

## M. Solid Waste and Sanitation Services

### 100. Definitions

#### 110. COLLECTION, TRANSFER, AND TRANSPORT SYSTEMS

#### 111. Solid Waste Collection/Management

##### 111.1. Municipal Solid Waste

In New York City, the Department of Sanitation (DOS) is the City agency responsible for the collection and disposal of municipal solid waste (MSW) and recyclable materials generated by residences, some nonprofit institutions, tax exempt properties, and City agencies. DOS also collects wastes from street litter baskets, street-sweeping operations, and lot cleaning activities. DOS does not collect commercial waste, including construction and demolition debris, regulated medical waste, asbestos, hazardous or industrial wastes, fill materials (i.e., clean material consisting of earth, ashes, dirt, concrete, rock, gravel, stone, or sand that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products), or dredge spoils (i.e., sediment-type materials excavated from waterways). Additional information relating to construction and demolition debris, fill materials, hazardous materials, and dredge spoils is presented in other chapters of this Manual (3S, "Construction Impacts," 3J, "Hazardous Materials," and 3I, "Natural Resources").

##### 111.2. Commercial Solid Waste

Commercial establishments (restaurants, retail facilities, offices, industries, etc.) in the City contract with private waste carters for waste and recyclables collection and disposal. Private carters charge a fee on a per-cubic-yard basis. Depending on the source, volume, and the collection route, private carters use either manual or containerized collection.

##### 111.3. Regulated Medical Wastes

Medical facilities separate their wastes into two categories: regulated medical waste (which includes potentially hazardous or infectious materials and other wastes as defined under ECL

§ 27-1501 et seq. and 6 NYCRR Part 360-10 cited in Section 410 below) and ordinary waste. The New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC) regulate the generation, treatment, storage, transfer, and disposal of these medical wastes (see Section 410 below). Regulated medical waste generated in the City must be placed in special sealed containers and disposed of in facilities permitted to process such waste, either by incineration, another form of sterilization, disinfection, or another approved method. Medical facilities are required by law to recycle some of their ordinary waste (that is, non-regulated medical waste). Each medical facility is required to submit a plan to DOS explaining how it plans to dispose of its waste.

DOS will collect household medical waste (defined as items that are used in the course of home health care, such as intravenous tubing and syringes with needles attached, that is disposed with residential solid waste) if it is placed in puncture resistant containers (see regulations in Section 410 below). Pursuant to Article 28 of the New York State Public Health Law and 10 NYCRR Part 70, NYSDOH regulations require hospitals and nursing homes to accept sharps (defined as needles and other sharp items that may cause punctures or cuts) and other household medical wastes for disposal if they are brought to the facility.

##### 111.4. Designated Recyclable Materials

Under New York City's mandatory recycling law, Local Law 19 of 1989, codified at Section 16-301 et seq. of the Administrative Code of the City of New York, DOS has established and enforces recycling rules for residences requiring that designated recyclable materials including aluminum foil, glass, plastic and metal containers, newspapers and other paper wastes, and other related materials be separated from household waste for separate collection. These recycling rules also require that multi-unit dwellings set aside ample space for the storage of these materials in designated locations and that commercial waste in multi-use buildings be separated from residential waste for separate pick-up.

Commercial establishments are also subject to recycling requirements and businesses must

source-separate certain types of recyclable materials including 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 the above items. Private carters may also separate other types of recyclables from the waste after collection.

### **112. Solid Waste Management Facilities**

After collection, DOS delivers MSW to 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. Transfer stations are defined as any structure, building, or other premises, whether improved or unimproved, at which solid wastes are received for the purpose of subsequent transfer to another location, regardless of whether these solid wastes are subject to any processing or reduction in volume at such structure, building, or premises. Transfer stations handle both putrescible and non-putrescible solid wastes. Putrescible solid wastes are defined as solid wastes containing organic matter having the tendency to decompose with the formation of malodorous by-products. Non-putrescible solid wastes are defined as solid wastes that do not contain such organic matter. Transfer stations are governed by the solid waste management facility regulations noted in Section 410 below.

DOS has historically used a network of eight marine transfer stations, located in every borough except Staten Island, as facilities at which DOS collection vehicles deliver non-recyclable MSW from the Bronx, Queens, Manhattan, and Brooklyn. The MSW was dumped directly from collection vehicles into hopper barges and the barges were towed to the Fresh Kills Landfill in Staten Island where the waste was unloaded and landfilled. Beginning in 1997, to prepare for the closure of Fresh Kills, MSW was gradually diverted from disposal at the landfill. Currently, the City delivers its non-recyclable MSW to truck transfer stations, where the MSW is unloaded and processed for reloading into larger vehicles.

Under the City's Solid Waste Management Plan Modification of 2000 (discussed further in Section 120 below), DOS expects to implement a long-term barge and rail waste export system that relies on the use of five existing DOS-operated

marine transfer stations to barge roughly half, or approximately 6,500 tons per day, of the City's non-recyclable MSW to a privately-built and operated containerization facility in Linden, New Jersey by the year 2005. From Linden, containerized waste will be transported by rail to distant disposal facilities. The other half of the non-recyclable MSW that DOS manages will be exported out of the City by barge or rail from public and private waste transfer facilities that are to be modified or developed through the City's procurement processes. Under this system, all of the non-recyclable MSW that DOS manages each day will be exported out of the City from the borough in which it was generated and disposed at state-of-the-art facilities that accept New York City MSW.

Private carters deliver waste to putrescible and non-putrescible solid waste management facilities located both inside and outside of the City. The waste is unloaded from trucks, processed, and then loaded onto larger trucks or rail cars for transport to out-of-city disposal facilities.

### **113. Landfills, Incinerators, and Waste-to-Energy Facilities**

New York City does not operate any incinerators or waste-to-energy facilities. Individual apartment house incinerators are prohibited under Local Law 39 of 1989. The City's last operating disposal facility (the Fresh Kills Landfill on Staten Island) ceased accepting waste, as required by New York State statute, in March 2001. After that date, all non-recyclable MSW generated in New York City has been transported to disposal facilities located out of the City. Some City MSW is burned in incinerators and waste-to-energy facilities outside the City to reduce its volume before landfilling. Waste-to-energy facilities recover usable energy (in the form of steam) from the incineration process.

### **114. Materials Recovery Facilities**

DOS and private carters collect recyclable materials and deliver them to privately-operated materials recovery facilities in the City or adjoining communities for processing and transportation to end product manufacturers. These facilities separate the materials by type and grade and prepare them for shipping to processors

or industrial facilities for manufacture into end products. In addition, paper that DOS collects in Manhattan and Staten Island is transported directly to the Visy Paper Plant in Staten Island, which processes it for use in the production of liner board and similar products.

#### **115. Composting Facilities**

A private vendor operates composting facilities at the Fresh Kills Landfill in Staten Island and at City park locations in Brooklyn, Queens, and the Bronx pursuant to a contract with DOS. The compost facilities accept the leaf and yard waste collected from the 39 of the City's 59 community districts that are served by DOS's fall leaf and yard waste collection program. DOS also collects Christmas trees from throughout the City in January for composting. Compost generated at these facilities is used to restore and beautify the City's parklands and is provided to City residents at Compost Give Back events held in the Bronx, Brooklyn, Queens, and Staten Island.

#### **116. Special Waste Collection Sites**

DOS accepts special waste (Special Waste) from New York City householders at a collection facility located in each borough. The Special Waste collection program targets categories of wastes that comprise approximately 60% of the waste received at DOS Household Hazardous Waste collection days. Special Waste categories include latex paint, motor oil, automotive batteries, household batteries, motor oil filters, fluorescent light tubes and thermostats. Special Wastes are transported and disposed of or recycled pursuant to a contract with a private vendor.

#### **117. Bulk/Self Help Sites**

DOS accepts bulk residential waste and other non-putrescible residential waste from New York City householders at a collection facility located in each borough except Manhattan.

#### **120. COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN**

In accordance with the State's Solid Waste Management Act of 1988, solid wastes in the City of New York must be managed in conformance with a ten-year Comprehensive Solid Waste

Management Plan (Plan) approved by the State. The City's first Plan, developed by DOS for the period of 1992 through 2002, was modified in 1996 and 2000. The 2000 modification reflected the closure of the Fresh Kills Landfill and the proposed implementation of long-term export (see Section 112 above). A ten-year Plan is required for the period of 2003 through 2012.

The City's Plan, as modified, establishes a hierarchy for waste management with waste prevention the most preferred method, followed by reuse, recycling (including composting), and export by barge or rail out of the City to transfer and disposal facilities. The Plan also furthers the City's recycling and waste prevention goals through the inclusion of various initiatives, including a pilot outreach program to provide waste reduction and recycling education, a program to increase recycling by City agencies, and a program to promote the use of recycled products.

#### **200. Determining Whether a Solid Waste and Sanitation Services Assessment is Appropriate**

In addition to establishing a hierarchy for waste management, the City's Plan develops goals for the management of the components of the City's waste and identifies procedures and facilities that may be required to meet those goals. The Plan includes timetables for the phased implementation of its recommendations.

Regulatory changes affecting the generation or management of the City's waste may require evaluation for consistency with the Plan. Similarly, it may also be appropriate to analyze actions involving the construction, operation, or closing of any type of solid waste management facility for consistency with the Plan.

It should be noted that if the action involves a new waste management facility, such as incinerator or autoclave, impact analyses of other technical areas (air, traffic, noise, etc.) may also be appropriate. The other chapters of this Manual (Chapters 3A through 3V) provide assistance in determining which analyses may be appropriate.

Actions involving construction of housing or other development generally do not require

evaluation for solid waste impacts unless they are unusually large. The City's Plan is based on stated assumptions, including projected rates of growth in the generation of solid waste. Projections for residential waste, for example, are based on assumed increases in population and assumed increases in waste generated per household. The projections are Citywide averages. The measures proposed to be implemented by the City pursuant to the Plan are therefore designed to meet the goals of the Plan notwithstanding further development within certain defined future conditions. It is possible that an unusually large project or a project involving a use with unusual waste generation characteristics would increase a component of the City's waste stream beyond the projections for that component in the Plan. However, a generation rate of less than 10,000 pounds per week, for example, is not considered large. Wastes with special characteristics, such as medical wastes, are subject to handling and disposal regulations. Compliance with applicable requirements would generally eliminate possible significant adverse impacts.

However, it is recommended that the CEQR documentation disclose solid waste and service demand (if relevant) generated by an action. This will allow the lead agency to confirm that the proposed action conforms to the Plan.

## 300. Assessment Methods

### 310. ANALYSIS TECHNIQUES

An assessment of potential solid waste impacts for actions that would generate solid waste consists of describing the waste management features of the project and quantifying the incremental quantities of waste that an action would generate. The assessment of medical facilities is somewhat different, as described below.

#### 311. Actions that Would Generate Solid Waste

As noted above, to disclose the solid waste characteristics of a proposed action, its design and operating characteristics for solid waste management would be considered. Features that minimize waste, beyond those required by law, would also be identified. Examples of such features include the following:

- Installation of such equipment as air-dryers in public lavatories.
- Provisions for on-site composting.
- Provisions for material storage to allow use of bulk-packaged supplies (this would minimize the use of packaging).
- Installation of kitchen garbage disposal units and compactors.
- Use of double-sided photocopying.
- Use of electronic mail (rather than communication on paper).
- Developing provisions for the return of packaging to the manufacturer/supplier.

Project features to enhance recycling (i.e., to facilitate the separation, storage, collection, processing, or marketing of recyclables) beyond that required by law would be identified. Project features to facilitate waste collection, such as provisions for containerized collection, would also be identified. At the same time, any aspects of the action resulting in the generation of high levels of solid waste that might make recycling difficult or that might impede waste collection would be identified.

The amount of waste that the project would generate would then be determined. For most actions, the Citywide average rates for waste generation provided as part of the City's Comprehensive Solid Waste Management Plan can be used to make this determination. These rates are provided in Table 3M-1. Actions with additional waste management features, however (see above), could generate less solid waste than indicated in the table.

If the proposed action would lead to substantial new development (for example, Queens West in Hunters Point or Gateway Estates in Brooklyn), it may be appropriate to assess whether additional trucks or other sanitation services may be required. Although the additional trucks or services would not necessarily in themselves constitute solid waste or service impacts, the information may be appropriate for use in another technical analysis, such as noise. The typical DOS collection truck for residential refuse (25 cubic yards) carries approximately 12.5 tons of waste material (8 tons for containerized collections). Recycling trucks carry about 11.5 tons of paper or approximately 10.0 tons of metal and glass containers. Commercial carters typically carry between 12 and 15 tons of waste material per

truck. Contact DOS for information on collection truck routes and capacities, street sweepers and other equipment.

### 312. Regulated Medical Waste

The assessment considers how regulated medical wastes would be handled and disposed, to ensure that these procedures would comply with the appropriate regulations. With a large waste generator, it may be appropriate to estimate additional truck trips, as discussed above. The number of truck trips associated with the new facility can be obtained from the carrier.

### 320. CONSISTENCY WITH THE CITY'S COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

For consistency with the City's Plan, the lead agency should consider whether the proposed action would meet the following goals:

- Adherence to the hierarchy of preferred solid waste management, which places waste prevention first, followed by reuse, recycling or composting, and export out of the City by barge and/or rail for disposal.
- Furtherance of the City's ability to comply with its Recycling Law (Local Law 19 of 1989).

## 400. Regulations and Coordination

### 410. REGULATIONS AND STANDARDS

#### Solid Waste Management Planning

New York State Solid Waste Management Act of 1988, codified at Article 27, Title 1 of the New York State Environmental Conservation Law (ECL). This law provides for the preparation of New York City's Comprehensive Solid Waste Management Plan. Also see the regulations at Title 6 of the New York Codes, Rules and Regulations (6NYCRR) Part 360, Subpart 15, Comprehensive Solid Waste Management Planning.

- City of New York Comprehensive Solid Waste Management Plan of 1992, as modified in 1996 and 2000.

**Table 3M-1**

### Solid Waste Generation Rates

Use	Rate (pounds per week)
Residential	
Individual	17
Household	41
Institutional	
Public Elementary School	3 per pupil
Public Intermediate School	4 per pupil
Public High School	2 per pupil
Private School (K-8)	1 per pupil
Private School (6-12)	4 per pupil
College	1 per pupil
Hospital	51 per bed
Government Office	0.03 per square foot
Correctional Facility	13 per inmate
Commercial	
Office Buildings	13 per employee
Single Offices	9 per employee
Wholesale	66 per employee
General Retail	79 per employee
Restaurants	251 per employee
Fast Food	200 per employee
Food Stores	284 per employee
Hotels	75 per employee
Industrial	
Apparel and Textile Manufacturing	125 per employee
Printing/Publishing	240 per employee

Source: New York City Department of Sanitation

## Solid Waste Management Facilities

- Solid waste management facilities in New York State are governed by Title 7 of Article 27 of the ECL and 6 NYCRR Part 360.
- ECL Section 27-0706 is the statute that requires the Fresh Kills Landfill to close and bars the issuance of a permit by NYSDEC for the proposed Brooklyn Navy Yard Waste-to-Energy Facility. Also see the Fresh Kills Order on Consent between the NYSDEC and DOS, Modification No. 7, dated April 27, 2000, providing for the landfill's closure.
- Stipulation and Order in the Matter of The City of New York v. The New York State Department of Environmental Conservation filed April 20, 1992 in the Supreme Court of New York, Albany County, Index No. 7218/91 (stipulated that NYSDEC and DOS shall act as co-lead agencies and conduct a coordinated SEQRA review for all new facilities proposed in transfer station permit applications for which both NYSDEC and DOS issue such transfer station permits).
- New York City Local Law 40 of 1990, codified at Section 16-130 et seq. of the Administrative Code of the City of New York, governs transfer stations within New York City. DOS has promulgated three sets of regulations pursuant to authority granted in this statute. They are codified at 16 Rules of the City of New York (RCNY), Chapter 4. Subchapter A governs Non-Putrescible Solid Waste Transfer Stations; Subchapter B governs Putrescible Solid Waste Transfer Stations; and Subchapter C governs the Siting, Hours of Operation, Engineering Reports, and Transportation Plans for Solid Waste Transfer Stations.
- Local Law 39 of 1989 amends Sections 24-102, 24-104 (18) and 24-117 of the Administrative Code of the City of New York in connection with the operation of private incinerators.
- New York City Zoning Resolution. The Zoning Resolution also regulates the siting and operation of waste management facilities in New York City.

## Recycling

- New York City Recycling Law, Local Law 19 of 1989, codified at Section 16-301 et seq. of the Administrative Code of the City of New York. Also see rules promulgated by DOS at 16 RCNY §§ 1-08 – 1-10. This law and the rules require households and generators of private curbside-collected waste to source separate designated materials in specified manners. The law and rules also require recycling by City agencies and other institutions.

## Regulated Medical Waste

- Under ECL § 27-1501 et seq. and 6 NYCRR Part 360-10, NYSDEC regulates the storage, transfer, and disposal of regulated medical waste. Among other things, ECL § 27-1504 provides for a mandatory regulated medical waste tracking program.
- NYSDEC regulates Regulated Medical Waste Treatment Facilities off the site of the facility producing the waste under 6 NYCRR Part 360-17.
- Regulated Medical Waste is defined as any solid waste generated in the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, including cultures of infectious agents, human pathological wastes, liquid waste human blood and blood products, sharps including hypodermic needles, contaminated animal carcasses, wastes from surgery or autopsy, laboratory wastes from research, dialysis wastes, and biological wastes from humans or animals isolated to protect others. See 6 NYCRR Part 360-17.2(h) for the complete definition and exemptions and exclusions.
- NYSDOH regulates the generation, treatment, and disposal of regulated medical waste under Article 13, Title XIII of the Public Health Law (PHL § 1389-aa et seq.).
- Section 16-120.1 of the Administrative Code of the City of New York. While local regulation of regulated medical waste transportation is largely preempted by state

law, this section requires generators of regulated medical waste to file a solid waste removal plan with DOS. Generators of 50 pounds or more per month of regulated medical waste must file annual updates. See also 16 RCNY, Chapter 11.

- Items that may cause punctures or cuts that are used in the course of home health care, such as intravenous tubing and syringes with needles attached, and are disposed with residential solid waste, must be placed in puncture resistant containers prior to disposal. See 16 RCNY § 1-04.

#### **420. APPLICABLE COORDINATION**

Coordination with DOS for solid waste issues is recommended.

#### **430. LOCATION OF INFORMATION**

The City's Comprehensive Solid Waste Management Plan, the Modifications of 1996 and 2000 and the Final Generic Environmental Impact Statement are the best sources for data on existing conditions, existing and proposed solid waste management systems, and waste generation and composition for any particular area or type of generator. The Plan is available for review at the offices of OEC, at the main branches of public libraries in each of the boroughs, and at the offices of the borough presidents. Other information on current DOS operations can be obtained by contacting the Department's Environmental Review Office in the Bureau of Legal Affairs.

- New York City Department of Sanitation  
125 Worth Street  
New York, NY 10013  
[www.nyc.gov/sanitation](http://www.nyc.gov/sanitation)

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