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Solid Waste and Sanitation Services

This chapter analyzes the effects of the Proposed Actions on solid waste and sanitation services. According to the *2021 CEQR Technical Manual*, a solid waste assessment determines whether a Proposed 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 (SWMP) or other stated policy related to the City's integrated solid waste management system.

Introduction

The Applicant, Innovative Urban Living, LLC, is seeking several discretionary approvals from the City Planning Commission (CPC), including a zoning map amendment, zoning text amendments, and various special permits collectively referred to as the "Proposed Actions."

The Proposed Actions would facilitate the development of a mixed-use, purpose-built community on the campus of the existing Christian Cultural Center (CCC) facility, including income-based affordable housing, a performing arts center (PAC), a grocery store, local retail, and a variety of community facilities targeted to the civic, economic, educational, and cultural needs of the East New York neighborhood (the Proposed Project). In comparison to the No-Action condition, the Proposed Actions would result in an incremental increase of 2,050 affordable residential units; approximately 110,570 gross square feet (gsf) of commercial uses including a 14,300 sf grocery store, 65,670 sf retail, a trade school

(approximately 14,100 gsf) to be located in one wing of the existing CCC building, new Performing Arts Center (approximately 16,500 gsf); a total of approximately 100,904 gsf of community facility space including general community facility space to include a day care (approximately 12,320 gsf) and other community facility uses such as a senior center or medical office (approximately 9,900 gsf), and the remainder of the existing CCC facility (78,684 gsf) (resulting in an incremental increase of 8,120 gsf of community facility space); public and private open space; and accessory parking.

This chapter provides an assessment of existing and future conditions with and without the Proposed Actions for the Development Site, which are described in detail below.

Principal Conclusions

The Proposed Actions would not result in a significant adverse impact on solid waste and sanitation services. The Proposed Actions would generate an increment above the No-Action condition of approximately 56.94 tons per week of solid waste but would not directly affect a solid waste management facility. Approximately 73 percent of the additional solid waste generated by the Proposed Actions would be handled by the New York City Department of Sanitation (DSNY), and 27 percent would be handled by private carters. Overall, the uses facilitated by the Proposed Actions would be expected to generate solid waste equivalent to approximately 3.36 DSNY truck loads per week and 1.24 commercial carter truck loads per week. Although this would be an increase compared with conditions in the future without the Proposed Actions, the additional solid waste resulting from the Proposed Actions would be a negligible increase relative to the approximately 9,000 tons of waste handled by commercial carters every day or the 12,260 tons per day handled by DSNY, and it would also represent approximately 0.036 percent of the City's anticipated future weekly commercial and DSNY-managed waste generation in 2025, as projected in the Solid Waste Management Plan (SWMP). As such, the Proposed Actions would not result in an increase in solid waste that would overburden available waste management capacity. The Proposed Actions 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 Actions would not result in a significant adverse impact on solid waste and sanitation services.

The Proposed Actions are also not expected to directly affect operations at the DSNY garage located on the block bounded by Cozine Avenue, Milford Street, Flatlands Avenue, and Montauk Avenue. Under the Proposed Actions, it is anticipated that there would be no geometric changes nor operational changes (e.g., roadway closures, reversals, etc.) to the street network used by sanitation trucks to access the DSNY garage. In addition, there would be no changes to curbside parking regulations on block fronts along Cozine Avenue, Milford Street, Flatlands Avenue, and Montauk Avenue that are currently used for garage operations. (Sidewalks and curbside space adjacent to the DSNY garage are routinely used for sanitation truck and employee auto parking as well as for the storage of snowplow blades and other equipment.)

Methodology

According to the *2021 CEQR Technical Manual*, projects with a generation rate of less than 50 tons (100,000 pounds) of solid waste per week would not result in a significant adverse

impact to the City's waste management capacity, and do not warrant detailed analysis. Because the Proposed Actions would result in a net increase of more than 50 tons per week, an assessment of solid waste and sanitation services is warranted. As the analysis of solid waste/sanitation services is a density-based technical analysis, this assessment accounts only for the anticipated development on the Development Site.

To assess the Proposed Actions' potential impacts on solid waste and sanitation services, this chapter:

- Describes the existing solid waste management services on the Development Site and estimates solid waste generation under Existing Conditions and in the No-Action Condition (for the 2031 analysis year) using solid waste generation rates for typical land uses and activities provided in the *2021 CEQR Technical Manual*.
- Forecasts solid waste generation by the Proposed Project induced by the Proposed Action based on CEQR guidelines.
- Assesses the effects of the Proposed Actions' incremental solid waste generation on municipal and private sanitation services.

Assessment

Existing Conditions

Description of Solid Waste Sanitation Services

It is estimated that approximately 50,000 tons per day of public and private sector solid waste is generated in the City (or approximately 350,000 tons per week). DSNY is responsible for the collection and disposal of residential and institutional solid waste in the City, while private carters collect solid waste from commercial and manufacturing uses. In addition to collecting municipal solid waste, refuse, and designated recyclable materials generated by residential and institutional uses, including schools, some nonprofit institutions, and many City and State agencies, DSNY also collects waste from City litter baskets, street-sweeping operations, and lot cleaning activities. In total, the DSNY collection fleet comprises over 2,000 waste collection trucks, with the typical collection truck for refuse carrying approximately 12.5 tons of waste material and the typical recycling truck carrying about 11.5 tons of paper or approximately 10.0 tons of metal, glass, and plastic containers. In total, DSNY collects approximately 10,500 tons per day of residential and institutional refuse and approximately 1,760 tons per day of recyclables.

DSNY delivers most of the refuse it collects to public or private transfer facilities throughout the City where it is unloaded, and, after sorting and compaction, is transported to landfills or waste-to-energy facilities. As New York City has no public or private local disposal facilities, solid wastes that are not recycled, reused, or converted to a useful product locally must be exported from the City for disposal. Designated recyclable materials are delivered to privately-operated materials recovery facilities (MRFs) in the City and surrounding communities.

Commercial carters pick up solid waste from businesses, manufacturers, and offices, and transport the waste material to transfer stations where the recyclable material is separated

from the solid waste. The solid waste is then consolidated into larger trucks for transport and disposal in landfills outside of the City, while the recyclable material is sold and transported to manufacturing facilities. In total, more than 100 private carters are licensed to serve New York City, with the typical commercial carter carrying between 12 and 15 tons of waste material per truck.

Under New York City's mandatory Recycling Law (Title 16 of the NYC Administrative Code, Chapter 3), DSNY has established and enforces rules requiring that certain designated recyclable materials be separated from household waste for separate collection. New York City residents are required to separate aluminum foil, glass, plastic, and metal containers, and newspapers and other paper waste from household waste for separate collection. Commercial establishments are also subject to mandatory recycling requirements. Businesses must separate certain types of paper waste, 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.

As required by New York State law, DSNY developed the SWMP to address management of expected future demands for the City's solid waste. The first SWMP was approved by the New York City Council in 1992, and the current plan was adopted in 2006 and covers the period through 2025. The SWMP estimates public- and private-sector waste quantities that must be managed over the planning period and identifies processing, transfer, and disposal capacity that will be necessary for such waste. According to the SWMP, the City's commercial solid waste generation will increase to approximately 74,000 tons per week by the year 2025. The amount of DSNY-managed waste is expected to increase to approximately 139,600 tons per week.

In addition, the SWMP includes a Long-Term Export Program for residential waste. The Long-Term Export Program will be implemented through (1) the development of four converted marine transfer stations (MTS); (2) the award of up to five contracts with private transfer stations for barge or rail export of DSNY-managed waste for disposal; and (3) an intergovernmental agreement to dispose of a portion of Manhattan's DSNY-managed waste at a Port Authority waste-to-energy facility in New Jersey.

With respect to commercial waste, the SWMP (1) provides the capacity for barge export of certain amounts of commercial refuse from the four converted DSNY MTSs; (2) provides for barge export of construction and demolition waste from the existing DSNY MTS at West 59th Street; and (3) requires rail export of commercial refuse from the three private transfer stations that also contract to take DSNY refuse.

DSNY's voluntary organics collection and composting program provides curbside collection or convenient neighborhood drop-off locations. The program decreases the City's reliance on landfills, which release methane—a powerful greenhouse gas (GHG)—from the decomposition of organic waste, reduces air emissions from City refuse sent to waste-to-energy plants and from long-distance waste transport, and reduces related fossil fuel use.

In addition, pursuant to Local Law 146 of 2013, DSNY enforces commercial food waste composting rules for larger food waste generators such as food manufacturers or wholesalers; larger hotels with food service establishments; arenas; food service establishments larger than 15,000 sf; chain food service establishments with at least 100

locations in New York City; and retail food stores larger than 25,000 sf. Covered businesses must keep their organic waste (generally from kitchens, spoilage and surplus food—not post-consumer waste) separate from other waste and arrange to have it converted to useful products such as compost or biogas rather than landfilled or incinerated. This can be done either via collection by private carters or self-transport for off-site conversion, or by managing the conversion on-site using in-vessel composting or aerobic or anaerobic digestion.

Solid Waste Generation on the Development Site

The Development Site is currently occupied by the approximately 92,784-gsf CCC. Based on the citywide average rates for solid waste generation used in the SWMP (and provided in Table 14-1 of the *CEQR Technical Manual*), the existing use on the Development Site generates a total of approximately 0.85 tons of solid waste per week. As shown in **Table 12-1**, all of the existing solid waste generated by the CCC is handled by private carters.

Table 12-1 Existing Solid Waste Generation on the Development Site

Use	Area (gsf)	Population	Solid Waste Generation Rate (lbs/wk)[2]	Solid Waste Generation	
				lbs/wk	tons/wk
CCC	92,784	130[1]	13 Per employee	1,690	0.85
Total Solid Waste Generation				**1,690**	**0.85**
Solid Waste Handled by Private Carters				**1,690**	**0.85**
Solid Waste Handled by DSNY				--	--

Notes:
[1] Existing community facility (non-school) employees were provided by the Applicant.
[2] Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
All community facility uses: 13 lbs/wk. per employee.

No-Action Condition

Under the baseline, or No-Action condition, it is assumed that the Development Site would remain in its existing condition with only the CCC operational on the site, surrounded by accessory non-attended surface parking and vacant land serving as overflow parking.

It is anticipated that solid waste will remain unchanged under future No-Action conditions as compared to existing conditions, with approximately 1,690 pounds of solid waste generated per week (see **Table 12-2**). All waste will continue to be handled by a private carter. Therefore, there will be no change in waste generation or handling under future No-Action conditions.

Table 12-2 No-Action Solid Waste Generation on the Development Site

Use	Area (gsf)	Population	Solid Waste Generation Rate (lbs/wk)[2]	Solid Waste Generation	
				lbs/wk	tons/wk
CCC	92,784	130[1]	13 Per employee	1,690	0.85
Total Solid Waste Generation				**1,690**	**0.85**
Solid Waste Handled by Private Carters				**1,690**	**0.85**
Solid Waste Handled by DSNY				--	--

Notes:
[1] Existing community facility (non-school) employees were provided by the Applicant.
[2] Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
All community facility uses: 13 lbs/wk. per employee.

With-Action Condition

As detailed in **Chapter 1, Project Description**, the With-Action condition would include approximately 2,200,538 gsf of development (4.29 FAR) within 10 new buildings, of which eight would be predominantly residential. This would include: approximately 1,645,820 gsf of residential space accommodating up to 2,050 residential units; approximately 100,904 gsf of community facility space including a day care (12,320 gsf), general community facility space to include a senior center or medical office (approximately 9,900 gsf), and the remainder of the existing CCC facility (78,684 gsf); approximately 110,570 gsf of commercial space including a grocery store (approximately 14,300 gsf) and local retail space (approximately 65,670 gsf), a 14,100 gsf trade school, and an approximately 16,500 gsf PAC. Additionally, approximately 343,244 gsf of parking, including approximately 145,684 gsf of residential parking and approximately 197,560 gsf of public parking that would accommodate the CCC, trade school, retail uses, community facility uses and the PAC. The Proposed Project would also include publicly accessible open space, consisting of green space and a campus quadrangle, a playground for the childcare facility, and an active recreational space to be located on top of the parking garage structure. Private open space will also be provided on-site, including residential building courtyards. The Proposed Actions would result in an overall increase in solid waste generation, as discussed below.

Based on the citywide average rates for solid waste generation, the total solid waste generation due to the Proposed Actions would be approximately 57.79 tons per week, which represents a 56.94-ton increment in weekly waste generation relative to the No-Action condition. Given that approximately 350,000 tons of public and private sector solid waste is generated in the City per week under existing conditions, the incremental increase of 56.94 tons per week would represent approximately 0.016 percent of the City's current solid waste generation. It would also represent approximately 0.026 percent of the City's anticipated future weekly commercial and DSNY-managed waste generation in 2025 (estimated at 213,600 tons per week), as projected in the SWMP.

Residential uses would generate 42.03 tons of solid waste per week under the With-Action condition (refer to **Table 12-3**). Solid waste generated by residential uses would be collected

by DSNY trucks and would be served by existing DSNY collection routes. As a general practice, DSNY adjusts its operations to service the community. Residents will be required to participate in the City's recycling program for paper, metals, and certain types of plastics and glass.

Table 12-3 With-Action Solid Waste Generation on the Development Site

Use	Area (gsf)	Population	Solid Waste Generation Rate (lbs/wk)[2]		Solid Waste Generation lbs/wk	Solid Waste Generation tons/wk
CCC	78,684	130[1]	13	employee	1,690	0.85
Other Community Facility	22,220	67	13	employee	867	0.43
PAC	16,500	50	13	employee	644	0.32
Trade School	14,100	42	13	employee	550	0.28
General Retail	65,670	197	79	employee	15,563	7.78
Food Store	14,300	43	284	employee	12,212	6.11
Residential	1,645,820	2,050	41	household	84,050	42.03
Non-Attended Parking	0	N/A	N/A		0	0
				Total Solid Waste Generation	**115,575**	**57.79**
				Solid Waste Handled by Private Carters	**31,525**	**15.76**
				Solid Waste Handled by DSNY	**84,050**	**42.03**

Notes:
[1] Existing community facility (non-school) employees were provided by the client. Employee count is not anticipated to change as a consequence of the trade school using a portion of the existing CCC building.
[2] Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
Residential use: 41 lbs/wk per dwelling unit.
General retail: 79 lbs/wk per employee; assume 3 employees per 1,000 sf.
Food Store: 284 lbs/wk per employee; assume 3 employees per 1,000 sf.
All community facility uses, trade school and PAC: 13 lbs/wk. per employee; assume 3 employees per 1,000 sf for all non-church community facility uses.

As shown in **Table 12-4**, compared to the No-Action condition, the Proposed Actions would result in an approximately 42.03-ton increase in weekly solid waste handled by DSNY. This would represent approximately 0.02 percent of the City's anticipated future waste generation handled by DSNY (estimated at 213,600 tons per week), as projected in the SWMP. Based on the typical DSNY collection truck capacity of approximately 12.5 tons, the new residential uses introduced by the Proposed Actions would be expected to generate solid waste equivalent to approximately 3.36 truckloads per week. This increase represents less than 0.16 percent of DSNY's fleet of 2,100 waste collection trucks and is therefore not expected to overburden the DSNY's solid waste handling services.

This location receives DSNY residential collection by Brooklyn Sanitation District 05 two times per week, with recycling (metal, glass, plastic, paper) collected once per week.

Table 12-4 Comparison of Weekly Solid-Waste Generation on the Development Site (Existing, No-Action, and With-Action Conditions)

	Existing Condition	No-Action Condition	With-Action Condition	Increment (No-Action to With-Action)
Total Solid Waste Generation (tons/wk)	0.85	0.85	57.79	56.94
Solid Waste Handled by Private Carters (tons/wk)	0.85	0.85	15.76	14.92
Solid Waste Handled by DSNY (tons/wk)	0.00	0.00	42.03	42.03

As also shown in **Table 12-4**, compared to the No-Action condition, the Proposed Actions would result in an approximately 14.92-ton increase in weekly solid waste handled by private carters. This would represent less than approximately 0.02 percent of the City's anticipated future commercial waste generation (estimated at 74,000 tons per week), as projected in the SWMP. Based on the typical commercial carter capacity of between 12 and 15 tons of waste material per truck, the Proposed Actions would require 1.24 additional collection trucks per week compared to the No-Action condition (assuming a 12-ton truck).

There are more than 100 private carting businesses authorized to serve New York City, and it is expected that their collection fleets of over 4,000 private carting trucks would be sufficiently flexible to accommodate this increased demand for solid waste collection. The net increment in commercial solid waste handled by private carters represents less than 0.05 percent of the over 4,000 licensed private carting trucks in the City and would therefore not overburden the City's waste management system.

Overall, the uses facilitated by the Proposed Actions would be expected to generate solid waste equivalent to approximately 3.36 DSNY truck loads per week and 1.24 commercial carter truck loads per week. This increase would represent less than 0.16 percent of DSNY's collection fleet and less than 0.03 percent of the private carting fleet and would therefore not overburden existing DSNY or commercial solid waste handling services. Therefore, the Proposed Actions would not overburden the City's solid waste management capacity and would not have significant adverse impacts on solid waste and sanitation services. Furthermore, the Proposed Actions would not conflict with the SWMP or have a direct effect on a solid waste management facility. As a result, no significant adverse impact on the City's solid waste and sanitation services would occur.

Under the Proposed Actions, it is anticipated that there would be no geometric changes nor operational changes (e.g., roadway closures, reversals, etc.) to the street network used by sanitation trucks to access the garage located on the block bounded by Cozine Avenue, Milford Street, Flatlands Avenue, and Montauk Avenue. In addition, there would be no changes to curbside parking regulations on block fronts along the DSNY garage which are currently used for garage access and operations. (Sidewalks and curbside space adjacent to the DSNY garage are routinely used for sanitation truck and employee auto parking as well as for the storage of snow plow blades and other equipment.) Therefore, the Proposed Actions are not expected to directly affect operations at the DSNY garage.

On-Site Solid Waste Handling and Storage

Proposed Project solid waste and recycling would be separated by tenants. A single refuse chute would be provided at each building core which would connect to trash compactors at the ground floor. Trash would be compacted into bags within a refuse storage room adjacent to back of house building service areas. Adjacent to each floor's refuse chute, recycling bins would be provided for the tenants to leave their recyclables for building porter pickup on a daily basis to be moved to the refrigerated refuse storage room through the service elevator in off-peak hours.

Refuse storage rooms would be located at the cellar or ground floor in each of the building's back of house service area. Refuse would be removed from each individual building's refuse storage rooms via back of house service corridors and placed on the sidewalk on Pennsylvania Avenue (for Buildings 1 and 2), Flatlands Avenue (for Buildings 3 through 6), and Louisiana Avenue (for Buildings 7 through 10) for DSNY pickup. Refuse for Buildings 1 and 2, and Buildings 5 through 10 would be placed in front of each building's frontage. Refuse for Buildings 3 and 4 would be placed in the same pile along the Building 3 frontage. Given that trash collection in this area of Brooklyn occurs twice weekly, it is anticipated that the refuse pile associated with each building would have a footprint of approximately 133 sf (approximately 3.5 feet wide and approximately 38 feet long) with a volume of approximately 465 cubic feet. As described above, refuse piles for Buildings 3 and 4 would be combined and would therefore have an approximate footprint of 266 sf with an approximate volume of 931 cubic feet. Refuse bags would be placed on the sidewalk in the evening on the day prior to collection (for a period of about 12 hours). DSNY collection normally occurs Mondays and Thursdays between 8 to 9 AM and 6 to 7 PM within Brooklyn District 05. Recyclables would be placed out to the left or right side of the area designated for residential waste collection if the collection of waste and recycling would occur on the same day.

The commercial waste from the site's commercial spaces would be put at the curb in front of the building frontage in which the retail space exists (Pennsylvania Avenue for Buildings 1 and 2; Flatlands Avenue for Buildings 3, 5, and 6; and Louisiana Avenue for Buildings 7 through 10). The waste would be set out at the earliest an hour or two before closing and would remain on the curb until collection, which is typically before 7 AM the following day.

For the CCC, trade school, community facility spaces, and PAC, the refuse would be transferred from refuse rooms/closets in each program space to a centralized refrigerated trash room between the PAC and garage or within the structured parking garage for storage until private carting collection, which is typically before 7 AM the following day.

The refuse and recycling set out for collection would be carefully managed to minimize effects upon pedestrian and vehicular traffic. Refuse movement and cleanup post-DSNY pick-up would be carefully managed by the building management to ensure that there is no mess on the sidewalk once the refuse and recycling is removed. With these solid waste management measures in place, it is anticipated that the solid waste generated by the Proposed Project would not have negative effects on the public health and community character of the neighborhood.