

A. INTRODUCTION

This chapter examines the proposed project's effects on solid waste and sanitation services. According to the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a solid waste and sanitation services assessment is intended to determine whether a project has the potential to cause a substantial increase in solid waste production. Such an increase may overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP) or with State policy related to the City's integrated solid waste management system. This chapter discloses the proposed project's estimated solid waste generation and assesses the project's consistency with the city's SWMP.

PRINCIPAL CONCLUSIONS

The proposed project is estimated to generate approximately 101,837 pounds (approximately 50.9 tons) per week of solid waste. Though this would be an increase compared with conditions in the future without the proposed project, it would be a negligible increase relative to the 13,000 tons of waste handled by commercial carters every day. The proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It also would not conflict with, or require any amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services.

B. EXISTING CONDITIONS

Solid waste management services in New York City are guided by the SWMP, which was prepared by the New York City Department of Sanitation (DSNY) and adopted by the City Council in 2006. The SWMP takes into account the objectives of the State's solid waste management policy with respect to the preferred hierarchy of waste management methods: first, waste reduction; then recycling, composting, resource conservation and energy production; and, last, landfill disposal. The SWMP includes initiatives and programs for waste minimization, reuse, recycling, composting, siting a new waste conversion facility to derive energy from waste, waste transfer, transport, and out-of-city disposal at waste-to-energy facilities and landfills.

In accordance with the SWMP, and with DSNY's responsibilities under the City Charter, DSNY handles all residential and institutional refuse in the City. DSNY collects approximately 11,000 tons per day (tpd) of refuse and 2,000 tpd of recyclables. Solid waste from commercial and manufacturing uses is collected by private carters, which handle another 13,000 tpd of recyclables and mixed municipal solid waste (MSW).¹ Commercial carters transport the MSW to transfer stations and recyclables to recycling facilities. At the transfer stations, MSW is consolidated into larger trucks or rail cars and transported to landfills or waste-to-energy

¹ Source: <http://www.nyc.gov/html/dsny/html/about/about.shtml> [Accessed April 25, 2013].

facilities outside of New York City for disposal. Private carters also collect other waste such as mixed construction and demolition debris and dirt, rock, and masonry waste and deliver it to construction and demolition debris processing facilities where clean fill and other items of value are separated out for recycling. The residue is then transferred to trucks, rail cars, or barges and sent for disposal. The SWMP includes solid waste transfer stations and special problem waste collection sites in each borough, as well as certain composting facilities, recycling facilities and private transfer stations.

New York City's Recycling Law requires that both DSNY and commercial carters collect certain designated recyclable materials and deliver them to material recovery facilities for sorting and recycling. New York City residents are required to separate recyclable aluminum foil, glass, plastic and metal containers, newspapers, and other paper wastes from other household waste for separate collection by DSNY. Commercial entities are also required to separate recyclables for collection by private carters. Businesses are required to source-separate certain types of paper, cardboard, metal, and construction wastes. Food and beverage establishments must separate these same wastes, as well as metal, glass, and plastic containers, and aluminum foil.

The SWMP also proposes the following three broad categories of action to address traffic issues associated with commercial waste handling: (1) improve conditions at and around transfer stations through stricter operating rules; (2) use DSNY marine transfer stations and procurements to facilitate a transition from a commercial waste system highly reliant on trucks to one that relies increasingly on barge and rail; and (3) reduce private transfer station capacity in the four community districts that currently absorb the largest proportion of the system's impacts.

Currently, the project site is substantially vacant apart from the storage of graffiti removal trucks and therefore generates a negligible amount of solid waste.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project condition, the project site is anticipated to remain in its current condition and would generate a negligible amount of solid waste.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

As described in Chapter 1, "Project Description," the proposed project would renovate and reuse the Kingsbridge Armory. The proposed project would introduce multiple new uses to the Armory, including ice rinks and related program space; food and beverage, concession, and retail space; and community facility space, which is assumed to include fitness and recreation facilities, multipurpose rooms, child care, business incubator space, and meeting rooms; as well as parking in the Armory's basement and cellar levels.

The proposed project would increase the volume of solid waste generation at the site. It also would be required to comply with the City's recycling program. This includes source separation of solid waste in conformance with City recycling regulations and state solid waste laws. Materials to be separated include paper, cardboard, metal, electronic waste, and construction wastes, all of which reduces the stream of waste to landfills. The analysis below conservatively does not include the reduction in solid waste generation expected from the proposed project's compliance with the City's recycling program.

The proposed ice rinks are intended for use by neighborhood students and residents, high school and college leagues, open skating times, instructional training, adult professional (minor league) and non-professional hockey games, figure skating and speed skating, and other ice events. In addition, the central, main rink would occasionally be utilized for a variety of events with a maximum attendance of 5,000 spectators. As such, the estimate of solid waste generation for the proposed project accounts for both typical daily activities as well as event activities on the main rink. It is expected that the parking use would generate a negligible amount of solid waste and was therefore not included in the estimated solid waste generation. It is expected that all solid waste generated by the proposed project would be handled by private carters.

Based on the solid waste generation rates provided by the *CEQR Technical Manual* and for relevant uses in other approved environmental impact statements (EISs), the proposed project would generate solid waste at a rate of approximately 101,837 pounds (approximately 50.9 tons) per week (see **Table 6-1**). As shown in **Table 6-1**, a number of assumptions are built into this solid waste generation rate due to the variety of uses and activities in the proposed project. This analysis is intended to provide a conservative estimate of the proposed project's solid waste generation during a typical busy week with multiple events occurring on the main rink and typical daily activities during all other times.

Table 6-1
Solid Waste Generation: Future With the Proposed Project

Use	Units	Generation Rate (lbs/week)	Total, Private Carters (lbs/week) ⁹
Ice Rinks, Accessory Spaces, and Related Program Space			
Main Rink Event	20,000 attendees per week ¹	0.3 per attendee ⁵	6,000
Ice Rink Typical Daily Activities	13,335 daily visitors ²	4.9 per visitor ⁶	65,342
Rink Employees	65 employees ³	13 per employee ⁷	845
Community Facility	50 employees ⁴	13 per employee ⁷	650
Food and Beverage/Concessions/Retail	145 employees ⁴	200 per employee ⁸	29,000
TOTAL			101,837

Notes:

1. The main rink would have a 5,000-seat capacity. This analysis conservatively assumes four maximum capacity events per week.
2. The number of visitors for typical daily activities is based on the trip generation factors presented in Chapter 8, "Transportation" for Saturday activities and assumes activities on all nine rinks. This estimate is based on Saturday trip generation factors and thus conservatively assumes that the level of daily activities on a Saturday would persist throughout the week (weekday attendance for typical ice rink activities would be lower than on a Saturday).
3. Ice rink employee estimate provided by KNIC.
4. Employment density ratios were applied to the expected square footage for each of these uses. The ratios assume one worker per 400 square feet of retail space and 1,000 square feet of community facility space.
5. Solid waste generation rate for main rink events is based on the rate used in the 2004 *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program FGEIS* for patrons of sports events and exposition events in the Multi-Use Facility analyzed in that EIS.
6. Solid waste generation rate for typical daily ice rink activities is based on the rate used for skaters in Table II.L-6 of the 1993 *Chelsea Piers FGEIS* (0.7 lbs/day or 4.9 lbs/week). The rate for "team players" was used because it is higher and therefore more conservative than the rate for "open skaters."
7. The solid waste generation rate for ice rink employees and community facility uses was assumed to be comparable to the solid waste generation rate for office building uses as presented in the 2012 *CEQR Technical Manual*.
8. The solid waste generation rate for food and beverage, concessions, and retail uses was conservatively assumed to be comparable to the solid waste generation rate for fast food restaurants as presented in the 2012 *CEQR Technical Manual*. This estimate assumes that all of the uses would be food and beverage concessions. Retail uses would generate solid waste at a lower rate than food and beverage concession uses.
9. It is expected that the parking use would generate a negligible amount of additional solid waste and was not included in the above estimate.

Sources: 2012 *CEQR Technical Manual* Table 14-1, Solid Waste Generation Rates; Kingsbridge Armory National Ice Center; 2004 *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program FGEIS*; 1993 *Chelsea Piers FGEIS*

Because it is anticipated that the project site would remain substantially vacant absent the proposed project, the 50.9 tons per week would represent the total incremental increase in solid waste compared with the future without the proposed project. Given that a private carter truck typically carries at least 12 tons of solid waste, the proposed project would require approximately 4 additional truck loads (8 trip ends) per week compared with the future without the proposed project. Although this would represent a net increase over the future without the proposed project, it would be a negligible increase relative to the 13,000 tons of waste handled by commercial carters every day. There are more than 100 private carters that are licensed to serve New York City and it is expected that their collection fleets would be sufficiently flexible to accommodate this increased demand for solid waste collection. The proposed project would not be unusually large nor would it involve uses with unusual waste generation characteristics. Transfer stations in the region, including the Bronx, New Jersey and/or Westchester County, have adequate capacity for such waste. Therefore, the proposed project would not overburden the City's solid waste management capacity.

The *CEQR Technical Manual* provides that any commercial development of more than 100,000 square feet should indicate in the EIS the location and method of storage of solid waste (refuse and recyclables) for collection at the proposed project site. For the proposed project, trash awaiting pickup would be stored in containers; recyclable materials would be separated on site and separately contained before pickup. Storage for both trash and recyclables would be within the building's basement level, near the loading docks.

The proposed project would not have any effect on the City's SWMP or any other solid waste policies. It would not materially conflict with the City's SWMP, with the hierarchy of preferred solid waste management methods in New York State, or with the implementation of the New York City Recycling Law, nor would it have the potential to affect the milestone dates identified in the SWMP.

Overall, the proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services. *