A. INTRODUCTION

Based on the *City Environmental Quality Review (CEQR) Technical Manual*, a solid waste assessment determines whether a project has the potential to cause a substantial increase in solid waste production that may overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan or with state policy related to the City's integrated solid waste management system. The following analysis estimates the amount of existing solid waste generated on Governors Island and assesses the potential impacts of the Proposed Project on solid waste and sanitation services.

B. PRINCIPAL CONCLUSIONS

For the Proposed Project, it is anticipated that The Trust for Governors Island (The Trust) would collect solid waste for the park and public space (both Phase 1 and later phases) and a private carter would collect solid waste generated by future development. In both cases a private trucking service would remove the solid waste. In accordance with the City's Solid Waste Management Plan, the Proposed Project would also comply with the City's recycling program.

PHASE 1 (2013)

Phase 1 of the Proposed Project would generate approximately about 28 tons of solid waste per week. In comparison, the No Build condition will generate about 27 tons of solid waste per week. Compared with the 13,000 tons per day that private carters currently handle, it is expected that private carters would have sufficient capacity to accommodate the additional waste generated by Phase 1 of the Proposed Project. Therefore, Phase 1 of the Proposed Project would not result in any significant adverse impacts to solid waste and sanitation services.

LATER PHASES (2030)

Full development of the Proposed Project would result in a net increase of approximately 130 tons of solid waste per week compared to conditions in the future without the Proposed Project, all of which is anticipated to be removed by a private trucking service. Given that a truck can haul about 10 tons of solid waste, full development of the Proposed Project would require 13 additional truck trips per week off the Island than the No Build condition. Compared with the 13,000 tons per day that private carters currently handle, it is expected that private carters would have sufficient capacity to accommodate the additional waste generated by the full development of the Proposed Project. Therefore, full development of the Proposed Project would not result in any significant adverse impacts to solid waste and sanitation services.

C. EXISTING CONDITIONS

DESCRIPTION OF CURRENT SOLID WASTE SANITATION SERVICES

The New York City Department of Sanitation (DSNY) is the City agency responsible for the collection and disposal of municipal solid waste, refuse, and designated recyclable materials generated by residences, public schools, some nonprofit institutions, tax exempt non-residential facilities, and many City and State agencies. DSNY also collects waste from City litter baskets, street-sweeping operations, and lot cleaning activities. It is estimated DSNY collects over 12,000 tons of residential and institutional refuse and recyclables per day.[1] DSNY delivers most of the refuse it collects to certain public or private solid waste management facilities known as transfer stations, in the City or in adjoining communities, for processing and transportation to out-of-city disposal facilities. Solid wastes that are not recycled, reused, or converted to a useful product locally must be exported from the City for disposal since New York City does not have public or private local disposal facilities such as sanitary landfills, construction and demolition debris landfills, traditional incinerators, or waste-to-energy resource recovery facilities.

DSNY collects designated recyclables, including metal, glass, and plastic, and designated paper recyclables and delivers them to materials recovery facilities. In addition, DSNY collects residential yard waste on certain fall weekends and delivers it to the City's yard waste and composting facilities.

DSNY developed a Solid Waste Management Plan (SWMP) to address management of expected future demands for the city's solid waste. The SWMP was approved by the New York City Council in July 2006 and by the New York State Department of Environmental Conservation (NYSDEC) in October 2006, and covers the period through 2025.

The City's solid waste management services are undertaken in accordance with the SWMP, through DSNY. The SWMP establishes a hierarchy of preferred solid waste management methods to reduce and process solid waste generated within the City. The objectives of the SWMP are, in order of importance: waste reduction, recycling, composting, resource conservation and energy production, and lastly, landfill disposal. The SWMP mandates that solid waste be transferred to solid waste management facilities located in each borough, including special (hazardous materials) waste collection sites, composting facilities, and bulk residential waste sites. Local Law 19 of 1989 requires that DSNY and private carters collect recyclable materials and deliver them to material recovery facilities. New York City residents are required to separate aluminum foil, glass, plastic and metal containers, and newspapers and other paper wastes from household waste for separate collection. The SWMP also mandates that commercial establishments are subject to recycling requirements. Businesses must separate certain types of paper wastes, cardboard, metal items, and construction wastes. Food and beverage establishments must recycle metal, glass, and plastic containers, and aluminum foil, in addition to meeting the commercial recycling requirements.

Private carters also consolidate commercial solid waste for commercial establishments (restaurants, retail facilities, offices, industries, etc.) for collection and for processing and/or disposal of various kinds of solid waste, construction and demolition debris, non-hazardous industrial wastes, and recyclables. Currently, The Trust collects and compacts solid waste on the Island and a trucking service removes the solid waste from the Island.

[1] DSNY website: http://www.nyc.gov/html/dsny/html/about/about.shtml

SOLID WASTE GENERATION

The project site has a number of active uses that currently generate solid waste. Based on *CEQR Technical Manual* solid waste generation rates, waste generation rates from the *Brooklyn Bridge Park FEIS* (December 2005), and discussions with New York City Department of Parks and Recreation (NYCDPR), the existing uses on the project site generate a total of approximately 40,165 pounds of solid waste per week (about 20 tons per week).[1] **Table 13-1** summarizes the existing solid waste generation on the Island.

Table 13-1
Solid Waste Generation: Existing Conditions

Use	Units	Generation Rate (pounds per week)	Total (pounds per week)
New York Harbor School	409 students	2 lb. per pupil[2]	818
Lower Manhattan Cultural Council (Artist Studios)	30 employees	9 lb. per employee[3]	270
Park Staff	80 employees[1]	10 lb. per employee[4]	800
Park Visitors	12,759 visitors	3 lb. per park visitor[5]	38,277
Total			**40,165**

Notes:
1 Seasonally adjusted park employment.
2 *CEQR Technical Manual*, Table 14-1.
3 The solid waste generation rate for Artist Studios is assumed to be comparable to the solid waste generation rate for a single office.
4 *Brooklyn Bridge Park FEIS* (December 14, 2005).
5 Assumes 1 lb. per park visitor per day that Governors Island is open to visitors.

D. FUTURE WITHOUT THE PROPOSED PROJECT

This section discloses the anticipated future demand for solid waste handling in the future without the Proposed Project (No Build). As discussed in Chapter 2, "Analytical Framework," visitation to the Island will increase to approximately 17,684 daily visitors in the future without the Proposed Project, both in 2013 and 2030. Similar to existing conditions, Governors Island will continue to be open to visitors three days per week in the No Build condition. The new visitors will generate additional solid waste on the Island. The number of employees and students will be the same as existing conditions. In the future without the Proposed Project, approximately 54,940 pounds of solid waste per week (about 27 tons per week) will be generated on the Island (see **Table 13-2**).

[1] As discussed above, the estimation of existing solid waste generation on the project site is based on solid waste generation rates from the *CEQR Technical Manual*, waste generation rates from the *Brooklyn Bridge Park FEIS*, and discussions with NYCDPR. It should be noted that this estimation is substantially higher than actual solid waste that is currently generated on the Island (193 tons per 12-month period).

Table 13-2
Solid Waste Generation:
Future without the Proposed Project

Use	Units	Generation Rate (pounds per week)	Total (pounds per week)
New York Harbor School	409 students	2 lb. per pupil[2]	818
Lower Manhattan Cultural Council (Artist Studios)	30 employees	9 lb. per employee[3]	270
Park Staff	80 employees[1]	10 lb. per employee[4]	800
Park Visitors	17,684 visitors	3 lb. per park visitor[5]	53,052
Total			**54,940**

Notes:
1 Seasonally adjusted park employment.
2 *CEQR Technical Manual*, Table 14-1.
3 The solid waste generation rate for Artist Studios is assumed to be comparable to the solid waste generation rate for a single office.
4 *Brooklyn Bridge Park FEIS*, December 14, 2005.
5 Assumes 1 lb. per park visitor per day that Governors Island is open to visitors.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

This section discloses the anticipated future demand for solid waste handling in the future with the Proposed Project. For the Proposed Project, both in Phase 1 and in the Later Phases, it is anticipated that The Trust would collect waste in the park and public space and a private carter would remove the solid waste generated by development. A private trucking service would remove from the Island the solid waste from both sources. The Proposed Project would also comply with the City's recycling program and therefore the Proposed Project would accommodate source separation of recyclables in conformance with the City's recycling regulations. This would include recycling paper, glass, metals, and certain plastics. Furthermore, as discussed in Chapter 1, "Project Description," sustainability principles would influence the design of the Proposed Project by focusing on recycling, minimizing waste, and sustainability strategies for the specification, construction, operations, and maintenance of the public spaces and park buildings. Overall, the Proposed Project is not expected to have a significant adverse impact on solid waste handling and disposal methods or recycling in the City.

PHASE 1 (2013)

As a result of Phase 1, there would be 101 employees on the Island, an increase from the No Build condition. As described in Chapter 2, "Analytical Framework," no new visitors are expected with Phase 1 as compared with the No Build condition. As a result of Phase 1, approximately 55,150 pounds of solid waste per week (about 28 tons per week) would be generated on the Island (see **Table 13-3**). In comparison, the No Build condition will generate about 27 tons of solid waste per week. Given that a truck can haul about 10 tons of solid waste, both the No Build condition and Phase 1 of the Proposed Project would require 3 truck trips per week. Compared with the 13,000 tons per day that private carters currently handle, it is expected that private carters would have sufficient capacity to accommodate the additional waste generated by Phase 1 of the Proposed Project. Therefore, Phase 1 of the Proposed Project would not result in any significant adverse impacts to solid waste and sanitation services.

Table 13-3
Solid Waste Generation:
Phase 1 of the Proposed Project

Use	Units	Generation Rate (pounds per week)	Total (pounds per week)
New York Harbor School	409 students	2 lb. per pupil[2]	818
Lower Manhattan Cultural Council (Artist Studios)	30 employees	9 lb. per employee[3]	270
Park Staff	101 employees[1]	10 lb. per employee[4]	1,010
Park Visitors	17,684 visitors	3 lb. per park visitor[5]	53,052
Total			**55,150**

Notes:
1 Seasonally adjusted park employment
2 *CEQR Technical Manual*, Table 14-1
3 The solid waste generation rate for Artist Studios is assumed to be comparable to the solid waste generation rate for a single office.
4 *Brooklyn Bridge Park FEIS*, December 14, 2005
5 Assumes 1 lb. per park visitor per day that Governors Island is open to visitors.

LATER PHASES (2030)

This section discloses the anticipated future demand for solid waste handling from the full development of the Proposed Project in 2030. As described in Chapter 2, "Analytical Framework," two potential development scenarios—the Mixed-Use Option (MUO) and the University/Research Option (URO)—have been identified for the Later Phases-Island Redevelopment component of the Proposed Project. Due to the higher number of faculty housing units, the MUO would generate a higher amount of solid waste, and therefore the MUO is considered the reasonable worst-case development scenario for the full development of the Proposed Project. In addition, the Later Phases-Park and Public Spaces would result in an increase in visitation and employment, which would generate additional solid waste.

As shown in **Table 13-4**, solid waste generated from the full development of the Proposed Project is estimated to total 314,132 pounds per week (or approximately 157 tons). Compared with the solid waste generation in the No Build condition, full development of the Proposed Project would result in a net increase of approximately 259,192 pounds of solid waste per week (130 tons), all of which are expected to be taken off the Island by private carters. Compared with the 13,000 tons per day that private carters handle,[1] this amount of solid waste would be minimal. Given that a truck can haul about 10 tons of solid waste, the full development of the Proposed Project would require an additional 13 truck trips per week compared with the No Build condition.

[1] http://www.nyc.gov/html/dsny/html/about/about.shtml [Accessed June 6, 2011].

Table 13-4
Solid Waste Generation:
Full Development of the Proposed Project

Use	Units	Generation Rate (pounds per week)	Total (pounds per week)
New York Harbor School	409 students	2 per pupil[2]	818
Lower Manhattan Cultural Council (Artist Studios)	30 employees	9 per employee[6]	270
Park Staff	106 employees[1]	10 per employee[3]	1,060
Park Visitors	21,690 visitors	7 lb. per visitor[4]	151,830
University			
Faculty Housing	1,941 units	41 per household[2]	79,581
Student Dorms	1,500 beds	17 per person[2]	25,500
Commercial Space			
Hotel	131 employees	75 per employee[2]	9,825
Conference Center	28 employees	13 per employee[4]	364
Office	240 employees	13 per employee[2]	3,120
General Retail[5]	113 employees	79 per employee[2]	8,927
Restaurants[5]	112 employees	251 per employee[2]	28,112
Cultural (Gallery, small museum)	125 employees	9 per employee[6]	1,125
Public School			
Public Elementary	400 students	3 per student[2]	1,200
Public Intermediate	400 students	4 per student[2]	1,600
Public High School	400 students	2 per student[2]	800
Total			**314,132**

Notes:
1 Seasonally adjusted park employment
2 *CEQR Technical Manual*, Table 14-1
3 *Brooklyn Bridge Park FEIS*, December 14, 2005
4 The solid waste generation rate for the conference center is assumed to be comparable to the solid waste generation rate for an office building.
5 The Proposed Project would result in Service Retail/Restaurant. For this analysis, it is assumed that 113 employees would be general retail employees and that 112 employees would be restaurant employees.
6 Assumed the solid waste generate rate for cultural space is comparable to the solid waste generate rate for a single office.

Private carters would collect, transport, and dispose of the solid waste on the Island for the full development of the Proposed Project. The increase that would result from the full development of the Proposed Project is not expected to overburden New York City's solid waste handling services, and therefore the full development of the Proposed Project would not have a significant adverse impact on solid waste and sanitation services. ✷