

USTA Billie Jean King National Tennis Center Strategic Vision Environmental Impact Statement Draft Scope of Work

1. INTRODUCTION

The City of New York Department of Parks and Recreation (DPR), in coordination with USTA National Tennis Center, Incorporated (USTA)¹, is seeking a number of discretionary actions in connection with proposed improvements and an expansion to its facilities at the USTA Billie Jean King National Tennis Center (NTC), located in Flushing Meadows Corona Park in Queens (see **Figure 1**). These improvements collectively are known as the NTC Strategic Vision. The NTC is located on a portion of Queens Block 2018, Lot 1, on park land leased by DPR to USTA. The leased site is bounded to the north by the railway tracks of Long Island Railroad (LIRR)'s Port Washington line; United Nations Avenue North to the south; the Passarelle Building (that connects LIRR's Mets-Willets Point station to the MTA's 7 train station and Citi Field, the Mets baseball stadium) and Path of the Americas to the east²; and Grand Central Parkway to the west.³

The 42-acre NTC is one of the world's largest public recreational tennis facilities. For 11 months of the year, its facilities are open to the public for indoor and outdoor tennis. The NTC is also host to the US Open tennis tournament, one of the sport's four Grand Slam championship tennis tournaments. The event is staged during a two-week period around the beginning of September and is attended by approximately 700,000 spectators and is broadcast worldwide.

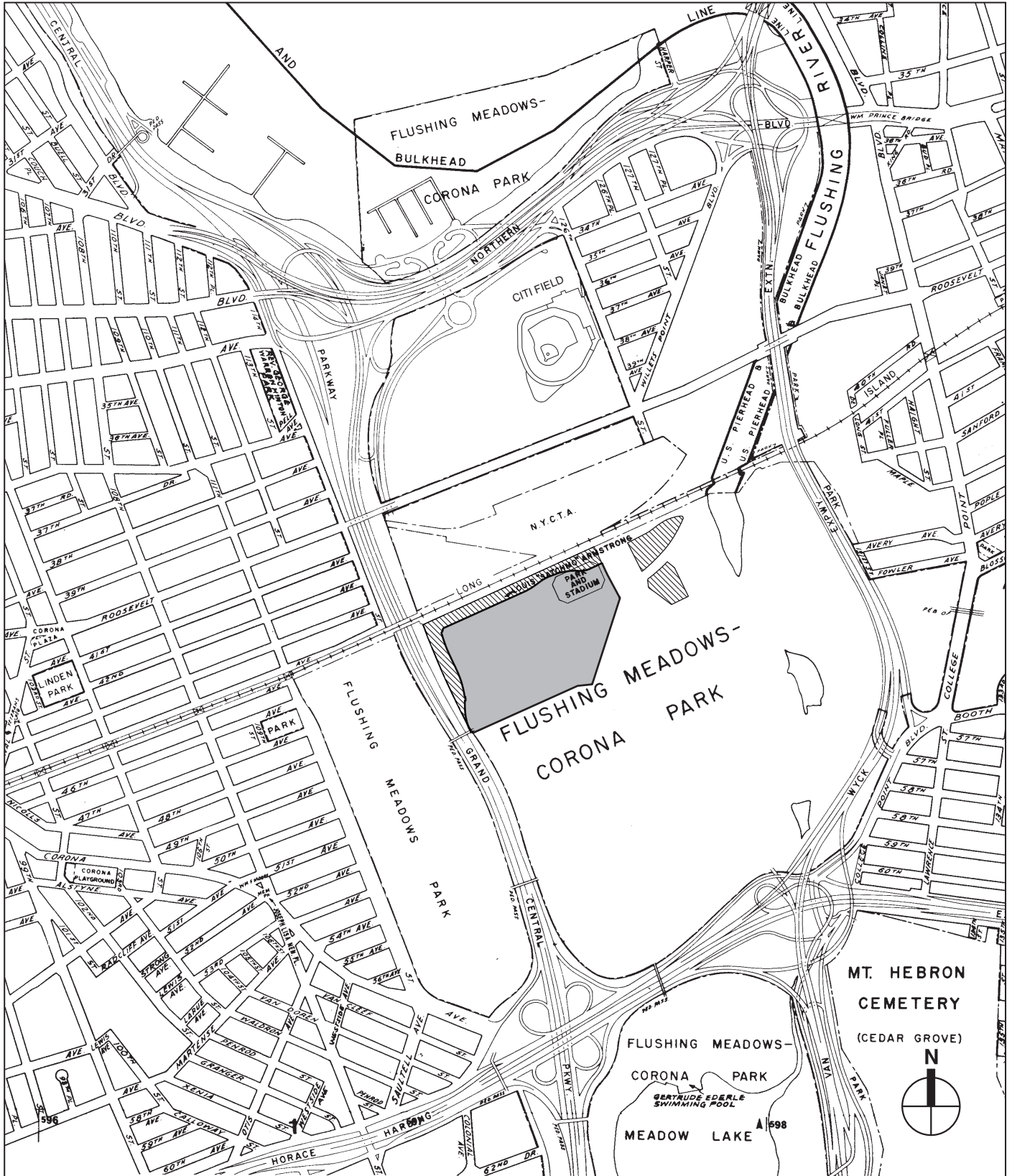
The proposed project would improve the NTC site plan, circulation, visitor amenities, and landscaping, and would include construction of two new stadiums to replace the existing Louis Armstrong Stadium (Stadium 2) in the same location, and Grandstand Stadium (Stadium 3) in a new location at the southwest corner of the NTC site, as well as possible improvements to Arthur Ashe Stadium (Stadium 1).

The preparation of this Environmental Impact Statement (EIS) Draft Scope of Work will ensure that the potential environmental impacts of the proposed actions are fully identified and studied consistent with environmental law and regulations. Under those laws, public review of the proposed actions will not begin until DPR, which is the lead agency, has determined that the environmental issues have been adequately studied in the form of a draft EIS (DEIS) in order to permit meaningful review by the public and decision-makers.

¹ USTA National Tennis Center Incorporated, an affiliate of the United States Tennis Association Incorporated, operates the USTA Billie Jean King National Tennis Center.

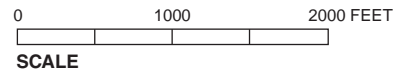
² The NTC lease also covers 11 tennis courts located to the east of the Passarelle Building that are not affected by the proposed project.

³ The access roads within the NTC site are not included in the lease.



- Project Site
- National Tennis Center Land not Affected by the Proposed Project

Note: Roads within the NTC site are not included in the lease



PURPOSE AND NEED

The purpose of the proposed project is to sustain the long-term viability of the NTC as a world-class spectator venue and outstanding public recreational facility. It would result in a superior visitor experience, and would provide substantial long-term economic benefits to Queens, the City of New York, and the region.

The goals of the project include the following:

- Replace and upgrade aging, out-of-date infrastructure and facilities that have reached the end of their useful lives.
- Increase the capacity of the NTC site to allow for more daytime attendance at the US Open.
- Improve the reliability of the NTC site for the US Open event during inclement weather.
- Expand public plazas and promenades and improve functionality of public spaces and open areas within the NTC.
- Improve circulation, comfort and safety for visitors and players.
- Activate underutilized spaces within the NTC site.
- Increase player visibility during US Open practice and early tournament play.
- Increase availability of on-site parking.
- Increase efficiency and sustainability of infrastructure and landscaping.
- Enhance economic benefits of US Open event in Queens, New York City, and the region.
- Develop a consistent design experience for sponsor partners.
- Enhance food service and retail offerings during the US Open.
- Develop a consistent visual theme and signage for food service.

Within the framework of these goals, the proposed project would: minimize expansion beyond NTC lease boundaries; maintain public availability of courts at current levels; improve the NTC's context within the park; and maintain opportunities for public programming throughout the year. Without the expansion of the NTC that would occur with the disposition of up to 0.76 acres of City property, the NTC Strategic Vision could not be implemented and the project goals would not be met.

The proposed site improvements and other components of the NTC Strategic Vision are intended to collectively further these key objectives, addressing serious deficiencies in the three existing stadiums and making the NTC more comfortable and friendly to the public, fans, sponsors and players, year round.

The proposed project also will enable the USTA to accommodate an extra 10,000 daily spectators during the US Open. It is expected that the proposed project would increase attendance at the US Open by up to approximately 100,000 new visitors, positively affecting not only the revenues from the US Open but the local hospitality market as well. It also would create jobs during construction and upon completion.

PROJECT BACKGROUND

The US Open, which dates back to 1881, moved to its current site in Flushing Meadows Corona Park in 1978, making its facilities available to the public year-round. In 1993, the NTC site expanded from 21.6 acres to approximately 42.2 acres to allow for the construction of a new 23,500-seat stadium (Arthur Ashe Stadium), completed in 1997. The 1993 expansion required alienation of park land following review by the City through its Uniform Land Use Review Procedure. The facility was renamed the USTA Billie Jean King National Tennis Center in 2006. Today, the NTC is one of the largest public tennis facilities in the world. The US Open attracts over 700,000 spectators annually, and generates substantial economic benefits in New York City.

The 1,255-acre Flushing Meadows Corona Park – Queens’ largest public park – was created for the 1939 World’s Fair. It offers a variety of event-oriented recreational activities, as well as lawns, fields, and playgrounds for active and passive recreation. Portions of this park (but not the NTC) have been improved with funds from the Federal Land and Water Conservation Fund (LWCF) Act, and much of the park, including the NTC, is subject to LWCF requirements. The health, welfare and recreational public purposes of the NTC have been recognized by the New York State Legislature and the New York City Council in the State legislation and City Administrative Code provisions that govern the NTC lease, as well as by the U.S. Department of the Interior, National Park Service (NPS), which determined in 1993 that the expansion and renovation of the NTC is consistent with the LWCF grant-in-aid manual requirements governing Flushing Meadows Corona Park.

The USTA and the affiliated United States Tennis Association promote and develop tennis in the community through a wide range of programs. More than 100,000 participants of all ages, the majority of whom are from the local Queens community, participate in hundreds of community tennis programs at the NTC each year. The NTC is home court for more than 70 New York City high schools and colleges and a number of diverse organizations seeking a place to play tennis or host tournaments. USTA offers below-market court rentals to the public. The NTC is also open 11-months of the year to visitors of Flushing Meadows Corona Park, free of charge. Approximately \$1 million is spent each year for other United States Tennis Association tennis programs in New York City as well, including grants for free tennis programs, free equipment, court refurbishments and scholarships, all supported by revenues from the US Open.

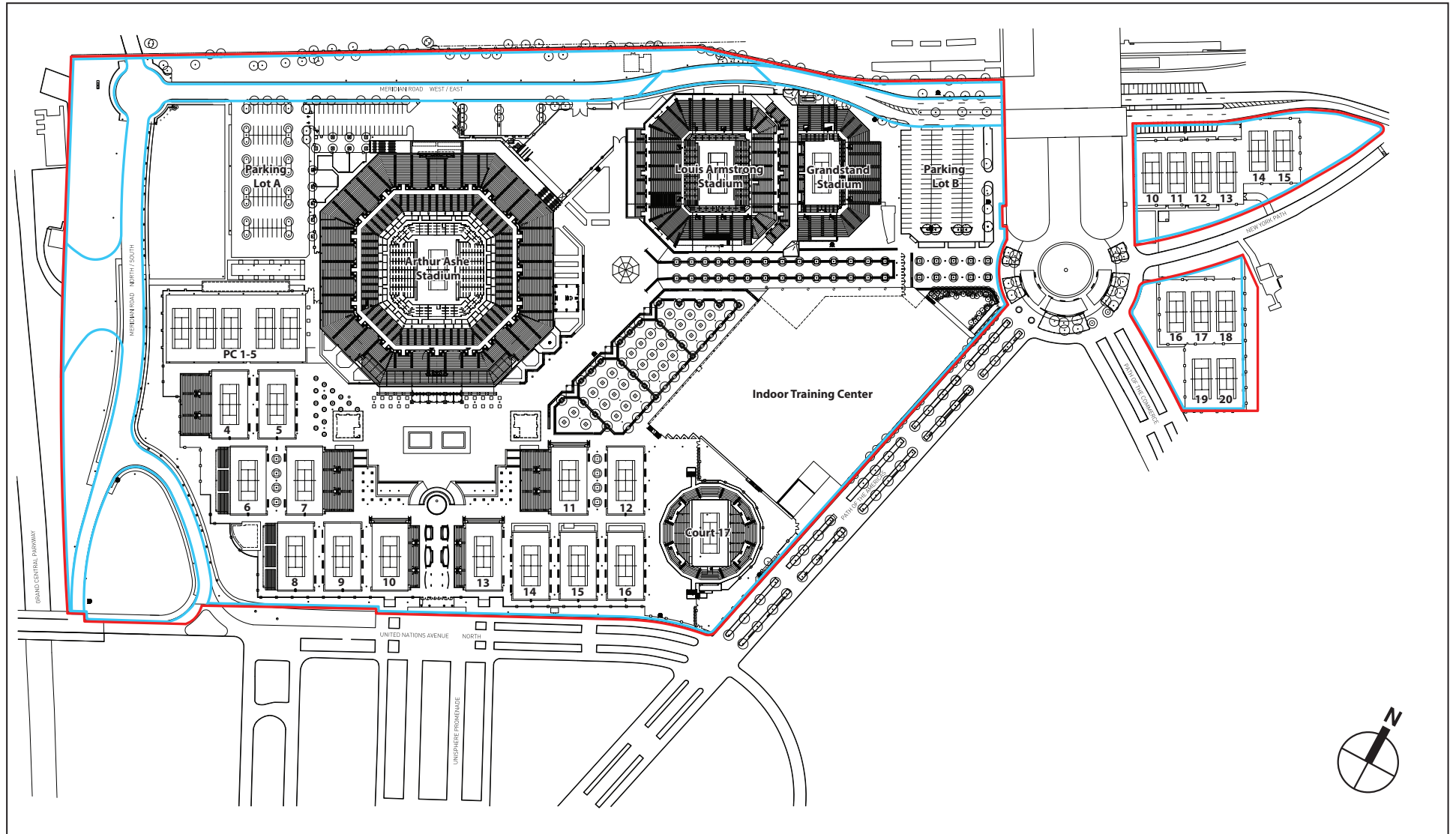
Through its flagship event, the US Open, USTA has significant world-wide reach and economic impact on the City of New York. Approximately 42 percent of US Open patrons come from outside the New York metro area, including 14 percent from outside the US. During the US Open, attendees, players, media, sponsors and staff account for 16 percent of the City’s hotel occupancy. The US Open also creates 6,000 seasonal jobs, a large percentage of which go to residents of Queens and Brooklyn. On television and through the media, the US Open’s reach is global. It attracts 85 million US TV viewers and is seen in 188 countries, with more than 41,000 hours of coverage.

2. PROJECT DESCRIPTION

The NTC Strategic Vision would result in a number of physical improvements and alterations to the facility’s plan. Overall, the proposed project would add up to 1.02 acres to the NTC site, including adding up to 0.76-acres of park land that would be alienated, and 0.26-acres of previously alienated park land that is currently not covered in the lease. **Figure 1** shows the approximately 36.32-acre project site and the additional areas of the 42-acre NTC site located in

Flushing Meadows Corona Park in Queens, **Figures 2 and 3** show the alienated and leased boundaries of the existing and proposed NTC site and the additional up to 1.02-acres needed for the proposed project, **Figure 4** shows the current site plan for the NTC, and **Figure 5** shows the proposed future site plan under the proposed project. The principal elements of the NTC Strategic Vision plan are as follows:

- A. Reconfigured northwest tournament courts and elevated viewing platform.** Currently, the northwest courts include five practice courts and two tournament courts, with bleacher seats. The proposed project would replace these courts and bleachers with five new practice courts and three new tournament courts. There would also be a new elevated viewing platform constructed between the practice and tournament courts. No additional land outside the existing lease boundaries of the NTC would be required for this aspect of the proposed project.
- B. Two new parking garages and relocated transportation center.** Currently, there is an approximately 200-space surface parking lot and transportation center in the northwest corner of the site and an approximately 100-space surface parking lot in the northeast corner of the site. Under the proposed project, the northwest lot and transportation center would be replaced with an approximately 423-space, 2-level parking garage and 6,500-square foot (sf) transportation center, and the northeast lot would be replaced with an approximately 370-space, 3-level parking garage. No additional land outside the existing boundaries of the NTC would be required for these elements of the proposed project.
- C. Relocated Grandstand Stadium.** The current 6,000-seat Grandstand Stadium is located adjacent to Louis Armstrong Stadium, on its east façade. Built in a part of the 1964-65 World's Fair Singer Bowl, Grandstand Stadium (Stadium 3) is at the end of its useful life. The proposed project would replace Grandstand Stadium with a new 8,000-seat stadium in the southwest corner of the site that would be approximately 55-feet tall. Most of the area in which the stadium would be located is within the boundaries of USTA's lease with DPR. However, a small portion of the new stadium site would be located on the western end of the up to 0.76 acres of park land that would be alienated as shown on Figure 3. In addition, the DPR-owned and operated connector road between United Nations Avenue North and Meridian Road, which runs through the leased area in which the new stadium would be located, would be added to the area covered by the lease, increasing the area subject to the lease by approximately 11,449-sf (0.26-acres) as shown on Figure 3.
- D. Relocated connector road.** The connector road displaced by the relocation of Grandstand Stadium would be relocated to the area south of United Nations Avenue North near the Queens Museum of Art parking lot, as shown on **Figure 6**. New pedestrian walkways would also be created; possible locations for these pedestrian walkways are also shown on Figure 6.
- E. Relocated tournament courts with a new walkway, along the southern boundary of the site.** Currently, there is a row of seven tournament courts on the southern portion of the site. Under the proposed project, four of these courts would be relocated approximately 50 feet to the south and three of these courts would be relocated approximately 30 feet to the south. Allowing space for pedestrian circulation around these courts, the new NTC boundary line under the lease would move south to abut United Nations Avenue North. The expansion of the NTC southern boundary would increase the area subject to the lease by approximately up to 32,973-sf (up to 0.76-acres) as shown on Figure 3. On the northern side of the relocated courts, a new walkway would be constructed, connecting the proposed relocated Grandstand Stadium with the NTC entrance at the South Gate, the South Plaza and Court 17 on the



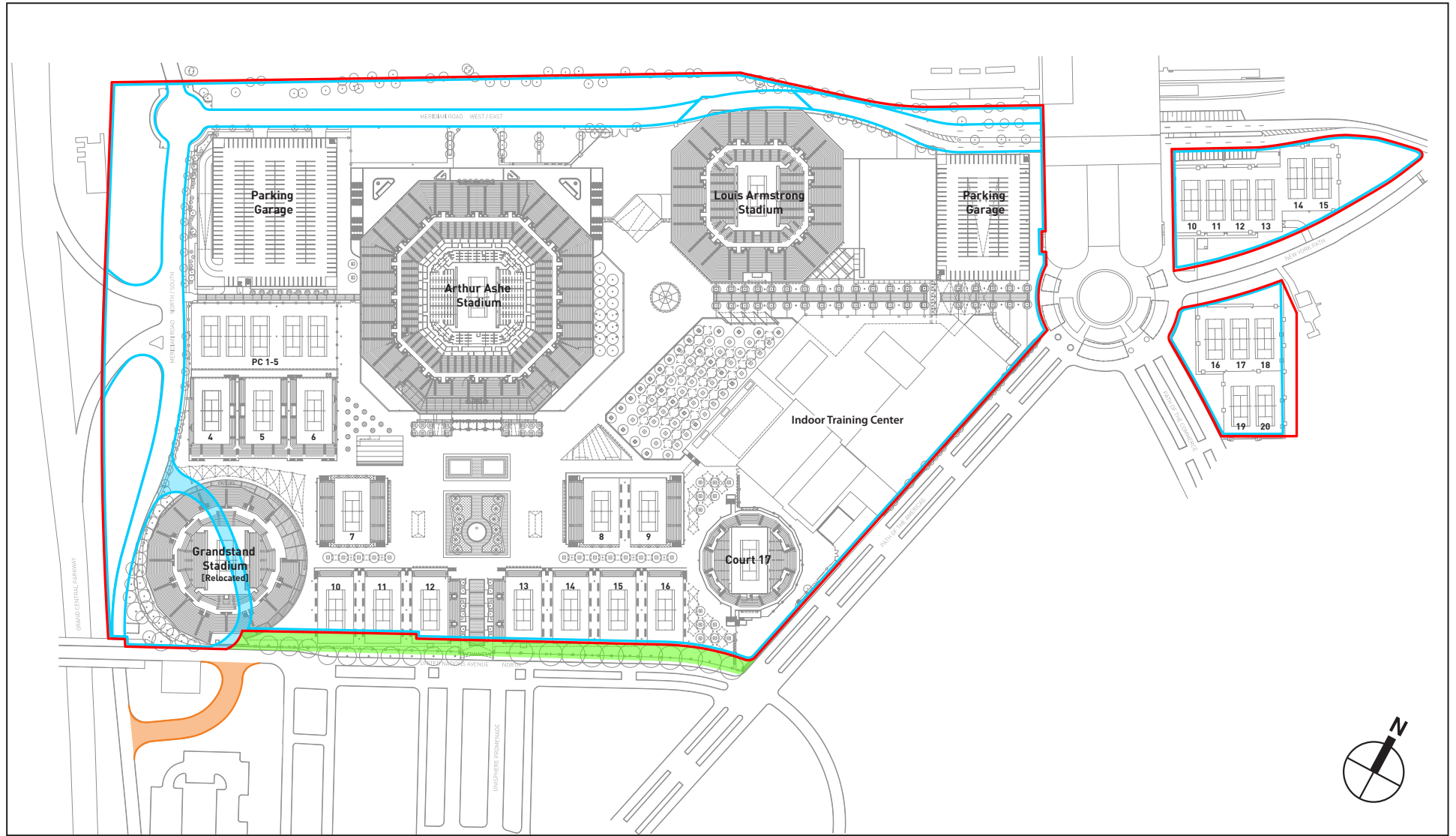
NOT TO SCALE

— Current Limit of Alienated Lands

— Current Limit of NTC Lease

•NOTE: Roads within NTC Site are not included in lease

Existing Lease Boundary and Alienation Boundary of NTC Site
Figure 2



NOTE: FOR ILLUSTRATIVE PURPOSES ONLY

NOT TO SCALE

- Proposed Park Road Relocation (Approx. 0.25 Acres) (not part of NTC Lease)
- Previously Alienated Land to be Added to NTC Lease (0.26 Acres)
- Current Limit of Alienated Lands
- Land to be Alienated and Added to NTC Lease (up to 0.76 Acres)
- Current Limit of NTC Lease

Proposed Lease Boundary and Alienation Boundary of NTC Site
Figure 3



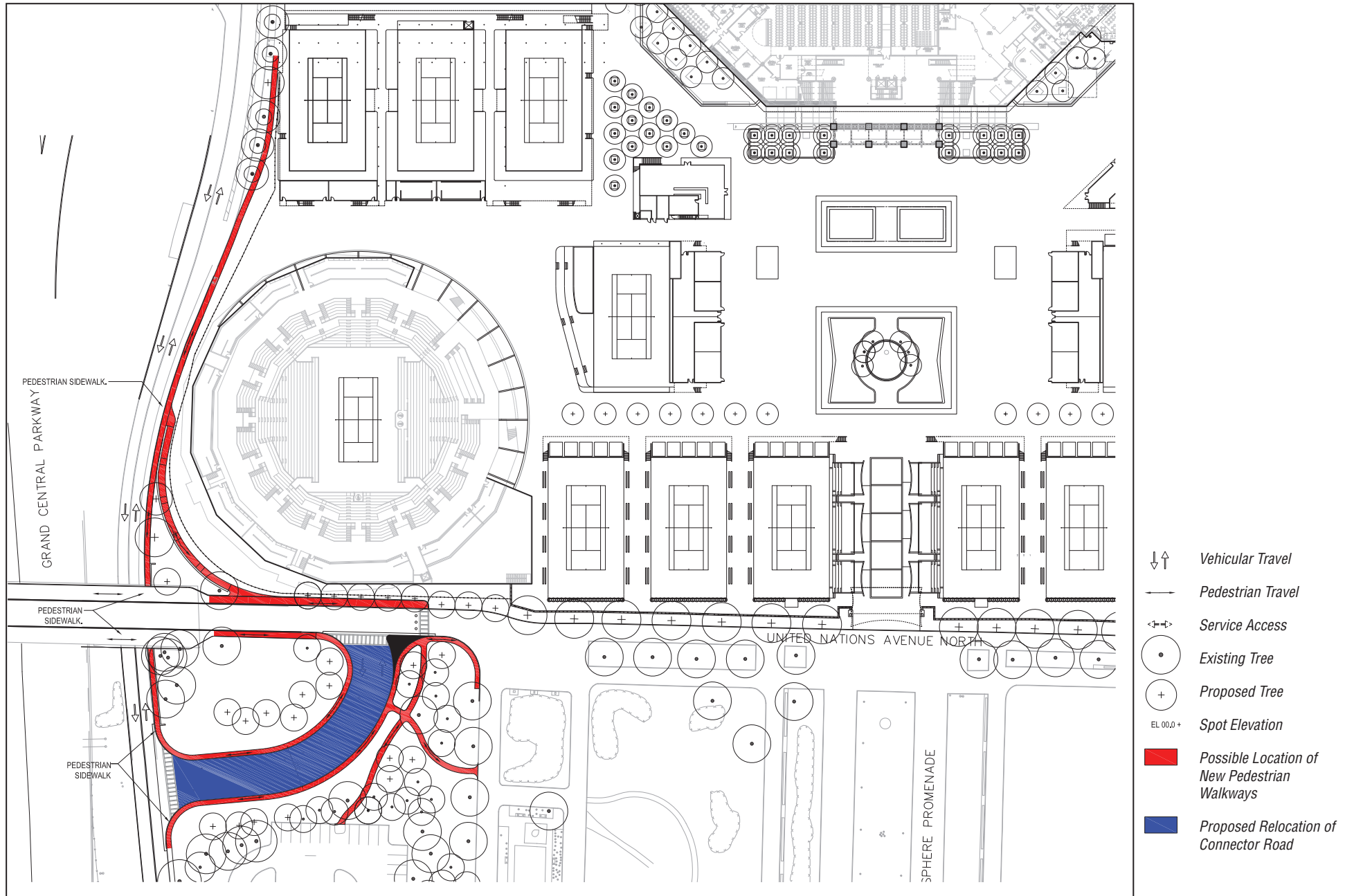
- A Northwest Tournament Courts
- B Parking Lots
- C Grandstand Stadium
- D Connector Road
- E Southerly Tournament Courts
- F Louis Armstrong Stadium
- G Arthur Ashe Stadium

Existing Site Plan
Figure 4



- A Northwest Tournament Courts
- B Parking Garages
- C Grandstand Stadium
- D Relocated Connector Road (See Figure 6)
- E Southerly Tournament Courts and New Walkway
- F Louis Armstrong Stadium and New Administrative and Retail Building
- G Arthur Ashe Stadium

NOTE: FOR ILLUSTRATIVE PURPOSES ONLY



NOTE: FOR ILLUSTRATIVE PURPOSES ONLY

Connector Road Relocation Plan
Figure 6

southeast corner of the site. New bleacher seating areas would also be provided for some of the tournament courts. The area to be added to the NTC lease is currently a mix of landscaped and paved areas, including one lane of the three-lane United Nations Avenue North, which would be reduced to two lanes under the proposed plan. The lane that would be eliminated is lightly used, primarily by DPR vehicles and to service the NTC during the US Open.

F. Replacement of Louis Armstrong Stadium and provision of new adjacent administrative and retail building. The existing Louis Armstrong Stadium (Stadium 2), located in the northeast corner of the site, contains approximately 10,500 seats. Like the Grandstand Stadium, it was built for the 1964-65 Singer Bowl and is at the end of its useful life. After demolition of the existing stadium, a new 15,000-seat, 85-foot tall stadium would be built on the same site. Similar to the existing facility, the new stadium would include concession, retail, broadcasting, and administrative space, as well as expanded rest rooms, first aid, and guest services facilities. Since the replacement of Louis Armstrong Stadium would take more than one year to complete, the demolition process would be scheduled so that a temporary replacement stadium could be built for the US Open, on the same site. Construction of the new stadium would continue after the US Open and take-down of the temporary structure. Adjacent to the new stadium at approximately the same location as the existing Grandstand Stadium, a new 2-story, approximately 80,000-sf building, would be built. This building would house administrative and storage space for the NTC, as well as retail space for the US Open.

G. Improvements to Arthur Ashe stadium. The existing Arthur Ashe Stadium (Stadium 1), located in the north center portion of the site, is an approximately 23,500 seat facility that was completed in 1997. USTA continues to explore possible methods of covering Arthur Ashe Stadium in the event of rain during the US Open, and is analyzing possible engineering solutions for a canopy system that would attach along the upper edge of the stadium. USTA is also considering the addition of approximately 90,000-sf of administrative and operational support space on the north side of the stadium, underneath the existing seating platform and above an area currently used for loading and temporary facilities, a reconfiguration of administrative and operational space within the existing stadium building, an expansion of the existing concourse areas at the promenade level on the south side of Arthur Ashe Stadium by approximately 11,000-sf to improve circulation and amenities, and potential façade improvements. Any or all of these options might be constructed as part of the proposed project. Therefore, each will be described and analyzed in the draft environmental impact statement (DEIS).

In addition to the physical improvements, the project would allow for an increase in spectator attendance at daytime sessions of the US Open. Specifically, the attendance cap set forth in the NTC lease would increase from 35,000 spectators on days when Citi Field is in use, to 45,000; and would increase from 40,000 spectators on days when Citi Field is not in use, to 50,000. There would be no change in attendance for the evening session.

The proposed project would include lighting, infrastructure and utility improvements, as well as improvements to landscaping, paving and drainage within the NTC site, with sustainability features. Construction of the project would require removal of trees both outside the existing fence line and inside the NTC site; tree replanting and replacement would comply with DPR's applicable rules and regulations.

USTA Billie Jean King National Tennis Center Strategic Vision

Strategic Vision elements A through E, as outlined above, would generally constitute the first phase of the project. Elements F and G, relating to the replacement of Louis Armstrong Stadium and improvements to Arthur Ashe Stadium would be the second phase of the project. Overall completion of the project is expected by approximately 2019.

PROPOSED ACTIONS

UNIFORM LAND USE REVIEW PROCEDURE:

Development of the proposed project would require disposition of up to 0.76 acres of City property by long-term lease for the relocation of the fence and playing courts along the site's southern boundary, subject to approval pursuant to the Uniform Land Use Review Procedure (ULURP).

LEGISLATION

The disposition by long-term lease of the up to 0.76-acre southern boundary area would require a home rule request from the City Council to the State Legislature, and New York State legislation to authorize the alienation of that site. Following that disposition, this area would remain mapped parkland. It is expected that improvements in Flushing Meadows Corona Park would be provided in connection with the alienation of up to 0.76 acres of park land.

OTHER APPROVALS:

Development of the proposed project also would require the following discretionary approvals:

- Amendment of existing lease between DPR and USTA;
- DPR approval under the existing lease for alterations to the site;
- DPR approval for roadway alterations and improvements in Flushing Meadows Corona Park; and
- Coastal Zone consistency determination by the New York City Planning Commission and, possibly, by the New York State Department of State.

The proposed project would require design approvals from the New York City Public Design Commission, and a determination by U.S. Department of the Interior, National Park Service as to whether any approval is required in connection with Land and Water Conservation Fund Act program requirements due to previously funded improvements to Flushing Meadows Corona Park.

ON-GOING CAPITAL PROJECTS AT NTC

As part of USTA's on-going capital projects management at the NTC, a range of improvements are typically made to the NTC between US Open periods. These projects are not part of the NTC Strategic Vision and would proceed regardless of the status of the NTC Strategic Vision project. These projects will be considered part of the background condition in which the NTC Strategic Vision project would be built. The capital projects program includes repairs, upgrades and reconstruction of existing facilities and infrastructure, as well as the construction of minor new facilities within the lease boundaries. Some of the current projects that are anticipated include: reconstruction of the Heineken Red Star Café building west of the South Plaza fountain; site-wide upgrades to video technology; replacement of canopies at primary entryways and departure points; relocation of ticket office, with associated improvements to queuing; renovation of Nike pavilion; upgrades to food service and retail service locations; relocation and upgrade of a substation, cooling tower and chiller plant within the leased area north of Meridian Road; and

provision of a new broadcast compound (currently in trailers) within the leased area north of Meridian Road.

3. CITY ENVIRONMENTAL QUALITY REVIEW

CEQR OVERVIEW

New York City has formulated an environmental review process, City Environmental Quality Review (CEQR), pursuant to the State Environmental Quality Review Act (SEQRA) and its implementing regulations (Part 617 of 6 New York Codes, Rules and Regulations). The City's CEQR rules are found in Executive Order 91 of 1977 and subsequent rules and procedures adopted in 1991 (62 Rules of the City of New York, Chapter 5). CEQR's mandate is to strike a balance between social and economic goals and concerns about the environment. Agencies undertaking, funding or approving actions interject environmental considerations into their discretionary decisions by taking a "hard look" at the environmental consequences of each of those actions so that all potential significant environmental impacts of each action are disclosed, alternatives that avoid or reduce such impacts are considered, and appropriate, practicable measures to reduce or eliminate such impacts are adopted.

The CEQR process begins with selection of a "lead agency" for the review. The lead agency is generally the governmental agency which is most responsible for the decisions to be made on a proposed action and which is also capable of conducting the environmental review. For the USTA NTC Strategic Vision proposal, the New York City Department of Parks and Recreation (DPR) is the CEQR lead agency.

The lead agency, after reviewing the Environmental Assessment Statement (EAS), has determined that this proposed action has the potential for significant adverse environmental impacts and that an EIS must be prepared. A public scoping of the content and technical analysis of the EIS is the first step in its preparation, as described below. Following completion of scoping, the lead agency oversees preparation of a draft EIS (DEIS) for public review. This review is coordinated with the public review required as part of Uniform Land Use Review Procedure (ULURP). The ULURP application for the proposed project must contain a completed DEIS, so that public review of the DEIS begins with public review under ULURP.

The lead agency and the City Planning Commission are expected to hold a joint ULURP/CEQR hearing during the Commission's period for consideration of the application. That hearing record is held open for 10 days following the open public session, at which time the public review of the DEIS ends. The lead agency then oversees preparation of a final EIS (FEIS), which incorporates all relevant comments made during public review of the DEIS. The FEIS is the document that forms the basis of CEQR Findings, which the lead agency and each involved agency (if applicable) must make before taking any action within its discretion on the proposed action.

SCOPING

The CEQR scoping process is intended to focus the EIS on potentially significant adverse impacts by ensuring that relevant issues are identified early and studied properly and to eliminate consideration of those impacts that are irrelevant or non-significant. The process at the same time allows other agencies and the public a voice in framing the scope of the EIS. During the period for scoping those interested in reviewing the draft EIS scope may do so and give their comments in writing to the lead agency or at the public scoping meeting. The period for comments on the Draft Scope of Work will remain open for 10 days following the meeting, at

which point the scope review process will be closed. The lead agency will then oversee preparation of a Final Scope of Work, which incorporates all relevant comments made on the scope and revises the extent or methodologies of the studies, as appropriate, in response to comments made during scoping. The DEIS will be prepared in accordance with the Final Scope of Work.

4. PROPOSED SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT

The scope of the EIS will conform to all applicable laws and regulations and will follow the guidance of the *CEQR Technical Manual*.

The EIS will contain:

- A description of the proposed project and its environmental setting;
- A statement of the environmental impacts of the proposed project, including its short- and long-term effects, and typical associated environmental effects;
- An identification of any adverse environmental effects that cannot be avoided if the proposed project is implemented;
- A discussion of the social and economic impacts of the proposed project;
- A discussion of alternatives to the proposed project and the comparable impacts and effects of such alternatives;
- An identification of any irreversible and irretrievable commitments of resources that would be involved in the proposed project should it be implemented;
- A description of mitigation measures proposed to minimize significant adverse environmental impacts;
- A description of the growth-inducing aspects of the proposed project, where applicable and significant;
- A discussion of the effects of the proposed project on the use and conservation of energy resources, where applicable and significant; and
- A list of underlying studies, reports or other information obtained and considered in preparing the EIS.

FRAMEWORK FOR ENVIRONMENTAL REVIEW

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* will serve as the general guide on the methodologies and impact criteria for evaluating the proposed project's potential effects on the various environmental areas of analysis.

In disclosing impacts, the EIS considers the proposed project's potential adverse impacts on the environmental setting. Because the proposed project is expected to be completed by 2019, its environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives assess current conditions and forecast these conditions to 2019 for the purposes of determining potential impacts. The EIS will provide a description of "Existing Conditions" and assessments of future conditions without the proposed project ("Future Without the Proposed Project") and with the proposed project ("Probable Impacts of the Proposed Project").

The future without the proposed project—also known as the “No Build scenario”—in all technical areas assumes that none of the discretionary actions are approved. In this case, absent the proposed actions, the proposed project would not be implemented.

The proposed actions would allow for the development of a series of improvements to the NTC. Completion of these improvements is characterized as the “Build condition” or the Future with the Project.

In each of the technical areas of the EIS, the proposed project will be compared to the No Build scenario.

As stated, the analyses for the proposed action will be performed for the expected year of completion of construction of the proposed project (2019). The “No Build” future baseline condition to be analyzed under “The Future Without the Proposed Action” in all technical chapters will assume that absent the proposed action, the NTC will remain in its current condition, but that other independent improvements and maintenance will occur.

Based on the preliminary screening assessments outlined in the *CEQR Technical Manual* and as described below and in the EAS, the following environmental areas would not require detailed analysis for the proposed project in the EIS: socioeconomic conditions; community facilities and services; solid waste and sanitation; and energy. The specific areas to be included in the EIS, as well as their respective tasks, are described below.

PROJECT DESCRIPTION

The first chapter of the EIS introduces the reader to the action and sets the context in which to assess impacts. The chapter will contain a project identification (brief description and location of the action); the background and/or history of the action, a statement of purpose and need for the proposed action; a detailed description of the proposed action and development program and project siting and design; and discussion of approvals required, procedures to be followed, and the role of the EIS in the process. This chapter is the key to understanding the proposed action, and gives the public and decision-makers a base from which to evaluate the action against both No Build and alternative options.

The project description will include appropriate items from the ULURP application and will include a discussion of key project elements, such as site plans and elevations, access and circulation, and other project features. The section on required approvals will describe all public actions required to develop the project. The role, if any, of any other public agency in the approval process will also be described. The role of the EIS as a full disclosure document to aid in decision-making will be identified and its relationship to any other approval procedures will be described.

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would alter the NTC, change land uses in a small portion of Flushing Meadows Corona Park, and would require discretionary actions related to the disposition of City property and the lease between USTA and DPR. Therefore, the EIS will include a detailed land use assessment of the proposed action’s consistency with land use, zoning, and public policy, in accordance with the *CEQR Technical Manual*. Further, information on existing land use now and in the future without the proposed action is important to set the context in which many of the other technical tasks are understood. The land use tasks are as follows:

USTA Billie Jean King National Tennis Center Strategic Vision

- Define study area. The land use study area will extend to approximately a ¼-mile beyond the NTC site, which is the area where the proposed project has the potential to affect existing land use, land use trends, and overall neighborhood character.
- Describe existing land uses on the project site and in the study area. A land use survey will be conducted to determine predominant land uses in the study area. The land use survey will focus on issues of compatibility of the proposed project with surrounding uses. Any recent development activity in the area will be described.
- Map and analyze the existing zoning and other land-use-related public policy in the study area and provide a clear discussion of the existing zoning regulations and any other zoning or public policy actions pending in the area.
- Prepare a list of future projects in the study area and describe how these projects might affect land use patterns and development trends in the study area in the future without the project. Also identify any public policy actions that could affect land use patterns and trends in the study area as they relate to the proposed action.
- Assess impacts of the proposed project on land use and land use trends, zoning, and public policy. Project impacts relate to issues of compatibility with surrounding land use, zoning and other public policy, and the effect of the action on ongoing development trends and conditions in the area.
- Because the NTC site is located within the State and City's Coastal Zone, it will be assessed for its consistency with the Local Waterfront Revitalization Program (LWRP). A LWRP consisting of 10 policies was approved by the New York State Department of State (NYSDOS) in August 2002. These policies are used as the basis for evaluation of discretionary actions within the City's designated Coastal Zone. This analysis will review the 10 policies and assess where applicable, the general consistency of the project with the policies.

OPEN SPACE AND RECREATIONAL FACILITIES

Open space is defined as publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. An analysis of open space is conducted to determine whether or not a proposed project would have direct effects resulting from the elimination or alteration of open space, and/or indirect effects resulting from overtaxing available open space due to an increased user population.

DIRECT EFFECTS

According to the *CEQR Technical Manual*, an assessment of a project's potential direct effects may be appropriate if the project would result in a physical loss of publicly accessible open space (by encroaching on an open space or displacing an open space); change the use of an open space so that it no longer serves the same user population (e.g., elimination of playground equipment); limit public access to an open space; or cause increased noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness, whether on a permanent or temporary basis.

The proposed project would require construction on the NTC site, which is within a City park. Specifically, the proposed project would relocate the fence line along the southern boundary of the site approximately 50 feet to the south, requiring alienation of up to 0.76 acres of park land to be added to the NTC lease. It would also involve construction on the southwest portion of the NTC site

located outside the existing fence line. The 0.26-acre connector road between United Nations Avenue North and Meridian Road, which was alienated for the NTC in 1993, would also be added to the NTC lease. Because the project would require alienation of park land, a detailed assessment of the proposed project's direct effects on open space will be provided in the EIS. This assessment will consider the number of users that would be affected as well as the type, quantity, and quality of displaced publicly accessible open spaces. The analysis will provide a comparison of open space conditions with and without the project, as well as a discussion of potential effects on users.

INDIRECT EFFECTS

Indirect effects may occur when the population generated by a project would be sufficiently large to noticeably diminish the ability of an area's open space to serve the future population. The population thresholds for a CEQR assessment of indirect effects vary depending upon the current adequacy of open space in the project's study area. The proposed project is located within Flushing Meadows Corona Park, and is therefore considered well-served for open space. If a project is located in a well-served area, an open space assessment should be conducted if a proposed action is expected to generate more than 350 residents or 750 workers. The proposed project would result in no new residents and approximately 100 additional workers on site. Therefore the proposed project would not have any significant indirect adverse impacts on open space, and further analysis of indirect effects is not necessary.

SHADOWS

The *CEQR Technical Manual* requires a shadows assessment for proposed actions that would result in new structures (or additions to existing structures) greater than 50 feet in height or located adjacent to, or across the street from, a sunlight-sensitive resource. Such resources include publicly accessible open spaces, important sunlight-sensitive natural features, or historic resources with sun-sensitive features.

The proposed project would result in several new structures or additions to structures, including parking garages and stadiums. Including the height of lighting above the new stadiums, the tallest proposed structure on the project site would reach up to approximately 150 feet in height. Since the project site is adjacent to Flushing Meadows Corona Park, a shadows screening assessment is required to determine whether new shadows would be long enough to fall on vegetation or recreation areas in the surrounding park land.

If the screening assessment cannot eliminate the possibility of new shadows on sunlight-sensitive resources, a more detailed analysis will be undertaken to determine the extent and duration and potential effects of any such new shadows.

HISTORIC RESOURCES

Historic and cultural resources include both architectural and archaeological resources. According to the *CEQR Technical Manual*, a historic and cultural resources assessment is required if there is the potential to affect either archaeological or architectural resources. The *CEQR Technical Manual* identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. Historic resources include designated New York City Landmarks (NYCLs) and Historic Districts; properties calendared for consideration as NYCLs by the New York City Landmarks Preservation Commission (LPC) or determined eligible for NYCL designation (NYCL-eligible); properties listed on the State and National Register of Historic Places (S/NR) or formally determined

eligible for S/NR listing (S/NR-eligible), or properties contained within a S/NR listed or eligible district; properties recommended by the New York State Board for listing on the S/NR; National Historic Landmarks (NHLs); and potential historic resources (i.e., properties not identified by one of the programs listed above, but that appear to meet their eligibility requirements).

ARCHAEOLOGICAL RESOURCES

Since elements of the NTC Strategic Vision Plan would entail in-ground disturbance, it is necessary to analyze the potential impacts of the proposed project on archaeological resources. The project site was formerly inundated by saltwater marshes that formerly surrounded Flushing Creek. During the late 19th and early 20th centuries, the area was used as a dumping ground and large quantities of ash were used to fill the marshes. In preparation for New York's first World's Fair in 1939, the ash hills were leveled, the Grand Central Parkway was constructed, and a portion of the World's Fair complex was built on the project site. The NTC was later constructed on the site in the 1970s. The significant quantities of fill present on the site as well as the lack of historic development in the area suggest that it is unlikely that the proposed project would impact undisturbed archaeological resources dating to either the precontact or historic periods. As recommended in the *CEQR Technical Manual*, LPC will be contacted regarding the proposed development area's potential for archaeological sensitivity related to areas where the proposed project would result in subsurface disturbance. If LPC determines that the proposed development area may be sensitive for archaeological resources, the following work will be undertaken:

- Prepare a Stage 1A Archaeological Assessment for LPC review. The Stage 1A Archaeological Assessment will identify the potential for areas identified by LPC as requiring further study to contain precontact-period and/or historic-period archaeological resources.
- Qualitatively discuss any impacts on potential archaeological resources that are expected in the future without the proposed project.
- Describe the proposed project and the potential impact it could have on archaeological resources through subsurface disturbance.
- If applicable, develop measures to avoid, minimize, or mitigate any adverse impacts on archaeological resources in consultation with LPC.

ARCHITECTURAL RESOURCES

The project site does not contain any historic resources. Though Louis Armstrong Stadium was originally constructed as the Singer Bowl for the 1964-65 World's Fair, it was extensively remodeled and expanded for NTC use in 1978, and as such no longer retains historic or architectural integrity. It was also further altered as part of the 1993 NTC project that was completed in 1997. Therefore, the architectural resources analysis will assess the project's potential to affect historic resources in the surrounding area, which includes a number of known historic resources related to the 1964-65 World's Fair: Unisphere and its pools and fountains (NYCL, S/NR-eligible), the Hall of Science (S/NR-eligible), and the New York State Pavilion (S/NR-eligible).

The following tasks will be undertaken as part of the architectural resources analysis:

- Within an approximately 400-foot study area, map and briefly describe known architectural resources. Longer contextual views available beyond the 400-foot study area will also be considered, as appropriate.

- Using information from the 1993 FEIS as a basis, identify properties that appear to meet the eligibility criteria for NYLC designation and/or S/NR listing in study area. Map and briefly describe any potential architectural resources.
- Qualitatively discuss any impacts on architectural resources that are expected in the future without the proposed project as a result of other expected development projects.
- Assess the project's potential for direct and indirect (contextual and visual) impacts on any known or potential architectural resources.
- If applicable, develop measures to avoid, minimize, or mitigate any adverse impacts on architectural resources in consultation with LPC and OPRHP.

URBAN DESIGN AND VISUAL RESOURCES

According to the methodologies of the *CEQR Technical Manual*, if a project requires actions that would result in physical changes to a project site beyond those allowable by existing zoning and which could be observed by a pedestrian from street level, a preliminary assessment of urban design and visual resources should be prepared. Though the NTC site is not subject to zoning, the proposed project would result in physical changes to the project site that would be visible to the pedestrian from public areas including Flushing Meadows Corona Park and elevated locations, such as the Passarelle Building.

Therefore, a preliminary analysis will be undertaken as follows:

- Prepare a concise narrative of the existing conditions of the project site and the study area of approximately a ¼-mile. The study area for the preliminary assessment of urban design and visual resources will be consistent with that of the study area for the analysis of land use, zoning and public policy. The analysis will draw on information from field visits to the project site and study area.
- Based on planned and proposed development projects and using the information gathered above for existing conditions, assess whether and how urban design conditions are expected to change in the future without the proposed project.
- Assess qualitatively if and how the proposed project would affect the pedestrian's experience of the built environment and determine the significance of those changes. The preliminary assessment will present photographs, building heights, project drawings and site plans, and view corridor assessments as appropriate.

NATURAL RESOURCES

A natural resources assessment is conducted when such resources are present on or near a project site, and when an action involves disturbance to natural resources. The *CEQR Technical Manual* defines natural resources as “(1) the City's biodiversity (plants, wildlife and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability.”

As described above, the project site comprises approximately 35.3 acres of the NTC site, plus an additional up to 44,422 square feet (up to 1.02 acres) of City park land within Flushing Meadows Corona Park. The project site's terrestrial habitat has been developed with recreational features and ancillary buildings associated with the NTC (e.g., courts, stadiums, pathways, surface parking) and landscaped areas that include grass fields surrounded by trees, and trees along pathways and streets.

USTA Billie Jean King National Tennis Center Strategic Vision

The natural resources assessment will describe the existing natural resources on the project site (e.g., floodplains, terrestrial habitats and biota including rare, special concern, threatened and endangered species) within the project site with a focus on the areas of disturbance in the NTC Strategic Vision. This description of existing natural and water resources will be developed on the basis of information from literature sources and other information obtained from governmental and non-governmental agencies combined with a site reconnaissance visit. Given the nature of the habitats on the site, the availability of existing information on possible bird use at other times of the year (e.g. NYSDEC Bird Breeding Atlas, Audubon Christmas Bird Count) the spring survey is expected to be sufficient to characterize wildlife use. For vegetation, the spring survey combined with the tree survey is expected to be sufficient to characterize the vegetation present on the project site. The site and adjacent areas would be checked against the National Wetlands Inventory and the NYSDEC wetlands mapping in the review of existing information sources. The presence of wetlands would also be assessed during site reconnaissance. The natural resources analysis will assess the potential for the construction and operation of the proposed project to impact floodplains and natural resources. Natural resources impacts to be discussed could include direct or indirect impacts on terrestrial resources due to removal or enhancement of existing vegetated areas and other impacts.

The natural resources analysis will:

- Identify natural resources of concern to the state, federal and city agencies within the areas of disturbance within the project site;
- Identify the regulatory programs that protect floodplains, wildlife, threatened or endangered species or other natural resources within the project site;
- Use existing information available from published literature and sources such as New York Natural Heritage Program on-line resources; existing NYSDEC datasets (e.g., Breeding Bird Atlas data, Herp Atlas Project, etc.); New York City Department of Parks and Recreation; information on state and federally listed species from NYSDEC and the United States Fish and Wildlife Service (USFWS); and other resources and the results of site reconnaissance to qualitatively describe terrestrial habitats and biota present at the project site, and in particular, within the areas of disturbance for the proposed project;
- Assess the future conditions for natural resources within the approximately 400-foot vicinity of the project site without the proposed project;
- Assess the potential impacts to the projected future floodplain resources, taking into consideration projections of sea level rise, and to aquatic and terrestrial resources, from the proposed project;
- Identify the number and types of trees that would be removed as a result of the project and any plans for replanting or replacing of such trees;
- Identify the measures that would be developed, as necessary, to mitigate and/or reduce any of the proposed project's potential significant adverse effects on floodplains and natural resources (e.g., tree replacement).

HAZARDOUS MATERIALS

This task involves summary of a Phase I Environmental Site Assessment (ESA) prepared for the project site. The Phase I ESA examines the potential for the presence of hazardous materials based on:

- The land use history of the project site (determined by review of historic maps, atlases, and other historical records).
- Records maintained by the United States Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC) regarding the presence of identified problem sites and activities on or adjacent to the project site, including registered underground storage tanks, hazardous waste disposal sites, hazardous waste generators or treatment facilities, and hazardous substance releases. The database search areas will be at least as extensive as that in ASTM Standard E1527-05.
- Available information on subsurface conditions (including geology and hydrogeology), including reports on prior hazardous material investigations in the vicinity.
- An inspection of the project site for any evidence of potential contamination, such as drums, tanks, or stored chemicals. Structures will be viewed for signs of potential hazardous materials (e.g., asbestos or lead-based paint). Current property management representatives will be interviewed to obtain information regarding site conditions.

The historical use of the project site as an "ash dump" is well documented and prior projects at the NTC and in the vicinity have encountered and sampled these materials, which can contain elevated levels of metals, semivolatile organic compounds and methane gas. The need for additional testing and remediation or other special measures required during excavation associated with the proposed project will also be discussed.

WATER AND SEWER INFRASTRUCTURE

The *CEQR Technical Manual* outlines thresholds for analysis of a project's water demand and its generation of wastewater and stormwater. For the proposed project, an analysis of the water supply is not warranted since the project would not result in a demand of more than 1 million gpd and is not located in an area that experiences low water pressure such as the Rockaway Peninsula or Coney Island. An analysis of the proposed project's effects on wastewater and stormwater infrastructure is warranted because the proposed project site is greater than 5 acres and would result in an increase in impervious surfaces. The New York City Department of Environmental Protection (NYCDEP) will be consulted during the preparation of the preliminary stormwater and wastewater infrastructure assessment.

- The existing stormwater drainage system and surfaces (pervious or impervious) on the project site will be described, and the amount of stormwater generated on the site will be estimated using NYCDEP's volume calculation worksheet. Drainage areas with direct discharges and overland flow will be presented.
- The existing sewer system serving the NTC site will be described based on records obtained from NYCDEP. Records obtained will include sewer network maps, drainage plans, capacity information for sewer infrastructure components, and other Freedom of Information Law (FOIL) requests (such as sewer backup complaints/repair data) if warranted. The existing flows to the Bowery Bay Waste Water Treatment Plant (WWTP) that serves the site will be obtained for the latest 12-month period, and the average dry weather monthly flow will be presented. Existing capacity information for pump stations, regulators, etc. downstream of the affected drainage area will be presented based on available information.
- Any changes to the site's stormwater drainage system and surface area expected in the future without the proposed project will be described. Any changes to the sewer system that are expected to occur in the future without the proposed project will be described based on information provided by NYCDEP.

- Assess future stormwater generation from the proposed project and assess the project's potential to create impacts. The assessment will discuss any planned sustainability elements and best management practices (BMPs) that are intended to reduce stormwater runoff from the site. Changes to the site's proposed surface area (pervious or impervious) will be described, and runoff coefficients and runoff for each surface type/area will be presented. Volume and peak discharge rates of stormwater from the site will be determined based on the NYCDEP volume calculation worksheet.
- Sanitary sewage generation for the project will be estimated. The effects of the incremental demand on the system will be assessed to determine if there will be any impact on operations of the WWTP.
- Based on the assessment of future stormwater and wastewater generation, the change in flows and volumes to the combined sewer system and/or waterbodies due to the proposed project will be determined.

TRAFFIC AND TRANSPORTATION

The *CEQR Technical Manual* states that a quantified transportation analysis may be warranted if a proposed action results in 50 or more vehicle-trips and/or 200 or more transit/pedestrian trips during a given peak hour. These thresholds will be exceeded during a portion of the two week event condition of the US Open. The transportation analysis will take into consideration that this event would occur approximately ten days per year. The EIS transportation impact assessment will evaluate vehicular and pedestrian access and circulation and identify the potential impacts due to the project-generated trips on key area intersections, highway elements, and nearby transit services during the critical time period. As part of the operational analyses, an assessment of vehicular and pedestrian safety based on recent accident data will also be prepared. The EIS transportation impact assessment, focusing on the less than two-week period when the project's proposed increase in attendance would be experienced, will evaluate the analysis elements, determined via the methodology described below. The transportation scope will include the following tasks:

TRAVEL DEMAND AND SCREENING ASSESSMENT

- Prepare travel demand estimate and transportation analysis screening. Detailed trip estimates of the proposed development program will be prepared using site-specific sources based on historical trends and recent data collection efforts. The trip estimates will be summarized for the critical analysis time period by mode of travel and person vs. vehicle trips. In addition to vehicular trips, the trip estimate will also identify the numbers of peak hour person trips made by transit and the numbers of pedestrian trips. As recommended by the *CEQR Technical Manual* and in coordination with the New York City Department of Transportation (NYCDOT), the appropriate traffic, transit and pedestrian elements will be selected for analysis.
- Prepare travel demand estimates for No Build projects. For the detailed analyses of various transportation elements, the projection of future traffic, transit, and pedestrian volume levels will incorporate trips from known No Build projects. The projection of these trips would be based on the approved set of travel demand factors and other appropriate references. Consistent with the methodology of the Shea Stadium Redevelopment Final Environmental Impact Statement (FEIS) and accounting for actual Citi Field operations, it is expected that the development of the No Build scenario will include a projection of future event-related traffic for a Mets game reflecting an 85th percentile capacity condition.

TRAFFIC

- Study Methodology. The project will follow a data collection program and analysis methodology consistent with the *CEQR Technical Manual*. The project study area will include area local roadways, intersections, and freeways, ramps, and connector service roads—Long Island Expressway, Grand Central Parkway, Van Wyck Expressway, Whitestone Expressway, Northern Boulevard, Roosevelt Avenue, and College Point Boulevard.

Where appropriate, the analysis of local intersections will be performed using *Highway Capacity Manual* (HCM) methodologies, incorporating the appropriate roadway geometries, operating parameters, and observed traffic flow conditions. However, the traffic management operations at some locations during event conditions tend to override normal intersection operations, limiting the use of traditional quantified methodologies. In addition, some analysis locations along the highway segments will likely be operating under highly saturated conditions that may exceed the analysis constraints of HCM methodologies. For these highway and roadway locations, a more semi-quantitative/qualitative analysis approach will be applied to satisfy CEQR requirements in coordination with NYCDOT. The analysis may utilize a mix of volume/capacity comparisons, queuing and speed observations, and limited HCM analyses to determine the extent of increase queuing and delays that could potentially occur with the projected increase in traffic attributed to the project.

The proposed approach will also address the role of the New York City Police Department (NYPD) on maintaining operational conditions. Under special event conditions such as the U.S. Open tournament, the NYPD operates a transportation management plan that includes certain street closures, restriction of turning movements, changes in travel directions, and the use of Traffic Control Officers (TCOs) to maintain and direct traffic flow. The objective of the TCO is to ensure the efficient flow of traffic while maintaining safe operating conditions. During the arrival period, the TCOs are tasked with getting all event traffic off of the local roadways and highways and onto the project site as quickly as possible. Conversely, during the departure period, the TCOs are tasked with clearing out the on-site parking facilities and routing all event traffic to the local roadways and highways as directly as possible. The TCOs make every effort to remain on site until the last vehicle departs the event. A detailed understanding of the roles of the TCOs is a significant component to analysis methodology and a key driver to the development of the semi-quantitative/qualitative analysis approach.

- Define traffic study area. The traffic study area will include key intersections along the travel corridors that provide access to and egress from the proposed project area. Manual turning movement count locations were identified to capture the primary access points between the NTC and Citi Field facilities and the local roadway and highway network.
- Identification of peak hours. The project will result in a 10,000-person increase in permitted attendance at some daytime events during the US Open; evening attendance will not change due to the project. Based on a review of previous studies, NTC Patron Survey data, the weekday evening peak period (5:00 PM to 8:00 PM) was identified to be the critical peak period representing a reasonable worst-case scenario. In addition to typical peak commuter activity, the weekday evening peak period experiences an overlap of tennis patrons departing from the daytime event, patrons arriving for the evening event, and, for some dates, baseball fans arriving for a Mets home game. Previous analyses have identified that this peak condition typically occurs between 6:30 PM and 7:30 PM. ATR data will be collected and summarized to validate these conditions.

For purposes of this study, the analysis will focus on the weekday evening peak hour with a Mets home game (a “conflict day”) and without a Mets home game (a “non-conflict day”) with a specific focus on the potential impacts created from the increase in vehicles departing the daytime US Open event.

- Perform traffic data collection. Traffic volumes and relevant data at the study area intersections were collected in 2011, consistent with *CEQR* guidelines via a combination of manual and machine counts. Manual turning movement and vehicle classification counts will be conducted for the peak period of event activity. The manual counts have been supplemented with continuous (10-day) Automatic Traffic Recorder (ATR) counts at key locations to identify temporal and daily traffic variations. Information pertaining to street widths, traffic flow directions, lane markings, parking regulations, and bus stop locations at study area intersections were inventoried. Traffic control devices (including signal timings) in the study area have been recorded and will be verified with official signal timing data from the New York City Department of Transportation (NYCDOT).
- Traffic data collection and special event conditions. Due to the short duration of the US Open tennis tournament and the limited opportunity to collect traffic data, the actual data collection program was adjusted (expanded or reduced) to reflect actual field conditions and scheduling changes determined by the USTA, New York Mets, and weather conditions.
- Manual Turning Movement Counts. The manual turning movement count data will be studied to identify selected locations for analysis. Turning movement counts have been collected from 5:00 PM to 8:00 PM. Based on the detailed vehicle trip assignments for these time periods, and in coordination with the lead and involved agencies, manual turning movement counts were collected at local intersections, US Open Tennis Center access points, parking lot entrances and highway ramps. The survey program included data collected from following roadways during the US Open:
 - College Point Boulevard – local intersections near the access to Flushing Meadows-Corona Park and the area highways such as the Long Island Expressway and Van Wyck Expressway.
 - Roosevelt Avenue – local intersections in the immediate vicinity of Citi Field and the US Open Tennis Center.
 - Meridian Road – internal access points between the Park’s internal roadway and the NTC, parking areas and local highways such as the Van Wyck Expressway and Grand Central Parkway.
 - Shea Drive – entrance points to Citi Field and access points to local roadways and highways such as Northern Boulevard and the Grand Central Parkway.
- Vehicle Classification Counts. Manual vehicle classification counts have been collected at selected locations on the highway segments and representative manual turning movement count locations.
- Automatic Traffic Recorders (ATR). ATR counts have been collected in coordination with the manual turning movement count program. The ATRs included continuous hourly counts at control points on local roadways and highways, including the Long Island Expressway, Van Wyck Expressway, Grand Central Parkway, Whitestone Expressway, College Point Boulevard, Meridian Road, and Shea Drive.
- Travel Time Runs. Travel time runs have been collected along key routes during a conflict date to obtain travel time and speed samples for vehicles departing the US Open.

- Visual observations. The traffic data collection efforts were accompanied by field observations of traffic flow and roadway congestion characteristics, such as signal cycle failures, low travel speeds, saturated conditions, residual queuing, and spillbacks. Site observations will include video surveillance of the local highways at site access points and other critical areas during the event's peak hours. Visual observations also focused on documenting the activities of the TCOs and their role in maintaining traffic flow.
- Conduct existing conditions analysis. Weekday event PM peak hour traffic volumes will be prepared for the capacity analysis of study area intersections. This analysis will be conducted using the *2000 Highway Capacity Manual (HCM)* methodology with the latest approved *Highway Capacity Software (HCS)*. The existing volume-to-capacity (v/c) ratios, delays, and Levels of Service (LOS) for the peak hour will be determined. Where appropriate, the capacity analysis and methodology may be adjusted to reflect a semi-quantitative/qualitative approach to address traffic operations experienced under special event conditions.
- Develop the future No Build condition. Where appropriate, future No Build traffic volumes will be estimated by adding a background growth, in accordance with CEQR guidelines, to existing traffic volumes, and incorporating incremental changes in traffic resulting from other projects in the area. Trip estimates generated for future projects and the modes of transportation for these trips will be determined for the peak analysis hour for conflict and non-conflict days using standard sources, census data, and information from other environmental impact studies. Physical and operational changes that are expected to be implemented independent of the proposed project, if any, would also be incorporated into the future traffic analysis network. The development of the No Build scenario will also include a projection of future event-related traffic for a Mets game reflecting 85th percentile capacity condition. The No Build traffic conditions at the study area intersections and other roadway elements will be determined, where possible, following the same methodology used for the existing conditions analyses.
- Perform traffic impact assessment for the proposed project. Where appropriate, project-generated vehicle trips will be overlaid onto the future No Build traffic network for the weekday PM peak hour. Physical and operational changes, particularly those related to site access to the proposed uses, will be incorporated into the analyses. At critical highway locations, a semi-quantitative/qualitative analysis approach will be followed. This approach may incorporate volume/capacity comparisons, queuing and speed observations, and limited HCM analyses, to determine the extent of increased queuing and delays that could potentially occur with the projected traffic volume increases. The proposed approach will also address the role of traffic agents on maintaining operational conditions. Where impacts are identified, feasible traffic engineering and traffic management options will be identified to mitigate the impacts.

PARKING

- Analyze current and future parking conditions. An inventory of the special event parking supply and utilization as well as on-street parking regulations in the parking study area has been performed to obtain data for the event condition. Based on the travel demand estimates, a parking accumulation analysis will be prepared to determine the anticipated demand of the proposed project and evaluate the anticipated utilization of the current and planned on-site parking facility configurations.
- Parking analysis. A parking demand and inventory survey has been conducted at each parking lot for a US Open daytime event with and without a Mets home game. The surveys were conducted from 4:00 PM to 8:00 PM. The parking analysis focused on assessing the adequacies of the parking supply and identifying the potential impact of the increase in

parking demand on the local roadway and highway network. An additional 12-hour parking data collection was conducted on event days at selected parking areas for permit parking and general admission parking areas. These data will be utilized to verify projections regarding arrival and departure patterns and temporal distribution. The EIS will also assess the use of the proposed parking garages during the non-US Open period.

TRANSIT

- Transit study area. Transit services to the NTC are available via the No. 7 Flushing line at the Willets Point-Citi Field subway station, the LIRR at the Willets Point commuter rail station, and local NYC Transit bus routes. The proposed increase in permitted attendance is expected to result in increased public transportation usage during the evening peak period. The transit analysis for the EIS, therefore, will include a description of the existing transit services, a qualitative discussion of subway and LIRR passenger loads, and a quantitative analysis of the station elements at the Willets Point-Citi Field subway station that are likely to be most affected by the projected incremental trips.
- Subway analyses. A distribution of the projected subway trips will be performed in accordance with *CEQR* guidelines to determine if subway line-haul, control area, and/or vertical circulation analyses would be warranted. The No. 7 Flushing line provides subway service between Times Square in Manhattan and Main Street in Flushing. With a direct stop at the NTC, the No. 7 subway is the primary mode of transportation for event transit users. Pedestrian counts have been conducted at the station elements expected to incur the projected incremental trips, including the station's stairways, ramps, connection to Citi Field's parking lots, and the overpass connecting the station to the NTC. Detailed analyses of affected subway elements will be conducted for the critical event conditions. Where significant subway impacts are identified, feasible mitigation measures will be explored.
- Commuter Rail analysis. The LIRR Port Washington line provides commuter rail service between Penn Station in Manhattan and the Village of Port Washington in Nassau County. The LIRR stops at the Mets-Willets Point station on days with Mets games and/or US Open events. Since dedicated service is made available for event patrons, the projected incremental trips, particularly in the "off-peak" direction, are not expected to substantially affect loading conditions on the LIRR. A qualitative discussion of this service will be included in the EIS.
- Bus analysis. The projected incremental bus ridership is not anticipated to exceed the *CEQR* threshold warranting a detailed analysis; therefore, detailed bus analyses are not expected to be necessary. The EIS will include a description of the available bus service in the area

PEDESTRIANS

- Sample pedestrian crosswalk counts have been collected at all of the manual turning movement count locations, where pedestrian crossing is permitted, to support the traffic analyses. Selected additional pedestrian sidewalk, corner, and crosswalk counts were conducted at the primary pedestrian routes serving the NTC on Roosevelt Avenue between 114th Street and 126th Street, as input to a quantitative pedestrians analysis. The most active pedestrian locations along Roosevelt Avenue are anticipated to be at and near the intersection with Shea Road.

VEHICULAR AND PEDESTRIAN SAFETY

- Examine vehicular and pedestrian safety issues. Accident data for the traffic study area intersections and other nearby sensitive locations from the most recent three-year period will be obtained from the New York State Department of Transportation (NYSDOT). These data will be analyzed to determine if any of the studied locations may be classified per CEQR criteria as high vehicle crash or high pedestrian/bike accident locations and whether trips and changes resulting from the proposed project would adversely affect vehicular and pedestrian safety in the area. If high accident locations are identified, feasible mitigation or improvement measures will be explored to alleviate potential safety impacts.

AIR QUALITY

The air quality analysis will be performed to assess the potential impacts associated with both mobile and stationary sources of air emissions. The requirement for the mobile source air quality analysis will depend on the results of the traffic study to be conducted. However, the number of project-generated trips will likely exceed the *CEQR Technical Manual* carbon monoxide (CO) analysis screening threshold of 170 vehicles in the peak hour at a number of locations within the study area. In addition, the projected number of vehicles will likely exceed the applicable fine particulate matter (PM_{2.5}) screening thresholds in the *CEQR Technical Manual*. Therefore, a microscale analysis of mobile source emissions at affected intersections will be necessary. The proposed project would also provide new parking facilities; therefore, the mobile source analysis must account for the additional impacts from these sources.

In addition, an assessment of nitrogen dioxide (NO₂) emissions from project-generated vehicles will be performed based on current guidance from the US Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC), and in consultation with the New York City Department of Environmental Protection (DEP).

The stationary source air quality impact analysis will have to determine the effects of emissions from any proposed fossil fuel-fired heating, ventilation and air conditioning (HVAC) systems on pollutant levels. Therefore, a screening analysis will be performed to examine the potential for impacts. The scope of work for this task is as follows:

MOBILE SOURCE ANALYSES

- Gather existing air quality data. Collect and summarize existing ambient air quality data for the study area. Ambient air quality monitoring data published by the NYSDEC will be compiled for the analysis of existing and future conditions.
- Determine receptor locations for the microscale analysis. Select critical intersection locations in the study area, based on data obtained from the proposed project's traffic analysis. At each intersection, multiple receptor sites will be analyzed in accordance with CEQR guidelines.
- Select dispersion model. At each of the receptor sites previously identified, determine the appropriate dispersion model to be used in the microscale analyses. It is anticipated that the CAL3QHC screening dispersion model (Version 2) will be used for the CO microscale analysis. The refined CAL3QHCR intersection model will be used to predict the maximum change in PM_{2.5} concentrations.
- Select emission calculation methodology and "worst-case" meteorological conditions. Vehicular cruise and idle emissions for the dispersion modeling will be computed using EPA's MOBILE6.2.03 model and applicable assumptions based on guidance by EPA, NYSDEC and DEP. Compute re-suspended road dust emission factors based on the EPA

current procedure defined in AP-42 and applicable *CEQR Technical Manual* guidance. Conservative meteorological conditions to be assumed in the CAL3QHC dispersion modeling are a 1 meter per second wind speed, Class D stability and a 0.70 persistence factor. In addition, a summer temperature will be determined following the EPA's Guideline for Modeling Carbon Monoxide from Roadway Intersections, which will be used as input to the model. For the CALQHCR analysis, five years of meteorological data from LaGuardia Airport and concurrent upper air data from Brookhaven, New York will be used for the simulation program.

- At each mobile source microscale receptor site, calculate maximum 1- and 8-hour CO concentrations for existing conditions, the future conditions without the proposed project and the future conditions with the proposed project. 24-Hour and annual average PM_{2.5} concentrations will be determined for the future conditions without the proposed project and the future conditions with the proposed project. Concentrations will be determined for the peak period for the conflict and non-conflict scenarios. Analyses will be performed through the use of mathematical models; consistent with general CEQR practices, field monitoring will not be necessary.
- Assess the potential CO impacts associated with proposed parking facilities. Information on the conceptual design of the parking facilities will be employed to determine potential off-site impacts from emissions. Cumulative impacts from on-street sources and emissions from the proposed above-grade, naturally ventilated parking facilities will be calculated, where appropriate.
- Compare existing and future levels with standards. Future pollutant levels with and without the proposed project will be compared with the CO National Ambient Air Quality Standards (NAAQS), and the City's CO *de minimis* criteria and PM_{2.5} interim guidance criteria to determine the impacts of the proposed project.
- Potential impacts of 1-hour NO₂ concentrations from mobile sources will be evaluated based on applicable CEQR guidance and/or consultation with DEP. If the number of project-generated trips exceeds screening threshold(s), perform a microscale analysis at affected receptor locations as a contingency task following available guidance.
- Determine the consistency of the proposed project with the strategies contained in the SIP for the area. At any receptor sites where violations of standards occur, analyses would be performed to determine what mitigation measures would be required to attain standards.
- Mitigation. Examine mitigation measures, as necessary.

STATIONARY SOURCE ANALYSIS

- A screening analysis will be performed to determine whether emissions from any on-site fuel-fired HVAC equipment (e.g., boilers/hot water heaters) are significant. The screening analysis will use the procedures outlined in the *CEQR Technical Manual*. The procedure involves determining the distance (from the exhaust point) within which potential significant impacts may occur, on elevated receptors (such as operable windows) that are of an equal or greater height when compared to the height of the proposed project building's boiler exhaust. The distance within which a significant impact may occur is dependent on a number of factors, including the height of the discharge, type(s) of fuel burned and development size.

GREENHOUSE GAS EMISSIONS

In accordance with the *CEQR Technical Manual*, a greenhouse gas (GHG) emissions assessment will be performed for the proposed project. Operational project emissions would be limited to lighting use for the proposed stadiums, energy use for administrative buildings and retail uses during the US Open tournament, and emissions from vehicle trips to and from the stadium. These emissions would occur primarily during the tournament, staged during a two-week period around the beginning of September, and would be minor during the remainder of the year. The GHG assessment will be qualitative and will focus on the sustainable design elements of the project and energy efficiency. Emissions from project construction and emissions associated with the extraction or production of construction materials, including concrete and steel, will be qualitatively discussed. Opportunities for reducing GHG emissions associated with construction will be identified, and consistency with the City's GHG reduction goal will be assessed. While the City's overall goal is to reduce GHG emissions by 30 percent below 2005 level by 2030, individual project consistency is evaluated based on proximity to transit, on-site renewable power and distributed generation, efforts to reduce carbon fuel intensity or improve vehicle efficiency for project-generated vehicle trips, and other efforts to reduce the project's carbon footprint.

NOISE

The noise study will examine impacts on sensitive land uses (including parks) that could be affected by noise changes from operations of the proposed project. This work will include noise monitoring to determine existing ambient noise levels and will examine noise levels into the future, for both the Build and No Build scenarios. Noise impacts will be determined by comparing Build and No Build noise levels with CEQR noise level impact criteria and noise exposure guidelines for open space.

Based on preliminary trip generation estimates it is not anticipated that project-generated traffic would result in significant noise impacts (i.e., a doubling of Noise Passenger Car Equivalents). For CEQR purposes, it is assumed that a detailed analysis of the proposed project's mechanical equipment will not be required, because any HVAC/R equipment would be designed to meet applicable regulations. Consequently, the noise analysis will examine existing noise levels in Flushing Meadows Corona Park, and the proposed project's potential noise effects on Flushing Meadows Corona Park associated with the proposed new stadium (Stadium D) and proposed additional parking lot(s)/garage(s).

The study will include the following tasks:

- Select appropriate noise descriptors. Based upon CEQR criteria for publically accessible open spaces, the noise analysis would examine the 1-hour equivalent ($L_{eq(1)}$) and the L_{10} noise levels.
- Select receptor locations for determination of: 1) existing noise levels in Flushing Meadows Corona Park, and 2) event noise levels associated with the existing tennis stadium most comparable to the proposed new stadium (Stadium D).
- For purposes of quantifying existing noise levels in Flushing Meadows Corona Park, three (3) receptor sites will be selected. 20-minute noise measurements would be performed from approximately 11 AM to 11:30 PM during a typical weekday and weekend. L_{eq} , L_1 , L_{10} , L_{50} , and L_{90} values will be recorded.
- For purposes of quantifying event noise levels associated with the existing tennis stadium most comparable to the proposed new stadium (Stadium D), a maximum of three (3)

receptor sites will be selected; receptor sites will be located at various distances from the existing tennis stadium. 20-minute noise measurements would be performed from approximately 11 AM to 11:00 PM during event conditions.

- Calculate noise levels due to proposed parking lot(s)/garage(s). Noise levels associated with the proposed parking lot(s)/garage(s) will be calculated using the results of the traffic analyses and procedures outlined in the Federal Transit Administration (FTA) May 2006 guidance manual, *Transit Noise and Vibration Impact Assessment*.
- Determine future noise levels. Following procedures outlined in the *CEQR Technical Manual*, Future No Build and Build noise levels will be estimated in Flushing Meadows Corona Park. Existing noise levels measured at the park, measured levels at an existing stadium comparable to the proposed new stadium, calculated noise levels due to the proposed parking lot(s)/garage(s), and mathematical models based on acoustical fundamentals will be used to determine Future No Build and Future Build noise levels.
- Determine noise impacts. Following CEQR methodology, the potential for noise impacts will be examined by comparing Future Build project noise levels with Future No Build noise levels.
- Examine noise levels at open spaces. Noise levels at the open spaces within and adjacent to the project site will be examined and compared to CEQR guidelines based on the noise monitoring results and calculated noise levels due to the proposed new stadium and proposed parking lot(s)/garage(s).

PUBLIC HEALTH

Following the guidelines presented in the *CEQR Technical Manual*, this task will examine the project's potential to significantly impact public health concerns related to air quality, noise, hazardous materials, and construction. Drawing on other EIS sections, this task will assess and summarize the potential for significant adverse impacts on public health from project activities.

NEIGHBORHOOD CHARACTER

The character of a neighborhood is established by numerous factors, including land use patterns, residential, worker, and visitor population, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include traffic and pedestrian patterns, noise, etc. According to CEQR criteria, a neighborhood character assessment is conducted if the action would result in a significant impact in the areas of land use, zoning, and public policy; urban design; visual resources; historic resources; socioeconomic conditions; traffic; or noise. In addition, if the action falls below these thresholds but would result in moderate changes in the elements that contribute to neighborhood character, thereby resulting in a significant impact, an analysis of neighborhood character is required. Since most of these elements will already be covered in other EIS sections, this section will essentially represent a summary of the key conclusions of these other analyses.

The neighborhood character analysis will:

- Drawing on other EIS sections, describe the predominant factors that contribute to defining the character of the neighborhood, focusing primarily on the area within 1/4-mile of the project site.
- Based on planned development projects, public policy initiatives, and planned public improvements, summarize changes that can be expected in the character of the neighborhood in the future without the action.

- The analysis of impacts on various EIS sections will serve as the basis for assessing and summarizing the action's impacts on neighborhood character.

CONSTRUCTION IMPACTS

Construction impacts, though temporary, can have a disruptive and noticeable effect on the adjacent community, as well as people passing through the area. The likely construction program and schedule for development at the project site will be described, including the different elements in the NTC. This impact assessment will be a screening analysis of potential impacts based on the *CEQR Technical Manual* with an analysis of the effects of construction activities, including the demolition, earth works, construction of new stadia, reconstruction of existing stadia, and landscaping.

The EIS will assess the potential for impacts during the construction period based on conceptual construction schedules, phasing plans, and staging plans developed for the program, and will include qualitative analyses of potential traffic and transportation, air quality, and noise impacts. The technical areas proposed to be analyzed in the EIS include:

- **Traffic and Transportation.** This assessment will consider the temporary losses in walkways and other transportation services, and increases in vehicles from construction workers and equipment.
- **Parking.** This assessment will consider the loss of parking due to construction activity.
- **Air Quality.** Estimate emissions from construction site activity, including fugitive dust and on-site diesel equipment. Assess potential effects from increases in mobile source emissions of trucks and worker vehicles at nearby sensitive receptors. Discuss measures and emission reduction strategies to reduce impacts.
- **Noise.** Discuss noise from the construction activity, including effects on nearby sensitive receptors. Discuss the potential for vibrations caused by construction activities to damage buildings and other resources, and, if necessary, mitigation measures to minimize vibrations.
- **Hazardous Materials.** In coordination with the hazardous materials task described above, summarize actions to be taken during construction to limit exposure of construction workers, residents, and the environment to potential contaminants.
- **Park Users.** Describe the potential effects on users of the adjacent park, tennis courts, and other facilities. Discuss measures to minimize these potential effects.
- **Socioeconomic Conditions.** This assessment will consider whether construction conditions would affect access to existing facilities, and the potential effects of their loss, if any, on the character of the area.
- **Historic Resources.** In coordination with the work performed for historic resources above, summarize actions to be taken during project construction to protect any adjacent historic resources from potential construction impacts.
- Other technical areas will be analyzed as needed.

MITIGATION

Where significant project impacts have been identified in the analyses discussed above, measures will be assessed to mitigate those impacts. This task summarizes the findings and prepares the mitigation chapter for the EIS. Where impacts cannot be mitigated, they will be described as unavoidable adverse impacts.

ALTERNATIVES

The purpose of an alternatives section in an EIS is to provide a comparison of conditions under alternative scenarios that are then compared with conditions under the proposed action. Part of this analysis is to examine alternatives that may reduce project-related significant impacts while substantively meeting the goals and objectives of the proposed action. For this reason, the full range of alternatives is not typically defined until the extent of project impacts have been identified during EIS preparation. At this time, it is anticipated that, at a minimum, a No Build alternative will be analyzed that describes the conditions that would exist if the proposed actions were not implemented.

SUMMARY CHAPTERS

Several summary chapters will be prepared, focusing on various aspects of the EIS, as set forth in the regulations and the *CEQR Technical Manual*. They are as follows:

1. *Executive Summary*. Once the EIS technical sections have been prepared, a concise executive summary will be drafted. The executive summary will use relevant material from the body of the EIS to describe the proposed action, its environmental impacts, measures to mitigate those impacts, and alternatives to the proposed action.
2. *Unavoidable Adverse Impacts*. Those impacts, if any, which could not be avoided and could not be practicably mitigated will be described in this chapter.
3. *Growth-Inducing Aspects of the Proposed Action*. This chapter will focus on whether the proposed action would have the potential to induce new development within the surrounding area.
4. *Irreversible and Irrecoverable Commitments of Resources*. This chapter focuses on those resources, such as energy and construction materials, that would be irretrievably committed should the proposed project be built.

*