apply them based on site-specific factors, including location, and habitat and wildlife types. As each specific proposal is developed, it will be submitted to DEC for review by the Natural Resources division (see also "Impact Avoidance and Mitigation Measures").

At Fresh Kills Park, it would be reasonable to expect that increased levels of habitat fragmentation driven by physical barriers (e.g. paths and roads) coupled with increased human activity throughout the entire park could have some impact on wildlife populations in both existing and proposed habitats. One strategy to minimize such effects, while still allowing for public access, would be a trails management plan. Another would be to design trails to allow for wildlife access to nearby cover, effectively increasing tolerance of wildlife to human presence. It should, however, be noted that the landfill mounds require regular monitoring and maintenance, further limiting their potential as habitat areas.

VEGETATION AND WILDLIFE MANAGEMENT

The ultimate goal of the various enhancement projects over the 30 year build period would be the development of a suite of self-sustaining ecosystems. These ecosystems would ideally require minimal management effort (e.g., mowing, continued plantings, etc.) to maintain the desired communities over time, and would target complex wildlife-habitat relationships, such as the creation of grassland habitat, to encourage development of grassland-breeding bird communities. The overall vegetation and wildlife management plans include:

- Managing invasive or introduced plant species through mechanical removal (e.g., mowing), and other methods (e.g., herbicides) to allow enhanced communities to recolonize areas and compete with existing monocultures of dominant vegetation (mugwort, *Phragmites*, etc);
- Allowing existing desirable communities (i.e., maturing forests, clay barrens, etc.) to progress with minimal intrusion or manipulation other than invasive species management; and
- Employing Integrated Pest Management (IPM) practices in controlling invasive or introduced plant species, the Asian Longhorned Beetle, and vector species such as mosquitoes.

These activities would result in positive benefits for the local and regional environment.

WETLAND IMPACTS AND RESTORATION ACTIVITIES

Closed landfill sites are excellent candidates for restoration projects that promote ecological habitat and species diversity restoration or creation. To that end, at Fresh Kills Park, several upland and wetland habitat restoration projects have been proposed for the 2016 and 2036 analysis years.

Wetland restoration is proposed to include tidal wetlands and freshwater wetland enhancement and creation. All proposed project elements that would result in wetland impacts (either road or park projects) could be mitigated given the vast amount of land and wetland restoration opportunities at Fresh Kills. Therefore, under the proposed project there is a net wetland gain in acreage and significant benefits from the proposed enhancements. Wetland restoration and mitigation would be of two types:

- Tidal—Tidal wetland restoration would include enhancement and expansion of the existing tidal wetlands, including: mudflats (5 acres), low salt marsh (20 acres), and high salt marsh (15 acres). Methods would include removal of invasive species restoration of the native intertidal and high marsh plant communities. .
- Freshwater—Restoration and expansion of the existing freshwater wetlands includes the possible creation of additional wetland habitats within existing low-lying areas and possible enhancement of

stormwater management basins. The initial freshwater wetland restoration would include approximately 12 acres of freshwater swamps and other freshwater wetland habitats.

Any wetland impacts during restoration activities would generally be short-term, relating to temporary impacts from equipment use and grading (as described above).

UPLAND HABITATS

Upland habitat improvements at Fresh Kills Park would include preserving existing native vegetation where possible, planting and seeding native plant species, and encouraging natural succession of healthy habitats.

Park development would result in the limited clearing of some existing vegetation to construct structures and roads. This would have the potential to temporarily disturb wildlife individuals currently using the site. Temporary adverse impacts would occur to some individual birds and other wildlife currently using the limited terrestrial habitats at the site due to clearing and grading. Upland areas at the site are primarily of limited habitat value beyond shelter, nesting substrate for some passerines (e.g., sparrows and marsh-dwelling birds) and various native and non-native rodents. Loss of this habitat until the proposed habitat restoration becomes established would not represent a long-term significant adverse impact to local wildlife species. In addition, the habitat projects would be staged over time, so that similar habitats would be available at the project site and in the secondary study area during the grown-in period.

Upland grassland restoration projects are known to be successfully reestablished on previously degraded landscapes over short time periods. This type of habitat restoration is particularly important because grasslands composed of native species are exceedingly rare in urban centers and are some of the rarest ecosystems in North America. In addition, these areas can provide important coastal wildlife habitat refuge, which is needed in the New York Harbor area.

In addition to grasslands, scrub-shrub forest restoration is proposed in upland areas. This type of habitat is proposed to provide variety in the upland landscaping, but would only be implemented if it could be demonstrated that such programming would not adversely impact landfill infrastructure and the final cover.

If scrub-shrub forest is implemented, it would be planted on low or gentle slope areas with species prevalent in upland hardwood forest (e.g., white, red, post, and scarlet oaks, black cherry, tulip poplar) and lowland mesic forest (e.g., Silver maple, American sycamore, Eastern cottonwood, Sweetgum). At maturity, tree heights would generally range from 4 to 12 feet for smaller shrubs, and 16 to 30 feet for understory species.

Long-term monitoring of vegetation conditions and management and maintenance of native communities including control of invasive species, supplemental planting, and other maintenance activities would be performed as part of a habitat management plan. Soil stabilization measures would comply with standard erosion and sediment control regulations, and would include the use of silt fences, sediment traps, swales, temporary seeding, phased grading, and permanent cover establishment via native plantings.

INTEGRATED PEST MANAGEMENT (IPM)

It is anticipated that the New York City Department of Health and Mental Hygiene (DOHMH) Office of Vector Surveillance and Control would conduct larval mosquito surveillance of the freshwater and tidal water bodies that are existing or created throughout the 30 year development of Fresh Kills Park, as well as adult mosquito surveillance to detect the presence of mosquito-borne pathogens and assess the effectiveness of control measures. As with other areas of the city, known mosquito-breeding locations within Fresh Kills Park would be routinely inspected and treated with EPA-approved larvicides. The city's mosquito control program has undergone environmental review and been determined not to result in a significant adverse impact to the environment (CEQR Number 00DOH0024). Therefore, implementation of similar mosquito control measures within the park would not be expected to result in significant

adverse impacts to aquatic or terrestrial resources. It would also be necessary to design a planting program that deters Asian Longhorned Beetles.

GEOLOGY, SOILS, AND GROUNDWATER

Development of the proposed park is not expected to result in significant impacts with respect to geology, soils, or groundwater. The majority of the project elements would be built at or above grade and therefore would not affect local geology. In addition, it is proposed to place approximately 2 feet of new soil on top of the landfill sections and publicly accessible areas of the park. Thus, the proposed project would largely be bringing fill to site, although there would also be areas of some limited grading of existing soils to achieve level grades for parking areas, structures and recreational facilities as well as excavation for the installation of utilities. Placement of fill soil would somewhat modify topography, but would not be expected to result in significant adverse impacts to groundwater. In addition, few structural elements of the proposed project are expected to reach into groundwater.

FLOODPLAINS

Implementation of the proposed stormwater management measures discussed above would minimize potential increases in stormwater flow rate and volume. Development of the proposed park requires activities in the floodplain including vegetation clearing, placement of fill, and constructing project elements that provide water access and roads, parking, and buildings that increase impervious cover; however, the resulting impacts of these project elements on floodplains would be negligible. Project designs would ensure that any filling activities within the floodplain would be limited and not significantly alter local hydrology or flooding conditions.

AQUATIC RESOURCES

Implementation of post-construction stormwater management measures prepared for each capital project would minimize the potential for significant adverse impacts to water quality and aquatic biota.

Both the water access and road projects require activities in and along the water. However, these structures would have small footprints and would require a limited number of piles. Therefore, the limited impact on bottom habitat is not expected to be significant. Where road projects intrude into tidal or freshwater wetland habitat, mitigation would be proposed. Therefore, in-water construction activities associated with the recreational facilities would not be expected to result in significant adverse impacts on water quality or aquatic biota.

THREATENED OR ENDANGERED SPECIES AND HABITATS

The proposed park is not expected to result in any significant adverse impacts to colonial waterbird nesting activity on Isle of Meadows, or inhibit the re-establishment of such activity in the future. Overall, the project is expected to provide habitat improvements for barn owls, northern harriers, and other species. This would include expanded foraging habitat for both species which predominantly feed on small mammals in grassland habitats that are known to rapidly recolonize habitats (e.g., meadow vole). Therefore, no potential negative impacts to these species are expected.

The state-threatened Northern diamondback terrapin has been observed along Main Creek in the vicinity of William T. Davis Refuge. Low shoreline areas adjacent to open sand or other unvegetated soils could potentially support nesting diamondback terrapins, and foraging adults. The potential presence of this species would necessitate construction period mitigation (see the discussion below). In the long term, the project's shoreline and wetland restoration projects (i.e., *Spartina* marsh restoration, *Phragmites* removal) are expected to improve foraging and nesting sites for terrapins.

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT

The proposed park would not conflict with the Fresh Kills Significant Coastal Fish and Wildlife habitat. In fact, it would protect the tidal creek systems as well as expand, enhance and provide spawning and

nursery habitat for anadromous, estuarine, and resident fish. In addition, the project site would continue to host wading birds, waterfowl, shorebirds, raptors, and passerines.

PROPOSED PARK ROADS AND WEST SHORE EXPRESSWAY CONNECTIONS

Wetlands

Implementation of stormwater management measures proposed with the project would minimize the introduction of road generated pollutants in stormwater runoff and would minimize the potential for significant adverse impacts on natural resources from stormwater discharge generated by the proposed roads. Constructed wetland BMPs would also be an integral component of the road stormwater management design which would be implemented throughout the park. As described below, development of the proposed park roads would also have direct and indirect impacts on both freshwater and tidal wetlands due to filling and shading.

Forest Hill Road Connection (2016)

The Forest Hill Road Connection crosses over a portion of the freshwater wetlands on the east side of Landfill Section 6/7. It is anticipated that the crossing of this wetland would be achieved with a viaduct (approximately 665 feet long and about 60 feet wide), that would span the existing freshwater wetlands. However, the proposed viaduct has the potential to result in temporary impacts to wetlands during construction, and long-term indirect impacts due to the coverage of wetlands. Although the proposed viaduct has been designed to avoid the wetlands to the extent possible and minimize the placement of fill within the freshwater wetlands (with the exception of the support footings), it would result in shading of approximately 1.1 acres of wetlands. While the approximately 14-foot-high viaduct would allow sufficient light to reach beneath the structure, it is likely that the amount of light would limit plant growth, thereby resulting in significant adverse impacts to wetlands. However, spanning the wetland would avoid direct impacts on the hydrologic characteristics of the wetland system, and allow for the primary functions of the wetland to be maintained while minimizing adverse impacts to wildlife and allowing the continued free movement of wildlife through the wetland. With respect to local hydrology, the wetland hydrology would be maintained through the viaduct design. Mitigation for the potential impact to freshwater wetlands is presented below.

Operational measures would be instituted to control the application of road chemicals on the viaduct which would minimize potential adverse impacts to wetland vegetation.

Confluence Loop Park Road (2016)

Construction of the Confluence Loop Park Road would result in the permanent loss of tidal wetlands (about 0.7 acres) along Main and Fresh Kills Creeks due to the placement of fill at the road underpasses beneath the expressway. Here, there would be the permanent loss of tidal wetlands due to the proposed road widening and stabilization, including bulkhead construction and placement of fill. Mitigation for this impact is presented below.

West Shore Expressway Service Roads (2016)

Construction of the West Shore Expressway Service Roads would result in very limited impacts on ACOE freshwater wetlands associated with swales that handle highway runoff (about 0.22 acres). Mitigation for this impact is presented below.

Richmond Hill Road Connection and Signature Bridge (2036)

Development of the proposed Richmond Hill Road Connection and the proposed Signature Bridge would result in adverse impacts to both freshwater and tidal wetlands due to filling and shading. Indirect impacts would be avoided and minimized by using culverts that maintain hydraulic connections and minimize adverse impacts to the remaining wetlands in this area. This would include about 4.3 acres of freshwater wetlands and DSNY basins that would be affected by the Richmond Hill Road Connection and 1.7 acres

of waterway that would be crossed by the proposed Signature Bridge. This would result in impacts to wetland resources that would require freshwater and tidal wetland mitigation (see the discussion below).

CONFLUENCE LOOP PEDESTRIAN/BICYCLE BRIDGES

The 2016 analysis year includes two pedestrian/bicycle bridges, one over Main Creek and one over Richmond Creek. Construction of these bridges would include driving piles within the two tidal creeks and outer bridge supports. Installation of piles would result in the permanent loss of bottom habitat within the footprint of the piles. However, the loss of this area of bottom habitat would be limited and not result in significant adverse impacts to aquatic benthic habitat or resources. Any temporary increase in suspended sediment resulting from pile installation would be localized. Similarly, any contaminants released into the water column as a result of sediment disturbance would be expected to dissipate rapidly. The proposed pile spacing would also not impede tidal flows in the creeks or result in long-term impacts to water quality. Any adverse impacts to aquatic resources due to the shading of about 0.7 acres by the proposed bridges would be offset through implementation of tidal wetland mitigation (see the discussion below).

PEDESTRIAN OVERPASSES

Two pedestrian/bicycle overpasses have been proposed for 2036, one at Muldoon Avenue over the West Shore Expressway and the other at Forest Hill Road over Richmond Avenue. Both bridges would require inconsequential clearing of vegetation within the 100-foot diameter footprint of each bridge base. The approach for the Muldoon Avenue Pedestrian Bridge in South Park has the potential to result in adverse impacts to a small area of freshwater wetlands if it cannot be sited outside the stream channel and associated wetlands that run parallel to and east of the West Shore Expressway. However, the potential adverse impacts to wetlands due to the bridge would be limited. Neither bridge would be located within the 100-year floodplain.

HAZARDOUS MATERIALS

According to the *CEQR Technical Manual*, soil and groundwater conditions can be impacted by hazardous materials as a result of historical or current uses and activities on a project site or in adjacent areas (generally defined as within 400 feet of the project site boundary). If these contaminants are not properly identified and handled, park development activities can potentially create a health risk to construction workers and residents. In addition, demolition of older structures that have asbestos-containing materials is another hazardous materials concern since this also has the potential to release contaminants to the environment if not properly managed.

Based on an extensive review of published reports and literature as well as historical aerial photography and topographic maps, available site testing data and a field walkover of North Park, it is concluded that most of the project site soils are likely to have been affected by hazardous materials or pollutants from a variety of on- and off-site sources. These sources include the four solid waste landfill sections, the Plant 1 and 2 areas, and waste cells where solid waste has been identified on the project site, but the locations are outside of the Solid Waste Management Unit area boundaries. There are also industrial uses in the surrounding area that may have affected the project site. Based on the research performed for this analysis, the types of contaminants that are typically found in urbanized areas as well as in and around municipal solid waste landfills are expected at the Fresh Kills property.

It is the objective of the proposed project to ensure that the previously closed landfill sections and the off-landfill sections proposed to be publicly accessible have a soil cover that is suitable for public access. Although not directly applicable to landfills, both DPR and DEC can rely on the science behind the DEC Part 375 Soil Cleanup Objective (SCO) regulations to guide their decision-making when converting Fresh Kills to other uses. Thus, decisions for the proposed project would be made on a case-by-case capital project basis as to the types of soil that may be used at each Fresh Kills Park project. Such a “project-by-

project" approach (Fresh Kills Park will be comprised of multiple projects over many decades) is also recommended by the City's DOHMH.

In addition, certain project elements are expected to require excavation. Two examples are the installation of new utility lines such as electricity, water and sewer connections and foundations for proposed structures. These excavation areas, however, are limited in the context of the overall project, and the majority of the project activities would occur at or above the existing grade (i.e., on the added cover soil). Therefore, recommendations for individual project-specific subsurface investigation and, if necessary, remediation, would be determined as each project moves forward. With this approach, any potential impacts due to hazardous materials would be avoided or mitigated during project implementation.

WATERFRONT REVITALIZATION PROGRAM

Because the proposed project is located within the City's Coastal Zone, it is subject to the policies of the *New York City Waterfront Revitalization Program* (WRP), which establishes the City's policies for development and use of the waterfront and provides a framework for evaluating activities proposed in the Coastal Zone. The proposed project would be consistent with the City's 10 WRP policies and standards. The development of a significant public park on the project site is consistent with City goals for revitalizing and providing public access in the coastal zone. Conversion of Fresh Kills Landfill into Fresh Kills Park is an objective of the City's Coastal Zone Management Program and specifically, the Plan for Staten Island. The proposed project would support these goals, including the objectives of providing public access to the waterfront, reusing an underutilized water City property for the purposes of coastal open space and recreation, and providing an overall improvement in the coastal ecology through habitat enhancement and wetland restoration projects. It is therefore concluded that the proposed project is consistent with the City's WRP and the *Plan for the Staten Island Waterfront*.

INFRASTRUCTURE

Although the proposed project would create new demands for water and treatment of sewage, the existing municipal services could handle these increases and no significant adverse infrastructure impacts would occur. In addition, beyond the standard infrastructure systems typically installed in the City, the proposed project would initiate sustainability measures with respect to on-site infrastructures systems. It is the conclusion of the infrastructure analysis that the proposed project would:

- Create water demands that would not overburden the City's water supply system.
- Generate a sanitary wastewater demand that would not overburden City's Oakwood Beach and Port Richmond Water Pollution Control Plants (WPCPs).
- Avoid stormwater impacts from proposed increases in impervious surfaces, particularly with respect to the proposed roads, with a comprehensive stormwater management plan.

Because the proposed project site has a long history as a municipal solid waste landfill, many park project locations do not have direct access to the local infrastructure. Therefore, utility lines would need to be extended into the site, or upgraded, particularly for the long term program and to serve the more intensively programmed areas of the proposed park, such as the Point. In addition, alternative means of water supply and sanitary disposal may be used in the more remote areas of the park.

Although the proposed Fresh Kills Park project is not expected to impact local infrastructure, sustainability measures are being explored to reduce demands for potable water and wastewater treatment. To this end, sustainability strategies would be explored that would reduce water demands and maximize water re-use within the park. Since wastewater generation is directly linked to water use, by reducing water demand, the volume of wastewater is also reduced.

SOLID WASTE AND SANITATION SERVICES

SOLID WASTE AND SANITATION COLLECTION SERVICES

Solid waste management and recycling services for the proposed project would be principally provided by DPR and DSNY. It is expected that a small amount of solid waste and recyclables would be handled by private carters serving the privately operated commercial facilities. The project net increase in solid waste to be collected under the proposed project by 2036 would be about 12.6 tons per day, which is a minimal increase when compared to the volumes of residential and institutional refuse and recyclables collected in the City. While commercial waste would also increase at the project site, this would amount to about 5.7 tons per day which is an increase of less than one percent in the commercial waste stream of the City. This increase is minimal, would be handled by the private commercial solid waste management industry, and would not be an impact of the project.

Solid waste and recyclables generated by park activities would be handled by DPR. Given that there is an extensive system of solid waste collection and disposal services available to the proposed project and that the added project increments are minimal additions to the City's solid waste stream, it is concluded that the proposed project would not adversely impact solid waste and sanitation services.

DSNY FACILITIES AT FRESH KILLS/SOLID WASTE MANAGEMENT PLAN

With respect to the existing DSNY solid waste management facilities on the project site in adjacent areas, the City would ensure that all management and maintenance agreements and permit obligations relative to the closure and post-closure requirements pertaining to Fresh Kills Landfill would be fulfilled, even with the construction of the proposed park. This would include any modifications to existing facilities or amendments to the post-closure monitoring and maintenance program for Fresh Kills Landfill. In addition, DPR would ensure the continued access to DSNY facilities at the Fresh Kills site as well as off-site, including the Staten Island Waste Transfer Station and the Borough 2 and 3 District garages and repair shop, as well as the continued use of the Fresh Kills Park roads, for the purposes of allowing DSNY to continue to provide sanitation collection and disposal services for Staten Island. For these reasons, it is concluded that the proposed project would not adversely impact solid waste and sanitation services or the obligations of the City under its Solid Waste Management Plan.

ENERGY

ASSESSMENT OF IMPACTS

The proposed project would increase energy demands with its proposed field lighting, park and street lighting, as well as lighting of the various commercial and cultural facility spaces. However, relative to the capacity of these systems within the City and the current levels of service within the grid, these added demands would not be significant. Improvements for local site connections to the grid would be installed as necessary. These improvements are expected to include no more than standard site upgrades and no major improvements are anticipated.

ENERGY SUSTAINABILITY

The proposed project includes an energy sustainability program that would reduce energy demand from what would be expected in a conventionally designed energy system. The project would also provide the opportunity for renewable on-site sources for energy, such as solar panels and wind turbines. For these reasons, it is concluded that the energy demands of the proposed project would not result in a significant adverse impacts on energy.

TRAFFIC AND PARKING

TRAVEL DEMAND

The proposed Fresh Kills Park would add a substantial number of vehicle trips in the study area in the years 2016 and 2036. In addition to the vehicle trips generated by the various park components expected to be completed by 2016 and 2036, there would be significant volumes of diverted traffic resulting from the construction of new park roads providing new east–west connections between Richmond Avenue on the east and the West Shore Expressway on the west.

ROADWAY IMPROVEMENTS

As described above, the proposed Fresh Kills Park would create a network of four-lane internal park roads as well as improvements and proposed connections to Richmond Avenue at both Forest Hill Road and Richmond Hill Road and improvements to the West Shore Expressway corridor that would include modifications to service roads and ramps within the West Shore Expressway corridor between Arthur Kill Road and Victory Boulevard. These improvements would improve access to and from the park by providing new and extended service roads, additional ramps, and ramp relocations. In addition, new intersections would be created with Arden Avenue and the south leg of the new Confluence Loop Park Road as part of the proposed improvements.

TRAFFIC IMPACTS

The locations selected for traffic impact assessment for the proposed project include 35 major intersections. These include intersections along local roadways bordering the project site (e.g., Arthur Kill Road), as well as along arterials (e.g., Richmond Avenue) that would provide access to or from the site and would also be affected by project-generated and diverted traffic volumes. It should be noted that at the majority of locations in the study area, traffic congestion already exists in the future without the proposed project conditions—specifically in the year 2036. At these congested locations significant adverse traffic impacts would occur in both the 2016 and 2036 future build conditions.

The analysis results show that in the 2016 Build Conditions, the weekday PM and weekend midday peak hours would have the highest number of impacted intersections with seventeen (17) and sixteen (16), respectively. The weekend PM and weekday midday would have fourteen (14) and thirteen (13) impacted intersections, respectively. The weekday AM peak hour would have the fewest number of impacted intersections under the 2016 Build conditions with eleven (11).

The analysis results also show that in the 2036 Build conditions, the weekday PM peak hour would have the highest number of impacted intersections with twenty five (25), followed by the weekend midday peak hour with twenty four (24) impacted intersections. The weekend PM peak hour would have twenty one (21) impacted intersections. The weekday AM and weekday midday peak hours would have the fewest number of impacted intersections under the Build 2036 conditions with twenty (20) each.

Mitigation for these impacts is presented below under “Mitigation.”

WEST SHORE EXPRESSWAY CORRIDOR

In addition, the traffic analysis included an examination of highway conditions along the West Shore Expressway Corridor using the CORSIM model that examined the potential impacts of the proposed project with respect to traffic flow conditions along the expressway. The analysis disclosed that certain segments of the expressway could experience congestion in the years 2016 and 2036 with the introduction of the proposed project’s ramps and traffic that would use the expressway. DPR will continue to coordinate with NYSDOT, NYCDOT and New York City Department of Design and Construction (DDC) to explore expressway access design alternatives that would maximize traffic operating conditions along the expressway with the proposed project in place while minimizing congestion.

PARKING

In total, the proposed Fresh Kills Park would provide approximately 3,400 parking spaces by the year 2036 (including 1,873 permanent spaces and up to 1,544 overflow parking spaces). The proposed parking would be sufficient to accommodate the project's parking demand in both the 2016 and 2036 future build conditions. Since sufficient on-site parking capacity would be available to fully accommodate all project demand in all peak periods, and there is overflow parking for events and above average parking demand days, no significant adverse impacts to parking conditions would result from implementation of the proposed project. DPR would also continue to monitor its parking needs at Fresh Kills and address demands as necessary as individual capital projects move forward.

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED EAST PARK ROADS

It should also be noted that a Supplemental Environmental Impact Statement (SEIS) is being prepared. DPR has commenced with the preparation of this SEIS for the proposed roads across East Park for the purposes of further examining design details and the related impact analyses relative to those proposed roads as well as examining potential alternative alignments and their impacts.

TRANSIT AND PEDESTRIANS

ASSESSMENT OF IMPACTS

The proposed park would generate fewer than 200 peak hour transit, pedestrian, and bicycle trips each during the weekday and weekend conditions in both the 2016 and 2036 future years. This is because the transportation trips on Staten Island are largely assumed to be vehicular trips, and to provide a conservative traffic analysis a 90 percent auto share was assumed for trip generation estimates. As a result, the number of pedestrian and transit trips generated by the park are below the *CEQR Technical Manual* recommended threshold of 200 peak hour trips for undertaking quantified analyses. Based on the project demands, it is concluded that the proposed project would not adversely impact the pedestrian and transit systems conditions in the study area.

EXPANSION OF SERVICES AND IMPROVEMENTS

Transit

Currently the proposed Fresh Kills Park site is not directly served by existing NYCT bus routes; however, there are several existing NYCT bus routes that serve its periphery, as well as regional service along the West Shore Expressway and access to local park and rides (both existing and proposed). Although not proposed at this time, in the future with the proposed park, DPR would coordinate with NYCT to potentially expand bus services to accommodate the park generated transit demand (especially during the weekend summer months) or to amend the existing bus routes for the purposes of providing expanded service within the park and along its exterior boundaries. It is anticipated by park planners that expanding the availability of bus transit could potentially reduce project-generated auto trips by shifting the park travel demand to mass transit. This could, over time, reduce project-generated vehicle trips and improve transit use for the local, boroughwide, citywide, and regional park users. Reduced auto travel would likewise reduce parking demands and enhance the overall park experience. To this end, DPR will coordinate with MTA/NYCT for the purposes of providing transit service to the park.

Pedestrians

The proposed project would provide new pedestrian park access locations from Richmond Avenue, Arthur Kill Road and Wild Avenue. These pedestrian connections would include pedestrian improvements to sidewalks, crosswalks, and corners at locations where these facilities do not currently exist, and would also improve the existing pedestrian facilities at the Richmond Avenue intersections with Forest Hill and Richmond Hill Roads by providing wider, high-visibility crosswalks as well as sidewalks

along the park periphery. Providing sidewalks on the park side of Arthur Kill Road is a project that would need to be coordinated with NYCDOT.

Improving local pedestrian conditions is a positive impact of the proposed project that would also improve walk trip connections between the local neighborhoods (e.g. Arden Heights and Travis). Proposed improvements would enhance pedestrian safety at all the major access and egress points to-and-from the park.

With respect to bicycle access, DPR, DCP, and NYCDOT have a program for expanding bike access in this area. It is an objective of the proposed park to expand cycling opportunities into the park and to be a destination that would advance biking as an alternative mode of travel to the park and as a non-motorized form of commuting. Measures to improve local biking opportunities would therefore be a positive impact of the proposed park.

Based on the vehicle-pedestrian accident data obtained from the New York State Department of Transportation (NYSDOT), currently there are no high vehicle-pedestrian accident locations in the study area, and the proposed project is not expected to adversely impact the pedestrian safety in the study area.

NOISE

The proposed Fresh Kills Park would not result in significant adverse noise impacts from increased traffic or stationary noise sources. The proposed project would not result in any predicted exceedances of *CEQR Technical Manual* suggested incremental thresholds at noise receptor locations.

Noise levels within the proposed Fresh Kills Park at certain locations would be above the *CEQR Technical Manual* noise exposure guideline of 55 dBA $L_{10(1)}$ for outdoor areas requiring serenity and quiet. Although noise levels in the new park area would be above the CEQR guideline, they would be comparable to noise levels in several other New York City parks, including South Shore Golf Course Park, Arden Heights Woods Park, Latourette Park, and Willowbrook Park, and would not result in a significant adverse noise impact.

Therefore, it is concluded that there would be not be any significant adverse noise impacts with the proposed project.

The program for the Fresh Kills Park project may include up to five commercial wind turbines. At this time, design and locations for these wind turbines have not been finalized. Therefore, a detailed analysis of potential environmental impacts, including noise and vibration, cannot be performed for this FGEIS. As the wind turbine project design progresses and more details are developed as part of a site-specific project, detailed analyses, including noise and vibration, would be performed as part of a site-specific environmental review in order to ensure that the siting of the commercial wind turbines would not result in any significant adverse impacts on local residences, community receptors, or parks.

AIR QUALITY

A modeling analysis for mobile and stationary sources disclosed that the proposed project would not result in any impacts from mobile sources at local intersections in either the 2016 or 2036 analysis years. In addition, the proposed project would not conflict with the State Implementation Plan for air quality.

CONSTRUCTION

PROJECT IMPLEMENTATION AND PHASING AND COORDINATION WITH DSNY

Implementation of the proposed park must be coordinated with the obligations of the City, through DSNY, to complete final closure of Fresh Kills Landfill in accordance with the schedule established by NYSDEC and to continue with the landfill post-closure monitoring and maintenance program. The proposed park phasing plan must therefore account for the phased opening of the project.

Construction phasing for the proposed park has been planned to minimize disruption to the DSNY closure activities at both Landfill Section 6/7 and Landfill Section 1/9. It is expected that park construction mobilization would begin in the third quarter of 2009 and would overlap with some of the closure construction at Landfill Section 6/7. In addition, the Fresh Kills Landfill Plant 2 is expected to serve as the principal contract support area for landfill closure construction of Section 6/7. However, DSNY use of this area should be substantially completed by 2012.

As the park moves forward, it is also expected that DPR and DSNY would create a "development plan" for the proposed project that would address coordination and levels of construction activity through the completion of construction to ensure that any conflicts between landfill closure and park construction are avoided or minimized. In addition, given the long duration of project construction (the proposed project is a multi-year, multi-phase initiative that is not expected to be fully completed until 2036), there would be minimal overlap between the closure construction and the construction of the majority of the project. For example, there would be no overlap between landfill closure construction and park construction activities in either East or West Parks or the Point since neither has park elements in the 2016 program. In addition, there would be no overlap of landfill closure construction with park or road construction activities at Landfill Section 1/9. However, there would be a continuing need for construction to not interfere with the needs of DSNY and the Fresh Kills Landfill Monitoring and Maintenance Program agreements.

As stated above, the proposed project is a major capital project that would be developed in multiple phases over several decades. Construction includes developing park facilities, ecological habitats, park roads, ramps and service roads connecting with the West Shore Expressway. In total, about 7 miles of new roads are proposed with the project.

OPERATIONAL OBJECTIVES

Since the proposed project would occur over several decades, dedicated staging areas internal to the site are important to minimizing construction impacts on the local community. It is also expected that individual capital projects, such as North Park (Phase A), for example, would have satellite construction staging areas depending on the type of construction activities that are proposed and the requirements of individual contractors. Some of the general construction principles that would apply to the proposed project are:

- Develop a staging plan that utilizes the internal built conditions at the project site, thereby minimizing impacts on local neighborhoods and roads at the periphery;
- Establish heavy support operations, such as soil making (if proposed) in an area central to the project site and away from local residential uses;
- Locate individual capital project staging areas in locations that have been previously disturbed or would be disturbed as part of project development, thereby avoiding impacts to wetlands and natural features;
- Locate road construction staging areas in the proposed road corridor, clear of wetlands and landfill infrastructure;
- Although truck deliveries for imported soils are expected to be the principal mode of delivery in the short term, consider barging soil in the long term, if feasible;

- Use existing access routes for park construction, since these allow for direct access to and from the regional highway while internalizing truck traffic and minimizing the use of neighborhood streets around the project site;
- Minimize the closing of local streets by performing nighttime work along major corridors (e.g., to implement modifications at the two intersections with Richmond Avenue, at Richmond Hill and Forest Hill Roads, and the connecting ramps to the West Shore Expressway);
- Control worker access to the site by stipulating entry and exit points within each capital project contract;
- Provide for worker parking on-site; and
- Utilize the construction staging area for worker parking.

POTENTIAL CONSTRUCTION PERIOD IMPACTS OF THE PROPOSED PROJECT

Land Use and Neighborhood Character

To minimize impacts on the residential neighborhoods surrounding the project site, construction activities (e.g., staging, storage, operations) would be concentrated in the central portion of the site in the area of the former Plant 1 and Plant 2 operations. Thus, construction staging would not need any off-site locations and construction activities near these neighborhoods would therefore be limited to constructing the local parks and would be short in duration.

Certain types of construction activities at the periphery of the park (e.g., North Park, Phase A) are potentially noisy and intrusive to local residents and parks users at places such as Schmul Park and construction activities would also be audible and visible from the local community and park. Generally, the intensity of the off-site impact decreases with the distance from the site. However, since these are the neighborhood park construction projects they would be short in duration (about 1 year) and the intensity of construction would not be a great.

In sum, no potential significant adverse construction period impacts on land use or neighborhood character are expected with the proposed project.

Historic Resources

Construction excavation may potentially disturb or destroy subsurface archaeological resources. Mitigation for these potential impacts is described below under "Mitigation." These mitigation measures would be instituted prior to construction, but can also be written into the construction bid documents, if undertaken before construction proceeds.

To protect architectural resources, if any project-related construction activities could result in potential vibration impacts to architectural resources, a Construction Protection Plan would also be prepared and implemented prior to construction.

Natural Resources

Water Quality and Sediment Control Practices

The project site includes substantial water systems, including tidal waterways, creeks, ponds, and stormwater basins. It will be critical for the project to avoid impacts to these systems, not only for the purposes of protecting natural resources and water quality, but also for the purposes of avoiding siltation impacts to the man-made constructs that provide stormwater detention at the site. In order to avoid these impacts, the proposed project includes a "Conceptual Site-Wide Erosion and Sediment Control Plan." This plan establishes the guidelines by which each phase of project construction, though implementation of the proposed techniques, would avoid impacts to natural features and in-place stormwater management systems. Implementation of these techniques would be ensured not only by DPR, but through the SPDES requirements.

Activities associated with construction could temporarily impact terrestrial and aquatic resources through the discharge of stormwater to tidal and freshwater wetlands and local waterways; deposition of fugitive dust resulting into terrestrial and aquatic habitats; damage to vegetation; loss of habitat; and damage to existing landfill environmental control systems and the geosynthetic landfill cap and natural soil liner. However, natural resources impacts as a result of these activities would be minimized through the implementation of protection measures and construction guidelines as discussed below.

For example a natural resources protection plan would be prepared for each construction project. This plan would identify habitats, trees, sensitive habitats such as wetlands, and any other communities that have been identified for preservation and protection under the proposed project and would establish the necessary protection zones around these resources so as to minimize the potential for adverse direct or indirect impacts to these resources. In addition, a construction monitoring program would be implemented to document that construction is consistent with the design such that existing sensitive environmental features are not impacted during project construction.

It is expected that although there would be short-term, unavoidable adverse temporary construction impacts on natural resources, these impacts would be avoided and minimized to the extent practicable and the benefits provided by the resulting park habitats would more than offset these impacts.

Hazardous Materials

Because construction of the proposed park involves excavation and disturbance of existing on-site soils which could result in temporary exposure to contaminants for construction workers and the general public, preventative measures would be taken to protect public health and safety. Therefore, prior to construction of each major capital project, site investigations would be performed (including sampling for hazardous materials, as necessary) with a site-specific Construction Health and Safety Plan, as necessary. In addition, existing fill remaining on-site would be either covered by certified clean fill or capped with concrete or asphalt pavement, or permanent structures. With these proposed measures, there would not be any impacts due to hazardous materials.

Solid Waste Management

All demolition and construction waste would be handled by private carters that would be required to haul and dispose of the materials in accordance with the applicable regulations. It is expected that there would be the recycling of cut trees and vegetation for use as park mulch, in accordance with application regulations. The City's program to reduce solid waste generated by construction sites would also be met. In addition, the proposed project would minimize impacts on the City's solid waste management facilities, including Fresh Kills Landfill, during construction.

Energy

Energy demands during construction are primarily the energy required to manufacture, deliver, and install the materials at the construction site. Construction of the proposed project would not cause any significant adverse energy impacts.

Traffic and Parking

Construction activities would generate a modest amount of traffic during the peak hours during both the construction of the proposed park elements and the proposed roads. However, construction workers generally arrive before the peak morning commuter traffic period and depart before the peak afternoon traffic period, with limited weekend work and therefore generally do not affect the local traffic network. In addition to the worker commutes, there would also be trucking activity associated with the delivery and removal of soils (particularly the delivery), and there would also be the delivery and removal of materials during the demolition of buildings, the construction of buildings, and the construction of the proposed bridges and viaducts. Given the size of the project site, it is expected that the delivery of all soils and materials would reach the site via the West Shore Expressway and once on site could be use internal

staging areas for that particular phase of construction as well as the internal roadways, thus minimizing impacts on the surrounding neighborhood.

Truck trips would be spread throughout the day which would vary depending upon the phase of construction for each capital project. However, as described above, it is expected that 70 to 100 trucks per day, or about 10 per hour would be providing deliveries to the site during the more intense periods of construction, particularly with respect to the importation of soil.

Regarding worker vehicles, conservatively assuming that all workers would travel as single automobile occupants, the maximum daily trip generation would be 50 to 100 vehicles during the more intensive periods of construction. With the proposed direct access to the West Shore Expressway, there would be limited use of local roads. In addition, as stated above, most of the truck trips would not coincide with the traditional commuter peak travel hours, as construction workers usually arrive between 6:00 and 7:00 AM and leave between 3:00 and 4:00 PM, which is outside the traditional peak hours. Thus, no impacts due to construction worker traffic are expected.

With generally low background pedestrian activities in the immediate area of the project site, the limited amount of pedestrian traffic generated by the construction workers would not impact local sidewalks, crosswalks, or corners. Likewise, the increase in construction traffic should not adversely impact pedestrian safety.

Traffic Maintenance During Construction

Limited construction activities requiring traffic maintenance are expected on local roads or the West Shore Expressway. Access to the site would be gate-controlled and some streets may be temporarily closed during the construction of new intersections (e.g., the Forest Hill Road and Richmond Hill Road connections) as well as the installation of lateral utility connections (e.g., water, sewer, gas, electric). However, major roads, such as Arthur Kill Road, would have at least one lane open to traffic at all times. The temporary closure of travel lanes on side streets is an unavoidable temporary impact on the local traffic network.

Parking

It is expected that parking for construction workers and vehicles would be provided on the project site to avoid any impacts on local parking conditions.

Air Quality

In most cases, the incremental impacts on local air quality from park would be limited in extent, duration, and severity. During construction of the proposed project, emissions from on-site construction equipment and on-road construction-related vehicles, and their effect on background traffic congestion, have the potential to impact air quality. Localized elevated CO concentrations would be expected during construction; however, these impacts are not expected to be significant in either magnitude or duration.

The main component of diesel exhaust that has been identified as having an adverse effect on human health is fine particulate matter. As required by local law, since ultra-low-sulfur diesel (ULSD) would be used for all diesel engines during construction it is also expected that emission from construction equipment would not result in a significant impact on air quality.

Noise

The City has recently amended its Noise Control Code (the amendments went into effect July 1, 2007) and project construction is subject to these requirements. While the construction noise associated with each construction phase varies depending on the equipment and intensity of construction in any one phase, noise levels associated with construction may occasionally be noticeable to nearby residents, particularly at times when jackhammers and/or other pavement-breaking equipment are used. However, this type of construction activity is expected to be limited, and there are no cost-effective measures that would reduce

this temporary noise increase. Construction of the roads would occur largely on the interior of the site. Since noise levels also increase/decrease exponentially over distance, although elevated noise levels are considered a nuisance and would be intrusive to residents, these impacts should be short-term and are not considered to be a significant impact of the project. All construction equipment and vehicles must meet the regulatory requirements regarding noise emissions, and construction activities would be primarily limited to weekdays between the hours of 7:00 AM and 6:00 PM..

Vibration

In terms of potential vibration impacts, pile driving using hydraulic pile drivers would produce the most intense vibration levels. However, pile driving would only occur for limited periods (e.g., construction at the proposed Forest Hill Road Connection viaduct) and while the vibration levels produced during pile driving may be perceptible, it would be for a limited duration and the nearest sensitive receptor is more than 200 feet away. It is concluded that vibration impacts due to pile driving would not result in significant adverse impacts on any nearby buildings or sensitive receptor. If necessary, protections may be installed to protect DSNY infrastructure as determined during detailed design.

Public Health

During construction, temporary potential health impacts due to air and noise pollutant emissions can stem from construction equipment and construction vehicles. Of particular concern is the potential for diesel emissions from construction-related activities to impact public health (such as increasing asthma rates). In response to those concerns, the City adopted Local Law 77 of 2003, which significantly reduces air pollution from construction equipment operated in New York City. It is also expected that construction contracts would include provisions for a vector control.

PUBLIC HEALTH

With respect to the potential public health impacts of the proposed park due to increased public access, a detailed evaluation was performed as part of this GEIS to evaluate these conditions with respect to air quality, groundwater, surface water, and sediments/soils and the potential contaminant pathways and possible public health effects. The principal conclusions of the analysis are:

- Air emissions: criteria pollutants from local stationary sources including the landfill environmental control infrastructure would not be expected to result in any significant adverse air quality impacts on park users. With respect to both criteria and non-criteria air pollutants, modeling of point sources within and in the near vicinity of the proposed project did not identify any significant public health risks.
- Groundwater: while contaminated groundwater is known to exist within the boundaries of the project site, the analysis performed as part of this GEIS demonstrates that it does not pose a significant public health risk to park users. Groundwater is not currently used, nor is it envisioned to be used in the future, as a potable water supply and there is no exposure pathway. Other public health protection measures include regular sampling of monitoring wells associated with the closed landfill, in accordance with applicable regulatory requirements, as this data can facilitate the identification and correction of potential problems associated with the environmental control infrastructure at the landfill.
- Surface water: park development would entail several possible uses and potential public health exposures associated with surface water usage. These include recreational swimming, fishing, and boating. As stated above, surface waters in the vicinity of the proposed project are not designated for use as potable waters and would not be used in that way. In addition, no park use contemplates the use of the surface water for irrigation. Local water quality is not sufficient to support swimming within the park boundaries and consumption of shellfish and consumption of finfish is actively discouraged through public health advisories that warn residents of the potential hazards associated with these exposures. The proposed park would include management efforts and signage as additional

measures to preclude swimming and the consumption of fish. Additional public health protection measures include regular surface water sampling that can be shared with park managers and ecologists, with possible expanded sampling in surface streams and ponds as the site is made publicly accessible.

- Sediments: Sediments are a potential public health risk in that they serve as sinks for many environmentally recalcitrant contaminants including PCBs, pesticides, toxic metals, and other anthropogenic pollutants. Measures to avoid public health impacts from sediments include park design and management measures that would limit potential exposure between sediments and park users.
- Site Testing: Analytical site testing is recommended as capital projects move forward and individual capital projects are designed and developed. This would be based on a testing program where soil/groundwater disturbance may be proposed and with individual testing protocols, and, if necessary, remediation to avoid this impact.
- Soils: Exposure to potentially contaminated soils associated with the closed landfill sections and areas off the regulated landfill sections would be avoided through the use of soil criteria guidance established in the 6 NYCRR Part 375 soil cleanup objectives. Soil management would be develop don a case by case basis and based on specific park program elements proposed for various areas of the site.
- Management measures currently in-place at both DPR and DOHMH are expected to protect future park users from other potential public health issues such as rabid animals (e.g., raccoons) and West Nile Virus from mosquitoes.

D. ALTERNATIVES TO THE PROPOSED PROJECT

A number of alternatives were selected for comparison with the proposed project. These include the:

- The No Action Alternative, which assumes no mapping changes or other proposed actions;
- A Two-Lane Park Road Alternative (Alternative Park Road Width);
- Alternative Alignment: Richmond Hill Road Connection (west of Landfill Section 6/7);
- Alternative Alignment: Staten Island Borough President's Office (SIBPO) Proposal (i.e., reuse of New York City Department of Sanitation [DSNY] haul roads alignment);
- Alternative Alignment: SIBPO Modified Proposal;
- Alternative Alignment: Yukon Avenue Crossing; and
- Less Intensive Programming Alternative (Lesser Impact).

A summary of the impacts under each alternative follows.

NO ACTION ALTERNATIVE

The No Action Alternative provides a baseline against which impacts of the proposed project may be compared. It assumed in the No Action Alternative that the proposed actions are not implemented, i.e., there would be no mapping of parkland and the corresponding amendments to the zoning map; no mapping of new roads and demapping of unbuilt paper streets; and no capital funding for the construction of public facilities. This alternative essentially reflects conditions discussed as the "Future Without the Proposed Project" through the analysis years 2016 and 2036.

Similar to the proposed project, the No Action Alternative would not result in significant adverse impacts on land use, zoning, and public policy; socioeconomic conditions; community facilities; open space; shadows; historic resources; urban design and visual resources; neighborhood character; natural

resources; waterfront revitalization program; infrastructure; solid waste and sanitation services; energy; transit and pedestrians; air quality, noise; construction; and public health.

The No Action Alternative, however, would not have the short-term construction impacts of the proposed project or the potential adverse impacts on solid waste management, hazardous materials or wetlands that require incorporation of avoidance measures into the project and mitigation. It would also not provide the significant land use, open space, natural resources, traffic circulation and urban design benefits associated with the proposed project. Neither would it fulfill the City's goals for revitalizing the site and providing a significant public open space with recreational amenities and waterfront access in the coastal zone.

TWO-LANE PARK ROAD ALTERNATIVE

DESCRIPTION

The two-lane park road alternative assumes two 12-foot travel lanes, a 4-foot textured median, and 6-foot shoulders. The combination of median, land, and shoulder widths on the two-lane road would allow for bypassing of stalled vehicles, such that a single stopped vehicle does not block an entire direction of travel. The shoulders would also contribute to improved sight distance along the inside of curved roadway segments and help keep the roadside clear of hazards.

Environmental impacts associated with the two-lane alternative would differ from those of the four-lane alternative in magnitude. For example, the smaller road footprint would provide a significant advantage in its run along the berm. While the base of the roadway embankment would be approximately 80 percent as wide as the four-lane at the basin crossings, along the berm the narrower two-lane width would still 50 percent less distance beyond the service road footprint and into the basins.

TRAFFIC OPERATIONS

Overall, traffic levels within the park would be moderate to low and below those that can be effectively handled by signalized intersections within the park, or by the roundabout proposed under Option 2 for East Loop Road. Thus, as with the four-lane proposal, normal traffic operations on the Two-Lane Park Road Alternative are expected to be satisfactory.

The traffic analysis shows that the park roads would have similar impacts on functionality of the surrounding street network. The traffic analyses indicate that the Four-Lane design provides no greater relief to local traffic congestion than the Two-Lane Alternative.

LANDFILL IMPACTS

With regard to the landfill closure cover system, the horizontal extent of the road embankments under this alternative would be less for the Two-Lane design than for the Four-Lane Alternative, and the narrower embankments would result in settlement over a smaller area. The narrower embankments would also apply less weight to the landfill cover system, waste, and underlying soils, which could result in a higher degree of stability and increased stress on the closure system's geomembrane layer.

Both alternatives cross the leachate management system four times as they traverse Landfill Section 6/7 and both alternatives encroach on the stormwater basin at the north end of the Richmond Hill Road Connection in 2036. However, the Four-Lane design affects an additional length of cutoff wall and leachate collection trench at the north end of the Richmond Hill Road Connection. The Two-Lane Park Road Alternative requires the least extensive protective measures due to its narrower footprint and would also require a smaller bridge, with a smaller pier penetrating the waste, at the two grade-separated leachate system crossings along the east edge of Landfill Section 6/7.

Impacts on the Landfill Gas Management System are on the whole relatively minor, but are slightly greater for the Four-Lane design as compared with the Two-Lane Park Road Alternative. Similarly, both require adjustments to the stormwater management system to accommodate the loss of capacity in basins B1, C2, F, and Q, but the differences are pronounced only at Basin B1 where the Four-Lane Design

intrudes more extensively. There are no significant differences among the alternatives in terms of impacts to the environmental monitoring system.

ENVIRONMENTAL IMPACTS

All of the proposed roadway alignments encroach on both regulated and unregulated freshwater and tidal wetlands. The entire eastern edge of the site is bounded by wetlands; in order to enter the site from Richmond Avenue, it is necessary to cross them. The design proposes to offset limited habitat losses by creating an extensive system of healthy wetlands, meadows, and woodland.

- The Four-Lane proposal directly and indirectly impacts approximately 8.75 acres of tidal and freshwater wetlands.
- The Two-Lane Road Alternative directly and indirectly impacts approximately 5.55 acres of tidal and freshwater wetlands.

Since the widened bridges at Richmond and Main Creeks are not necessary for the Two-Lane alternative, impacts of structures over water are reduced.

PARK IMPACTS

All of the alternatives provide access to park features and scenic views of park natural features. The Two-Lane Alternative succeeds to a greater degree in limiting the visual and physical intrusion of the road in the landscape. In so doing, the two-lane road is more consistent with park design intensions to provide access to the site and its features, while prioritizing bike, pedestrian, and boater experience. In addition, the two-lane road affords opportunities for a greater degree of grade separation between pedestrian/bicycle paths and the roads, as well as providing more room on side slopes for a habitat corridor with native plantings and beneficial stormwater management functions.

Given that traffic volumes do not warrant a wider roadway, and given the intention to limit the physical presence of roadways and to minimize interference with wetlands, the Four-Lane Design is less desirable from a park impact perspective.

ALTERNATIVE ALIGNMENT: RICHMOND HILL ROAD CONNECTION

Three alternative alignments were examined for the western corridor approach to the Richmond Hill Road Connection. All these proved to be less desirable than the eastern corridor analyzed in this GEIS for the following reasons:

- The on-landfill alignment pushes the road well up the landfill, potentially conflicting with existing landfill infrastructure and traversing some of the thickest, most unconsolidated layers of waste that are presently being covered on the northern portion of Landfill Section 6/7.
- The 9- to 14-foot rise of the landfill access scenario (above the existing perimeter features) significantly impacts upon landfill infrastructure and would compromise DSNY landfill maintenance and operations. The on-service road scenario proves to be the least desirable alignment in all three corridors, as it consistently conflicts with critical landfill infrastructure and seriously compromises maintenance and operation requirements.
- The on-landfill alignment rises to approximately elevation 90, traversing some of the thickest, most unconsolidated layers of waste that are presently being capped. This would result in significant initial and long-term settlement that would not adequately respond to preloading and other foundation improvement measures. Initial construction and the large initial settlement would require landfill cover. Moreover, differential settlement would continue in the longer term, resulting in undesirable levels of degradation for both the road and the landfill, requiring excessive intervention.

- The off-landfill alignment would impact potentially 14 acres of land within tidal wetlands and adjacent areas, of which about half is assumed to be tidal wetlands of Main Creek and associated with William T. Davis Wildlife Refuge.

ALTERNATIVE ALIGNMENT: STATEN ISLAND BOROUGH PRESIDENT'S OFFICE (SIBPO) PROPOSAL

DESCRIPTION OF ALTERNATIVE

During the course of the public review of the Fresh Kills Park DGEIS, a number of comments were raised by the Staten Island Borough President's Office (SIBPO) and his constituents regarding the park road system proposed in the DGEIS. Submitted as part of the DGEIS public review by the SIBPO was an alternative for the East Park roadway design alignment that was a modification to an alignment examined in the *Conceptual Roads Report* (Arup et.al, September 6, 2007).

This alternative essentially proposes a two-lane, one-way road that loops around Landfill Section 6/7 (the DGEIS alternative for the Richmond Hill Road/Forest Connection was a four-lane, two-way road) that utilizes the existing haul roads alignment. In addition, the SIBPO's alternative differs from the proposed project with a new segment of a four-lane road across Landfill Section 6/7 that would connect directly to Richmond Avenue at Yukon Avenue. This connection was not proposed in the DGEIS (the two project-proposed connections were at Richmond Hill Road and Forest Hill Road both at Richmond Avenue). Thus, under this alternative, the loop around Landfill Section 6/7 would have two-way connections at the three intersections with Richmond Avenue. A typical two-lane section proposed by the SIBPO includes two 11-foot travel lanes, a two-foot left shoulder, and an eight-foot-wide right shoulder.

This alternative assumes more intensive reuse of the current DSNY haul road alignment for the purpose of expediting road construction and minimizing impacts and costs. Assuming this is feasible, all three connections at Richmond Avenue are considered to be completed by 2016 under this alternative (e.g., connections at Forest Hill Road, Yukon Avenue, and Richmond Hill Road).

As described below, this alternative would have impacts similar to the proposed project in many respects. However, there are specific differences with respect to road geometry, landfill conflicts, environmental impacts, and park conflicts.

COMPARISON OF ROAD DESIGN OBJECTIVES WITH THE PROPOSED PROJECT

The road designs under this alternative differ from the proposed project as follows:

- Under this alternative, at locations where the minimum radius for 35 mph could not be accommodated, a lower design speed would be necessary with the appropriate signage (26 of the 71 curves proposed in this alternative are substandard for the proposed design speed.
- There are certain areas where minimal impacts to Landfill Section 6/7 occur including impacts with respect to the existing and proposed gabion walls. In order to implement this alternative, minor realignments along with other design modifications would need to be identified and recommended to avoid these impacts. As a result of this analysis, any gabion walls located on a horizontal curve to the left would impact the horizontal stopping sight distance. Also the gabion wall locations (except for one) do not meet the required horizontal sightline offset.
- Based on the two percent superelevation rate and 35 mph design speed, there are a number of locations where the horizontal curves do not comply with the minimum radius required.
- This alternative does not exceed the maximum allowable grade; however, it does not meet the minimum desirable grade in many locations.
- To avoid impacts to the existing landfill liner which is located approximately three feet below grade under the existing DSNY haul roads, a proposed pavement section for this alternative assumes the

existing (haul road) pavement structure remains in place. The proposed top of the new pavement would be typically located approximately four inches above the existing pavement surface.

- A flexible pavement system over the haul roads, rather than rigid (concrete) or composite (asphalt overlay over unreinforced concrete base) could avoid any potential differential settlement over landfill haul roads.
- A field investigation confirmed that some vents fall within the limits of pavement of the alternative right of way.
- The design intent of the SIBPO's alternative is to direct the runoff of the last tier/terrace of Landfill Section 6/7 across the roadway pavement by providing a two percent roadway cross-slope. This design conflicts with standard design practice and has the potential to contribute to hydroplaning and icing conditions, because this alternative would continue to allow some of the surface runoff from the landfill mound to be carried across the roadway surface. However, there are techniques to avoid this impact. For example, installation of final landfill cover on the southern portion of Landfill Section 6/7 (i.e., areas south of Yukon Avenue) has not yet been completed. This may allow for the modification of stormwater management plans to accommodate this alternative that would reduce the quantity of stormwater runoff flowing across the proposed roadway.
- Final landfill cover on the northern portion of the site (approximately defined as the area to the north of Yukon Avenue) is complete. As a result, impact avoidance on these road segments above could require excavation and backfilling a portion of the landfill cover. These activities could threaten the integrity of the landfill liner, and therefore are not recommended in the northern portion of the site. Other alternatives, which would not necessitate disturbing the cap, are recommended.

OVERVIEW OF ENVIRONMENTAL IMPACTS

Introduction

Like the proposed project, it is assumed that with this alternative road alignment, the project site would be developed within the proposed Fresh Kills Park with the proposed park access roads. Therefore, under this alternative, the benefits expected to result from the proposed project as a whole—including the creation of a 2,163-acre regional park and public access to the waterfront—would be realized under this alternative. Neither the proposed project nor this alternative would have an impact on socioeconomic conditions or community facilities. Both would provide significant benefits with respect to urban design and visual resources. Neither would have shadow impacts or impacts on historic architectural resources. Both have the potential to impact archaeological resources that would need to be addressed as the project designs are advanced in order to determine if specific areas of archaeological impact could occur and if any additional field investigation is necessary. Neither the proposed project nor this alternative significantly adversely impact neighborhood character. Hazardous materials impacts would also be similar.

Both the proposed project and this alternative would be generally consistent with New York City waterfront revitalization program policies. Most importantly, the development of a public park on the project site would be consistent with the borough and City goals for revitalizing and providing public access in the coastal zone. Under both the proposed project and this alternative, the increased demands on solid waste and sanitation services would be similar and neither this alternative nor the proposed project would result in increases to the degree that there would be significant adverse impacts on these services. Likewise, neither this alternative nor the proposed project would result in any significant adverse impacts on utilities. In addition, other requirements of the proposed project with respect to public health protections would be provided.

Where the proposed project and this alternative differ is primarily in the areas of road design and engineering described above, conflicts with landfill systems, natural resources, and park design. These differences are described in greater detail below.

LANDFILL IMPACTS

Pump Stations

It is important to note that under this alternative, maintenance of the Fresh Kills Park leachate pump system would require periodic lane closures. The leachate pumps are all located along the outer lane of the edge of the existing haul road. Reuse of the haul road alignment would, therefore, require periodic travel lane reductions from two to one. There are no pumps located along the bidirectional link between the Main Creek and Richmond Creek Bridges. There are also no pumps along the extension of Yukon Avenue.

As part of the leachate conveyance system there are 14 existing pump stations located on the outboard side of the existing haul road (around Landfill Section 6/7) out of which 13 are located in the proximity of the SIBPO's proposed alignment. Due to the lack of adequate space for the proposed roadway section, the SIBPO's roadway alternative does not allow for a shoulder in the proximity of the existing pump stations. There are a number of potential impacts the roadway proposals may have on the pump stations, such as carrying traffic too heavy for the roofs of the pump stations, and the possibility of gas vents and electrical cabinets being struck by an errant vehicle.

Gas Management System: Active Landfill Gas Collection System

Extraction wells and gas header pipes are unaffected by SIBPO's Roadway Alternative, as they are all located in the interior of the mound and outside of the roadway grading limits.

However, eight condensate tanks in the northern portion of Section 6/7 would be impacted by SIBPO's Alternative because they are currently located underneath the existing and proposed roadway. At these locations, equipment, loading, and excavation constraints would be implemented to avoid any damage to the existing gas collection system. In addition, six drip leg vaults lie within the proposed roadway.

Gas Management System: Passive Landfill Gas Venting System

In Landfill Section 6/7, a geocomposite gas venting layer with passive vents along the landfill section perimeter is proposed for the southern portion of Landfill Section 6/7. Several of the passive gas vents in this area fall within the southern portion of the landfill section and within the grading limits of the proposed SIBPO alternative roadway.

On the northern section of Landfill Section 6/7, several gas vents fall within the roadway grading limits. In this case, minor realignment along with other design solutions will be identified and recommended to mitigate these impacts and will be presented in a future report.

NATURAL RESOURCES IMPACTS

Freshwater Wetlands

In this alternative, impacts to the freshwater wetlands occur in multiple locations, including the three connections between park roads and Richmond Avenue and along the westernmost perimeter road. Under this alternative, 1.92 acres of wetlands would be filled and no acres would be shaded. Under the proposed project analyzed in this GEIS, 4.3 acres would be filled and 1.10 acres would be shaded.

This alternative results in less impact as compared to the proposed project. However, it is noted that the wetlands impacted by this alternative could be considered higher-value resources than those disturbed by the proposed project. Impacts to East Park wetlands in the DGEIS are limited to wetlands that resulted primarily from the creation of stormwater management basins, whereas this alternative primarily disturbs more naturally-occurring wetlands.

Tidal Wetlands

In this alternative, impacts to the tidal wetlands occur in the northeast corner of the site where a connection would be constructed between the park roads and Richmond Avenue at Richmond Hill Road.

These impacts include filling impacts to the wetland areas in multiple locations and the addition of impervious surface within the wetland area at the Richmond Hill Road and Forest Hill road crossings. In contrast, the proposed project would not require the filling of any tidal wetlands in East Park.

Roadway Pollutants

The proposed project roadway alternative includes provisions for collecting stormwater through a system of structures and detention basins and treating that stormwater prior to discharge. This alternative also proposes to collect stormwater from the perimeter roadways and direct in to the nearest water body, but would not provide any treatment.

Hydrology

Road pavement increases imperviousness and the quantity of runoff. Since a large portion of the park roads proposed in the this alternative would be constructed in the same location as existing haul roads, they would have a smaller increase in total impervious area in East Park (and the resulting stormwater runoff quantities) as compared to the proposed project.

Habitat Impacts

Most of the segments of roads proposed under this alternative would be constructed in the same location as the existing landfill haul roads, thereby limiting habitat impacts. While the new roads under this alternative will be wider than the existing haul roads, disturbances would mostly be limited to previously disturbed areas. However, the location of these roads near major wetlands on the north, west, and south edges of East Park, as well as the increased traffic that will be carried along these corridors, could result in habitat fragmentation impacts. Additionally, placement of traffic closer to water bodies and wetlands under this alternative, as compared to the proposed project, is likely to have a greater degradation impact to aquatic habitat at the perimeter of the site.

TRAFFIC

Introduction

The new intersection of Yukon Avenue at Richmond Avenue created as part of this alternative would capture some of the diverted traffic across Fresh Kills that, under the proposed project is assumed to use either the Richmond Hill Road or Forest Hill Road connections. Under this alternative, both intersections are assumed to be completed by 2016. Therefore, in addition to the intersection at Yukon Avenue, this SIBPO alternative analyzes these two intersections for both the 2016 and 2036 analysis years as well.

With the completion of all three connections at Richmond Avenue, traffic diversion patterns developed for the proposed project for the 2016 and 2036 Build years were modified to account for the additional connection at the Yukon Avenue/Richmond Avenue intersection. Specifically, the 2036 traffic diversion patterns developed for the proposed project were modified and applied to both the 2016 and 2036 No Build volumes to develop the traffic diversion volumes for the year 2016 and 2036 under this alternative.

With this alternative there are no modifications to the park development program so the total number of project-generated vehicular trips for the 2016 and 2036 analysis years is the same. However, with the additional connection at the intersection of Yukon Avenue and Richmond Avenue, both the in-and outbound project generated vehicular trip assignments were modified. Specifically, the proposed project inbound vehicular trip assignments along Richmond Avenue were modified to by assigning approximately 17, 16, and 26 percent of project-generated (park and diversion related) vehicular trips to the intersections of Richmond Hill Road, Yukon Avenue and Forest Hill Road at Richmond Avenue, respectively. An analysis of traffic impacts under this alternative is presented below.

Comparison of Traffic Conditions

2016

Future traffic conditions under this alternative are expected to be worse than the 2016 proposed project future condition in terms of the overall number of impacted intersections with all five (5) intersections experiencing significant adverse traffic impacts. Under the 2016 proposed project future conditions, only four (4) out of the five (5) intersections would experience significant adverse traffic impacts. Specifically, four (4) locations including the intersections of Richmond Hill Road at Forest Hill Road and Richmond Avenue, the intersection of Forest Hill Road at Richmond Avenue, and the intersection of Yukon Avenue at Forest Hill Road would be impacted under both the proposed project and this alternative. However, under this alternative, the intersection of Yukon Avenue at Richmond Avenue would be impacted (this intersection was not impacted under the proposed project). Overall, traffic operating conditions at the park entrances at Richmond Hill Road and Yukon Avenue would generally decline under this alternative; whereas, traffic operating conditions would improve at the park entrance at Forest Hill Road and Richmond Avenue under this alternative.

With respect to the specific impacts at the intersection of Richmond Hill Road and Richmond Avenue, the westbound shared left and through movement would not be impacted during the weekend midday peak hour under this alternative, but would be impacted under the proposed project. However, the northbound through movement would be impacted during the weekend midday peak hours under this alternative, but would not be impacted under the proposed project. The southbound left-turn movement would be impacted during the weekday PM and weekend midday peak hours under this alternative, while it will be impacted during all the peak hours under the proposed project. Also, the southbound shared through and right-turn movement is impacted during all peak hours except the weekday AM peak hour under this alternative, but would not be impacted under the proposed project.

At the intersection of Yukon Avenue and Richmond Avenue, the proposed northbound left-turn movement would operate under congested conditions during the weekday AM and PM peak hours under this alternative. Also, the southbound shared through and right-turn movement would be impacted during the weekday PM peak hour under this alternative, but would not be impacted under the proposed project.

The number of impacted lane groups/approaches at the intersection of Forest Hill Road and Richmond Avenue would remain the same between the proposed project and this alternative. However, the overall intersection conditions would be improved due to the reassignment of project-generated trips and diverted traffic to the two additional park entrances located at Richmond Hill Road and Yukon Avenue at Richmond Avenue, as would occur under this alternative.

2036

For 2036 future traffic conditions, all five (5) analyzed intersections would be impacted under this alternative, as compared to four (4) intersections impacted under the proposed project. This alternative would result in an additional impacted location at the intersection of Yukon Avenue and Richmond Avenue (this intersection was not impacted under the proposed project in the 2036 future conditions).

Overall, conditions at the intersections of Richmond Avenue and Forest Hill Road at Richmond Hill Road are generally expected to be similar between this alternative and the proposed project. Conditions at the intersection of Yukon Avenue and Richmond Avenue would decline under this alternative; whereas, conditions would generally improve at the intersections of Richmond Avenue and Yukon Avenue at Forest Hill Road under this alternative.

At the intersection of Yukon Avenue and Richmond Avenue, the westbound approach would be impacted during the weekend midday peak hour under this alternative, but would not be impacted under the proposed project. The proposed northbound left-turn movement would operate under congested conditions during all peak hours under this alternative. Also, the southbound shared through and right-

turn movement would be impacted during the weekday PM and weekend midday peak hours under this alternative, but would not be impacted under the proposed project.

At the intersection of Forest Hill Road and Richmond Avenue, the southbound shared through and right-turn movement would not be impacted during the weekend midday peak hour under this alternative, but would be impacted under the proposed project.

At the intersection of Yukon Avenue and Forest Hill Road, the northbound approach would be impacted during all the analyzed peak hours under this alternative and under the 2036 proposed project.

Traffic Mitigation

The impacted intersections with this alternative, like the proposed project, are Richmond Hill Road at Forest Hill Road and Richmond Avenue, Forest Hill Road at Richmond Avenue, and Yukon Avenue at Forest Hill Road. Similar mitigation measures identified for the proposed project would also be required to mitigate impacts associated under this alternative, with some minor adjustments. The intersection of Forest Hill Road and Richmond Avenue would remain unmitigated for all peak hours for both the proposed project and this alternative in 2016. The intersection of Richmond Hill Road and Forest Hill Road would be unmitigated for all peak hours except the weekday AM peak hour for both the proposed project and this alternative.

For the intersection of Richmond Hill Road and Richmond Avenue, the weekday AM peak hour would not be impacted, while the weekday midday and weekend PM peak hours would be mitigated by approach daylighting. The weekday PM and weekend midday peak hours would remain unmitigated under this alternative (under the 2016 proposed project, only the weekend midday peak hour remains unmitigated).

The intersection of Yukon Avenue and Richmond Avenue would be impacted under this alternative, but not impacted under the 2016 proposed project.

For the intersection of Yukon Avenue and Forest Hill Road, the impact during the weekday PM peak hour would be mitigated by approach daylighting under this alternative. The remaining peak hours are not impacted. Under the 2016 proposed project, the weekday midday and PM peak hours would be impacted. In addition to approach daylighting, transferring green time is also required to mitigate the impacts under the 2016 proposed project.

For 2036, the intersections of Richmond Hill Road at Forest Hill Road and Forest Hill Road at Richmond Avenue would remain unmitigated for all peak hours for both this alternative and the proposed project. The intersection of Richmond Hill Road at Richmond Avenue would also remain unmitigated for all peak hours except for the weekday AM peak hour. The weekday AM peak hour is not impacted under both the 2036 proposed project and this alternative.

For the intersection of Yukon Avenue and Forest Hill Road, approach daylighting would be required to mitigate the impacts during all five (5) peak hours under this alternative. Under the 2036 proposed project, additional mitigation measures would be required.

For the newly impacted intersection of Yukon Avenue and Richmond Avenue under the 2036 condition, additional mitigation measures not required for the proposed project are expected to mitigate all the impacts at this intersection.

Parking

Under this alternative there would no changes with respect to future parking conditions. Thus, neither this alternative nor the proposed project would have a parking impact.

AIR QUALITY AND NOISE

Since this alternative essentially disperses traffic to three intersections, its air quality impacts are concluded to be similar to air quality and noise conditions under the proposed project.

REGULATORY REVIEW

The Forest Hill Connector would traverse a large, established wetland on weak soils requiring significant improvement to meet highway standards, all of which would require extensive wetland permitting and possible creation of off-setting wetlands to mitigate the issue. This permitting process has the potential of delaying any construction program. In addition, both this alternative and the proposed project require approvals for activities on the regulated Landfill Section 6/7.

SCHEDULE

It is estimated that it would take a minimum of 45 months (about 4 years) to implement this alternative. In addition, there would be design and discretionary approvals (e.g., permitting).

ALTERNATIVE ALIGNMENT: SIBPO MODIFIED PROPOSAL

Based on the analysis of the SIBPO alternative, a modified alignment was developed as a revised conceptual design. That modification proposes an alternative alignment with minimal substandard features at a design speed of 35 mph, while still maintaining the SIBPO design intent, where feasible. This alternative also includes recommendations that minimize and/or mitigate impacts and conflicts with landfill features.

For instance, this modified alternative includes a revised horizontal alignment which accounts for the typical recommended roadway sections and eliminates substandard curves. Additionally, this alternative recommends a revised vertical alignment which coincides with the revised horizontal alignment, and proposes a number of solutions to eliminate adverse and substandard drainage conditions. The modified roadway alignment also does not conflict with any drip leg vaults as the SIBPO alternative does.

As a result of the modified alignment, this alternative would fill slightly more acres of wetland; however, it would fill fewer acres of wetland than the proposed project presented in the GEIS. It is also noted that wetlands impacted by this alternative could be considered a higher-valued resource than those impacted by the GEIS proposed project, since they are more naturally occurring wetlands. This alternative would also increase the amount of roadway within the 100-year floodplain. While no lighting was proposed as part of the SIBPO alternative, this modified alternative recommends lighting on park roads to improve safety.

ALTERNATIVE ALIGNMENT: YUKON AVENUE CROSSING

OVERVIEW

This modified roadway alternative has been developed and assumes a road alignment at Fresh Kills with only one crossing of the landfill, the Yukon Crossing, and only one connection to Richmond Avenue, with a new 4-way intersection at Richmond Avenue and Yukon Avenue. This proposal was put forth for the purposes of determining if such a modified project road alignment could meet the DPR’s goals and objectives while having less of an impact on the landfill systems and on-site wetlands.

As described below, this alignment would have impacts similar to the proposed project in many respects. However, there are specific differences with respect to degree of impacts on the landfill conflicts due to

road geometry and environmental impacts, with a particular reduction in wetland impacts that are described in greater detail below.

DESCRIPTION OF ALTERNATIVE

This alternative essentially examines a four-lane, two-way road across Landfill Section 6/7, which is similar to the proposed project. With this alternative, neither the segments of road connecting to Richmond Hill Road or Forest Hill Road are provided in either the 2016 or 2036 analysis years. In this alternative, the only connection to Richmond Avenue for vehicular access to the through-connection to the West Shore Expressway is made at the Yukon Avenue intersection. Road design criteria under this alternative are similar to the proposed project.

OVERVIEW OF ENVIRONMENTAL IMPACTS

Like the proposed project, it is assumed that with this alternative road alignment, the project site would be developed within the proposed Fresh Kills Park with the proposed park access roads. This proposal was put forth for the purposes of determining if such a modified road alignment could meet DPR's goals and objectives while having less of an impact on landfill systems and wetlands. Therefore, under this alternative, the benefits expected to result from the proposed project as a whole—including the creation of a 2,163-acre regional park and public access to the waterfront—would be realized under this alternative. Neither the proposed project nor this alternative would have an impact on land use, socioeconomic conditions or community facilities. Both would provide significant benefits with respect to urban design and visual resources. Neither would have shadow impacts or impacts on historic architectural resources. Both have the potential to impact archaeological resources that would need to be addressed as the project designs are advanced in order to determine if specific areas of archaeological impact could occur and if any additional field investigation is necessary. Neither the proposed project nor this alternative significantly adversely impact neighborhood character. Hazardous materials impacts would also be similar.

Both the proposed project and this alternative would be generally consistent with New York City waterfront revitalization program policies. Most importantly, the development of a public park on the project site would be consistent with the borough and City goals for revitalizing and providing public access in the coastal zone. Under both the proposed project and this alternative, the increased demands on solid waste and sanitation services would be similar and neither this alternative nor the proposed project would result in increases to the degree that there would be significant adverse impacts on these services. Likewise, neither this alternative nor the proposed project would result in any significant adverse impacts on utilities. In addition, other requirements of the proposed project with respect to public health protections would be provided.

This alternative would provide more open space than the proposed project with respect to East Park since it would have only one road across the East Park. Similarly, it would have less of an impact on wetlands and natural resources (including habitat fragmentation) with no connection at Forest Hill Road or Richmond Hill Road which include wetland crossings. It would also have less of an impact on landfill infrastructure with only one crossing of Landfill Section 6/7 and no impacts on the stormwater basins that would be impacted by the Richmond Hill connection. While this alternative could increase noise levels at this location due to increased traffic. (see discussion below), it would not have a significant impact with respect to air quality.

This alternative would construct less roadway so it would have a somewhat shorter construction period and less intensive construction activity as compared with the proposed project.

With this alternative, neither the segments of road connecting to Richmond Hill Road or Forest Hill Road are provided in either the 2016 or 2036 analysis years. In this alternative, the only connection to Richmond Avenue for vehicular access to the through-connection to the West Shore Expressway is made

at the Yukon Avenue intersection. Road design criteria under this alternative are similar to the proposed project and would apply to the Yukon Crossing.

In 2016, this alternative is expected to result in traffic impacts similar to the proposed project in terms of the overall number of impacted intersections: four out of the five intersections would experience significant adverse traffic impacts.

In 2036, the Yukon Avenue Alternative is expected to result in impacts similar to the proposed project in terms of the overall number of impacted intersections: four out of the five intersections would experience significant adverse traffic impacts.

Similar mitigation measures identified for the proposed project would also be required to mitigate the impacts associated with the Yukon Avenue Alternative, with some minor adjustments.

In 2016, the intersections of Richmond Hill Road at Forest Hill Road and Richmond Hill Road at Richmond Avenue would be unmitigated during the same peak hours under both the proposed project and the Yukon Avenue Alternative. The other impacted peak hours would be mitigated by signal retiming. The impacted peak hour at the intersection of Forest Hill Road at Richmond Avenue would be mitigated by signal retiming under this alternative. The impacted peak hours under the proposed project would be unmitigated. The newly impacted peak hours for the intersection of Yukon Avenue at Richmond Avenue under this alternative would be mitigated by a combination of lane restriping and curbside parking restrictions.

In 2036, the intersection of Richmond Hill Road at Forest Hill Road would be unmitigated during all analyzed peak hours under the proposed project and the Yukon Avenue Alternative. For the intersection of Richmond Hill Road at Richmond Avenue, four out of the five peak hours would be unmitigated under this alternative and under the proposed project. For the intersection of Forest Hill Road at Richmond Avenue, one peak hour would be unmitigated under this alternative. The other peak hours would be mitigated by signal retiming or they would not be impacted. This intersection would be unmitigated for all analyzed peak hours under the proposed project. The newly impacted intersection of Yukon Avenue at Richmond Avenue under this alternative would be unmitigated during two out of the five peak hours. The other peak hours would be not impacted or would be mitigated by a combination of lane restriping and curbside parking restrictions.

Since the open space programming is the same, parking demands in both 2016 and 2036 under this alternative would be the same as the proposed project. Neither would have a parking impact.

LESS INTENSIVE PROGRAMMING ALTERNATIVE (LESSER IMPACT)

This alternative examines the potential impacts of less intensive programming for the park and a reduced roadway network. Under this alternative, the park would not include any recreational areas, amenities, cultural/educational facilities, banquet halls, or restaurants, for example, and the project would consist of landscaping the project site and with limited public access. It is assumed that the park roads proposed with the proposed project would also not be constructed.

Similar to the proposed project, this alternative would not result in significant adverse impacts on land use, zoning, and public policy; socioeconomic conditions; community facilities; open space; shadows; historic resources; urban design and visual resources; neighborhood character; natural resources; waterfront revitalization program; infrastructure; solid waste and sanitation services; energy; transit and pedestrians; air quality, noise; construction; and public health.

This alternative would not have the short-term construction impacts of the proposed project or adverse impacts on hazardous materials or wetlands that require mitigation. It would, however, also not provide the significant public open space, active recreation, and traffic circulation benefits associated with the proposed project and therefore would not meet DPR’s or Staten Island’s mutual goals and objectives for Fresh Kills Park.

E. IMPACT AVOIDANCE MEASURES AND MITIGATION

The potential for significant adverse impacts to occur in each of the analyzed technical areas has been summarized above. In many cases the proposed project has developed impact avoidance measures that have been written into the project design. Where significant impacts have been identified that extend beyond these impact avoidance measures, or where mitigation requires the approval of other agencies, in accordance with the *CEQR Technical Manual*, mitigation measures have been recommended and are presented below. Technical areas in this GEIS that require neither impact avoidance measures nor mitigation include socioeconomic conditions, community facilities, open space, shadows, air quality, and noise.

IMPACT AVOIDANCE MEASURES

- Landfill Protections. The proposed project would allow the public access to the Fresh Kills Landfill site and its environmental management systems. Measures are therefore necessary as part of the park design to allow for additional protection for public health and the environment. Security measures would also be necessary to protect important landfill infrastructure. Among the landfill structures that would need to be physically separated from publicly accessible park areas are the leachate control plant; gas collection and treatment plant; flare stations; and above-ground transformers and pumping stations.

  DPR will therefore demonstrate that any changes to the site meet established performance standards of the landfill infrastructure and that the requirements of the post-closure care monitoring and maintenance plan are not compromised by the proposed design.

  For the leachate system, potential such measures could include developing park designs sensitive to the in-place landfill systems; expanded monitoring; installing locks, security fences, and manhole covers; and providing personnel to protect the system.

  With respect to the landfill gas management system, measures to be considered in developing park designs may includes; redesigning and retrofitting the system within securable subsurface vaults; posting appropriate signage; installing venting layers covered by park features, vapor barriers beneath park structures, and methane monitors; installing security fences and lockable manhole covers; and providing personnel to protect the system.

  With respect to the final cover protections, impact avoidance measures could include settlement monitoring; minimization of load on the landfill mounds; landscape features that cover sensitive system features; and provision of personnel to protect the system. An additional soil layer would also be added by the project which would both enhance the landscaping and plantings and stabilizing the surface.
- Soil Conditions. As stated above, the Part 375 SCO would be used for guidance in making soil decisions at the site which would be determined on a case-by-case basis.
- Land Use, Zoning and Community Character. Ensure adequate buffers and secure buffers between open space uses and DSNY on-site (flare stations, leachate treatment plant, and landfill gas plant) and off-site (District 2 and 3 garages and the Staten Island Waste Transfer Station) facilities.
- Urban Design and Visual Resources. In addition to physical separations (adequate and secure buffers between open space uses and DSNY facilities) there would also be decorative and landscaped separations to avoid any significant adverse visual impacts.
- Natural Resources. There are a number of elements of the project that could be proposed to avoid impacts on natural resources. These include the following.
  - Nighttime Lighting. Careful design and planning of lighting arrays would minimize many significant adverse impacts associated with proposed project in relation to wildlife activity.

- Park Roads. Measures to reduce the potential for long-term adverse compromise of natural resources benefits in areas include collection and treatment of stormwater runoff from roadways; low-impact roadway management techniques; using Integrated Pest Management Plan (IPM) strategies; maintenance of a hydrologic connections between water bodies; implementation of a roadway operations and maintenance plans that include alternative strategies for de-icing and other techniques; incorporating wildlife underpass features; using viaducts where feasible to minimize impairment of wildlife movement under roadways; incorporating wildlife crossing warnings into roadway signage; monitoring wildlife/vehicle collisions to identify the need for additional measures; and managing access to avoid impacts to natural areas (e.g., Isle of Meadows, William T. Davis Wildlife Refuge).
- Habitat Fragmentation. Design proposals at Fresh Kills Park would implement many well-established design guidelines that have been demonstrated to minimize habitat fragmentation impacts on wildlife communities, and apply them based on a project specific basis that would take into account a number of factors, including project location, habitats, and wildlife species potentially impacted.
- Marine Structures and Overwater Shading. Measures to avoid impacts from shading include designing overwater structures to be multi-use facilities (to reduce overall number) and locating them deep enough to avoid intertidal and shade impacts; and increasing ambient light transmission under piers and docks.
- Commercial Wind Turbines. Measures for impact avoidance could include an evaluation of alternative locations on the site to avoid wildlife collision risk by reducing the elevation of turbines, reducing the overall height of turbine structures or rotor heights, determining whether the proposed project could cease to operate at times (daily and seasonal) when birds and bats are placed at highest collision risks, and the consideration of locating fewer turbines within Fresh Kills Park.
- Flood Hazard Areas. All habitable structures within the Fresh Kills project site that would be located within a special Flood Hazard Area, would have their first-floor flood elevations at least one-foot above the 100-year flood level.

- Hazardous Materials. Vapor barriers and seals would be installed to avoid impacts from methane gas leaking into structures. The proposed project may also include utility seals for all utility conduits to prevent gas migration, as necessary.
- Infrastructure. To avoid stormwater impacts from increases in impervious surfaces and to protect receiving waters, individual stormwater best management practices (BMPs) would be used to enhance proposed park features, and provide water quality treatment and quantity management.
- Traffic and Parking. To avoid future impacts at all the locations that would provide access to the project site and to ensure proper traffic patterns and intersection designs are implemented, DPR would continue to coordinate with NYCDOT. This coordination would include a traffic and parking monitoring program for Fresh Kills Park. In the short-term (2016) conditions, this would also include coordinating site designs with NYCDOT for specific park capital projects, particularly with respect to park projects that have access from Arthur Kill Road. DPR would also actively participate in the Staten Island Transportation Task Force. By 2036, with the completion of the Confluence and the Point, there would be event facilities, including an amphitheater. Since these are long-term components of the project, DPR would address transportation issues related to major events with NYCDOT, NYCT, and NYSDOT.
- Transit and Pedestrians. NYCT could modify its existing bus routes in the area to take advantage of the proposed park roads and provide access into the park, with new stops both in the park and at the periphery; e.g., along Arthur Kill Road and Richmond Avenue. DPR would work with NYCDOT to ensure that

adequate sidewalk conditions are provided along the perimeter of the park as well as to ensure that adequate street conditions a long roads leading to the park, particularly the major park entrances and those specifically located along Arthur Kill Road.

- Construction. Measures to avoid construction period impacts include coordination with DSNY Closure Activities at Landfill Sections 6/7 and 1/9; protection of DSNY infrastructure during construction; a Stormwater Pollution Prevention Plan and a site-specific Erosion and Sediment Control Plan (ESCP); a construction monitoring program that would minimize impacts during in-water construction, protect groundwater and surface waters, and enforce protections for rare threatened and endangered species; site-specific analytical investigations and, if necessary, remediation to avoid impacts from hazardous materials; implementation of a Construction Health and Safety Plan; minimizing solid waste and recycling; maximizing use of regional roads to minimize traffic impact and possibly barging soils, nighttime construction to closure on the highway or major local roads; use of Ultra Low Sulfur Diesel fuel, electric engines, new equipment, locating large emission sources away from sensitive uses, and implementation of dust control measures to avoid air quality impacts; shielding noisy equipment from local neighborhoods, proper maintenance of construction equipment, and general adherence to the City Noise Control Code to avoid noise impacts.
- Public Health Protections. Appropriate sub-slab venting systems and/or vapor barriers would be used in the design of all buildings and structures at the project site. Modifications for the post-closure monitoring and maintenance plan or an additional monitoring plan developed by DPR may also be performed. Increased public signage would be an important component of the park's public health protection program. An integrated pest management approach that would take into consideration park usage and consider least-toxic methods to controlling pests would also be employed. To avoid impacts from the West Nile Virus, DPR would coordinate vector control efforts with DOHMH relative in accordance with City initiatives.

MITIGATION MEASURES

The measures below are presented as mitigation measures as they require additional regulatory approvals or are outside the jurisdiction of DPR to implement.

Archaeological Resources

A Phase 1A study prepared for this project concluded that portions of the project site are sensitive for pre-contact and historic-period archaeological resources. As capital projects move forward, it is recommended that individual projects be reviewed by an archaeologist to determine if any archaeologically sensitive areas may be affected. In that event, further investigation such as Phase 1B archaeological testing would be necessary to identify the presence or absence of archaeological resources.

Natural Resources

The proposed project includes activities in wetlands such as park roads, viaducts and bridges that would either directly impact wetlands (e.g., filling a portion of the Fresh Kills to widen the roadway under the West Shore Expressway), or indirectly impact wetlands (e.g., shading of Main Creek beneath the proposed pedestrian bridges). The Fresh Kills Park Plan intends to protect and enhance the condition and value of the wetland systems at the site, while offsetting the adverse impacts to wetlands resulting from construction of park roads and bridges.

Potential wetland mitigation activities could include enhancement of degraded wetlands, restoration of significantly altered wetlands, and creation of new wetland habitats. Tidal wetland restoration could include enhancement and expansion of the existing tidal wetlands. Restoration and expansion of the existing freshwater wetlands at the site may also be proposed, with the possible creation of additional wetland habitats within existing stormwater management basins.

Traffic and Parking

2016

The traffic analysis results show that in the 2016 analysis years, the weekday PM and weekend midday peak hours would have the highest number of impacted intersections with seventeen (17) and sixteen (16), respectively. The weekend PM and weekday midday would have fourteen (14) and thirteen (13) impacted intersections, respectively. The weekday AM peak hour would have the fewest number of impacted intersections under the 2016 Build conditions with eleven (11). A traffic mitigation plan was therefore developed to address these impacts.

For the 2016 analysis year, the proposed mitigation measures would eliminate the majority of the traffic impacts that are expected with the proposed project. The remaining intersections would have lane groups that would remain unmitigated.

2036

The traffic analysis results disclosed that in the 2036 analysis year, the weekday PM peak hour would have the highest number of impacted intersections with twenty five (25), followed by the weekend midday peak hour with twenty four (24) impacted intersections. The weekend PM peak hour would have twenty one (21) impacted intersections. The weekday AM and weekday midday peak hours would have the fewest number of impacted intersections under the Build 2036 conditions with twenty (20). A traffic mitigation plan was therefore developed to address these impacts.

For the 2036 analysis year, the proposed mitigation would eliminate most of the traffic impacts that are expected with the proposed project. The remaining intersections would have lane groups that would remain unmitigated.

F. UNAVOIDABLE ADVERSE IMPACTS

Although most of the potential significant adverse impacts of the proposed project could be avoided or mitigated by implementing a number of mitigation measures, there would be 5 intersections in the 2016 Build conditions and 11 intersections in the 2036 Build conditions that would have lane groups that experience unavoidable adverse impacts.

G. GROWTH-INDUCING ASPECTS OF THE PROPOSED PROJECT

The goal of the proposed project is to create a large open space on the site of Fresh Kills Landfill, which would otherwise remain a closed municipal landfill and would continue to preclude public access to the waterfront. In addition, the proposed project includes roadway improvements and would generate a net increase in economic activity on the site in the form of new employment within the park.

The proposed project would enhance the surrounding area; however, the vast majority of the surrounding area is already developed with residential, commercial, and industrial uses or is dedicated to large open spaces. While there is some vacant land in the study area which may become more attractive for development as a result of the proposed park, any substantial residential or commercial growth in this area would likely require a rezoning and would be subject to a separate environmental review.

H. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The commitments of land resources and materials were weighed against the public purpose and benefits of the proposed park, which would provide a new open space with public access to the waterfront. In consideration of these factors, the proposed project would not have a significant impact on the commitment of these resources. It is noted that public funds committed to the design, construction, and operation of the proposed park would not be available for other projects. However, this is not a significant adverse fiscal impact or significant adverse impact on City resources.

I. ENVIRONMENTAL JUSTICE

The issue of environmental justice is addressed in this FGEIS for purposes of DEC permitting and other DEC approvals. The study area as a whole is not considered a potential environmental justice area and there are no block groups within the study area that exceed NYSDEC thresholds for minority or low-income communities. Approximately 80 percent of the study area is comprised of non-minority populations, and 94 percent is made up of non-low-income populations. Therefore, the proposed project is not expected to result in any disproportionate significant adverse impacts on minority or low-income populations.

S/

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cc: See attached.

FRESH KILLS PARK FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT

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