

New York Supreme Court

Appellate Division—First Department

In the Matter of DEVELOP DON'T DESTROY (BROOKLYN); COUNCIL OF
BROOKLYN NEIGHBORHOODS, INC.; ATLANTIC AVENUE
BETTERMENT ASSOCIATION, INC.; BERGEN STREET BLOCK
ASSOCIATION, INC.; BOERUM HILL ASSOCIATION, INC.; BROOKLYN
BEARS COMMUNITY GARDENS, INC.; BROOKLYN
VISIONFOUNDATION, INC.; CARLTON AVENUE ASSOCIATION, INC.;
CARROLL STREET BLOCK ASSOCIATION BETWEEN FIFTH AND SIXTH
AVENUES, INC.; CENTRAL BROOKLYN INDEPENDENT DEMOCRATS by
its President JOSH SKALLER; CROWN HEIGHTS NORTH ASSOCIATION,
INC.; DEAN STREET BLOCK ASSOCIATION, INC.; EAST PACIFIC BLOCK
ASSOCIATION, INC.; FORT GREENE ASSOCIATION, INC.; FRIENDS AND
RESIDENTS OF GREATER GOWANUS by its President MARILYN OLIVA;
NEW YORK PUBLIC INTEREST RESEARCH GROUP, INC. ("NYPIRG");
PARK PLACE-UNDERHILL AVENUE BLOCK ASSOCIATION by its
President LINNEA CAPPS; PARK SLOPE NEIGHBORS, INC.; PROSPECT
HEIGHTS ACTION COALITION by its President PATRICIA HAGAN;
PROSPECT PACE OF BROOKLYN BLOCK ASSOCIATION, INC.; SIERRA
CLUB, INC.; SOCIETY FOR CLINTON HILL, INC.; SOUTH OXFORD
STREET BLOCK ASSOCIATION by its President ABBOT WEISSMAN;
SOUTH PORTLAND BLOCK ASSOCIATION, INC.; and ZEN
ENVIRONMENTAL STUDIES INSTITUTE, LTD.,

*Petitioners-Plaintiffs-Appellants,
(For Continuation of Caption See Inside Cover)*

REPLY APPENDIX

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For a Judgment Pursuant to Article 78 of the CPLR and Declaratory Judgment
– against –

URBAN DEVELOPMENT CORPORATION d/b/a EMPIRE STATE
DEVELOPMENT CORPORATION; FOREST CITY RATNER COMPANIES,
LLC; METROPOLITAN TRANSPORTATION AUTHORITY; and NEW
YORK STATE PUBLIC AUTHORITIES CONTROL BOARD,

Respondents-Defendants-Respondents.

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ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT— CONTRACT SCOPE FOR AN ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

To assist the Empire State Development Corporation (ESDC) fulfill obligations as set forth in the State Environmental Quality Review Act (SEQRA), AKRF, Inc. will prepare environmental studies and documentation as required for the proposed Atlantic Yards Arena and Redevelopment Project (the proposed project). In addition, AKRF will prepare a blight study to assist ESDC in making a determination of blight on the project site in conformance with Section 10(c) of the New York State Urban Development Corporation Act.

The proposed Atlantic Yards Arena and Redevelopment Project entails the planning and redevelopment of an underutilized and underdeveloped area and the construction of an arena for use by the Nets professional basketball team, as well as residential, office, retail, hotel, publicly accessible open space, and parking uses. The proposed project development would occupy an approximately 22-acre area, roughly bounded by Flatbush and Fourth Avenues to the west, Vanderbilt Avenue to the east, Atlantic Avenue to the north, and Dean Street to the south (see Figure 1). The affected parcels include: Block 927: Lots 1,16; Block 1118: Lots 1, 5, 6, 21-25, 27; Block 1119: Lots 1, 7, 64; Block 1120: Lots 1, 19, 28, 35; Block 1121: Lots 1, 42, 47; Block 1127: Lots 1, 10-13, 18-22, 27, 29, 30, 33, 35, 43, 45-48, 50, 51, 54-56, 1001-1021, 1101-1131; Block 1128: Lots 1, 2, 4, 85-89; and Block 1129: Lots 1, 3-6, 13, 21, 25, 39, 43-46, 49, 50, 54, 62, 76, 81.

The following contract scope is divided into nine major sections, which correspond to key phases of work or work products. These sections include: Strategy Planning; Preparation of an Environmental Assessment Form (EAF); Scoping the EIS; Preparation of the Preliminary Draft EIS (PDEIS); Agency Review of the PDEIS/Notice of Completion for DEIS; Public review of the DEIS and Preparation of the Final Environmental Impact Statement (FEIS); Meetings and Coordination; Report Preparation; and Blight Study. For each of these nine topics, the document provides a brief discussion of issues involved and a description of the specifics of each work task. A breakdown of project costs and a project schedule showing major activities and milestones are provided at the end of the document.

A. STRATEGY PLANNING

AKRF has been collaborating with the project team to strategize the overall approach to the environmental review. In preparing the draft scope of work, AKRF has worked with the project team to articulate the overall objectives, purpose and need of the proposed project and to formulate a definition of the project and its actions that is sufficiently precise to allow preparation of an EIS. AKRF will continue to work with all involved agencies to facilitate agreement on key issues such as the list of required and involved agencies, future baseline conditions, and construction phasing.

While the project team will need to carefully strategize the approach to the environmental review, an array of involved and interested agencies will also provide input as the scope of work is prepared. This is particularly true with the Department of City Planning, which is likely to

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have strong concerns with how the proposed project will affect the City's Downtown Brooklyn Development initiative as well as other planned or proposed projects in the area. Coordinating the review between the involved parties is critical. AKRF's activities going forward will include strategy and planning meetings with the ESDC team, the project sponsor and their lawyers, and relevant public agencies, and other support services as directed by the project team.

B. REVIEW AND FINALIZE ENVIRONMENTAL ASSESSMENT FORM (EAF)

The EAF is a document that contains a description of the project and its surroundings, and a basic checklist of potential impacts and their magnitude. The purpose of the EAF is to provide the lead agency with a comprehensive description of the proposed action and enough data on its environmental setting to allow an informed judgment on the project's potential for significant impact. In instances where a Positive Declaration is certain and an EIS is required (this is the case for the Atlantic Yards Arena and Redevelopment project) the EAF also enables the lead agency to make informed judgments about the required content of the EIS.

Since June 2003, AKRF has been working closely with the project architects, project attorneys, and other involved parties to prepare a draft EAF. Several versions were submitted to ESDC as the project evolved, and a final draft EAF was submitted to ESDC on September 16. Budget included in Tables 3 and 4 at the end of this document is for work completed in September while finalizing the draft EAF.

C. SCOPING THE EIS

The next step in the environmental review process is to scope the EIS. The scoping process is intended to target the work to be done in the EIS toward the pertinent issues, but generally serves more as a forum for involved parties to express thoughts, questions, and concerns about the project. These thoughts, questions, and concerns can then be incorporated into the draft scoping document and considered in the overall analysis of the proposed project. Tasks related to scoping the EIS are outlined below.

PREPARE AND SUBMIT DRAFT SCOPE (DOCUMENT) OF EIS ANALYSES TO THE LEAD AGENCY

Over the past several months, AKRF has worked in coordination with the project team to produce a draft scoping document that reflects the most current project information and analysis framework. A final draft scoping document, which includes a description of the proposed project and discretionary approvals sought and descriptions of tasks in each of the technical areas to be analyzed in the EIS, was submitted to ESDC on September 16. Budget included in Tables 3 and 4 at the end of this document is for work completed in September while finalizing the draft scope of work.

ATTEND SCOPING MEETING

After issuing a positive declaration and circulating the EAF and scope to other agencies and the public, ESDC will hold a public scoping meeting with the full range of agencies with jurisdiction over various sections of the EIS. Representatives of the city agencies, the Brooklyn Borough President's office, Brooklyn Community Boards 2, 6, and 8, and the City Council will also be invited to the scoping meeting. Discussions held and agreements reached at the scoping

meeting will be documented in either transcripts or minutes that will be prepared and submitted to ESDC for approval (budget does not include cost of transcript). AKRF will support ESDC in conducting a formal scoping session pursuant to SEQRA. Specifically, AKRF will assist in preparing a Notice of Public Hearing on the scope, present the project description and scope at the public hearing, and record and summarize comments received at the hearing.

FINALIZE SCOPE

Once all of the comments on the scope of work have been received, AKRF will revise the scope and resubmit it to ESDC. AKRF will prepare an addendum to the scope summarizing relevant comments and providing responses. There may also be some additional backup information or technical memoranda that may have been requested. After review, the lead agency will issue a formal sign-off on the scope of work. However, as its review of the project proceeds, the lead agency may amend the scope of work. Costs assume two rounds of review with the project team on the final scope.

D. PREPARATION OF THE PRELIMINARY DRAFT EIS (PDEIS)

AKRF will prepare environmental studies for each of the issue areas outlined below in conformance with all applicable laws and regulations. The analyses will use the methodologies and follow the technical standards set forth in the New York City Department of City Planning's *City Environmental Quality Review (CEQR) Technical Manual* because these are considered to be the most appropriate technical analysis methods and standards for impact assessment of projects in New York City.

SEQRA requires a lead agency to take a "hard look" at the environmental impacts of a proposed action and, to the maximum extent practicable, avoid or mitigate potentially significant adverse impacts on the environment, consistent with social, economic, and other essential considerations. An EIS is a comprehensive document used to systematically consider environmental effects, evaluate reasonable alternatives, and identify and mitigate, to the maximum extent practicable, any potentially significant adverse environmental impacts. The EIS provides a means for the lead and involved agencies to consider environmental factors and choose among alternatives in their decision-making processes related to a proposed action.

The analysis of the proposed project will be performed for two analysis years: 2009, the conservative expected year of completion for Phase I, and 2016, the expected year of completion of Phase II. Table 1 below presents the build program for the 2009 and 2016 analysis years.

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Table 1
Proposed Project Program for 2009 and 2016

Proposed Uses ¹	Size
Analysis Year: 2009 (Phase I: Development of Arena Block and Site 5)	
Residential (2,400 units)	2,330,000 gsf
Hotel (180 rooms)	196,000 gsf
Retail	47,000 gsf
Commercial	628,000 gsf
Arena	850,000 gsf
Parking (spaces)	2,100 spaces
Privately Accessible Open Space	1+ acres
Publicly Accessible Open Space	0 acres
Analysis Year: 2016 (Phase II: Full Build-out)	
Residential (7,300 units) ²	7,202,000 gsf
Hotel (180 rooms)	196,000 gsf
Retail ³	256,000 gsf
Commercial ¹	628,000 gsf
Arena	850,000 gsf
Parking (spaces)	4,000 spaces
Privately Accessible Open Space	1+ acres
Publicly Accessible Open Space	7+ acres
Notes: <ol style="list-style-type: none"> 1. The commercial variation would replace some residential use and the entire hotel use with additional commercial space (see text). 2. Approximately 4,500 of the 7,300 units would be rental units, and 50-percent of the rental units would be affordable to low- and moderate-income families. The remaining units (approximately 2,800) would be condominiums. 3. A portion of the retail space is anticipated to house community facilities. 	

The DEIS will assess the reasonable worst-case impacts that may occur as a result of the proposed project. For some technical areas, the proposed project as outlined in Table 1 may have different potential environmental impacts than the commercial variation. Accordingly, each section of the EIS will present a full analysis of the development option with the greatest Reasonable Worst-Case Scenario (RWCS) with respect to environmental impacts for that particular technical area, and a less-detailed analysis will be presented for the other development option. Each EIS section also will describe any mitigation required for both development options, highlight relevant differences between the proposed project and its variation, and discuss ways in which the effects of the two differ from each other. This conservative methodology will fully disclose any impacts, and describe any required mitigation, that could be associated with either the proposed project or its commercial variation.

TASK D-1. PROJECT DESCRIPTION

The first chapter of the EIS will introduce the reader to the proposed project and sets the context in which to assess impacts. The chapter will contain a project identification (brief description and location of the project); a statement of purpose and need for the proposed project; a detailed description of the proposed actions and development programs; and discussion of the approvals

required, procedures to be followed, and the role of the EIS in the process. The chapter is the key to understanding the proposed project and its impact, and gives the public and decision-makers a base from which to evaluate the project against both Build and No Build options.

TASK D-2. ANALYSIS FRAMEWORK

This chapter will outline the procedural framework utilized to comply with environmental review regulations and identifies the necessary approvals, actions, and schedule to implement the proposed project. It will identify the analysis years and project phasing, and describe the build program that will be assessed in the EIS. In addition, the chapter provides an overview of the analytical framework used to guide the EIS technical analyses presented in subsequent chapters of this document.

TASK D-3. LAND USE, ZONING, AND PUBLIC POLICY

The land use, zoning, and public policy analysis will assess the potential impacts of the expected changes in land uses resulting from the proposed project. The analysis will evaluate impacts within the land use study areas, which include the project site, and primary and secondary study areas (Figure 5). The land use assessment will include a description of existing (2005) conditions and evaluations of the future with the proposed project and the future without the proposed project in 2009 and 2016.

The principal study area for the land use, zoning, and public policy analysis is the project site, which represents the area within which impacts can be estimated with a relatively high degree of certainty. The project site, as discussed above, contains the area of the proposed arena, office, retail, hotel, and residential development, including Site 5.

The ¼-mile primary study area is generally bounded by Fulton Street to the north, Washington Avenue to the east, Park Place to the south, and Nevins Street to the west (see Figure 5). As the potential for impacts are generally greater in closer proximity to the project site, the primary study area will be assessed at a greater level of detail than the secondary study area.

The secondary study area for land use, zoning, and public policy extends from approximately ¼- to ½-mile from the boundaries of the site of the proposed project area and is generally bounded by DeKalb Avenue to the north, Classon Avenue to the east, Eastern Parkway and President Street to the south, and Hoyt Street to the west.

Tasks include:

- A brief development history of the project site will be provided. Based on field surveys, the chapter will identify, describe, and graphically present predominant land use patterns and site utilization on the project site and in the primary and secondary study areas. The chapter will also identify properties that were vacated through agreement with ESDC, Project Sponsors, or local development corporation;
- Description and mapping of existing zoning and recent zoning actions in the study area;
- Description of other public policies that apply to the project site and the study area, including specific development projects and plans for public improvements;
- List of future development projects in the study area that could affect future land use patterns and trends by 2009 and 2016. Also, identification of pending zoning actions or other public policy actions that could affect land use patterns and trends as they relate to the

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proposed project. Based on these changes, future conditions in land use zoning in the future without the proposed project will be assessed;

- Parcels to be condemned as a result of the proposed project will be identified and land uses and utilization of these parcels will be described;
- Impacts of the proposed project on land use and land use trends, zoning, and public policy will be addressed. This section will include a discussion of the project's consistency with existing zoning and an evaluation of potential impacts associated with ESDC's overrides and what would result as defined in the GPP; and
- In coordination with the socioeconomic task, the potential for the proposed project to influence land use trends and development will be addressed.

TASK D-4. SOCIOECONOMIC CONDITIONS

Socioeconomic impacts can occur when a proposed project directly or indirectly changes economic activities in an area. The purpose of the socioeconomic assessment is to disclose changes that would be created by the proposed project and identify whether they rise to a significant level. This chapter will examine the effects of the proposed project on socioeconomic conditions in the land use study area described in Task 2, including changes to the population and housing profiles, increases in economic activity, displacement of businesses, employment and residences from the project site, and potential indirect displacement within the study area.

The analysis will follow the guidelines of the *CEQR Technical Manual* in assessing the proposed project's effects on socioeconomic conditions within the study area. According to the *CEQR Technical Manual*, the five principal issues of concern with respect to socioeconomic conditions are whether a proposed project would result in significant impacts due to: (1) direct residential displacement; (2) direct business and institutional displacement; (3) indirect residential displacement; (4) indirect business and institutional displacement; and (5) adverse effects on a specific industry.

In conformance with the *CEQR Technical Manual* guidelines, the assessment of these five areas of concern will begin with a preliminary screening assessment. Detailed analyses will be conducted for those areas in which the preliminary assessment can not definitively rule out the potential for significant adverse impacts. Detailed analyses will be framed in the context of existing conditions and evaluations of the future without the proposed project and the future with the proposed project in 2009 and 2016. In conjunction with the land use task, specific development projects that would occur in the study area in the future without the proposed project will be identified, and the number of residents and employees associated with those projects will be estimated. These residents and employees will be added to the current population and employment to establish the future baselines—the future without the proposed project in 2009 and 2016—against which the project-induced growth will be measured.

The analysis tasks for each of the five areas of socioeconomic concern are outlined below, followed by analysis tasks for analyzing economic and fiscal benefits of the proposed project.

DIRECT RESIDENTIAL DISPLACEMENT

As of September 2005, there were 82 occupied housing units located on the project site. Of those, 8 units are condominiums or cooperatives owned by households that have agreed to sell their properties to the Project Sponsors. These households would not be considered to be directly

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displaced by the proposed project because they have entered into a voluntary agreement with the Project Sponsors. Another 32 occupied units are rental properties that are under the control of the Project Sponsors. Properties not under the control of the sponsors include 5 units that are owner-occupied and 37 that are renter-occupied. Depending on the sponsors' plan for displacement or relocation of these households, the number of households directly displaced by the proposed project would be between 42 and 74.

The analysis of direct residential displacement will:

- Identify the number of existing households that would be displaced by the proposed project and describe the type of relocation benefits that would be available to the displaced homeowners and tenants;
- Determine whether the profile of the displaced residents is similar or markedly different from that of the overall study area;
- Determine whether the displaced population represents a substantial portion of the population within the study area and whether the proposed project would result in a loss of a particular population group in the study area; and
- Assess whether the numbers and types of residents being displaced would be enough to alter neighborhood character and perhaps lead to indirect displacement of remaining residents.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

There are a number of business and institutional uses located on the project site. As of September 2005, to the best knowledge of the Project Sponsors based on publicly available information, there were 16 commercial businesses operating on the site, in addition to an LIRR rail storage yard, an MTA inactive bus yard, and a privately operated facility that provides temporary housing for homeless families through contract with the NYC Department of Homeless Services. The number of businesses that would be directly displaced by the proposed project will depend on the ownership and lease status of these properties and businesses. There is also an FDNY Special Operations Command equipment cleaning and storage facility located on the project site, at 648 Pacific Street. It is expected that FDNY will relocate this facility or consolidate its services into other existing facilities. The Rail Yards would remain active and would be reconfigured and improved in phases in coordination with MTA and the Project Sponsors.

The analysis of direct business displacement will:

- Identify the number of existing employees, and number and types of businesses and institutions that would be displaced by the proposed project, and describe the type of relocation benefits that would be available to the displaced property owners and commercial tenants;
- Determine whether the displaced businesses are of substantial economic value to the City or region and can only be relocated with great difficulty or not at all;
- Determine whether any of the businesses to be displaced are subject to regulations or publicly adopted plans to preserve, enhance or protect them, or are a defining element of the character of the study area; and

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- Determine whether the businesses or institutions to be displaced define or contribute substantially to a defining element of neighborhood character.

INDIRECT RESIDENTIAL DISPLACEMENT

The objective of the indirect residential displacement analysis is to determine whether the proposed project, by making the surrounding area more attractive as a residential neighborhood, would increase residential property values and subsequently rents in the study area, making it difficult for some existing residents to afford their homes. Tasks include:

- Provide current and trend information on population, households, household size, and income based on Census data from 1990 and 2000;
- Discuss housing characteristics, including trends in rents, sales prices, vacancy, and tenure, based on Census data and discussions with local real estate firms;
- Identify populations at risk of displacement by determining the portion of the population below the poverty level and the portion with income levels that are lower than the median for Brooklyn, and the portion of the population living in units not protected by rent control or rent stabilization regulations;
- Determine whether the proposed project would add substantial new population with different socioeconomic characteristics compared with the size and character of the existing population, or a substantial amount of more costly housing;
- Determine whether the proposed project would displace uses that have had a blighting effect on residential property values in the area;
- Determine whether the proposed project would introduce a critical mass of non-residential uses such that the surrounding area becomes more attractive as a residential neighborhood complex; and
- Determine whether the proposed project would cause a significant indirect residential displacement impact. Generally, if a project would introduce or accelerate a trend of changing socioeconomic conditions and if the study area contains populations at risk, then the proposed project may have an indirect residential displacement impact. This analysis will take into consideration the affordable housing that would be included in the proposed project.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The objective of the indirect business and institutional displacement analysis is to determine if the proposed project would ultimately lead to higher property values and rents in commercial or institutional buildings in the study area, causing existing businesses to relocate from the study area, or from the City as a whole. Following the methodologies outlined in the *CEQR Technical Manual*, the analysis of indirect business displacement will:

- Identify and characterize conditions and trends in employment and businesses within the study area based on field surveys, discussions with real estate brokers, and employment data from the New York State Department of Labor;
- Present the number and types of businesses/institutions and employment by key sectors;

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- Identify major employers in the study area, and where possible, identify the amount of space that each occupies;
- Describe the physical conditions and characteristics of the commercial and industrial buildings in the study area, by neighborhood;
- Identify potentially vulnerable categories of businesses; and
- Characterize the potential effect of the proposed project, including changes in the value of commercial properties that may result from: 1) the introduction of new commercial office, retail, and arena space; 2) the introduction of new residential population; 3) the introduction of new vehicular and pedestrian trips in the study area due to the proposed project.

ADVERSE EFFECTS ON A SPECIFIC INDUSTRY

Based on the guidelines in the *CEQR Technical Manual*, an analysis of the proposed project's potential effects on specific industries will be performed to analyze:

- Whether the proposed project would significantly affect business conditions in any industry or category of businesses within or outside the study area; and
- Whether the proposed project would substantially reduce employment or impair viability in a specific industry or category of businesses.

The analysis will draw on the economic and real estate data compiled in assessing direct and indirect displacement impacts.

ECONOMIC AND FISCAL BENEFITS

The development of the arena, office, hotel, retail, and residential space would generate significant economic and fiscal benefits to New York City and New York State during both the construction and operating periods. These benefits typically are measured in direct (on-site) and indirect (off-site) jobs and payroll, as well as taxes that would accrue to both the City and the State. Although not required by the *CEQR Technical Manual*, the socioeconomic analysis will assess the net fiscal and economic benefits of the proposed project to the City and State economies. The analysis will be based on the Regional Input-Output Modeling System (RIMS II) developed by the U.S. Department of Commerce, Bureau of Economic Analysis.

Construction Period Benefits

The following benefits, which would occur during the overall construction period in the City and the State, will be estimated:

- Direct employment created by the capital investment, and indirect employment created by purchases of other goods and services during the construction period;
- Wages and salaries generated by the direct and indirect employment;
- Taxes generated during the construction period, including payroll taxes, corporate and business taxes, mortgage recording fees (if any), and miscellaneous taxes; and
- The total economic activity, or the total economic output created by construction of the proposed project, for the 2009 and 2016 phases.

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Operating Period Benefits

The following benefits that would occur annually in the City and the State after the project is fully developed will be estimated:

- Direct or permanent employment and indirect employment, based on economic multipliers specific to the type of development;
- Wages and salaries generated by the direct and indirect employment;
- Direct taxes generated by the annual operation of commercial, institutional, and/or residential development, including retail sales tax, hotel occupancy tax (if any), payroll taxes, corporate and business taxes, and miscellaneous taxes;
- Taxes generated by indirect economic activity; and
- The total economic activity, or the total economic output created by the annual operation of the proposed project, for the 2009 and 2016 phases.

TASK D-5. COMMUNITY FACILITIES AND SERVICES

This chapter of the EIS will evaluate the effects on community services due to the development of the proposed project, including effects on police and fire protection, public schools, outpatient and emergency health care facilities, libraries, and publicly funded day care facilities in the two analysis years, 2009 and 2016. The individual catchment areas for each service provider will serve as the study area boundaries for these analyses. The analysis will also consider the displacement of a privately operated facility located at 630 Pacific Street, which provides temporary housing for homeless families through contract with the New York City Department of Homeless Services. The community facilities and services assessment will include a description of Existing Conditions (2005) and evaluations of the future with the proposed project and the future without the proposed project in 2009 and 2016.

Particular attention will be given to the need for additional public school capacity. The chapter will identify public schools serving the proposed project's study area and assess conditions in terms of enrollment and utilization during the current school year, noting any specific problems with school capacity. Conditions that will exist in the future without the proposed project will be identified, taking into consideration projected increases in future enrollment and plans to increase school capacity either through administrative actions on the part of the Department of Education or as a result of the proposed project, relative to available capacity that may exist in the future without the proposed project for the 2009 and 2016 analysis years.

Tasks include:

- Develop an inventory of existing public schools, libraries, outpatient and emergency health care service facilities, public day care centers, police precincts, and fire stations, including emergency medical services, located in the study area. This will be accomplished via phone interviews and/or written communication with department representatives, school officials, and local medical service providers. Additionally, field checks will be performed and a map of all community facilities will be created; and

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- Identify any direct or indirect impacts to the above-referenced community facilities, following the *CEQR Technical Manual* methodology. As the proposed project would result in development which would exceed the *CEQR Technical Manual* 100-residential unit screening threshold, potential indirect effects will be evaluated.

According to the *CEQR Technical Manual*, preliminary thresholds indicating the need for detailed analyses are as follows:

- Public Schools: More than 50 elementary/middle school or 150 high school students;
- Libraries: A greater than five percent increase in ratio of residential units to libraries in the borough. For Brooklyn, this is equivalent to a residential population increase of 734 residential units;
- Health Care Facilities (outpatient): More than 600 low- to moderate-income units;
- Day Care Centers (publicly funded): More than 50 eligible children based on the number of low/moderate-income units by borough. For Brooklyn, this is equivalent to an increase of 135 low-income or 147 low/moderate-income units;
- Fire Protection: The ability of the fire department to provide fire protective services for a new project usually does not warrant a detailed assessment under CEQR. Generally, a detailed assessment of fire protective services is included only if a proposed project would affect the physical operations of, or access to and from, a station house; and
- Police Protection: The ability of the police to provide public safety for a new project usually does not warrant a detailed assessment under CEQR. Generally, an assessment of police protective services is included only if the proposed project would affect the physical operations of, or access to and from, a precinct house.

Based on these thresholds and the proposed project program, detailed analyses will be conducted for public schools, libraries, health care facilities, and day care centers.

TASK D-6. OPEN SPACE

Open space is defined as publicly or privately owned land that is publicly accessible and has been designated for leisure, play, or sport, or land set aside for the protection and/or enhancement of the natural environment (*CEQR Technical Manual*, p. 3D-1). Direct impacts on open spaces occur when such a resource would be either physically altered or eliminated by a proposed project. Indirect impacts occur when these resources are overtaxed due to increases in residential and/or working populations brought about by a proposed project. Preliminary thresholds for a detailed open space analysis are an increase of 200 residents or 500 employees. Because the proposed project is anticipated to exceed preliminary thresholds, a detailed open space assessment will be conducted.

The proposed project would introduce a substantial number of new workers, visitors, and residents into the area and would place added demands on existing open spaces. At the same time, the proposed project envisions the creation of publicly accessible open space that would help to alleviate the demand generated by the projected new worker and residential populations, as well as demand from the existing population. In addition, at least 52,000 square feet (approximately 1 acre) of private recreational space would be provided on the roof of the arena. This rooftop open space would be accessible to users of the buildings constructed as part of the

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proposed project. A discussion of the open space created by the proposed project will be included.

Tasks include:

- Establish the study area boundaries, specifically: a study area of ¼-mile around the project site for the residential population and a study area of ¼-mile around the project site for the commercial (working) population. All Census block groups with at least 50 percent of their area falling within these study areas will be included in the open space study areas. Qualitative discussions of other major open space areas outside the study area (e.g., Prospect Park, Brooklyn Bridge Park) will also be included;
- Perform a detailed open space analysis. This will involve identifying the open space study area population and describing it in terms of age groups, as different age groups represent different types of open space users. It will also entail identifying and describing in detail the open space resources within the study area, particularly in terms of user groups served by the open space. The adequacy of open space will then be assessed and used as a benchmark against which the 2009 and 2016 conditions will be compared;
- Compile an inventory of all passive and active open spaces, both publicly and privately owned, for the study areas. This will be accomplished through coordination with the New York City Department of Parks and Recreation and private owners of public spaces and verified through field visits. The inventory will include an evaluation of the condition and use of existing open spaces, as well as acreage;
- Assess expected changes in future levels of open space supply and demand in both 2009 and 2016 based on other planned development projects within the study areas, including the creation of any new public open spaces. Open space ratios will be developed for future conditions and compared with existing ratios to determine changes in future levels of adequacy;
- Calculate the open space ratios, the amount of open space per 1,000 user population, for the future with the proposed project; compare these ratios with open space ratios calculated for the future without the proposed project in 2009 and 2016; and
- Determine the impact significance of the proposed project and other actions on open spaces, both quantitatively and qualitatively. A substantial amount of new open space would be created with the proposed project. The evaluation of the future with the proposed project will include the effect of this additional new open space.

TASK D-7. CULTURAL RESOURCES

The project site is located in the vicinity of the Fort Greene Historic District and the Brooklyn Academy of Music (BAM) Historic District, both on the north, and the Prospect Heights Historic District, which it abuts, on the south. Individual historic resources located outside of the project site, but within the project study area, include: the St. Luke's Episcopal Church; the Atlantic Control House, a part of the City's early subway system; the Williamsburgh Savings Bank Building; and the Hanson Place Seventh Day Adventist Church.

The project site is located in an area of Brooklyn that was developed relatively early and nearby sites have yielded archaeological artifacts. However, much of the site has been extensively disturbed, and it is expected that documentation of disturbance in these areas would preclude the

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need for further archaeological evaluation. For areas where disturbance cannot be fully documented, further documentary research will be undertaken.

The analysis of archaeological and historic resources will include the following tasks:

- Prepare a disturbance memorandum for review by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). This memorandum will document prior subsurface disturbance on the project site, relying on information at local New York City repositories as well as from field inspections. The memorandum will make recommendations regarding which portions of the project site have been disturbed and do not possess the potential for archaeological resources. The memorandum will be summarized as part of the EIS;
- In concurrence with OPRHP, for any portions of the project site that are not eliminated from further archaeological evaluation based on the conclusions of the disturbance memorandum, and therefore may be sensitive for archaeological resources, a Stage 1A Archaeological Assessment will be prepared for OPRHP review. The Stage 1A Archaeological Assessment will identify the potential of these areas of the project site to contain prehistoric and/or historic-period archaeological resources. It will provide a prehistoric and historic contextual overview in which to assess archaeological resources, a development history of these areas, an in-depth assessment of past disturbance, and the identification of any potential resource types, and their potential significance, that may be present on these areas of the project site. The conclusions of the Stage 1A Archaeological Assessment will be summarized in the EIS;
- In concurrence with OPRHP, based on the conclusions of the Stage 1A Archaeological Assessment, Stage 1B archaeological field testing would be undertaken for any portions of the project site that are determined to have potential sensitivity for archaeological resources and are found to possess potential significance and research value, and hence warrant archaeological testing. Prior to the initiation of Stage 1B investigations, a testing protocol would be submitted to OPRHP for review and approval. Following approval of the protocol, it is expected that the Stage 1B testing would be undertaken immediately prior to construction of the proposed project, as similar site preparation activities are required for both the archaeological testing and the project construction;
- Map and briefly describe designated historic resources (New York City Landmarks [NYCLs] and Historic Districts, properties pending NYCL designation, and properties and districts listed or determined eligible for listing on the State and National Registers of Historic Places, including National Historic Landmarks [NHLs]) on the project site and within approximately 800 feet of the proposed project. Contact OPRHP for any resources found eligible but not listed on the Registers and New York City Landmarks Preservation Commission (LPC) for any pending NYCL designations. The analysis will focus on resources closest to the development site and those resources that have views of or visual relationships to the proposed project;
- Conduct a field survey of the project site and study area to identify any potential architectural resources that could be affected by the proposed project. Potential architectural resources comprise properties that may be eligible for listing on the State and National Registers, and/or designation as a NYCL. Identification of potential architectural resources will be based on criteria for listing on the National Register as found in the Code of Federal Regulations, Title 36, part 60. Map and describe any identified architectural resources. Prepare Historic Resource Inventory Forms ("blue forms") for properties on the project site

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that appear to meet State and National Register (S/NR) and NYCL eligibility criteria for submission to OPRHP for determinations of eligibility;

- Describe the potential for any changes in the study area and its architectural and archaeological resources in the future without the proposed project;
- Assess any direct physical impacts of the proposed project on architectural and archaeological resources. In conjunction with the urban design task, assess the project's potential to result in any visual and contextual impacts on architectural resources; and
- In conjunction with Task 15, "Construction Impacts," assess the potential for project construction to affect archaeological or historical resources, and, if necessary, outline methods for protecting historic resources during construction.

TASK D-8. URBAN DESIGN AND VISUAL RESOURCES

The proposed project would result in new above-ground construction that could adversely impact significant publicly accessible views. Additionally, the proposed project will have different bulk and/or setbacks than existing development; therefore, an urban design/visual resources assessment will be conducted for the EIS. The assessment will be based on *CEQR Technical Manual* methodologies and will include a discussion of potential bulk configurations and urban design characteristics of the proposed project in 2009 and 2016. The discussion of visual and contextual relationship of the proposed development to nearby historic resources will be coordinated with the Historic Resources analysis.

The urban design/visual resources analysis will:

- Describe in text and photographs the urban design characteristics and significant visual resources in the study area (approximately 800 feet from the site). A more detailed analysis of the blocks facing the proposed development site will include building configuration and materials, density, block form and street pattern, and streetscape elements. It will also identify and describe visual resources, as the project site occupies a prominent location at the intersection of Flatbush and Atlantic Avenues, and is close to a well-known visual landmark in the Brooklyn skyline, the Williamsburgh Savings Bank Building. The discussion of existing urban design and visual resources conditions will specify baseline lighting conditions on the project site and in the surrounding area;
- Using the information gathered in the task above, describe ways in which the urban design characteristics and visual resources in the study area will change in the future without the proposed project in 2009 and 2016; and
- Employing the analysis of existing urban design characteristics and visual resources outlined above, describe and assess whether and how the urban design characteristics and visual resources in the study area will change in the future with the proposed project, as compared with those anticipated in the future without the proposed project. The analysis will include a description and illustrative renderings of the proposed lighting plan for the arena and surrounding area, and will assess the proposed lighting conditions against existing conditions. Photo-simulations or appropriate renderings to accurately depict the context of the proposed project with the surrounding area will be included.

TASK D-9. SHADOWS

Under CEQR, an adverse shadow impact may occur when the shadow caused by a proposed project is cast on a publicly accessible open space, important natural feature, or historic landscape or other historic resource (if the features rendering the significance of the resource are dependent on sunlight); and adversely affects its use and/or important landscaping and vegetation, or in the case of historic resources, obscures the details that make the resource significant. Shadows falling on streets and sidewalks or other buildings generally are not considered significant, nor are shadows occurring within an hour and one-half of sunrise or sunset.

The proposed project envisions building forms of varied massings and heights. The proposed maximum heights range from a 620-foot mixed-use tower near the corner of Flatbush and Atlantic Avenues to an approximately 146-foot residential building near the corner of Sixth Avenue and Pacific Street. Because the proposed project includes the construction of buildings or structures that are at least 50 feet tall and the project is in proximity to historic resources and neighborhood open spaces, the effects of project shadows on publicly accessible open spaces and historic resources with light-sensitive features will need to be assessed, using the methodology recommended in the *CEQR Technical Manual*.

An analysis of shadows will be prepared focusing on the relation between the incremental shadows created by the proposed project's buildings on any historic resources or sun-sensitive landscape or activities in the open spaces near the project site. These analyses will be performed for the two analysis years (2009 and 2016) and will include the following tasks:

- Identify sun-sensitive landscapes and historic resources within the path of the proposed project's shadows. In coordination with a survey of the open space and historic resources, map and describe any sun-sensitive areas. For open spaces, map active and passive recreation areas and features of the open spaces such as benches or play equipment;
- Acquire a 3-dimensional CAD model of the project area including existing structures and topology as well as the proposed structures from Earth Data Solutions;
- Prepare shadow diagrams for time periods when shadows from the new buildings could fall onto publicly accessible open space as well as project-created open spaces. The analysis will also take into account any historic resources identified in Task 7 that may have significant sunlight-dependent features. These diagrams will be prepared for up to four representative analysis days if shadows from the proposed buildings would fall onto any of the open spaces on that day. A total of 12 diagrams will be prepared for each analysis year. The four analysis days are: March 21—the vernal equinox, which is the equivalent of September 21—the autumnal equinox; May 6—the midpoint between the equinox and the longest day of the year, which is the equivalent of August 6—the midpoint between the equinox and the shortest day of the year; June 21—the longest day of the year, and; December 21—the shortest day of the year;
- Describe the effect of the incremental shadows on the publicly accessible open spaces as well as any historic resources with significant sunlight-dependent features based on the shadow diagrams for each of the analysis dates. Assess the effects of the project's incremental shadow compared with shadows expected in the future without the proposed project; and

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- If vegetation or sun-sensitive activity areas will be covered by the project's incremental shadows for a significant amount of time, the duration of the project's increment will be compared with the amount of sunlight on those areas in the future without the proposed project.

TASK D-10. HAZARDOUS MATERIALS

The proposed project would require demolition and excavation over much of the project parcels. The open areas of the site, occupied by the existing Rail Yards, may have hazardous material contamination from historic and current uses. Other portions of the site occupied by buildings may have a history of industrial/manufacturing use and/or petroleum/chemical storage. For those sites where the Project Sponsors have access, a Phase I Environmental Site Assessment (ESA) will be prepared. These assessments will include a block/lot discussion of known and potential environmental contamination and discuss whether further investigation, in the form of a Phase II report, is required.

The results of the Phase I ESAs will be used to assess the potential for significant impacts and to identify locations where further investigation, such as a Phase II ESA or other appropriate investigation or management will be required. Where a Phase II ESA or other appropriate investigation is required, and where access for testing is possible (such as on the Rail Yards), this subsurface testing will be performed and the results disclosed in the DEIS. If such an investigation is required, it will be undertaken and the results and proposed measures to address any recognized conditions will be identified in the DEIS, in consultation with the New York City Department of Environmental Protection (DEP) and the New York State Department of Environmental Conservation (NYSDEC), as appropriate. These measures would include: remediation of identified hazardous materials; development of procedures to avoid releases or exposure during construction; and an overall environmental health and safety plan (HASP) that would set out procedures to avoid impacts to the community and site workers and monitoring protocols to ensure the procedures would be followed.

For those sites where the Project Sponsors do not have access, a general site history will be prepared and a description of potential hazardous material conditions suggested by the site history will be disclosed. Additionally, a short narrative history will be written for all project parcels, highlighting environmental conditions on the project site and, if appropriate, noting potential impacts from properties adjacent to the project site and the potential for these uses to result in public health concerns either during or following development. This evaluation will consider the potential health effects of the classes of chemicals potentially present at each site and the associated potential pathways for human exposure to occur either during or following development. For those properties where access is not currently possible within the EIS review timeframe, the EIS will specify the types of measures (including any necessary testing and remediation) that would be undertaken to ensure that no significant adverse hazardous material impacts would occur. Such measures will include adherence to a HASP and the other elements detailed in the immediately-preceding paragraph.

Environmental conditions identified in this research will be summarized in tabular format specific to tax block and lots, indicating whether the potential exists for a hazardous materials condition.

TASK D-11. INFRASTRUCTURE, ENERGY, AND SOLID WASTE

This chapter of the EIS will assess the additional demands the proposed project would place on the infrastructure systems serving the area, including water supply, sanitary sewage, stormwater management, solid waste disposal services, and energy supply. Internal infrastructure systems, including any "green measures" to reduce water and energy consumption and sewage generation, will also be described.

Utility line improvements necessary to support the proposed project, which include utility line relocations, upgrades, and connections, will be identified. In Phase I, these would include relocating to Dean Street, Flatbush Avenue and Sixth Avenue all utilities in the roadbed of Fifth Avenue between Atlantic and Flatbush Avenues, and in the roadbed of Pacific Street between Fifth and Sixth Avenues. In Phase II, utilities in the roadbed of Pacific Street between Carlton and Vanderbilt Avenues would be relocated to Dean Street. A new water main would be located in Dean Street to accommodate increased demand from the proposed project.

The analyses will include the following:

WATER SUPPLY

- Based on information obtained from the DEP, describe the existing water supply network and capacity of the distribution system that currently serves the development area;
- Using water usage rates for typical land uses provided in the *CEQR Technical Manual*, as well as other available literature sources not identified in the Manual, determine the incremental increase in water demand from future baseline projects for both the 2009 and 2016 analysis years;
- Using water usage rates for typical land uses provided in the *CEQR Technical Manual*, other available literature sources not identified in the Manual, as well as water usage estimates from similar arena facilities, provide an estimate of the total average and peak water demand for the proposed project; and
- Assess the effects of the incremental demand of the proposed project on the water supply system to determine whether there would be adequate water supply and pressure to the service area.

SEWAGE AND STORMWATER

- Based on information obtained from DEP, describe the existing sewer and stormwater system that services the development area. Existing flows to the Red Hook Water Pollution Control Plant (WPCP), which serves the development site, will be presented for the latest 12-month period, including the average and maximum monthly flow;
- Using the water demand determined in the task above, estimate sanitary sewage generation for the future baseline condition and the future with the proposed project for both analysis years;
- Assess the effects of the incremental average and peak demand of the proposed project on the sewage treatment system to determine whether there would be significant adverse impacts on operations at the Red Hook WPCP;

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- Describe any planned modifications to the stormwater system and any future changes to the stormwater runoff based on baseline conditions for both analysis years; and
- Assess the effects of any changes to the stormwater runoff due to the development of the proposed project and describe how stormwater would be managed within the development area.

ENERGY

- Based on information obtained from Consolidated Edison, describe the existing energy distribution system and estimated energy usage for existing conditions;
- Using energy usage rates for typical land uses provided in the *CEQR Technical Manual* and other available literature sources not identified in the Manual, determine future energy demands in the future without the proposed project for the 2009 and 2016 analysis years;
- Using energy usage rates for typical land uses provided in the *CEQR Technical Manual*, other available literature sources not identified in the Manual, as well as energy usage estimates from similar arena facilities, provide an estimate of the total average and peak energy demand for the proposed project;
- Assess the effects of the incremental energy demand of the proposed project to determine whether the distribution system can adequately supply the energy needs to the proposed project and the service area; and
- Describe any proposed alternative sources of energy or energy conservation measures (i.e., incorporation of sustainable design elements) that are being considered by the proposed project.

SOLID WASTE AND SANITATION SERVICES

The proposed project will generate increased demand for solid waste and sanitation services. The New York City Department of Sanitation (DSNY) is responsible for the collection and disposal of municipal waste and recyclables; private carters are responsible for the collection and disposal of commercial waste and recyclables. This section will:

- Describe the existing solid waste management services for the development area;
- Using solid waste generation rates for typical land uses provided in the *CEQR Technical Manual*, as well as other available literature sources not identified in the Manual, determine future solid waste demands in the future without the proposed project for the 2009 and 2016 analysis years;
- Using solid waste generation rates for typical land uses provided in the *CEQR Technical Manual* and other available literature sources not identified in the Manual, as well as solid waste estimates from similar arena facilities, provide an estimate of the solid waste demand for the proposed project; and
- Assess the effects of the incremental demand of the proposed project for municipal and private sanitation services to determine whether these services can adequately handle the future solid waste disposal needs for the proposed project and their service area.

TASK D-12. TRAFFIC AND PARKING/TRANSIT AND PEDESTRIANS

The proposed project, which includes a sports arena, office, retail, hotel, parking, and residential uses, will generate a range of travel demand characteristics. The transportation facilities provided within the development and the circulation plan for movement to, from, and within the complex will also affect transportation conditions for travel by all modes.

The project site is located near existing major retail and office developments in Downtown Brooklyn and the ability of the transportation system to absorb the proposed new development will be an important issue. The Atlantic Avenue/Pacific Street subway station complex will be used by the vast majority of the project's new demand, whereas the Atlantic Avenue/Flatbush Avenue corridors are expected to attract increased vehicular demand.

The various project components will have a mix of travel demand characteristics. The project's office component generates travel demands in the typical commuter periods, while most basketball games at the arena would start after the PM commuter peak; retail activity peaks on weekends; and residential uses are low-demand generators with their heaviest flows in the weekday commuter periods. The traffic analysis will focus on the basketball use in the arena as a worst-case condition because of its frequency, concentrated peak hour, and higher auto use.

The proposed project will also include a major public open space element, which will generate mainly pedestrian travel. The project also is bordered to the south and north by residential uses east of Flatbush Avenue. Therefore, pedestrian safety will be analyzed in the EIS.

Each of the proposed uses generates public parking requirements. The study area has a very limited parking supply, and thus, the proposed project anticipates providing a substantial number of new spaces: approximately 2,100 parking spaces in the first phase of project development (2009), increasing to approximately 4,000 parking spaces in the full build (2016). The EIS will address this parking supply/demand issue for different time periods on both weekdays and weekends. The overall transportation impact analyses will also be performed for two phases. The first phase would be at completion of the arena and a portion of the mixed-use component in 2009 and the second phase would be at full completion of the project in 2016. The critical time periods for analysis will include the weekday 8-9 AM, noon-1 PM, 5-6 PM, 7-8 PM (pre-game) and 10-11 PM (post-game) periods as well as Saturday 1-2 PM.

To the extent appropriate, the study will draw on existing available transportation data and resources of other projects in the area, including the Downtown Brooklyn Redevelopment FEIS, Atlantic Terminal Office Development FSEIS, and other Downtown Brooklyn studies. The tasks will include the following:

- Analyze the study area intersections shown in Figure 6. The study area was developed to account for the principal travel corridors to/from the site and is bounded on the north by Tillary Street/Park Avenue, on the south by Eastern Parkway/Union Street, on the east by Grand Avenue, and on the west by Boerum Place. Approximately 65 intersections will be analyzed in this transportation study area, which encompasses most of the key arterials in Downtown Brooklyn;
- Inventory and update street widths, sidewalk widths, traffic flow directions, and curbside parking regulations, as well as other items required for traffic analysis. The most recent signal timings from NYCDOT for each study area intersection will be obtained;
- Determine existing traffic flows in the study area for the weekday AM, midday, PM, and evening peak hours as well as the project's weekend afternoon peak hour using available

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data and a new count program. Counts will be conducted according to criteria outlined in the *CEQR Technical Manual*. Automatic Traffic Recorder (ATR) counts will be placed on principal arterials to establish daily and hourly patterns. Vehicle classification and time/delay data will also be collected along key corridors used for air quality studies. The analysis of existing conditions will reflect any ongoing construction and temporary road closures in the study area;

- Analyze the capacity of the street system in the study area for 2005 Existing Conditions using the *Highway Capacity Manual* (HCM) methodology, and determine the existing levels of service and volume-to-capacity (v/c) ratios and delays on streets in the traffic study area for each peak hour;
- Compute future No Build traffic volumes based on a background traffic growth rate for the study area of 0.5 percent per year, and the volume of traffic expected to be generated by other projects anticipated to be in place by the 2009 and 2016 analysis years. The future traffic volumes from these sites will be estimated using EISs, the 2000 Census, and other sources. Traffic volumes will be determined, v/c ratios and levels of service will be calculated, and problem intersections will be identified. Mitigation measures specified for all No Build projects and several NYCDOT initiatives in Downtown Brooklyn will be included in the future No Build traffic networks;
- Determine the travel characteristics of each major new development element. Data for a similar sports arena in a comparable setting will be acquired to assist in determining future mode choice and other travel patterns for the arena component. Aggregate travel forecasting for the arena component will be superimposed on travel demands for the commercial and residential elements to produce an overall forecast in each peak hour. Credit for existing displaced travel demand on-site will also be applied to new project demand;
- Perform a traffic impact assessment of the proposed project for both the 2009 and 2016 analysis years. New net project-generated vehicle trips will be assigned and mapped to the transportation network for each analysis period, roadway closures and other changes to the street network at the project site will be incorporated, and the impact on v/c ratios and delays will be evaluated using the HCM methodology. Impact criteria established in the *CEQR Technical Manual* will be used for this analysis;
- Quantitatively analyze the current and future parking conditions for the peak periods for existing commercial lots/garages in the study area. The available capacity and average utilization of all off-street facilities within a ¼-mile radius of the project site will be assessed based on utilization surveys. Parking will be analyzed for the weekday 7AM, noon, and 7 PM periods, as well as the Saturday 2 PM hour. The analysis of future conditions will reflect changes in the parking supply and any changes in accumulated parking demand generated in the future without the project. The impact of the proposed project will be based on demand generated by the proposed new development for each critical parking period, as well as the addition of spaces as part of the proposed project. Parking conditions for all analysis periods will be evaluated quantitatively;
- Analyze subway station elements at those stations nearest the project site, based on New York City Transit (NYCT) criteria, and include the analysis of existing conditions, future conditions without the project, and the effects of the trips generated by the proposed project in the weekday AM, PM, and pre-game (7-8 PM) peak hours. The peak hour transit trips from the new development will be assigned to the individual subway lines serving the site.

The analysis will include the street stairways and fare arrays that would be utilized by project trips at the four subway stations nearest the project site: Atlantic Avenue (B, Q, 2, 3, 4, 5 trains), Pacific Street (D, M, N, R trains), Lafayette Avenue (C train), and Bergen Street (2, 3 trains). Detailed analyses will also be performed for key pedestrian circulation elements within the Atlantic Avenue/Pacific Street station complex, including the new subway entrance at the corner of Atlantic and Flatbush Avenues. In addition to the station analyses, a line haul analysis will be prepared for the AM and PM peak hours. This section also will present an evaluation of the existing Rail Yard operations and effects, if any, of the Rail Yards during and after construction;

- Analyze the impact of the proposed project on local bus service using peak load point data from NYCT for the principal bus routes serving the site. AM and PM peak hour bus trips generated by the proposed project will be analyzed quantitatively for impacts. Where bus routes are relocated due to the proposed project, these changes will also be addressed; and
- Prepare a quantitative analysis of pedestrian conditions in the vicinity of the site. Pedestrian characteristics will be evaluated for public sidewalks, corners, and crosswalks connecting the site to the surrounding system. The analysis will focus on key pedestrian facilities within an area bounded by Atlantic Avenue on the north, Dean Street on the south, Carlton Avenue on the east, and Fourth Avenue on the west. Existing and No Build conditions will be analyzed for the weekday AM, PM, pre-game and Saturday midday peak hours. This task also includes a review of high-accident pedestrian intersections in the area and an assessment of the proposed project on pedestrian safety.

TASK D-13. AIR QUALITY

The number of project-generated trips will likely exceed the *CEQR Technical Manual* air quality analysis screening thresholds at a number of locations within the traffic study area. Thus, an analysis of mobile emissions air quality impacts will be conducted. The potential effects of carbon monoxide (CO) and particulate matter emissions (PM₁₀ and PM_{2.5}) from the project-generated vehicles on ambient levels in the project study area will be assessed at the locations where the greatest potential for project-related increases in concentrations would occur.

The stationary source air quality impact analysis will assess the effects of emissions (i.e., sulfur dioxide, CO, particulate matter and/or nitrogen dioxide concentrations) from the proposed project's heating, ventilating, and air conditioning (HVAC) systems. In addition, the proposed project would add new residential uses and open spaces in an area with existing industrial/manufacturing uses. Therefore, an analysis to examine the potential for impacts on the proposed project from industrial emissions will be performed.

MOBILE SOURCE ANALYSES

- Gather existing air quality data. Collect and summarize existing ambient air quality data for the study area. Specifically, ambient air quality monitoring data published by NYSDEC will be compiled for the analysis of existing conditions;
- Determine receptor locations for the CO and particulate matter microscale analyses. Intersections in the traffic study area with the greatest expected changes in traffic volumes that exceed the screening threshold outlined in the *CEQR Technical Manual* would be selected for analysis. At each intersection, multiple receptor sites will be analyzed in

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accordance with guidelines from the *CEQR Technical Manual*. Annual $PM_{2.5}$ concentrations will be calculated at neighborhood scale receptor locations;

- Select dispersion model. The U.S. Environmental Protection Agency (EPA)'s mobile source CAL3QHC screening model will be used for the CO microscale analysis for less congested locations. For PM_{10} and $PM_{2.5}$ analyses, the CAL3QHR dispersion model will be used, and refined analyses may be employed at receptor sites showing larger shifts in air quality conditions to obtain more realistic results. Three peak periods will be analyzed: the weekday AM, weekday PM, and weekend pre-game conditions;
- Select meteorological conditions. For the "worst-case" analysis (at screening locations), conservative meteorological conditions to be assumed in the dispersion modeling are a 1 meter per second wind speed, Class D stability, and a 0.70 persistence factor. For refined mobile source modeling with CAL3QHCR, meteorological data will be employed instead of worst-case assumptions concerning wind speeds, wind direction frequencies, and atmospheric stabilities. Five years (1999-2003) of meteorological data from La Guardia Airport and concurrent upper air data from Brookhaven, New York will be utilized for the simulation program;
- Select emission calculation methodology. Vehicular cruise and idle emissions for the dispersion modeling will be computed using EPA's MOBILE6.2 model.
- Select appropriate background levels. For the CO microscale analysis, select appropriate background levels for the study area in consultation with DEP. For the PM_{10} and $PM_{2.5}$ analyses, existing background levels will be used as estimates of future background conditions;
- At each CO mobile source microscale receptor site, calculate maximum 1- and 8-hour concentrations for existing conditions, the future without the proposed project, and the future with the proposed project. PM_{10} and $PM_{2.5}$ maximum 24-hour and annual concentrations will be determined with the proposed project. Future year analyses with and without the proposed project will be performed for two build years: 2009 and 2016. The analysis period will be based on the reasonable worst-case project trips as determined in the traffic task;
- Assess the potential impacts associated with proposed parking facilities. In order to quantify the potential emissions from project-related parking facilities, prototypical garages will be modeled as final parking facility designs are refined. The analysis will use the procedures outlined in the *CEQR Technical Manual* for assessing potential impacts from proposed parking facilities. Cumulative impacts from on-street sources and emissions from the parking facilities will be calculated where appropriate. Compare future CO pollutant levels with standards and applicable *de minimis* criteria, to determine potential significant adverse project impacts;
- Compare existing and future levels with standards. Future CO and PM_{10} pollutant levels with and without the proposed project will be compared with the National Ambient Air Quality Standards (NAAQS) to determine compliance with standards, and the City's CO *de minimis* criteria will be employed to determine the impacts of the proposed project. The incremental increases in $PM_{2.5}$ for the future conditions with and without the proposed project will be compared with the latest DEP interim guidance criteria for $PM_{2.5}$; and
- Assess the consistency of the proposed project with the State Implementation Plan (SIP).

STATIONARY SOURCE ANALYSES

- Perform a detailed stationary source analysis using EPA's Industrial Source Complex (ISC3) dispersion model to estimate the potential impacts from the proposed project's HVAC systems. Five years of meteorological data (1999-2003), consisting of surface data from LaGuardia Airport and upper air data from Brookhaven, New York, will be used for the simulation modeling. Concentrations of the air contaminants of concern (i.e., particulate matter, sulfur dioxide, nitrogen dioxide, and CO) will be determined at ground level receptors as well as elevated receptors representing nearby building floors. Predicted values will be compared with NAAQS, EPA significant impact levels (SILs), and NYSDEC and DEP interim guideline thresholds for PM_{2.5}. Impacts will be evaluated for the 2009 and 2016 analysis years;
- Perform an analysis to quantify impacts of CO and particulate matter from the proposed railroad track ventilation system on receptors near the project site. Detailed stationary source modeling will be performed using EPA's ISC3 dispersion model;
- Perform a field survey to determine if there are any manufacturing or processing facilities within 400 feet of the site. The DEP's Bureau of Environmental Compliance (BEC) files will be examined to determine if there are permits for any industrial facilities that are identified. A review of federal and state permits will also be conducted. Based upon this information a determination will be made of whether further detailed analysis is necessary. The ISC3 dispersion model screening database will be used to estimate the short-term and annual concentrations of critical pollutants at the potential receptor sites. Predicted worst-case impacts on the proposed project will be compared with the short-term guideline concentrations (SGC) and annual guideline concentrations (AGC) reported in the NYSDEC's *DAR-1 AGC/SGC Tables* (December 2003) to determine the potential for significant impacts. In the event that violations of standards are predicted, refined modeling will be performed, and measures to reduce pollutant levels to within standards will be examined; and
- If potential significant impacts of stationary source pollutants are predicted, a cumulative impact analysis to determine the interaction of the proposed project's air quality impacts with other combustion projects may be required. An emissions inventory of sources in the area will be developed which will be input into the ISC3 dispersion model. The maximum predicted concentrations from the cumulative modeling will be added to the background concentrations to estimate the future ambient air quality conditions at the locations near the project site.

TASK D-14. NOISE

The noise study will focus on assessing: (1) potential noise impacts due to project-generated traffic; and (2) the level of attenuation needed in project-developed buildings to satisfy SEQRA/CEQR requirements. (Additional details of impact receptors and building attenuation receptors are provided in the task descriptions below.) The Federal Highway Administration (FHWA) Traffic Noise Model, TNM 2.5, will be used for modeling roadway traffic. TNM calculates the noise contribution of each roadway segment to a given noise receptor. The noise from each vehicle type is determined as a function of the reference energy-mean emission level, corrected for vehicle volume, speed, roadway grade, roadway segment length, and source-receptor distance. Further adjustments needed to model the propagation path include shielding

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provided by rows of buildings, the effects of different ground types and source and receptor elevations, and the effect of any intervening noise barriers.

The noise study will include the following tasks:

- Select appropriate noise descriptors. Appropriate noise descriptors that characterize the noise environment and the impact of the proposed development will be selected based on criteria outlined in the *CEQR Technical Manual*. Consequently, the 1-hour equivalent ($L_{eq(1)}$) and, where appropriate, the L_{10} noise levels will be examined;
- Perform a screening analysis to determine locations where there is the potential for significant impacts due to the project. In general, these locations would be places where traffic generated by the proposed project would result in a doubling of passenger car equivalents (PCEs). Proportional modeling techniques will be used for this screening analysis;
- Select receptor locations for detailed analysis. Two types of receptor sites will be selected: receptor sites for detailed impact analysis, and receptor sites for building attenuation purposes. Receptor sites selected for impact analysis will be those locations where the proposed project has the potential for significant impact (based upon a screening analysis that will look for a doubling of traffic). These receptor sites would include locations where the proposed project would have the greatest potential to affect ambient noise levels. Receptor sites for building attenuation purposes will be locations where building design measures would be necessary to meet criteria outlined in the *CEQR Technical Manual*, but where no detailed impact analysis is necessary (because project-generated traffic would not result in a significant increase in noise levels);
- Measure existing noise levels. At each of the impact receptor sites identified above, existing noise levels will be measured during six time periods—weekday AM, midday, PM, nighttime, weekend midday, and weekend nighttime. At each of the building attenuation receptor sites identified above, existing noise levels will be measured during three time periods—weekday AM, midday, and PM. Measurements will be made using a Type 1 instrument, and L_{eq} , L_1 , L_{10} , L_{50} , and L_{90} values will be recorded;
- Calculate existing noise levels. Existing noise levels will be calculated at each impact receptor site using the TNM model. Calculated values will be compared with measured noise levels. Where necessary, adjustment factors will be calculated to account for noise from sources other than modeled nearby roadways;
- Determine future noise levels without the proposed project. At each of the impact receptor locations, noise levels without the proposed project will be determined using the TNM model and predicted No Build traffic (i.e., volumes, vehicle mixes, speeds) for the analysis years of 2009 and 2016;
- Determine future noise levels with the proposed project for the 2009 and 2016 development programs. At each of the impact receptor locations, noise levels with the proposed project will be determined using the TNM model and predicted No Build traffic (i.e., volumes, vehicle mixes, speeds);
- Compare noise levels with impact evaluation criteria. Existing noise levels and future noise levels, both with and without the project, will be compared with the noise impact criteria contained in the *CEQR Technical Manual* to determine project impacts; and

- Determine the level of building attenuation required. For the buildings analyzed as part of the proposed project, the level of attenuation and the types of measures necessary to achieve the attenuation specified in the *CEQR Technical Manual* will be examined.

TASK D-15. NEIGHBORHOOD CHARACTER

The character of a neighborhood is established by numerous factors, including land use patterns, the scale of development, the design of buildings, the presence of notable historic, physical, or natural landmarks, and a variety of other features including traffic and pedestrian patterns, noise, and socioeconomic conditions. The proposed development project could affect the character of these areas by introducing new commercial offices, housing, open space, an arena, retail, and other uses.

- Drawing on other EIS sections, describe the predominant factors that contribute to defining the character of the area;
- 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 proposed project; and
- Drawing on the analysis of impacts in various other EIS sections, assess and summarize the project's impacts on neighborhood character.

TASK D-16. 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 proposed project, because of its size and development phasings, would have the potential for substantial and extended effects.

The likely construction schedule for development at the site and an estimate of activity on-site will be described. Construction impacts will be evaluated according to the *CEQR Technical Manual* guidelines. The construction assessment for the proposed project will focus on areas where construction activities may pose specific environmental problems. Technical areas to be analyzed include:

- **Transportation Systems.** Project construction would require the permanent closure of streets on the arena block and temporary bridge closures. The EIS will analyze quantitatively potential temporary impacts to the area's transportation systems from these losses, any other losses in traffic lanes or other above- and below-grade transportation services, and increases in vehicle traffic from construction workers;
- **Air Quality.** Describe mobile source emissions from construction equipment and worker and delivery vehicles, and fugitive dust emissions. Analyze potential CO and particulate matter mobile source air quality impacts during construction based on information on traffic and truck volumes and on-site activities. Assess impacts of criteria pollutants from on-site construction activities, including particulate matter emissions from sources of fugitive dust. Discuss measures to reduce impacts;
- **Noise.** Estimate construction noise levels from various pieces of construction equipment and discuss potential effects on adjacent land uses. Measures to minimize construction noise impacts will be presented, as necessary;

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- **Hazardous Materials.** Construction of the proposed project would involve a variety of earthmoving and excavating activities, and construction activities in these areas could encounter contaminated soil or groundwater. For these reasons, as described in the Hazardous Materials chapter, subsurface investigations will be performed to determine appropriate health and safety and/or remedial measures that would precede or govern soil disturbance activities in known or potentially contaminated areas. Investigative measures would include more detailed preliminary assessments to identify potential contaminants of concern, likely followed by subsurface soil and groundwater testing to confirm the types, levels, and extent of contaminants of concern on development sites. The range of remedial and health and safety measures that would be employed prior to and/or during construction would vary with the types, levels and extent of contamination identified during the testing programs. Site-specific Health and Safety Plans would also govern remedial and construction activities. All work with the potential to generate dust (e.g., excavation) would be done in accordance with Occupational Safety & Health Administration (OSHA) requirements to protect workers (who have the greatest potential for exposure because of their close proximity to the work areas), and with NAAQS to protect the public;
- **Infrastructure.** The proposed project would need to relocate public infrastructure, particularly water and sewer connections, as well as the electric, gas, and telephone lines; thus, the services to the neighborhood during the relocation will be addressed;
- **Cultural Resources.** The integrity of nearby historic resources within and adjacent to the project site could be adversely affected by construction vibrations; thus, the maintenance of the integrity of such resources would need to be assessed; and
- **Other Technical Areas.** As appropriate, this section will discuss the other areas of environmental assessment for potential construction-related impacts.

TASK D-17. PUBLIC HEALTH

According to the guidelines of the *CEQR Technical Manual*, public health concerns for which a public health assessment may be warranted include: increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts; increased exposure to heavy metals and other contaminants in soil/dust resulting in significant adverse hazardous materials or air quality impacts; the presence of contamination from historic spills or releases of substances that might have affected or might affect ground water to be used as a source of drinking water; solid waste management practices that could attract vermin and result in an increase in pest populations; potentially significant adverse impacts to sensitive receptors from noise and odors; and actions for which the potential impact(s) result in an exceedance of accepted federal, state, or local standards. Depending on the results of relevant technical analyses, a public health analysis may be warranted. If so, this analysis will be provided.

TASK D-18. MITIGATION

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

TASK D-19. ALTERNATIVES

The purpose of an alternatives analysis is to examine reasonable and practicable options that avoid or reduce project-related significant adverse impacts and achieve the stated goals and objectives of the proposed project. The specific alternatives to be analyzed are typically finalized with the lead agency as project impacts become clarified. However, they will include a No Action Alternative, which assumes that the proposed project is not built and the project parcels maintain their current uses, and a Lower Density Alternative. The description and evaluation of each alternative will be provided at a level of detail sufficient to permit a comparative assessment of each alternative discussed.

TASK D-20. EXECUTIVE SUMMARY

The executive summary will utilize relevant material from the body of the EIS to describe the proposed project, the necessary approvals, study areas, environmental impacts predicted to occur, measures to mitigate those impacts, unmitigated and unavoidable impacts (if any), and alternatives to the proposed project.

E. AGENCY REVIEW OF THE PDEIS/NOTICE OF COMPLETION FOR DEIS

The PDEIS will be submitted for agency review and revised as necessary. AKRF will attend review meetings and respond promptly to review comments in consultation with ESDC, its counsel, and the larger project team. We assume that ESDC will coordinate agency comments to achieve an expedited review. Base cost estimates assume that a notice of completion will be prepared within two months after submission of the PDEIS and that major new substantive issues will not arise after scoping or during this review that would expand the scope of work as described in this proposal.

F. PUBLIC REVIEW OF THE DEIS AND PREPARATION OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)

AKRF will attend the SEQR public hearing on the DEIS and will assist in preparing presentations for public review. Costs for public review include attendance at the hearing by two senior staff members and attendance at one Community Board and one Borough President's meeting.

Based on comments raised during review, we will prepare a "Response to Comments" chapter and a "Foreword" for the FEIS, and revise the DEIS as necessary to respond to public comments.

The PFEIS will be submitted to the lead agency for review, and will be revised as necessary. Base cost estimates assume that a notice of completion will be prepared quickly and that major new substantive issues will not arise that would expand the scope of work as described in this proposal.

G. MEETINGS AND COORDINATION

This task will involve internal progress meetings with the project team as well as review meetings with, and presentations to, the staff of the lead agency and other involved public

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agencies. AKRF will attend up to 30 meetings during the 6-month period. Meetings and coordination will include strategy planning sessions, regular status update meetings with ESDC, involved agencies, and the project sponsor, and meetings focused on particular technical analyses, as necessary.

H. REPORT PREPARATION

This task involves all the word processing, graphics, editing, and reproduction involved in the preparation of the EIS. Based on comments received from the project team, AKRF will revise the draft PDEIS and prepare copies of the PDEIS for submission to SEQR review. We will then produce copies of the DEIS and FEIS for public distribution.

I. BLIGHT STUDY

AKRF will prepare a blight study in support of the proposed project to assist ESDC in making a determination of blight on the project site. Section 10(c) of the New York State Urban Development Corporation Act requires that ESDC find, in the case of a land use improvement project, that "the area in which the Project is to be located is a substandard or insanitary area, or is in danger of becoming a substandard or insanitary area and tends to impair or arrest the sound growth and development of the municipality."

The characteristics of blight can include, but are not limited to: physical deficiencies (insanitary/substandard building conditions, building/housing/fire code violations, site vacancy or underutilization), economic deficiencies (building vacancies, low rents, high rental turnovers) or other deficiencies (incompatible land uses, multiple ownerships that hamper assemblage of properties, traffic congestion, pollution). Taken together, these characteristics may demonstrate that the area under study is substandard, insanitary, or deteriorating.

Using currently available data and information from ESDC and DCP, and if necessary a supplemental survey, we will document and record patterns of ownership, utilization of the sites, land use, zoning, and physical conditions for the affected area. This work will also draw on information being gathered for the land use task being performed for the EIS effort, including maps and other graphical data.

More specifically, the blight study will include the following tasks:

- A. Determine the study area for analysis of blight conditions and prepare and draft criteria that will be used as the basis for the blight study area, in consultation with state and city agencies, including ESDC and DCP.
- B. Document blighted conditions, including the following:
 - Analyze residential and commercial rents on the project site and within the study area;
 - Analyze assessed value trends on the project site, and compare to sample blocks with comparable uses in the study area, such as the Atlantic Center;
 - Describe residential and commercial vacancy trends;
 - Compare current economic activity on the project site, such as direct and indirect employment, with relevant surrounding sites;

EIS Contract Scope

- Review New York City Police Department (NYPD) crime statistics for the affected area; and
 - Identify physical conditions, including New York City Department of Buildings (DOB) building code and other pertinent violations (e.g. New York City Fire Department, Department of Environmental Protection, etc.), and determine Certificate of Occupancy compliance on the project site.
- C. Identify/estimate the public benefit generated by the proposed project, including estimates of construction period and operating period, including direct and indirect employment, wages and salaries, and non-real estate taxes generated. This task assumes that an economic and fiscal impact analysis has been previously performed by AKRF for FCR Sports, LLC.
- D. We will issue a technical memorandum discussing the findings of the blight study, and will respond to comments on the study and revise as necessary, in consultation with the project team.

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HOURLY RATES AND ESTIMATED COSTS

Tables 2 through 6 present budget estimates for work to be conducted between September 1, 2005 and project finish. Table 2 serves as a summary, showing estimated fees by task and consultant. Tables 3-5 present more detailed budgets that show estimated labor hours and cost by task for individual consultants. Table 6 shows AKRF hourly billing rates.

EIS Contract Scope

Table 2
Consultant Summary Budget

Tasks	AKRF	HPI	PHA	Grubb & Ellis	Total
A. Strategy Planning	\$34,080		\$2,330		\$34,080
B. Review and Finalize Environmental Assessment Form (EAF)	\$3,400				\$3,400
C. Scoping the Environmental Impact Statement (EIS)	\$26,660				\$26,660
D. Preliminary Draft Environmental Impact Statement (PDEIS)					
D-1 Project Description	\$19,300				\$19,300
D-2 Analysis Framework	\$10,040				\$10,040
D-3 Land Use, Zoning, and Public Policy	\$5,780				\$5,780
D-4 Socioeconomic Conditions	\$64,700				\$64,700
D-5 Community Facilities and Services	\$13,970				\$13,970
D-6 Open Space	\$8,000				\$8,000
D-7 Cultural Resources	\$23,310				\$23,310
Archaeology-HPI		\$74,461			\$74,461
D-8 Urban Design and Visual Resources	\$14,950				\$14,950
D-9 Shadows	\$42,260				\$42,260
D-10 Hazardous Materials	\$10,020				\$10,020
D-11 Infrastructure and Energy	\$25,490		\$2,540		\$28,030
D-12 Traffic and Parking/Transit and Pedestrians	\$8,990		\$78,840		\$87,830
D-13 Air Quality	\$80,000				\$80,000
D-14 Noise	\$19,620				\$19,620
D-15 Neighborhood Character	\$10,140				\$10,140
D-16 Construction Impacts	\$87,930		\$8,120		\$96,050
D-17 Public Health	\$10,060				\$10,060
D-18 Mitigation	\$18,440		\$30,880		\$49,320
D-19 Alternatives	\$23,960		\$21,960		\$45,920
D-20 Executive Summary	\$17,230		\$4,310		\$21,540
PDEIS Subtotal (Including Second Build Scenario)	\$515,190	\$74,461	\$146,650	\$0	\$746,572
E. Agency Review of the PDEIS/Notice of Completion for DEIS	\$104,310		\$33,600		\$137,910
F. Public Review of the DEIS/Preparation of the FEIS	\$110,650		\$40,680		\$151,330
G. Meetings and Coordination	\$58,570		\$1,270		\$59,840
H. Report Preparation DEIS/FEIS	\$62,310				\$62,310
I. Blight Study					
I-A Consult with ESDC	\$5,420				\$5,420
I-B Document Blighted Conditions	\$13,100			\$15,000	\$28,100
I-C RIMS / IMPLAN Analysis of Proposed Project	\$28,250				\$28,250
I-D Prepare Blight Findings	\$10,150				\$10,150
Total Labor	\$972,090	\$74,461	\$224,530	\$15,000	\$1,286,081
Direct Expenses	\$62,210	\$4,930	\$3,496	\$0	\$70,636
Total Labor and Expenses	\$1,034,300	\$79,391	\$228,026	\$15,000	\$1,356,717

Note: See individual consultant budget estimates for details on scope, cost assumptions, and contingency tasks.

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Table 3
AKRF Estimated Labor Hours and Costs

Tasks	Chall- person \$245	Senior Officer \$225	Officer \$200	Tech. Director \$175	Senior Profes- sional \$135	Profes- sional II \$110	Profes- sional I \$105	Tech. II \$95	Tech. I \$75	Total Budget
A. Strategy Planning										
B. Review and Finalize EAF & Draft Scope	4	4			80	60				\$34,080
C. Scoping the Environmental Impact Statement (EIS)	4	4			12	8				\$3,400
D. Preliminary Draft Environmental Impact Statement (PDEIS)										\$26,560
D-1 Project Description	20	20			40	34		8		\$19,300
D-2 Analysis Framework		20			28	16				\$10,040
D-3 Land Use, Zoning, and Public Policy	4	4	40	4	8	22		10		\$3,780
D-4 Socioeconomic Conditions	4	4		16	44	414		16		\$84,700
D-5 Community Facilities and Services	4	4		4	46	34		16		\$13,970
D-6 Open Space	4	4		2	12	38		10		\$8,000
D-7 Cultural Resources	6	6		80	30		30	8		\$23,310
D-8 Urban Design and Visual Resources ⁽¹⁾	16	16		8	18	58		12		\$14,950
D-9 Shadows ⁽²⁾	30	30		30	24	218		32		\$42,260
D-10 Hazardous Materials ⁽³⁾	4	4	60		12	20	20			\$10,020
D-11 Infrastructure and Energy	4	4			12	52	50			\$25,490
D-12 Traffic and Parking/Transit and Pedestrian	6	6		16	32			16		\$9,990
D-13 Air Quality ⁽⁴⁾	8	8	38	66	90	140	140	140		\$80,000
D-14 Noise	4	4		22	38	22	48	24		\$19,620
D-15 Neighborhood Character	8	8	80		26	48				\$10,140
D-16 Construction Impacts	40	40			190	190	156			\$87,930
D-17 Public Health	20	20		26	20	26				\$10,080
D-18 Mitigation	20	20	24		40	34				\$18,440
D-19 Alternatives	40	40			52	32	24	20		\$23,960
D-20 Executive Summary	30	30			32	56				\$17,230
PDEIS Subtotal:	20	294	212	280	792	1,484	468	312	0	\$616,190
E. Agency Review of the PDEIS/Notice of Completion for DEIS ⁽⁵⁾	180	180	40	60	162	144	40	20	20	\$104,310
F. Public Review of the DEIS/Preparation of the FEIS	180	180	40	70	160	180	90	40	26	\$110,650
G. Meetings and Coordination ⁽⁶⁾	16	140			80	100				\$56,370
H. Report Preparation		16		48	80	80	100	118	120	\$62,310
I. Blight Study										
I-A Consult with ESDC ⁽⁷⁾	4	4	16			12				\$5,420
I-B Document Blighted Conditions			16	8		40	30	10		\$13,100
I-C RIMS / IMPLAN Analysis of Proposed Project ⁽⁸⁾			44	86		40				\$28,250
I-D Prepare Blight Findings	2	6	12	4		60				\$10,160
Total Blight Study:	6	88	98	98	0	152	30	10	0	\$56,920
Total AKRF Labor	40	892	410	568	1,468	2,262	728	600	166	\$972,090
Direct AKRF Expenses ⁽⁹⁾										\$82,210
AKRF Estimated Fee										\$1,034,300

Table 3 Notes:

1. Assumes that AKRF will be able to use lighting diagrams produced by consultants under contract to FCRC.
2. Assumes analysis of one building program. Data costs are assumed to be \$20,000, and are included in the Direct AKRF Expenses task.
3. Includes preliminary area-wide historic use assessment of project area.
4. Air quality budget assumes: two analysis years; three modeled intersections; HVAC impacts, impacts from ventilation of area below railroad decking, industrial source screening and analysis of two prototypical garages.
5. Assumes agency review is completed in 8 weeks.
6. Budget assumes attendance of up to 24 regular team meetings (averaging 4 hours per meeting), and 6 meetings focused on specific technical areas.
7. Assumes preparation for and attendance at 2 meetings with ESDC.
8. Assumes update of economic/fiscal impact analysis previously performed by AKRF for FCR Sports, and that operating pro forma is available from FCR Sports.
9. Direct expenses include database searches, graphics, reproduction and binding, transportation, delivery services, and \$20,000 for data from Earth Data to be used in Shadows analysis.

Table 4
PHA Estimated Labor Hours and Costs

Tasks	Principal \$170	Senior Engineer/ Planner \$105	Junior Engineer/ Planner \$85	Engineer Aide \$60	Field Tech- nicians \$25	Task Hours	Labor Cost
A-C. Strategy Planning, EAF and Scoping	8	6	4			18	\$2,330
D. Preliminary Draft Environmental Impact Statement (PDEIS)							
D-11 Infrastructure and Energy	8	8	4			20	\$2,640
D-12 Traffic and Parking ⁽¹⁾	30	250	302	80	80	742	\$63,820
D-12 Transit and Pedestrians	16	50	60	20	30	176	\$15,020
D-16 Construction Impacts	8	32	40			80	\$8,120
D-18 Mitigation	32	132	108	40		312	\$30,880
D-19 Alternatives	30	68	72	60		230	\$21,960
D-20 Executive Summary	8	20	10			38	\$4,310
E. Agency Review of PDEIS/Notice of Completion for DEIS ⁽²⁾	80	80	80	80		320	\$33,600
F. Public Review of DEIS/Preparation of FEIS ⁽³⁾	72	120	144	60		396	\$40,880
G. Meetings and Coordination	4	4	2			10	\$1,270
Total	296	770	826	340		2,342	\$224,530
Labor:							\$224,530
Direct Expenses:							\$3,496
PHA Total Estimated Fee:							\$228,026

Notes:
(1) Task D-12 assumes 64 intersections for 5 peak hours. The cost of work for additional intersections and/or peak hours is estimated under Contingency Tasks below.
(2) Task E is based on an estimate of 320 person hours for responding to agencies' comments and PDEIS revisions. Work beyond this level of effort will continue to be billed at the applicable hourly rates noted above.
(3) Task F is based on an estimate of 386 person hours for responding to public comments on the DEIS; preparation of the PFEIS, and agency review of the FEIS. Work beyond this level of effort will continue to be billed at the applicable hourly rates noted above.

PHA Contingency Tasks

Analysis of Additional Intersection: \$3,500 per intersection
Analysis of each Additional Alternative: \$45,000
Analysis of each Additional Peak Hour: \$60,000
Qualitative Traffic and Parking Analysis for Additional Development Scenario: \$13,000
Qualitative Transit and Pedestrian Analyses for Additional Development Scenario: \$5,600

Table 5
HPI Estimated Labor Hours and Costs

	Principal \$60	Project Director \$29	Graphics \$20	Researcher \$16	Technical Assistant \$15
Research	18	101	0	415	248
Report Writing	15	368	0	94	5
Graphics	10	54	75	0	20
Editing	24	53	24	0	84
Report Production	0	0	24	0	82
Client/Agency Communication	24	5	0	0	0
Total Hours	91	581	123	509	439
Multiplier (1.9751)	\$99	\$57	\$40	\$32	\$26
Total Personnel	\$8,987	\$33,278	\$4,859	\$16,085	\$11,252
Total Personnel:					\$74,461
Total Direct Expenses:					\$4,930
HPI Total Estimated Fee:					\$79,391
Notes: Budget includes: update of existing disturbance memo based on change in project site and new SHPO regulations, and preparation of Stage 1A report analyzing 36 lots and 6 street beds. Total cost will be less if research and/or coordination with relevant agencies indicate that fewer properties require full Stage 1A analysis.					

Table 6
AKRF, Inc. Hourly Billing Rates

Staff Category	Hourly Rate (\$)
Chairperson	245
Senior Officer	225
Officer/Project Manager	200
Technical Director	175
Senior Professional	135
Professional II	110
Professional I	105
Technical II	95
Technical I	75
Notes: Out-of-pocket expenses will be billed at cost. These rates are effective through December 31, 2005. Payment of AKRF invoices will be made within 30 days of receipt.	