

CONSULTATION AND COORDINATION

INTRODUCTION

NPS DO #12 and other NPS and EFLHD guidance documents require federal agencies to make “diligent” efforts to involve the interested and affected public in the NEPA process. This process, known as scoping, helps to determine important issues and eliminate those that are not; allocate assignments among the interdisciplinary team members and/or other participating agencies; identify related projects and associated documents; identify other permits, surveys, consultations, etc. required by other agencies; and create a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made.

Public involvement has been an ongoing and key component of this DCP/EA/AOE. This chapter describes the general processes that were used to include the public; appropriate federal, state, and local agencies; and other interested parties in planning and design in a meaningful and productive manner.

FEDERAL, STATE, AND LOCAL AGENCY COORDINATION

Agency coordination for the Jamaica Bay Transportation Studies began in February 2005 with an agency coordination meeting. The purpose of the meeting was to present the existing conditions data and preliminary alternatives to federal, state, and local representatives in order to get initial feedback and regulatory guidance before taking the information to the general public. Invitations to this meeting were extended through personal contact and followed up with phone calls or emails. A scoping packet was produced for the attendees, providing maps of the study areas as well as brief write ups identifying site conditions, planning issues, and a description of the problems associated with each study area. The meeting was attended by representatives from Gateway, other NPS offices, EFLHD, and their consultants, as well as representatives from federal, state, and local government officials and agencies.

Agencies in attendance addressed respective jurisdictional purviews as they relate to specific jurisdictional areas that might be addressed within the study area. The Army Corps of Engineers stated that as long as there were no wetland impacts, or fill activities in navigable waters, the agency would have no jurisdiction. The NYSDEC reported that the only jurisdiction it would have would be within a 150-foot boundary of the waterline. The agency also has preferred stormwater management techniques that it would like to see implemented (these techniques are included in the planning for the BMPs described on page 73 of “Chapter 2: Alternatives”). All of the representatives from the local Community Boards and

elected officials expressed a strong interest in having the study produce realistic alternatives that could be implemented.

Following the meeting, the NPS mailed scoping packets to agencies and representatives who had expressed interest in the study or held jurisdiction over aspects of the area, but had been unable to attend. These mailings included the U.S. Fish and Wildlife Service, as well as the New York State Department of Environmental Conservation. The purpose of these correspondences was to confirm that the no rare, threatened, or endangered species would be impacted by the project. The Fish and Wildlife Service replied over email that they had no comment on the project at that time (See Appendix A). The state verbally concurred that they had no comment at the time. Coordination with both of these agencies will continue during the public review of the document and during the design process to ensure that no rare, threatened, or endangered species are impacted; and that Section 7 of the Endangered Species Act is satisfied.

NPS representatives also visited the Queens and Brooklyn Borough presidents' offices to present the studies and received additional feed back on the initial proposals. All of the input received from these initial agency contacts were used to refine data and alternatives prior to presenting information to the public.

Based on the nature of the study areas and/or the proposals made to address them, the NPS and EFLHD continued their initial agency coordination with several key groups. In April 2005, representatives from the NPS and their consultants met with the NYCDOT to discuss the study areas, existing traffic conditions, and initial thoughts on addressing these areas. The NYCDOT was also able to provide additional information on traffic and road conditions and also give some insight into what would be considered feasible improvements. This input allowed for the development of realistic alternatives for the four areas.

Another consideration that required further agency coordination was the capping of the former landfill sites at Pennsylvania and Fountain Avenues. In June 2005, the NPS and its consultants met with the NYSDEC and its consultants to discuss the scheduling of the landfill capping and closure. The meeting also provided a forum for the NPS to introduce its initial concepts for the sites to see if they would conform with the capping. Several of the initial alternatives at Fountain Avenue included direct access from the Erskine Street interchange on the Belt Parkway. Discussions at this meeting identified that as an infeasible proposal, as landscaping necessary to create the appropriate road improvements would disrupt the landscaping being completed in conjunction with the capping process. The development of a less intrusive bicycle/pedestrian trail would, however, be acceptable.

Along with having realistic alternatives, the NPS and EFLHD wanted to ensure that the proposals did not impair any of the region's resources. The scoping process included agencies with purviews to protect and manage natural resources, as well as cultural resources. Although representatives from the SHPO's office could not attend the initial agency meeting, they were provided with a scoping packet and expressed interest in staying involved in the project. As the alternatives for the study became more definite, the NPS sent the SHPO a letter noting its intention to prepare a combined document that would not only comply with NEPA, but also with Section 106 of the NHPA. Upon completion of the DCP/EA/AOE, the entire document was sent to the SHPO for review and concurrence.

In addition to this coordination with the SHPO, another round of agency meetings were held during the public review of this DCP/EA/AOE. The meetings allowed the NPS and EFLHD to present the alternatives, obtain immediate agency comment on the proposals, and begin discussions on the future planning and permitting process required to implement the NPS Preferred Alternative at each of the four locations. Agency representatives provided general comments on the final document as well as more specific guidance on implementing the preferred alternatives.

ADDITIONAL PLANNING AND PUBLIC INVOLVEMENT

Representatives from Gateway, the NPS Northeast Regional Office, EFLHD, and their consultants met at Floyd Bennett Field on February 17, 2005 to discuss the progress of the studies and plan future steps in the process. At this time, baseline data on the existing conditions within the study area had been collected and documented. This data was confirmed by NPS personnel who possessed extensive experience with these resources.

Over the next few months, documentation of existing conditions data was finalized and alternative concepts for the four sites were developed. These concepts were designed to illustrate a wide array of possibilities. Following the agency meeting described above, the NPS and EFLHD hosted two identical public information sessions on April 6 and 7, 2005 at Floyd Bennett Field's Ryan Visitor Center and the Fort Tilden Chapel, respectively. The sessions were held in an open house format to allow people to come and go at any point between the opening and closing hours. Prior to the sessions, announcements were posted in local newspapers, on web sites, and sent out to the Gateway mailing list. Representatives from the NPS, EFLHD, and their consultants were on hand to discuss the studies and answer questions. In addition, handouts and displays regarding natural, historical and physical features that exist in the four study areas were available. The displays were supplemented by a powerpoint presentation that ran throughout the session to fully explain the scope and purpose of the projects. Formal and informal comments were collected from the public at these sessions.

The information obtained from these public information sessions was used to help develop conceptual alternatives for the four study areas. As these alternatives began to take shape, representatives from the NPS, EFLHD, and their consultants met at Floyd Bennett Field's Ryan Visitor Center on June 13 and 14, 2005 to review and refine alternatives for progression through the study. This workshop was followed up by a conference call held on June 30, 2005. During the call, workshop attendees discussed the refined alternatives, specifically those that were to be implemented at Floyd Bennett Field. Following the call, representatives from Gateway selected three alternatives at each of the four study sites. These alternatives, along with a No-Action Alternative for each site, were then run through more thorough analysis and presented in this document.

The next step in the planning process was the selection of the NPS Preferred Alternative at each site. To make this determination, the NPS held a value analysis session on October 17, 2005 to critically analyze and weigh the positive elements provided by each alternative. The decisions made at the value analysis session identified the NPS Preferred Alternative for each site as well as the reasoning for the Environmentally Preferred Alternative, discussed in "Chapter 2: Alternatives" of this document.

Upon completion of the DCP/EA/AOE, the document was released for public review. As part of the public review, another round of public open houses was held. The open house sessions were held in the

same format as the initial meetings, and provided the public with an opportunity to discuss the study's findings with representatives from the NPS, EFLHD, and their consultants.

LIST OF RECIPIENTS

The DCP/EA/AOE will be on formal review for 30 days and has been distributed to a variety of interested individuals, agencies, and organizations. It is also available on the Internet at <http://parkplanning.nps.gov> and at local libraries.

Federal Agencies and Officials

Senator Hillary Rodham Clinton
Federal Aviation Administration
Representative Gregory W. Meeks
National Oceanic and Atmospheric Administration
Senator Charles E. Schumer
Representative Edolphus Towns
Representative Anthony D. Weiner
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U. S. Fish and Wildlife Service, Cortland Field Office

State Agencies and Officials

Ms. Adele H. Cohen, NY State Assembly, 46th District
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Consulting Parties and Individuals

Floyd Bennett Gardens Association
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Gateway Marina
Global Golf
Jamaica Bay Riding Academy
Pennsylvania Avenue Radio Control Society
Regional Plan Association

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APPENDIX A

AGENCY CORRESPONDENCE

APPENDIX B

WILDLIFE

This Appendix provides a listing of the mammals, reptiles, birds, fisheries and amphibians documented in the Jamaica Bay unit.

Mammals Documented as Occurring in the Jamaica Bay Unit

Species	
Common Name	Scientific Name
Black-tailed jack rabbit	<i>Lepus californicus</i>
Cottontail rabbit	<i>Sylvilagus floridanus</i>
Eastern chipmunk	<i>Tamias striatus</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Hoary bat	<i>Lasiurus cinereus semotus</i>
House mouse	<i>Mus musculus</i>
Little brown myotis	<i>Myotis lucifugus</i>
Masked shrew	<i>Sorex cinereus</i>
Meadow vole	<i>Microtus pennsylvanicus</i>
Muskrat	<i>Ondatra zibethica</i>
Norway rat	<i>Rattus norvegicus</i>
Opossum	<i>Didelphis virginiana</i>
Raccoon	<i>Procyon lotor</i>
Red bat	<i>Lasiurus blossevillii</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
White-footed mouse	<i>Peromyscus leucopus</i>

Reptiles Documented as Occurring in the Jamaica Bay Unit

Species	
Common Name	Scientific Name
Diamondback terrapin	<i>Malaclemys terrapin</i>
Eastern box turtle*	<i>Terrapene carolina</i>
Eastern garter snake	<i>Thamnophis sirtalis</i>
Eastern hognose snake	<i>Heterodon platirhinos</i>
Eastern milk snake	<i>Lampropeltis triangulum</i>
Eastern painted turtle	<i>Chrysemys picta</i>
Northern black racer	<i>Coluber constrictor constrictor</i>
Northern brown snake	<i>Storeria dekayi dedayi</i>
Red-eared slider	<i>Trachemys scripta elegans</i>
Smooth green snake	<i>Liophorophis vernalis</i>
Snapping turtle	<i>Chelydra serpentina</i>

*=state listed species of special concern

Common Birds Documented as Occurring in the Jamaica Bay Unit			
Common Name	Scientific Name	Common Name	Scientific Name
American crow	<i>Corvus brachyrhynchos</i>	Greater scaup	<i>Aythya marila</i>
American krestrel	<i>Falco sparverius</i>	Green heron	<i>Butorides virescens</i>
American oystercatcher	<i>Haematopus palliatus</i>	Gull-billed tern	<i>Sterna nilotica</i>
American robin	<i>Turdus migratorius</i>	Herring gull	<i>Larus marinus</i>
Barn owl	<i>Tyto alba</i>	Laughing gull	<i>Larus atricilla</i>
Black duck	<i>Anas rubripes</i>	Least sandpiper	<i>Calidris minutilla</i>
Black-and-white warbler	<i>Mniotilta varia</i>	Least tern**	<i>Sterna antillarum</i>
Black-bellied plover	<i>Pluvialis squatarola</i>	Marsh wren	<i>Cistothorus palustris</i>
Black-crowned night heron	<i>Nycticorax nycticorax</i>	Mourning dove	<i>Zenaida macroura</i>
Bobolink	<i>Dolichonyx oryzivorus</i>	Northern harrier	<i>Circus cyaneus</i>
Brant	<i>Branta bernicula</i>	Osprey*	<i>Pandion haliaetus</i>
Brown thrasher	<i>Toxostoma rufum</i>	Piping plover	<i>Charadrius melodus</i>
Bufflehead	<i>Bucephala albeola</i>	Red-breasted merganser	<i>Mergus serrator</i>
Canada goose	<i>Branta canadensis</i>	Red-tailed hawk	<i>Buteo jamaicensis</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>	Rough-legged hawk	<i>Buteo lagopus johannis</i>
Common tern**	<i>Sterna hirundo</i>	Ruddy duck	<i>Oxyura jamaicensis</i>
Common yellowthroat	<i>Geothlypis trichas</i>	Semipalmated plover	<i>Charadrius semipalmatus</i>
Coopers hawk*	<i>Accipiter cooperi</i>	Semipalmated sandpiper	<i>Calidris pusilla</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>	Sharp-shinned hawk*	<i>Accipiter striatus</i>
Eastern meadowlarks	<i>Sturnella magna</i>	Short-eared owl	<i>Asio flammeus</i>
European starling	<i>Sturnus vulgaris</i>	Snow goose	<i>Chen caerulescens</i>
Fish crow	<i>Corvus ossifragus</i>	Snowy egret	<i>Egretta thula</i>
Glossy ibis	<i>Plegadis falcinellus</i>	Song sparrow	<i>Melospiza melodia</i>
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Spotted sandpiper	<i>Actitis macularia</i>
Gray catbird	<i>Dumetella carolinensis</i>	Tree swallows	<i>Tachycineta bicolor</i>
Great egret	<i>Casmerodius albus</i>	Upland sandpiper**	<i>Bartramia longicauda</i>
Greater black-backed gull	<i>Larus marinus</i>	Willet	<i>Catoptrophorus semipalmatus</i>

* = state listed species of special concern ** = state listed endangered species

Fisheries Documented as Occurring in the Jamaica Bay Unit	
Common Name	Scientific Name
Atlantic herring	<i>Clupea harengus</i>
Monkfish	<i>Lophius americanus</i>
Red hake	<i>Urophycis chuss</i>
Whiting	<i>Merluccius bilinearis</i>
Windowpane flounder	<i>Scophthalmus aquosus</i>
Winter flounder	<i>Pleuronectes americanus</i>

Amphibians Documented as Occurring in the Jamaica Bay Unit	
Common Name	Scientific Name
Spotted salamander	<i>Ambystoma maculatum</i>
Red-spotted newt	<i>Notophthalmus viridescens</i>
Redback salamander	<i>Plethodon cinereus</i>
Fowler's toad	<i>Bufo woodhousii fowleri</i>
Northern spring peeper	<i>Pseudacris crucifer</i>
Gray tree frog	<i>Hyla chrysoscelis</i>
Green frog	<i>Rana clamitans</i>
Eastern spadefoot toad	<i>Schaphiopus holbrookii</i>

APPENDIX C

CULTURAL RESOURCES

This Appendix provides supplemental information on the cultural resources associated with Jacob Riis Park and Floyd Bennett Field. Because of the size of these two historic districts, and the general nature of the Affected Environment Chapter of this document, specific resource information is provided in this appendix rather than in the document itself. This Appendix also provides specific architectural descriptions and historical significance of many of the buildings and structures not immediately impacted by the alternatives presented.

Jacob Riis Park

Bathing Pavilion

The Bathing Pavilion, commonly referred to as the bathhouse, is a good example of Art Deco design adapted to architecture. Art Deco style is characterized by streamlined geometric shapes and occasional polychrome patterns. This style was particularly concentrated in New York City during the early 20th century. John L. Plock began designing the bathhouse in 1930 and construction began in 1932. The building and grounds have survived relatively unaltered since 1937 and remain a good example of prevalent aesthetic design during the 1930s. The roughly T-shaped building consists of a rectangular, single-story unit built in 1932. The use of ornamental masonry and brick details on the 1932 portions were typical of New York City Parks Department and other public buildings of the period. The original site work in the immediate vicinity of the building relates to a highly formal and symmetrical structure that was modeled on the successful Jones Beach Bathhouse completed in 1929. The building was enlarged in 1936-1937 when the New York City Department of Parks built a long, two-story addition on the south. In 1937, the bathhouse was completely renovated. In 1964, the bathhouse was sandblasted weakening the bricks and destroying the integrity of the overall color scheme of the park structures. Today, the remaining 1932 and 1936-1937 site work is of historic interest for its relationship to the bathhouse structure and for its characteristic formality, similar to other seashore parks of the period in the New York region. The importance of the 1936-1937 site work alterations in the bathhouse area derive from their relationship to the overall circulation and spatial organization at Jacob Riis Park. They modified the bathhouse area from an isolated, recreational outpost along the beach into an entry for a much larger, coordinated complex of outdoor recreational characteristics of other similar development of the period in the New York region.

Character-Defining Features of the Bathhouse

The character-defining elements of the Bathhouse that represent important historic architectural and cultural values include the following:

- Symmetry of the landscape, walkways, and buildings remains strongly visible and relates strongly to overall form of the larger park, which is representative of public seaside parks of the era.
- Bathhouse area still plays same potential function it had in 1932 and 1936 plans.
- Border plantings on the north, east, and west sides of building remain and highlight elements characteristic of 1930-1940s. They also reinforce setting.
- The bathhouse, which is a collection of buildings linked by enclosing walls, is the only building in this area of the park. It is very high in significance and predates the larger plan for the area. Retention and rehabilitation of the bathhouse for public use is central to historic values of the landscape.
- Development with strong symmetry along a central north south axis, which is reinforced by turrets on entrance pavilion and larger towers on the beach pavilion. The towers are important

orientation elements throughout the park and all elements were part of site design in 1932-1937 periods and are important attributes of historic landscape.

Wise Clock

In 1941, the Wise Clock, also known as the Riis Memorial Clock, was installed on the Boardwalk at the east end of the eclipse. This structure was donated to the Park Department by William A. Wise and Sons, a Brooklyn Jeweler. The four-faced clock stood in front of the original Wise and Sons store at Flatbush Avenue and Nevins Avenue for almost 30 years. When the firm went out of business, the Wise family gave the clock to the Park Department. The large, distinctive-looking clock was originally topped by a weather vane of a sailor looking through a spy glass.

Pump House

Similar in design and materials to other support structures erected in the 1936-1937 expansion of Jacob Riis Park, this building's functions are compatible with the use of Jacob Riis Park. Its design is a compliment to adjacent Bathhouse buildings.

Boardwalk

Repairs to original fabric of the Boardwalk have resulted in replacement with inappropriate material and repairs have not always been made with the best workmanship. The Boardwalk area was originally split into two segments by the projecting front porch of the 1932 beach pavilion and by 1936-1937, the Promenade extended to the property limit. It was widened in front of the Bathhouse and the crescent Boardwalk that was created centered on the Mall buildings, and was the major focal point for activities. At one time, there was a bandstand and dance floor between the Mall buildings which was removed in 1954 when the area was re-decked. In 1969-1970, the timber Boardwalk was replaced with a concrete deck and the original railings were removed and reset in concrete.

In addition to these railings, a ship's railing was installed along the Boardwalk during the 1936-1937 construction period when the design impulse changed from Byzantine/Moorish to Art Deco-Modern. This has become a prominent site element which provides continuity and scale to the Park. While some of the present rail is replacement material, components of the original still remain.

In 1958, the last section of the Boardwalk/Promenade was extended to complete this structure. The Boardwalk/Promenade is an integral and important element of overall Park design, and pivotal to the historic significance of Jacob Riis Park.

Character-Defining Features of the Boardwalk

The character-defining elements of the Boardwalk/Promenade that represent important historic architectural and cultural values include the following:

- The overall layout remains substantially as originally designed;
- The form compliments buildings, the ellipse relates to curved Mall buildings, and the straight section relates to the Bathhouse;
- The overall shape and form of the Boardwalk are critical elements to the creation of an integrated recreational complex at Jacob Riis Park in terms of its ability to link east and west areas;
- The strong relationship to key buildings and uses within the Park and the pedestrian quality is retained;

- All of the Park's important structures front the walk, and the relationship of these to the Boardwalk is of primary historic significance as the relationships between their uses and forms are an important aspect of the integrated recreational concept;
- The overall walk serves as a viewing platform from which all other activities can be observed or reached;
- The ship's rail is the most prominent piece of site furniture;
- The Boardwalk provides the only continuous east/west circulation route across Jacob Riis Park and ties the long, linear Park together both physically and visually; and
- The layout, circulation, and points of access originally designed and completed in 1936-1937 still exist.

Boiler Room

Attached to the West Mall Building by a subterranean passage, this building was constructed as part of Robert Moses' Jacob Riis Park expansion of 1936-1937.

Garage

This building was constructed as part of Robert Moses' Jacob Riis Park expansion of 1936-1937 and was undertaken as part of the nation's largest WPA-sponsored projects.

Park Police Stables

Built as part of the 1936-1937 Jacob Riis Park expansion, these were considered support structures for expanded facilities, and reflect a more-standardized, less-stylized construction than Art Deco-Moderne buildings on the Mall. However, these structures remain an intact part of the historic Park layout.

Utility Buildings

These buildings were located adjacent to the lighted ball field and the Bathhouse. Built in 1940, they were used to house floodlight controls, a transformer, and a pump house.

Ball Field Electrical Building

In 1941, the open space at the east end of the Boardwalk was converted for use as a ball field. The electrical building serves that field. Its design is a refinement of the prevalent Art Deco-Moderne style introduced in the Park in 1936-1937.

Administration Building

This two-story Neo-Georgian style red- and black-brick building was constructed in 1931. As originally designed, the building housed a restaurant, cafeteria, post office, dorms, lounge, weather bureau, and Department of Commerce Officer. The building underwent repairs and alterations during the WPA period and was adapted for use by the U.S. Navy. Today, the building is unoccupied and in need of general repair. There is a non-significant frame addition attached to the north end of the building during U.S. Navy occupation and is scheduled to be removed by the NPS.

Floyd Bennett Field

Pedestrian Tunnel

In conjunction with expansion of the apron at Floyd Bennett Field, an innovative passenger tunnel was installed to lead passengers underground from the terminal to allow them to emerge near their airplane. This tunnel, abandoned for many years, is intact and still accessible from the basement level of the terminal building. As installed, a flight of stairs led from the east side of the lobby to a basement-level landing, then down another short flight to the tunnel level. The tunnel itself extends eastward from the terminal a distance of 124 feet to intersect a transverse end at short cross corridors leading to stairs which lead to the apron.

Smaller Structures in Hangar Row

Smaller structures in Hangar Row that date from the historic period include: fire pump house (Building 29), sewage pump house (Building 30), electrical vault (Building 57), North and South vaults (Buildings 88 and 117), utility vault (Building 101), and transformer vault (Building 120). All of these are located in the northern section of the property and date from the World War II period. The pump house contains operating pump machinery and tanks, and the electrical vault houses electrical equipment to support the activities on the airfield. The brickwork is not in good condition and requires some patching. The transformer building is located north of the hangars along the taxiway and is still used to house transformer facilities.

Within the original boundaries of the municipal airport, there are several structures built after 1941 that are intrusions. Some were constructed in the main complex of buildings, while others are more recent and are located on the east side of the Field on what was open flying field in 1931-1941. None of these more recent buildings contribute to the historic significance of the district. Intrusive buildings within the main building complex include Hangars 9 and 10, which are wood-frame attached hangars built by the U.S. Navy circa 1942. Structures 44, 45, 266, and 238 are small, single-story concrete block buildings used as storehouses. Structure 265A is a small shed. Structure 171 is a wood-frame addition to the administration building, while structures 48 and 50 are single-story, wood-frame buildings that used to house U.S. Navy training facilities and a garage. Shop structures 126 and 236 are small, single-story sheds used for storage.

APPENDIX D

NOISE METHODOLOGY

The noise analysis conducted under this study was prepared for the NPS and EFLHD, and followed the New York State Department of Transportation (NYSDOT) and FHWA noise evaluation and abatement procedures.

Noise Terminology

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, or recreation. The individual human response to noise is subject to considerable variability, since there are many emotional and physical factors that contribute to the differences in reaction to noise.

Sound (noise) is described in terms of loudness, frequency, and duration. Loudness is the sound pressure level measured on a logarithmic scale in units of decibels (dB). For community noise impact assessment, sound level frequency characteristics are based upon human hearing, using an A-weighted (dBA) frequency filter as it approximates the way humans hear sound.

The most common way to account for the time varying nature of sound (duration) is through the equivalent sound level measurement, referred to as L_{eq} . The L_{eq} averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time. The time period used for highway noise analysis is typically one hour. FHWA guidelines and criteria require the use of the one-hour L_{eq} for assessing highway noise impacts on different land uses.

The following general relationships exist between hourly traffic noise levels and human perception:

- A 1 or 2 dBA increase is not perceptible to the average person;
- A 3 dBA increase, although a doubling of acoustic energy, is just barely perceptible to the human ear; and,
- A 10 dBA increase is a ten-fold increase in acoustic energy, but is perceived as a doubling in loudness to the average person.

Noise Abatement Criteria

Traffic noise can adversely affect human activities, such as communication. FHWA has established Noise Abatement Criteria (NAC) to help protect the public health and welfare from excessive vehicle traffic noise. Recognizing that different areas are sensitive to noise in different ways, the NAC varies according to land use. The NYSDOT endorses FHWA procedures and considers adverse noise impacts to occur when existing or future sound levels approach 1 dBA or exceed the NAC, or when future sound levels exceed existing sound levels by six dBA or more. These guidance criteria are the recommended maximum levels for identifying locations that may be affected by noise.

Typical Sound Levels			
Outdoor Sound Levels	Sound Pressure (μPa)	Sound Level (dBA)	Indoor Sound Levels
Jet Over-Flight at 300 m	3,324,555	110	Rock band at 5 m
		105	
Gas Lawn Mower at 1 m	2,000,000	100	Inside New York subway train
		95	
Diesel Truck at 15 m	632,456	90	Food blender at 1 m
		85	
Noisy Urban Area-Daytime	200,000	80	Garbage disposal at 1 m
		75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	70	Vacuum cleaner at 3 m
		65	Normal speech at 1 m
Suburban Commercial Area	20,000	60	
		55	Quiet conversation at 1 m
Quiet Urban Area-Daytime	6,325	50	Dishwasher in next room
		45	
Quiet Urban Area-Nighttime	2,000	40	Empty theater or library
		35	
Quiet Suburb-Nighttime	632	30	Quiet bedroom at night
		25	Empty concert hall
Quiet Rural Area-Nighttime	200	20	
		15	Broadcast and recording studios
Rustling Leaves	63	10	
		5	
Reference Pressure Level	20	0	Threshold of hearing

μPA MicroPascals describe pressure. The pressure level is what sound level monitors measure.

dBA A-weighted decibels describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

Source: *Highway Noise Fundamentals*, Federal Highway Administration, September 1980.

Methodology

The noise analysis evaluated the highest noise levels in the study area, which were assumed to occur during the evening peak hour traffic commuting period. The sound levels were calculated using FHWA's approved noise modeling methodology. FHWA's current noise prediction model is *Traffic Noise Model (TNM) 2.5*. The modeling input data included peak-hour traffic volumes, vehicle mix, vehicle speeds, and roadway and receptor geometry.

Noise Abatement Criteria (NAC) – One-Hour A-Weighted Sound Levels in dBA

Activity Category	L _{eq(h)}	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purposes
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above
D	(No Set Criteria)	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

L_{eq(h)} is an energy-averaged, one-hour, A-weighted sound level in decibels (dBA).

Source: 23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise.

The noise analysis evaluated two parameters to help identify potential noise impacts. These parameters included the existing sound levels at a representative distance of 50 feet and the distance from the centerline of the roadway to the 66 dBA contour line for each corridor. The representative distance of 50 feet was selected as the worst-case distance from the roadway to a residential building. The 66 dBA contour line was selected because the residential NAC is 67 dBA and an impact is considered to occur if noise levels approach one dBA of the NAC. The existing sound levels were calculated using the TNM model.

APPENDIX E

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Soils and Topography	Floyd Bennett Field	No changes would be made to existing soil or topographic conditions.	Approximately 1,000 sf of new impervious surface installed within median.	Approximately 0.5 acre (22,000 sf) of new impervious surface installed within median.	Approximately 0.5 acre (22,000 sf) of new impervious surface installed within median.
		Overall impact: long-term, negligible, and adverse	Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, negligible, and adverse.
		Alternative contributes imperceptible, adverse increments to a long-term, minor beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	The amount of impervious cover would remain constant. Vehicles driving along Beach Channel Drive may continue to make illegal U-turns over the median, causing some disruption and erosion to soils.	Approximately 0.1 acre (6,000 sf) of impervious surface would be installed. The modification and reduction in size of the existing roundabout would allow an estimated 1.2 acres (55,000 sf) of current impervious surface to be returned to natural ground cover.	Approximately 0.8 acre (37,000 sf) of impervious surface would be installed. The modification and reduction in size of the existing roundabout would allow an estimated 1.2 acres (55,000 sf) of current impervious surface to be returned to natural ground cover.	Approximately 1.0 acre (44,000 sf) of impervious surface would be installed. The modification and reduction in size of the existing roundabout would allow an estimated 1.2 acres (55,000 sf) of current impervious surface to be returned to natural ground cover.
	Overall impact: long-term, negligible, adverse	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, minor, beneficial.	Overall impact: long-term, minor, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Without new parking infrastructure, increasing visitation would require more regular use of overflow parking areas. These areas are primarily lawns or graveled areas. The continued use of these sites could compress soils and/or lead to the loss of the upper layers of soil.	Approximately 3.7 acres (165,000 sf) of natural ground cover would be lost to impervious surface.	The development of a new sidewalk would be immeasurable. Other impacts would be similar to those described under Alternative A.	Impacts would be similar to those described under Alternative A.
		Overall impact: long-term, minor, adverse		Overall impact: long-term, negligible, adverse
		Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Overall impact: long-term, negligible, adverse	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.
	Overall impact: long-term, negligible, adverse		Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	
	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.			

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Soils would remain compacted and exposed. The lack of development would leave them open to future erosion and compaction, eliminating the change of natural ground cover.	Approximately 4.6 acres (199,000 sf) of impervious surface would be installed at the two sites. This would eliminate natural ground cover conditions, from areas that are already lacking these qualities.	Approximately 4.3 acres (187,000 sf) of impervious surface would be installed at the two sites. This would eliminate natural ground cover conditions, from areas that are already lacking these qualities.	Approximately 5.3 acres (233,000 sf) of impervious surface would be installed at the two sites. This would eliminate natural ground cover conditions, from areas that are already lacking these qualities.
	Overall impact: long-term, minor to moderate, adverse	Overall impact: long-term, minor, adverse	Overall impact: long-term, minor, adverse	Overall impact: long-term, minor, adverse
	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Vegetation	Floyd Bennett Field	Vegetation throughout the site would continue to be impacted by stormwater runoff, vehicular exhaust, and the occasional off-road activity.	Approximately 1,000 sf of impervious surface would be installed over existing green space. Overall impact: long-term, negligible, and adverse.	Approximately 0.5 acre (21,000 sf) of impervious surface would be installed over existing green space. Approximately 16 immature trees would be removed.	Approximately 0.5 acre (21,000 sf) of impervious surface would be installed over existing green space. Approximately 16 immature trees would be removed.
		Overall impact: long-term, negligible, and adverse.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Overall impact: long-term, minor, and adverse.	Overall impact: long-term, minor, and adverse.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.		Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Stormwater runoff could adversely impact vegetation immediately surrounding the roads, as could any off road driving in the median.	Approximately 0.1 acre (6,000 sf) of vegetation would be lost to impervious surface.	Approximately 0.8 acres (37,000 sf) of green space would be converted to impervious surface through the installation of the new intersection.	Approximately 1.0 acres (44,000 sf) of green space would be converted to impervious surface through the installation of the new bridges.
	Overall impact: long-term, negligible, adverse.	Approximately 1.2 acres (55,000 sf) would be returned to green space through the improvements made at the roundabout.	Approximately 1.2 acres (55,000 sf) would be returned to green space through the improvements made at the roundabout.	Approximately 1.2 acres (55,000 sf) would be returned to green space through the improvements made at the roundabout.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, minor, beneficial.	Overall impact: long-term, minor, beneficial.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	The repeated use of these lawns for parking would eventually lead to the loss of the grasses that support the park-like setting at Fort Tilden.	An estimated 3.7 acres (165,000 sf) of green space would be lost to impervious surface.	Less than 0.1 acre (3,500 sf) of maintained lawn would be removed. Other impacts would be similar to Alternative A.	Impacts would be similar to those described under Alternative A.
	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, minor, adverse.		Overall impact: long-term, negligible, adverse
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Overall impact: long-term, negligible, and adverse. Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Soils would remain compacted and exposed, unable to support healthy vegetation. Exotic or native species would continue to take root along the edges of the site.	Approximately 4.6 acres (199,000 sf) of impervious surface would be installed. This would prevent the development of much vegetation. However, medians and curbs would be planted with native, park-like vegetation.	Approximately 4.3 acres (187,000 sf) of impervious surface would be installed. This would prevent the development of much vegetation. However, medians and curbs would be planted with native, park-like vegetation.	Approximately 5.3 acres (233,000 sf) of impervious surface would be installed. This would prevent the development of much vegetation. However, medians and curbs would be planted with native, park-like vegetation.
	Overall impact: long-term, moderate, adverse	Overall impact: long-term, minor, beneficial	Overall impact: long-term, minor, beneficial	Overall impact: long-term, minor, beneficial
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Wildlife and Wildlife Habitat	Floyd Bennett Field	Existing circulation and visitor use patterns would continue to create noise impacts.	Approximately 1,000 sf of green space would be lost in the median. Runway closures would improve the wildlife corridor within the Field.	Approximately 0.5 acre (21,000 sf) of green space would be lost in the median. Approximately 16 immature trees would also be removed. Ample runway closures would greatly improve the wildlife corridor within the Field.	Approximately 0.5 acre (21,000 sf) of green space would be lost in the median. Approximately 16 immature trees would also be removed. Ample runway closures would greatly improve the wildlife corridor within the Field.
		Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, minor, and beneficial.	Overall impact: long-term, moderate, and beneficial.	Overall impact: long-term, moderate, and beneficial.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Vehicular noises, human activities, and existing structures would continue to impact wildlife, precluding some species from certain areas.	Installation of the new turning lane would result in the loss of approximately 0.1 acre (6,000 sf) of existing grassy habitat along the roadway. The realignment and reduction in size of the existing roundabout would result in an increase of an estimated 1.2 acres (55,000 sf) of green space within an existing corridor.	An estimated 0.8 acre (37,00 sf) of green space would be removed. The realignment and reduction in size of the existing roundabout would result in an increase of an estimated 1.2 acres (55,000 sf) of green space.	An estimated 1.0 acre (44,000 sf) of green space would be removed. The realignment and reduction in size of the existing roundabout would result in an increase of an estimated 1.2 acres (55,000 sf) of green space.
	Overall impact: long-term, negligible, adverse	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Impacts would consist of common occurrences in the urban environment.	The new parking lot would eliminate approximately 3.7 acres (165,000 sf) of low-quality habitat.	Impacts would consist of common occurrences in the urban environment.	Impacts would consist of common occurrences in the urban environment.
	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	The poor soil conditions and lack of vegetation would make the administrative areas inhabitable.	The site would be developed, but would not result in the loss of any real habitat. Noise intrusions from the new parking lot would be standard for the urban environment and would not greatly enhance existing noises.	The site would be developed, but would not result in the loss of any real habitat. Noise intrusions from the new parking lot would be standard for the urban environment and would not greatly enhance existing noises.	The site would be developed, but would not result in the loss of any real habitat. Noise intrusions from the new parking lot would be standard for the urban environment and would not greatly enhance existing noises.
	Overall impact: long-term, negligible, adverse	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Water Resources	Floyd Bennett Field	Increased visitation could lead to increased pollutant loads being absorbed by stormwater.	Approximately 1,000 sf of impervious surface would be installed.	Approximately 0.5 acre (21,000 sf) of impervious surface would be installed.	Approximately 0.5 acre (21,000 sf) of impervious surface would be installed.
		Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, negligible, and adverse.	Overall impact: long-term, negligible, and adverse.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Current pollutant loads would be captured by existing storm water drainages, or escape into the surrounding water bodies. Continued off road driving in the Beach Channel Drive median would increase erosion rates, adding sediments to stormwater runoff.	There would be a net gain of 1.1 acres (49,000 sf) of green space. The change in impervious surface should not alter runoff patterns, however any additional runoff would be captured by the remaining median and/or existing drainage structures along Beach Channel Drive.	There would be a net gain of 0.4 acres (18,000 sf) of green space. The change in impervious surface should not alter runoff patterns, however any additional runoff would be captured by the remaining median and/or existing drainage structures along Beach Channel Drive.	There would be a net gain of 0.2 acres (11,000 sf) of green space. The change in impervious surface should not alter runoff patterns, however any additional runoff would be captured by the remaining median and/or existing drainage structures along Beach Channel Drive.
	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, minor, beneficial.	Overall impact: long-term, negligible, beneficial.	Overall impact: long-term, negligible, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
	The overuse of overflow parking areas could lead to temporary increases in erosion, which could lead to increased sediment loads in stormwater runoff.	Approximately 3.7 acres (165,000 sf) of green space would be replaced by impervious surface. This change should not alter stormwater runoff patterns.	Impacts would be similar to those described under Alternative A. Overall impact: long-term, negligible, adverse.	Impacts would be similar to those described under Alternative A. Overall impact: long-term, negligible, adverse.
Riis Landing	Overall impact: long-term, negligible, adverse. Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Overall impact: long-term, minor, adverse. Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
	New NPS Sites	The barren administrative areas would continue to be exposed to stormwater and erosion. These pollutants would be washed into the surrounding bodies of water.	The increase in impervious surface would be accompanied by BMPs capable of fully absorbing the increased stormwater pollutants.	The increase in impervious surface would be accompanied by BMPs capable of fully absorbing the increased stormwater pollutants.	The increase in impervious surface would be accompanied by BMPs capable of fully absorbing the increased stormwater pollutants.
		Overall impact: long-term, minor, adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.
		All of the proposed actions fall outside of the floodplain.	All of the proposed actions fall outside of the floodplain.	All of the proposed actions fall outside of the floodplain.	All of the proposed actions fall outside of the floodplain.
Floodplains	Floyd Bennett Field	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.
		Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	The high level of impervious surface that currently exists at the site would allow flood velocities to increase as it traveled across the site.	Approximately 1.2 acres (55,000 sf) of green space would be added to the study area. Though not readily noticeable, this gain in green space would allow the floodplain to reduce floodwater velocities.	Approximately 0.4 acres (18,000 sf) of green space would be added to the study area. Though not readily noticeable, this gain in green space would allow the floodplain to reduce floodwater velocities.	Approximately 0.2 acres (11,000 sf) of green space would be added to the study area. Though not readily noticeable, this gain in green space would allow the floodplain to reduce floodwater velocities.
	Overall impact: long-term, negligible, adverse	Overall impact: long-term, negligible, beneficial	Overall impact: long-term, negligible, beneficial	Overall impact: long-term, negligible, beneficial
	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	There would be no new development within the floodplain.	An estimated 3.7 acres (165,000 sf) of impervious space would be installed.	The introduction of the sidewalk and pedestrian improvements would not alter floodplain values.	The introduction of pedestrian improvements would not alter floodplain values.
	Overall impact: no impact.	This could increase floodwater velocities within the immediate vicinity of the site.	Overall impact: no impact.	Overall impact: no impact.
	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.	Overall impact: long-term, negligible, adverse.	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.	Alternative does not contribute to a long-term, negligible to minor, adverse cumulative impact.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.		

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	The administrative area would remain undeveloped. The highly compacted soils would be nearly impervious, allowing flood waters to increase in velocity as they passed over the confined area.	The development of the administrative area would solidify its already impervious nature, allowing floodwater velocity to increase.	The development of the administrative area would solidify its already impervious nature, allowing floodwater velocity to increase.	The development of the administrative area would solidify its already impervious nature, allowing floodwater velocity to increase.
	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.	Overall impact: long-term, negligible, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible to minor, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Air Quality	Floyd Bennett Field	Air quality would be influenced by the growing regional population. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.
		Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, negligible to minor, and beneficial.	Overall impact: long-term, negligible to minor, and beneficial.	Overall impact: long-term, negligible to minor, and beneficial.
		Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Air quality would be influenced by the growing regional population. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.
	Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, minor, and beneficial.	Overall impact: long-term, minor, and beneficial.	Overall impact: long-term, negligible to minor, and beneficial.
	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Air quality would be influenced by the growing regional population. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.
	Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, minor, and beneficial.	Overall impact: long-term, minor, and beneficial.	Overall impact: long-term, minor, and beneficial.
	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Air quality would be influenced by the growing regional population. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.	Air quality would be influenced by the growing regional population and changes in internal circulation. Air quality would continue to improve due to EPA regulations.
	Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, negligible, and beneficial.	Overall impact: long-term, negligible, and beneficial.
	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Noise	Floyd Bennett Field	Sound levels and distance to impact would both increase due to increased vehicular traffic.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.
		Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.
		Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Sound levels and distance to impact would both increase due to increased vehicular traffic.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.
	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Sound levels and distance to impact would both increase due to increased vehicular traffic.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.
	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Sound levels and distance to impact would both increase due to increased vehicular traffic.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.	Sound levels and distance to impact would both increase to due to increased vehicular traffic and changes in circulation patterns.
	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.	Overall impact: long-term, minor, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, negligible, adverse cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
		Any ground-disturbing activity proposed by this study would be isolated along Flatbush Avenue, away from the area where resources may exist.	Any ground-disturbing activity proposed by this study would be isolated along Flatbush Avenue, away from the area where resources may exist.	Any ground-disturbing activity proposed by this study would be isolated along Flatbush Avenue, away from the area where resources may exist.	Any ground-disturbing activity proposed by this study would be isolated along Flatbush Avenue, away from the area where resources may exist.
Archeological Resources	Floyd Bennett Field	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.
		Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.
			<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
	The proposed alternatives would occur on previously disturbed soil, therefore known archeological resources are not expected to be impacted.	The proposed alternatives would occur on previously disturbed soil, therefore known archeological resources are not expected to be impacted.	The proposed alternatives would occur on previously disturbed soil, therefore known archeological resources are not expected to be impacted.	The proposed alternatives would occur on previously disturbed soil, therefore known archeological resources are not expected to be impacted.
Jacob Riis Park	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact
	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.
		<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on archeological resources.</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
	Because no recent studies have been done, ground-disturbance would have the potential to impact archeological resources. Prior to construction, the NPS would investigate areas not previously surveyed.	Because no recent studies have been done, ground-disturbance would have the potential to impact archeological resources. Prior to construction, the NPS would investigate areas not previously surveyed.	Because no recent studies have been done, ground-disturbance would have the potential to impact archeological resources. Prior to construction, the NPS would investigate areas not previously surveyed.	Because no recent studies have been done, ground-disturbance would have the potential to impact archeological resources. Prior to construction, the NPS would investigate areas not previously surveyed.
Riis Landing		Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.
		<i>For the purposes of Section 106, the proposed action would have a no determination of effect can be made on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no determination of effect can be made on archeological resources.</i>	<i>For the purposes of Section 106, the proposed action would have a no determination of effect can be made on archeological resources.</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.
	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact
	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.	Alternative does not contribute cumulative impacts.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Historic Structures	Floyd Bennett Field	The runways would continue to receive wear and tear due to vehicle use and misinterpretation.	Runway closures would allow the resources to be further protected and accurately interpreted.	Ample runway closures would allow the resources to be further protected and accurately interpreted.	Ample runway closures would allow the resources to be further protected and accurately interpreted.
		Overall impact: long-term, minor, adverse.	Overall impact: long-term, negligible, beneficial.	Overall impact: long-term, negligible, beneficial.	Overall impact: long-term, negligible, beneficial.
		Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact.
			Alternative B would have a <i>no adverse effect</i> on historic structures at Floyd Bennett Field.	Alternative C would have a <i>no adverse effect</i> on historic structures at Floyd Bennett Field.	Alternative D would have a <i>no adverse effect</i> on historic structures at Floyd Bennett Field.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
	All of the alternatives presented in this document encompass construction in conjunction with traffic patterns. The roads surrounding the park are not considered historic structures.	All of the alternatives presented in this document encompass construction in conjunction with traffic patterns. The roads surrounding the park are not considered historic structures.	All of the alternatives presented in this document encompass construction in conjunction with traffic patterns. The roads surrounding the park are not considered historic structures.	All of the alternatives presented in this document encompass construction in conjunction with traffic patterns. The roads surrounding the park are not considered historic structures.
Jacob Riis Park	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact
	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.
		<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
	The proposed changes would not alter the site's historical structures.	The proposed changes would not alter the site's historical structures.	The proposed changes would not alter the site's historical structures.	The proposed changes would not alter the site's historical structures.
	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact
Riis Landing	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.
		<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures.</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures</i>	<i>For the purposes of Section 106, the proposed action would have a no effect on historic structures</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.
	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact	Overall impact: no impact
	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.	Alternative does not to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Cultural Landscapes	Floyd Bennett Field	The use of runways and taxiways for internal access and circulation would create confusion and a lack of interpretation.	Runway closures would allow for a better understanding and interpretation of historic airport. The new entrance would not be consistent with the historic use.	Ample runway closures would allow for a better understanding and interpretation of historic airport. The new entrance would not be consistent with the historic use.	Runway closures would allow for a better understanding and interpretation of historic airport. The multiple entrances would not be consistent with the historic use.
		Overall impact: long-term, moderate, adverse.	Overall impact: long-term, minor adverse.	Overall impact: long-term, minor adverse.	Overall impact: long-term, moderate adverse.
		No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.
			Alternative B would have a <i>no adverse effect</i> on cultural landscapes at Floyd Bennett Field.	Alternative C would have a <i>no adverse effect</i> on cultural landscapes at Floyd Bennett Field.	Alternative D would have an <i>adverse effect</i> on cultural landscapes at Floyd Bennett Field.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Existing cultural landscapes would be preserved in their current configuration. The overall plan, circulation patterns, and relationship of buildings to the landscape would remain intact.	Improvements along Beach Channel Drive would not alter the overall layout of the park. However, changes within the parking lot would detract from historic views, uses, and circulation patterns.	Improvements along Beach Channel Drive would not alter the overall layout of the park. However, the loss of the Beach Channel Drive ramps would alter the existing vehicle circulation path leading into the Park. It would also redefine the linkage of Jacob Riis Park to the parkway system.	Improvements along Beach Channel Drive would not alter the overall layout of the park. However, the loss of the Beach Channel Drive ramps would alter the existing vehicle circulation path leading into the Park. It would also redefine the linkage of Jacob Riis Park to the parkway system.
	Overall impact: no impact	Overall impact: long-term, minor, adverse	Overall impact: long-term, minor, adverse	Overall impact: long-term, minor, adverse
	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.
		<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>	<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>	<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Existing cultural landscapes would be preserved in their current configuration. The three landscape character areas that reflect the historic use and development of the landscape, as well as current park operations, would be maintained.	The alternative would enhance the connection between the Fortification area and the wharf area, a change in the historic landscape. The enhanced traffic signals would also result in a change from historic conditions. Opening the historic gate would improve the historic landscape of the site.	The new sidewalk would conform to historic design patterns throughout the area. The historic gate would also be opened to improve the landscape. Overall impact: long-term, minor, beneficial No cumulative impacts to cultural landscapes have been identified.	There would be no physical development. Improvements at the historic gate would still be made. Overall impact: long-term, minor, beneficial No cumulative impacts to cultural landscapes have been identified.
	Overall impact: no impact			<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>
	No cumulative impacts to cultural landscapes have been identified.	Overall impact: long-term, negligible, adverse. No cumulative impacts to cultural landscapes have been identified.	<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>	
		<i>For the purposes of Section 106, the proposed action would have a no adverse effect on cultural landscapes</i>		

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.	Based on the sites historic uses as landfills, and the recent capping and landscaping activities, it can be assumed that there are no cultural resources present.
	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.	Overall impact: no impact.
	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.	No cumulative impacts to cultural landscapes have been identified.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Visual Resources	Floyd Bennett Field	No changes would be made to existing resources. Lack of site identity would create confusion and detract from historic and natural views of the Field.	The new entrance would provide much needed site recognition, reducing confusion. Runway closures would improve historic and natural views within the Field.	The new entrance would provide much needed site recognition, reducing confusion. This entrance, along with ample runway closures would improve historic and natural views within the Field.	The multiple entrances would provide much needed site recognition, reducing confusion. This entrance, along with ample runway closures would improve historic and natural views within the Field.
		Overall impact: long-term, moderate, adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
		Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable to appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable to appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable to appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	No changes would be made to the current visual resources at the site. While this would preserve many significant sights, it would also provide little site recognition for westbound traffic.	Changes would come in the form of a new traffic signal, a turning lane, temporary infrastructure within the parking lot, and new traffic patterns. Views from within the parking lot would be altered by new circulation patterns.	The installation of the new intersection would provide immediate visual recognition of the site for visitors coming from the east. The intersection and new access routes would change views offered on the approach to the site, as well as within the park.	The installation of the new bridges would provide immediate visual recognition of the site for visitors coming from the east. The bridge and new access routes would change views offered on the approach to the site, as well as within the park.
	Overall impact long-term, minor, adverse.	Overall impact: long-term, minor to moderate, adverse.	Overall impact: long-term, minor to moderate, adverse.	Overall impact: long-term, minor to moderate, adverse.
	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	No changes would be made to accommodate increased visitation. This would lead to vehicular congestion and regular use of overflow parking lots.	The new parking lot would eliminate the vegetative buffer that separates the site from the busy roads. Despite this loss, the new parking lot would maintain the park-like atmosphere in the area.	The historic gated entrance would be opened at the Landing, providing improved visual understanding of the site. Other impacts would be similar to Alternative A.	Vehicular congestion and parking would be removed from the site. The historic gated entrance would be opened at the Landing, providing improved visual understanding of the site.
	Overall impact: long-term, moderate, adverse	Overall impact, long-term, minor, adverse	Overall impact: long-term, minor, and adverse	Overall impact: long-term, minor, beneficial
	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Despite the capping of the sites, they would appear detached from the local community. Based on lack of access or parking, there would be no site recognition.	Formalized access and circulation would visually connect the sites to the surrounding community and provide immediate site recognition. The new parking would add to the park-like environment on site.	Formalized access and circulation would visually connect the sites to the surrounding community and provide immediate site recognition. The new parking would add to the park-like environment on site.	Despite the larger paved surface at Fountain Avenue, impacts would be similar to those described under Alternative C.
	Overall impact: long-term, moderate, adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Transportation, Site Access, and Circulation		Existing access and circulation routes would be maintained as vehicular traffic increased. LOS at the Floyd Bennett Drive intersection could be reduced to LOS E.	Access to the Field would be improved, as would internal circulation routes. Floyd Bennett Drive would maintain its LOS A and internal intersections would be improved to LOS A.	Access to the Field would be greatly improved, as would internal circulation routes. Floyd Bennett Drive would maintain its LOS A and internal intersections would be improved to LOS A.	Access to the Field would be greatly improved, as would internal circulation routes. Floyd Bennett Drive would maintain its LOS A and internal intersections would be improved to LOS A.
	Floyd Bennett Field	Overall impact: long-term, moderate, adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
		Alternative contributes noticeable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

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Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	The volume of traffic would increase due to normal growth in activity and general background growth in the region. The signalized intersection of Rockaway Beach Boulevard at Beach 116 th Street remaining at LOS B.	A new traffic signal and turning lane would be installed, altering traffic patterns for eastbound traffic. Park visitors would now be able to directly enter the parking lot from the east. No changes in LOS would occur.	A new intersection would be installed northeast corner of the parking lot, providing direct access for westbound traffic. The intersection would operate at LOS B and there would be no change to other operating conditions in the area.	A new series of bridges would be installed northeast of the parking lot. This would preserve the free flow of traffic and existing LOS.
	Overall impact: long-term, negligible, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible to noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

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Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	As visitation increased in response to new activities at Riis Landing, the LOS on local roads would diminish. Parking infrastructure would also be filled to capacity on a regular basis.	A new parking lot would be installed to support future developments at Riis Landing. The use of this lot would maintain a LOS B on Fort Tilden roads and LOS A on Rockaway Point Boulevard.	Existing Fort Tilden infrastructure would be used to support Riis Landing. The use of these elements would not change LOS in the area.	Existing Jacob Riis Park infrastructure would be used to support Riis Landing. Local roads would continue to operate at LOS B.
	Overall impact: long-term, negligible to moderate, and adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, minor, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Increased pedestrian and bicycle traffic to the sites could create unsafe conditions. Also, the lack of parking would lead to increased parking in the surrounding neighborhoods. Increased traffic and queuing on the ramps could result in a decrease in LOS.	Pedestrian and bicycle safety would be improved. Parking would be fully accommodated at both sites. However, without modifications to existing traffic signals, LOS could decrease to D or F.	Pedestrian and bicycle safety would be improved. Parking would be fully accommodated at both sites. The use of an intersection at Pennsylvania Avenue would avoid potential impacts to existing traffic patterns.	Despite the larger parking lot at Fountain Avenue, impacts would be similar to Alternative C.
	Overall impact: long-term, moderate, adverse	Overall impact: long-term, moderate, adverse	Overall impact: long-term, minor, beneficial	Overall impact: long-term, minor, beneficial
	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes imperceptible, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Visitor Use and Experience	Floyd Bennett Field	Current experiences would be maintained. Lack of site recognition and misuse of historic runways would create confusion and lack of understanding. User conflicts would detract from the park-like experience.	The new entrance would provide improved site recognition. Runway closures would improve opportunities and understanding of the site. Rerouting of partner and tenant users would reduce conflicts with NPS visitors.	The new entrance would provide much improved site recognition and opportunities. Ample runway closures would also improve opportunities and understanding of the site. Rerouting of partner and tenant users would reduce conflicts with NPS visitors.	The new entrances would provide much improved site recognition and opportunities. Ample runway closures would also improve opportunities and understanding of the site. Rerouting of partner and tenant users would reduce conflicts with NPS visitors.
		Overall impact: long-term, moderate, adverse.	Overall impact: long-term, minor, beneficial	Overall impact: long-term, moderate, beneficial	Overall impact: long-term, moderate, beneficial
		Alternative contributes appreciable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	Site recognition and access would remain problematic for westbound traffic.	The new turn would provide direct site recognition and access for westbound traffic.	The new intersection would provide direct site recognition and access. It would also preserve visitor choice within the site. This alternative would, however, disrupt the free flow of traffic around the site.	The new intersection would provide direct site recognition and access. It would also preserve visitor choice within the site. It would also preserve the free flow of traffic around the site.
	Overall impact: long-term, minor, adverse.	The alternative would limit visitor choice, by bringing them directly to the parking lot.		
	Alternative contributes noticeable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Overall impact would be long-term, minor, beneficial Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Overall impact would be long-term, moderate, beneficial Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Overall impact would be long-term, moderate, beneficial Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	Increased developments would not include new parking. This would result in existing parking lots quickly filling to capacity, leading visitors to spend time searching for parking or parking in overflow parking lots.	New parking would provide ample and efficient capacity for the Riis Landing developments. It would also support existing activities at Fort Tilden. There would be noticeable changes in the park-like atmosphere.	By relying on existing infrastructure at Fort Tilden, impacts would be similar to those of Alternative A.	Jacob Riis Park parking lot has the capacity to support the new Landing developments. However, based on the distance between the two sites, and the need to rely on a shuttle, visitor choice would be limited.
	Overall impact: long-term, moderate, adverse	Overall impact: short-term, minor, adverse and long-term, moderate, beneficial.	Overall impact: long-term, moderate, adverse	Overall impact: long-term, minor, adverse
	Alternative contributes appreciable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable to appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	Without formalized access, the new sites would only be accessible on foot or by bike. In many areas, access would be unsafe. On site, there would be no central location within the sites for orientation. The barren administrative areas would detract from the green environment.	Formalized access and parking would provide safe passage for pedestrians, bicycles, and vehicles. The new parking areas would serve as an orientation point for the large sites. They would also enhance the park-like atmosphere at both sites.	Formalized access and parking would provide safe passage for pedestrians, bicycles, and vehicles. The new parking areas would serve as an orientation point for the large sites. They would also enhance the park-like atmosphere at both sites.	Formalized access and parking would provide safe passage for pedestrians, bicycles, and vehicles. The new parking areas would serve as an orientation point for the large sites. They would also enhance the park-like atmosphere at both sites.
	Overall impact: long-term, moderate, adverse.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.	Overall impact: long-term, moderate, beneficial.
	Alternative contributes appreciable, adverse increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, moderate, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

	Site	Alternative A	Alternative B	Alternative C	Alternative D
Operations	Floyd Bennett Field	Lack of site recognition would require NPS to focus on basic interpretation. Access and circulation problems would require regular attention.	The new entrance would require new maintenance activities. The improved site recognition would allow staff to focus on improving opportunities on closed runways.	The new entrance would require new maintenance activities. The improved site recognition would allow staff to focus on improving opportunities on closed runways and within the historic district. Rerouting of traffic would also reduce need for traffic control activities.	The new entrances would require new maintenance activities. The improved site recognition would allow staff to focus on improving opportunities on closed runways and within the historic district.
		Overall impact: long-term, negligible, adverse	Rerouting of traffic would also reduce need for traffic control activities.		
		Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Overall impact: long-term, minor, beneficial	Overall impact: long-term, moderate, beneficial	Overall impact: long-term, moderate, beneficial
			Alternative contributes noticeable, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes appreciable, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Jacob Riis Park	No changes would be made to current operations. The NPS would need to focus on promoting the site to address lack of site recognition.	New maintenance activities would be required around the new entrance and within the parking lot queuing lane. There would also be an increase in effort at the toll booths. The direct access would allow staff to focus on activities other than site recognition.	New developments would occur primarily on non-NPS lands. Changes in operations could easily be incorporated into current practices. This would allow staff to focus on improving opportunities at the park.	New developments would occur primarily on non-NPS lands. Changes in operations could easily be incorporated into current practices. This would allow staff to focus on improving opportunities at the park.
	Overall impact: long-term, negligible, adverse.	Overall impact: short-term, moderate, adverse and long-term, minor, beneficial.	Overall impact: long-term, minor, beneficial.	Overall impact: long-term, minor, beneficial.
	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, minor, beneficial cumulative impact.	Alternative contributes noticeable, beneficial increments to a long-term, minor, beneficial cumulative impact.

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
Riis Landing	The lack of parking would require staff to dedicate time to traffic control and parking direction. The overuse of overflow lots would also require additional maintenance.	The new parking lot would require landscaping, cleaning, and maintenance activities. All of these activities could be incorporated into existing operations. With dedicated parking, staff could focus on improving the Landing.	By relying on existing Fort Tilden infrastructure, this alternative would have impacts similar to those in Alternative A.	Changes would be required at the Jacob Riis Park toll booths to account for Riis Landing users. Attempting to enforce the new parking procedures would be impossible, resulting in impacts similar to Alternative A.
	Overall impact: long-term, minor to moderate, and adverse		Overall impact: long-term, minor to moderate, adverse	
	Alternative contributes noticeable to appreciable, adverse increments to a long-term, minor, beneficial cumulative impact.	Overall impact: long-term, negligible, and beneficial Alternative contributes imperceptible, beneficial increments to a long-term, minor, beneficial cumulative impact	Alternative contributes noticeable to appreciable, adverse increments to a long-term, minor, beneficial cumulative impact	Overall impact: long-term, moderate, adverse Alternative contributes appreciable, adverse increments to a long-term, minor, beneficial cumulative impact

Appendix F: Summary of Environmental Consequences

Site	Alternative A	Alternative B	Alternative C	Alternative D
New NPS Sites	On-site staff would be required to dedicate much of their time to directing visitors into the site and ensuring that bicycles or other vehicles did not go off the trails that could support them. It would also be necessary to keep visitors from these areas as they would not be safe for regular activity.	The new infrastructure would require occasional landscaping, maintenance, and cleaning. When the sites were closed to the public, the gated entrance could easily secure the site. These activities could be easily incorporated into the operating procedures at the new sites.	Impacts would be the same as those in Alternative B. Overall impact: long-term, negligible, adverse imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.	Despite having more developed surface, impacts would be the same as those in Alternative B. Overall impact: long-term, negligible, adverse imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.
	Overall impact: long-term, minor to moderate, adverse	Overall impact: long-term, negligible, adverse.		
	Alternative contributes appreciable, adverse increments to a long-term, minor, beneficial cumulative impact	Alternative contributes imperceptible, adverse increments to a long-term, minor, beneficial cumulative impact.		



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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