Richmond Hill

Division “J”

Waste Management Design and Collection Standards for Development

Standards and Specifications Manual

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Section J1
General

.1 Introduction

This document provides direction for designers, *owners* and operators of new developments and redevelopments regarding their responsibilities for the design and operation of *waste* management systems. The objectives of this document are to:

- Establish design and collection requirements to ensure safe and efficient municipal *waste* collection.
- Ensure that residents are provided with convenient opportunities to participate in all *waste* management programs.
- Outline the required *waste* management documentation and submission drawings that must be included as part of *development applications*.

When to use this Document

This document must be used whenever a *development application* is submitted to the *City*. All *development applications* shall adhere to all applicable requirements in this document. Residential and eligible *mixed-use developments* must be designed and constructed to accommodate the provision of municipal *waste* collection services as detailed in this document.

How to use this Document

This document consists of two sections: 1) Design Standards and 2) Collection Standards. Below is a description of each section including how and when each is to be applied:

Section J2 - Design Standards

Defines the design standards for new developments and redevelopments as they relate to access routes, *waste* storage, set out and loading areas as well as *waste* containers and diversion programs. The *development application* must include a separate *waste management plan* that must contain the required information outlined in the Design Standards, to demonstrate that the applicable requirements have been met. The *waste management plan* may require several drawings to illustrate that all of the applicable waste Design Standards have been satisfied. All drawings included in the *waste management plan* must be designed with and include representative scales. Standards for access routes are similar for all dwelling types and can be found in Section J2.1 Access Route Standards. Design standards for all other *waste* management requirements such as *waste* storage and collection areas, vary between dwelling types and are detailed in Section J2.2 Waste Storage and Set Out Areas. Please use Table J-1 to determine the *waste* storage and collection method to be used for each development type and the corresponding section(s) which contain the relevant information. Dwelling types in Table J-1 have been grouped by *waste* storage and collection methods. Please note that for some developments containing more than one dwelling type, the *owner* is responsible for ensuring the d*evelopment application* meets the requirements for each dwelling type.

Table J-1: Waste Storage and Collection Methods by Dwelling Type

Land Use	Dwelling Type	Waste Storage and Collection	Section Number
Low Density	*Single detached* *Semi-detached* *Street townhouse* i.e., Townhouses with individual frontage onto a street	Each *dwelling unit* has individual *waste* storage and set out areas for collection. Collection is with *blue boxes*, *green bins* and *garbage* bags.	J2.2.1 Individual Curbside Collection
Medium Density	*Duplex*, *triplex*, *quadruplex* and *apartment buildings* with less than 7 *dwelling units*	Shared *waste* storage and set-out areas for collection. Collection is with *blue boxes*, *green bins* and *garbage* bags.	J2.2.2 Shared Curbside Collection
Medium Density	T*ownhouses* with no individual frontage onto a street and/or no individual waste storage area (i.e., *stacked townhouses)*	Shared *waste* storage and set-out areas for collection. Collection is with front-end containers or carts.	J2.2.3 Shared, Bulk Collection Townhouse Developments
Medium/High Density	*Apartment buildings* with 7 or more *dwelling units*	Shared internal *waste* storage area and set-out area(s) for collection. Collection is with front-end containers or carts.	J2.2.4 Apartment Building Developments
Industrial Commercial and Institutional	N/A	*Waste* storage on private property. Private *waste* collection.	J2.2.5 ICI Developments
Mixed-Use	Any dwelling type	Dependent on dwelling type.	J2.2.6 Mixed-Use Developments

To ensure that all applicable Design Standards have been included in d*evelopment application*s prior to submission, please use the Application Checklist found in Appendix J-6.

Section J3 - Collection Standards

Defines the collection requirements that must be met by *owners* to receive and maintain municipal *waste* collection service. To receive municipal *waste* collection service, *owners* must complete the City of Richmond Hill Application for Municipal Waste Collection Services found in Appendix J-1 and return it to the *City*.

.2 General Requirements

This document shall be used in conjunction with, and not in place of, the Ontario Building Code, the Ontario Fire Code, the Environmental Protection Act, the *City*’s Standards and Specifications Manual, the *City*’s Waste By-law and all other applicable legislation, municipal standards and policies. It is the *owner’s* responsibility to comply with the most current version of all applicable legislation, municipal standards and policies. In case of conflict, the most stringent regulation shall apply.

Owners shall review this entire document and ensure their d*evelopment application* adheres to all applicable requirements. Alternative approaches to the development standards included herein will be considered by the City of Richmond Hill during the review process, inasmuch as the alternative approach meets the intent of the requirements, and standards herein. Information concerning the d*evelopment application* process can be obtained from the City of Richmond Hill Planning and Infrastructure Department.

All residential d*evelopment application*s must include, at minimum, a three-stream *waste* collection system (*garbage*, *organic materials* and *recyclable materials*) as required in the Richmond Hill Waste By-Law.

It is the responsibility of the *owner* to ensure that they are using the correct version of the Waste Management Design and Collection Standards for Development, which will be posted on the City of Richmond Hill website at www.richmondhill.ca. Revisions to the standards document will be made from time to time.

Glossary of Terms

Term	Definition or Description
Accessory structure	A *building* or structure that is not used for human habitation, the use of which is customarily incidental, subordinate and exclusively devoted to a principal use or *building* located on the same lot and shall not include a detached garage and outdoor swimming pool.
Access route	All *public* and *private streets* or *driveways* providing vehicular access to or from a building, structure or waste collection set out area and designated for use by waste collection vehicles.
Apartment building	A *building* containing five or more *dwelling units* all of which have a common external access to the *building* by means of a common corridor system.
Apartment dwelling unit	A *dwelling unit* within an *apartment building*.
Blue box	A blue, reusable, durable, plastic container used for the collection of *recyclable materials* from *single family residential* properties.
Building	A structure occupying an area greater than 10 square metres (107.64 square feet) consisting of a wall, roof and floor, or any one or more of them, or a structural system serving the function thereof, including all works, fixtures and service systems appurtenant thereto.
Bulky waste	*Garbage* that cannot be collected through containerized methods, i.e., furniture.
Commissioner	The Commissioner of Environment and Infrastructure Services.
Development application	Official Plan Amendments, Zoning By-law Amendments, Plans of Subdivisions and Site Plan Applications or any other applications under the Planning Act.
Driveway	A defined area providing access for motor vehicles from a street, a condominium road, or a lane to a parking space, parking area or parking lot, loading space, detached garage, *building* or structure.
Duplex	A *building* containing two *dwelling units* divided horizontally and having an independent entrance either directly to the outside or through a common vestibule.
Dwelling unit	A unit that: a. Consists of one self-contained set of rooms located in a *building* or a structure; b. Is used or has the capability of being used as a domicile by one of more persons as a single housekeeping unit;

Term	Definition or Description
	c. Contains cooking, eating, living, sleeping and sanitary facilities designated for the exclusive use of its occupants; and, d. Has a means of egress to the outside of the *building*, which may be a means of egress with other shared *dwelling units*.
Eligible property	One of the following: a. A *single family residential* Property; b. A Multi-family Residential Property; c. Any other property that is designated by the *Commissioner* as an *eligible property* from time to time.
Fire route	Part of a *private street*, with a minimum width of 6 meters designated as a fire route for use by authorized emergency vehicles, in accordance with Chapter 1090 of the Municipal Code.
Front yard	A yard extending across the full width of the lot between the front lot line and the closest point of the main wall of any building or structure on the lot.
Garbage	Any material discarded by the occupant of a *dwelling unit* that is not *recyclable material*, *organic material*, *yard waste material*, a *large appliance* or *non-collectible waste*.
Green bin	A green, reusable container used for the collection of *organic materials* from *single family residential properties*.
ICI development	Industrial, commercial or institutional establishment or property.
In-unit blue box	A blue, reusable, durable, plastic container used for the storage of *recyclable material* within *dwelling units* that are part of a *multi-family residential property*.
Kitchen catcher	A reusable container used for the storage of *organic materials* within *dwelling units*.
Lane	A public or private means of vehicular access to lot or an abutting property. This may also include a parcel of land which is a common element condominium for means of vehicular access.
Large appliances	Refrigerators, stoves, freezers washing machines, dryers, dishwashers, furnaces, hot water tanks, metal sinks and bathtubs, pool heaters, air conditioning units, metal water softeners, dehumidifiers, water heaters and barbecues and/or any other items which may be designated *large appliances* by the *Commissioner* from time to time.

Term	Definition or Description
Mixed-use development	Any development that includes both residential and I.C. & I. uses.
Multi-family residential property	▪ A residential *building*, including an apartment, block or *townhouse* complex, containing seven (7) or more *dwelling units*.
Non-Collectible waste	▪ Liquid waste; ▪ Concrete products, bricks or stones; ▪ Tree branches exceeding ten (10) cm in diameter and root balls; ▪ Carcass of any animals, or live animals or birds; ▪ Material from the construction, alteration, repair or demolition of any *building* or structure; ▪ Swill, manure, hay, straw or any other *organic material* not properly drained or wrapped; ▪ Bandages, poultices, dressings or similar waste; ▪ Discarded vehicle parts, tires and other automotive waste; ▪ Stock of wholesalers' and manufacturers' waste, including wire; ▪ Household hazardous waste materials such as, but not limited to, paints, solvents, batteries, propane tanks, pharmaceuticals and oil; ▪ Celluloid cuttings, moving picture film, ammunition, oil or gasoline-soaked materials, liquid chlorine, acid or any explosive or combustible materials; ▪ Any sharp-edged material such as broken glass, broken crockery, cut metal or anything of a similar nature unless such material is placed in separate, secure containers and clearly marked as to contents; ▪ Needles, syringes, or any other similar device used, or capable of being used, for the injection or extraction of liquid substances, including bodily fluids; ▪ Oil tanks or drums unless such items are halved or have both ends removed; ▪ Grass clippings; ▪ Medical waste; ▪ Ashes; ▪ Used deposit beverage containers; ▪ Lead acid batteries; ▪ Yard waste; ▪ Low level radioactive waste; ▪ sewage; ▪ PCB's (Polychlorinated biphenyls); ▪ Asbestos; and

Term	Definition or Description
	▪ Waste Electrical and Electronic Equipment (*WEEE*), as defined by the Ministry of the Environment, as a *non-collectible waste*.
Organic materials	Food waste, houseplants, soiled paper towels, tissues and wet paper, diapers and sanitary products, pet waste, litter or bedding, and/or any other material or items which may be designated *organic materials* by the *Commissioner* from time to time.
Owner	The person having right, title, interest or equity in a property as shown on the records of the land registry office, or that person's agent authorized in writing.
Private street	Any road, driveway, or highway as defined by the Highway Traffic Act S.1(1) with a road allowance not under the jurisdiction of the City of Richmond Hill or public road authority.
Public street	A public highway as defined by the Municipal Act, 2001 S.O. 2001, c.26, as amended and shall exclude an unopened road allowance of any Street which is shown on a Registered Plan of Subdivision which has been deemed not to be a Registered Plan of Subdivision under Section 50 of the Planning Act, R.S.O. 1990, or a predecessor thereof.
Quadruplex	A *building* containing only two storeys, exclusive of a basement, divided vertically and/or horizontally into four *dwelling units*, each one of which has two walls or parts thereof in common with adjoining units and an independent entrance to either the ground or common corridor.
Recyclable materials	Materials deemed to be recyclable under the City's recycling collection program as determined by the *Commissioner* from time to time.
RFID	Radio frequency identification.
Semi-Detached Dwelling	A *building* that is divided vertically into two *dwelling units* sharing a common wall above the established grade and each of which has an independent entrance either directly to the outside or through a common vestibule.
Single detached dwelling	A completely detached *dwelling unit*.
Single family residential property	A *single detached dwelling*, a *semi-detached dwelling*, a *duplex*, a *townhouse* with frontage on to a *public street* or a *driveway* and an *apartment building* with a maximum of six (6) *dwelling units*.

Term	Definition or Description
Stacked townhouse dwelling	A *building* containing at least three (3) *dwelling units*, each *dwelling unit* being separated from the other vertically and horizontally and having an independent external access.
Street townhouse dwelling	A *townhouse dwelling* with frontage on a street.
Textile waste	Any clothing or clothing related item, as determined by the *Commissioner* from time to time, discarded by the occupant of a *dwelling unit*.
City	The Corporation of the City of Richmond Hill.
Townhouse dwelling	A *building* divided vertically into three or more d*welling units*, each sharing a wall above the established grade and each of which has independent entrances at grade to a front and rear yard immediately abutting the front and rear walls.
Waste	G*arbage*, *recyclable material* and *organic material* and when applicable, yard waste.
Waste management plan	The piece of the development application that must illustrate how all of the applicable design standards detailed in Section J2 of the "Waste Management Design and Collection Standards for Development" document have been addressed.
WEEE	Waste electrical and electronic equipment.
Yard waste	Brush, leaves, hedge, or tree and garden cuttings, and Christmas trees.

Section J2
Design Standards

.1 Access Route Standards

The access route standards below contain the minimum design requirements for *waste* collection vehicles to safely access sites to carry out municipal *waste* collection. All access routes located on public streets must be designed in accordance with Division C (Transportation and Roadworks) of this manual. Access routes located in private developments must meet the requirements in Division C as well as those listed below. Submitted drawings must indicate that they meet the applicable standards by including the required dimensions.

.1.1 Location of Access Route

It is the responsibility of the *owner* to ensure that the access route be situated in a location that minimizes the interface with pedestrian traffic and public vehicular ingress / egress to the *building's* main parking area, including underground garage, drive-through and visitor parking areas. Drawings must indicate the parts of access routes with increased potential for conflict between collection vehicles and pedestrians/resident vehicular traffic. The *owner* shall recommend mitigation measures to minimize these potential conflicts which may include, but are not limited to, the use of proper signage, pavement markings, warning lights and mirrors to caution both pedestrians and collection vehicle operators (this includes doorways entering loading spaces etc.).

.1.2 Access Route Details

To maintain safe and efficient *waste* collection, all access routes must be designed to allow a *waste* collection vehicle to enter the site, collect the *waste* and exit the site solely in a forward motion. To satisfy the requirement for continuous forward motion, it is acceptable to use a cul-de-sac designed as per Division C (Transportation and Roadworks) of this manual.

In cases where the size of a site does not allow for continuous forward motion throughout the site, it is acceptable to use the Private Road - "T" Turnaround Minimum Standard design as detailed in Richmond Hill's Standards and Specifications Manual. The *waste* collection vehicles shall not be permitted to make more than a three-point turn, or to reverse more than one and a half truck lengths (approximately 16.5 metres).

To maintain safe and efficient access to loading spaces for front-end *waste* collection, *waste* collection vehicles are only permitted to reverse when accessing/exiting a loading space or moving on the loading space for the purpose of loading containers.

.1.3 Access Route Width, Radius and Vertical Clearance

Access routes must have a minimum width of 6.0 metres and a minimum inside turning radius of 9.0 metres. Access routes that are not designated as *fire routes* may be reduced to a width of 4.0 metres for one way traffic. The one-way access route requires a minimum inside turning radius of 15.0 metres and a minimum outside turning radius of 14.5 metres. The minimum widths assume that parking is prohibited along the access routes and

therefore “No parking” signage shall be posted throughout. If parking is allowed for any stretch of the access route, the size of the road must be increased accordingly to maintain the minimum access route width. All access routes must maintain a minimum vertical clearance of 4.4 metres.

.1.4 Pavement Design and Grade of Access Route

The pavement structure of the access route and gradient shall be in conformance with design criteria requirements identified in Division “C” (Transportation and Roadworks) of this manual. At a minimum, the pavement structure of access routes located on private property shall be designed as per the specifications for “Light Industrial, Commercial, Apartment Residential/Condominium” found in Table C-6 in Division C of the City of Richmond Hill’s Standards and Specifications Manual or a City approved alternative. A geotechnical report shall confirm the required pavement structure specification to permit waste management vehicle accessibility under all climate conditions.

An access route which requires a driveway ramp to connect with an above or below grade structure shall have a maximum ramp grade of 8%.

.1.5 Supported Structures

All portions of access routes, or loading spaces that require a collection vehicle to drive over a supported structure (such as an underground parking garage) must be capable of supporting a fully loaded collection vehicle of 35,000 kilograms and a point load of 6,000 kilograms. When applicable, a licensed Ontario Professional Engineer must certify on all submitted drawings that this requirement has been satisfied. Supported structures must also conform to all applicable legislation, including but not limited to Section 4, Structural Design of the Ontario Building Code.

.1.6 Path of Collection Vehicle

The *owner* must submit a separate drawing indicating the *waste* collection vehicle’s footprint throughout the collection access route and at the point of ingress/egress and turnaround (if required). The *owner* shall include dimensions (i.e., width, turning radius, etc.) throughout the access route as well as points of ingress/egress and turnaround. The *City* will, at its discretion, require the *owner* to submit such information using auto-turn or similar type of software. Typical dimensions of a *waste* collection vehicle are shown in Appendix J-5: Waste Collection Vehicle Dimensions.

.2 Waste Containers, Storage and Set Out Areas

.2.1 Individual Curbside Collection (Single Detached, Semi-Detached and Street Townhouses)

.2.1.1 Waste Storage

Each d*welling unit* must have its own fully enclosed *waste* storage area in a non-habitable space (i.e., a garage). The *waste* storage area must be designed to store *blue boxes, green bins*, *garbage* bags/containers and *yard waste material* in between collection days. The *waste* storage area must not be located within the *front yard*. The minimum required size for the *waste* storage area is 2 square metres with a minimum width of 0.5 metres.

.2.1.2 Waste Set Out Area

Each d*welling unit* receiving individual curbside collection must have frontage onto a *public* or *private street* where *waste* will be set out for collection. The minimum required size for the *waste* set out area is 2 square metres with a minimum width of 0.5 metres. *Driveway*s and boulevards are acceptable locations for *waste* set out areas however, waste set out locations must not interfere with any planned or existing infrastructure including infrastructure for pedestrians, cyclist or other public services.

.2.2 Shared Curbside Collection (Duplex, Triplex, Quadruplex and Apartment Buildings with less than 7 Dwelling Units)

.2.2.1 Waste Storage

Each *building* must have a fully enclosed *waste* storage area in non-habitable space that will be shared by all d*welling unit*s. The *waste* storage area must be used to store *blue boxes*, *green bins*, *garbage* bags/containers and *yard waste material* in between collection days. The minimum required size for the *waste* storage area is 2.0 square metres for each d*welling unit*. The layout of the *waste* storage area shall allow for convenient access by residents to *waste* containers for all streams.

.2.2.2 Waste Set Out Area

Each *building* where *dwelling units* are contained must have frontage onto a *public or private street* where *waste* will be set out for collection. The minimum required size for the *waste* set out area is 1 square metre with a minimum width of 0.5 metres for each *dwelling unit* included in the *building*. *Driveway*s and boulevards are acceptable locations for *waste* set out areas however, waste set out locations must not interfere with any planned or existing infrastructure including infrastructure for pedestrians, cyclists or other public services.

.2.3 Shared, Bulk Collection Townhouse Developments

Townhouse developments where individual *dwelling units* do not have frontage on to a *public* or *private street* and/or individual waste storage areas, will receive shared, bulk collection with front-end containers and are required to meet the applicable *waste* storage and *waste* set out standards. The option does exist for these types of *townhouse* developments that have less than 33 *dwelling units* to receive *waste* collection with carts; however, this decision will be at the discretion of the *City*. The standards for both front-end and cart *waste* collection for *townhouse* developments are detailed below.

.2.3.1 Waste Storage Rooms

Each shared, bulk collection townhouse development is required to have at least one *waste* storage room that is either part of a parking structure or part of a *townhouse building* or an independent, fully enclosed *accessory structure* with a roof. The *waste* storage room(s) must be completely located on private property, be easily accessible to all residents and must not require any resident to walk more than 100 metres round trip to dispose of their *waste*. Walking paths from each *dwelling unit* must be demonstrated to only occur along walkways/sidewalks that have year-round maintenance. If multiple *waste* storage rooms are required throughout the development, the *waste management plan* must include how many *dwelling units* each *waste* storage room will service. If the *waste* storage room(s) is located underground and the development is serviced with front-end containers, it is acceptable that chutes be used by residents to dispose of *waste*. However, residents will still require access to the *waste* storage room to dispose of other material (i.e., large cardboard, *bulky waste* etc.) and this accessibility must be identified. The chute system must have three separate chutes, one for each waste stream (*garbage, recycling and organics).* All chutes are required to be provided with operational washing and lock-out systems. Each chute room must also be provided with sufficient space for educational material (i.e., posters) to be attached to the wall to inform residents of proper *waste* sorting. All *waste* storage rooms must be located so that containers can be easily taken to collection/set out areas without obstructions and the *waste management plan* must indicate the route of the *waste* containers to the collection/set out areas.

The *waste* storage room(s) will be used by residents to dispose of *waste*, for the storage of *waste* containers and in some cases *bulky waste,* in between collection days and will be designed to accommodate additional diversion programs which, at minimum, will include *textile waste*, *WEEE* and batteries. A *bulky waste* storage room located on the ground floor is preferred to facilitate access, transportation and collection of *bulky waste*. Space allocation for *bulky waste* storage has been included in the minimum size of *waste storage* room dimensions in Table J-2 and Table J-3; 10m^2 in Table J-2 and 5m^2 in Table J-3. If *bulky waste* is to be stored in a separate room, the size of the *waste storage* room can be decreased by the applicable area (10m^2 if using Table J-2 or 5m^2 if using Table J-3) and allocated to the *bulky waste* storage room. If the *waste* storage room is located underground and includes *bulky waste* storage, the *waste management plan* must indicate the route residents would take to dispose of the *bulky waste* in the *waste* storage room and the route of the *bulky waste* to the collection/set out area. The space required for additional

diversion programs has also been calculated in the minimum dimensions below. *Waste* storage room(s) must allow for the storage of 8 days' worth of generated *waste*. Each *waste* storage room must have a layout that allows for convenient access by residents to *waste* containers for all *waste* streams and must have appropriate lighting and be properly ventilated as per the Ontario Building Code. In addition, all *waste* storage rooms must be rodent proof, have a hose bib, floor drain and include appropriate odour control measures including climate control. The required minimum vertical clearance within a *waste* storage room shall be 2.5 metres. *Accessory structures* must meet all applicable by-laws and requirements of the Ontario Building Code and must be architecturally compatible with the development. In addition, *waste* storage rooms must not be forward of the main *building* wall as indicated in Appendix J-3: Townhouse Cart Collection Pad Example.

.2.3.2 Waste Containers, Size of Waste Storage Room and Set Out – Front-End Collection

The *waste* containers that will be used for *garbage* and *recyclable materials* will range in size from 3 to 6 cubic yards. *Waste* containers for *organic materials* will be 2 cubic yards in size. It is assumed that the g*arbage* for this development type will be uncompacted. If a *garbage* compactor is included in the *waste management plan*, a reduction in the required space may be permitted at the discretion of the *City*. *Garbage* compaction shall not exceed a ratio of 3:1. Additionally, if a g*arbage* compactor is included in the *waste management plan*, public and resident access will be prohibited to any *waste* storage rooms equipped with a compactor, or the proper measures must be taken to ensure that the compactor is not accessible to the public and residents.

Refer to Table J-2 to determine the minimum required size of each *waste* storage room based on the number of *dwelling units* that the *waste* storage room will service. The minimum room sizes in Table J-2 are based on 3 cubic yard containers for *garbage* and *recyclable materials*. If larger containers are to be used for *garbage* and *recyclable materials* the minimum size of the *waste* storage room may be decreased. The *City* may require an additional front-end container for each stream depending on the layout of the site and if the development is using chutes. In these circumstances, the minimum size of the waste storage room must be increased to accommodate the additional containers.

Table J-2: Minimum Waste Storage Room Sizes for Front-End Collection from Townhouse Developments

Number of Dwelling Units	Minimum Number of Front-End Containers			Minimum Size of Waste Storage Room
	Garbage	Recyclable Material	Organic Material	
33 to 39	2	3	2	43m^2
40 to 52	3	4	2	51 m^2
53 to 65	4	5	2	58 m^2
66 to 78	5	6	3	69 m^2
79 to 91	5	7	3	73 m^2

Number of Dwelling Units	Minimum Number of Front-End Containers			Minimum Size of Waste Storage Room
	Garbage	Recyclable Material	Organic Material	
92 to 104	6	8	3	81 m^2
105 to 117	7	9	4	96 m^2
118 to 130	7	10	4	100 m^2
131 to 143	8	11	5	111 m^2
144 to 156	9	12	5	118 m^2

.2.3.3 Front-End Waste Set Out/Loading Space

The requirements for the set-out area and loading space are the same as those for *apartment building* developments serviced with Front-End containers. For the applicable requirements, please refer to Front-End Waste Set Out/Loading Space under Section 2.2.4.

.2.3.4 Waste Containers, Size of Waste Storage Room and Set Out - Cart Waste Collection

Shared, bulk collection *townhouse* developments with less than 33 *dwelling units*, approved by the *City* to use Cart Collection, will use 95-gallon carts for g*arbage* and *recyclable materials* and 65-gallon carts for *organic materials*. Table J-3 provides the required minimum size for a *waste* storage room *depending* on the number of *dwelling units* that the *waste* storage room will service.

Table J-3: Minimum Waste Storage Room Sizes for Cart Collection from Shared, Bulk Collection Townhouse Developments

Number of Dwelling Units	Minimum Number of Carts			Minimum Size of Waste Storage Room
	Garbage	Recyclable Material	Organic Material	
7 to 8	3	4	2	19 m^2
9 to 10	4	5	2	22 m^2
11 to 12	4	6	3	25 m^2
13 to 14	5	7	3	28 m^2
15 to 16	6	8	3	31 m^2
17 to 18	6	9	4	34 m^2
19 to 20	7	10	4	37 m^2
21 to 22	8	11	4	41 m^2
23 to 24	8	12	5	43 m^2
25 to 26	9	12	5	45 m^2
27 to 28	10	13	6	49 m^2
29 to 30	11	14	6	53 m^2

Number of Dwelling Units	Minimum Number of Carts			Minimum Size of Waste Storage Room
	Garbage	Recyclable Material	Organic Material	
31 to 32	11	15	6	54 m^2

.2.3.5 Cart Waste Set Out Area

Each shared, bulk collection *townhouse* development that receives cart collection is required to have a collection pad for staging the *waste* containers for all 3 *waste* streams prior to municipal *waste* collection. The collection pad must be located on private property, accessible by a *private street* or *driveway* and located within 15 metres of the curb where *waste* collection will occur. Additionally, walkways must be provided between the *waste* storage room, the collection pad and the curb where *waste* collection will occur. The collection pad and the walkways must be constructed of concrete, asphalt or another surface approved by the *City*. The collection pad must be large enough to accommodate the total number of carts based on Table J-3. The minimum area to be used when designing the collection pad is 1 m^2 per garbage or recycling cart and for 0.5 m^2 per organics cart. The required minimum width of the collection pad is 1 metre. An example of an approved *waste* collection pad for shared, bulk collection *townhouse* developments can be found in Appendix J-3: Townhouse Cart Collection Pad Example.

.2.4 Apartment Building Developments

Apartment building developments will receive front-end *waste* collection and are required to meet the applicable *waste* storage, separation and set out standards. The option does exist for developments that include a*partment buildings* with less than 33 *dwelling units* to receive *waste* collection with carts; however, this decision will be at the discretion of the *City*. The standards for both front-end and cart *waste* collection for a*partment building* developments are detailed below.

.2.4.1 Front-End Waste Storage

Each a*partment building* or tower within the development must have an internal *waste* storage room where *waste* containers and *bulky waste* will be stored in between collection days and where all *waste* chutes terminate. *Waste* storage rooms must have appropriate lighting and be properly ventilated as per the Ontario Building Code and be rodent proof, have a hose bib, floor drain and include appropriate odour control measures including climate control. All *waste* storage rooms must be located so that *waste* containers can be easily taken to collection/set out areas without obstructions and the *waste management plan* must indicate the route of the *waste* containers to the collection/set out areas. *Waste* storage rooms will include *garbage* compactors and as such, public and resident access will be prohibited to *waste* storage rooms, or the proper measures must be taken to ensure that the compactor is not accessible to the public and residents. The required minimum vertical clearance within a *waste* storage rooms shall be 2.5 metres.

A *bulky waste* storage room located on the ground floor is preferred to facilitate access, transportation and collection of *bulky waste*. Space allocation of 10 m^2 for *bulky waste* storage has been included in the minimum size of *waste storage* room dimensions in Table J-4. If *bulky waste* is to be stored in a separate room, the size of the *waste storage* room can be decreased by 10m^2 and this space can be allocated to the *bulky waste* storage room. If the *waste* storage room is located underground and includes *bulky waste* storage, the *waste management plan* must indicate the route residents would take to dispose of the *bulky waste* in the *waste* storage room and the route of the *bulky waste* to the collection/set out area.

The *waste* containers that will be used for *garbage* and *recyclable materials* will range in size from 3 to 6 cubic yards. *Waste* containers for *organic materials* will be 2 cubic yards in size. *Waste* storage room(s) must allow for the storage of 8 days' worth of generated *waste*.

Refer to Table J-4 to determine the minimum required size of each *waste* storage room based on the number of *dwelling units* within the *apartment building*. The minimum room sizes in Table J-4 are based on 3 cubic yard containers for *garbage* and *recyclable materials*. If a development is designed for larger containers for *garbage* and *recyclable materials*, the minimum size of the *waste* storage room may be decreased. *Garbage* compaction shall not exceed a ratio of 3:1.

Table J-4: Minimum Waste Storage Room Sizes for Front-End Collection from Apartment Building Developments

Number of Dwelling Units	Minimum Number of Front-End Containers			Minimum Size of Waste Storage Room
	Garbage	Recyclable Material	Organic Material	
33 to 45	2	2	2	36 m^2
46 to 90	3	3	2	44 m^2
91 to 135	4	4	3	55 m^2
136 to 180	4	5	3	59 m^2
181 to 225	5	6	4	70 m^2
226 to 270	6	7	4	77 m^2
271 to 315	7	8	5	88 m^2
316 to 360	7	9	5	92 m^2
361 to 405	8	10	5	100 m^2
406 to 450	9	11	6	111 m^2
451 to 495	10	12	6	119 m^2
496 to 540	10	13	7	126 m^2

.2.4.2 Front-End Waste Separation

Each *apartment building* or tower is required to have a chute system that provides residents with the ability to separate the three waste streams (*garbage, recycling and*

organics) on each floor. To accomplish this, each *apartment building* or tower is required to have a minimum of three (3) separate waste chutes in total, with a dedicated chute for each of the following:

i) Garbage,

ii) Recycling; and

iii) Organics;

All chutes are required to include operational washing and lock-out systems. Chute rooms used by residents for the disposal of *waste* must be located on each floor of the *apartment building* or tower. If any *dwelling units* are on the same floor as the *waste* storage room, a *waste* separation method that is acceptable to the *City* must be provided for those *dwelling units*. Each chute room must be provided with sufficient space for educational material (i.e., posters) to be attached to the wall to inform residents on proper *waste* sorting. The requirement for a chute system may be waived for *apartment buildings* with less than 5 storeys, however this decision will be at the discretion of the *City*. If an *apartment building* development with less than 5 storeys is approved to proceed without a chute system, then all waste must be disposed of directly into the *waste* storage room which must be easily accessible to all residents and must be within 50 meters walking distance of all *dwelling units*. The dimensions of the *waste* storage room will be dependent on the method of *waste* collection (i.e., carts or front-end).

In addition to the *waste* storage room, each *apartment building* is required to have a *waste* drop-off area adjacent to the *waste* storage room that is easily accessible to residents. The *waste* drop-off area will be used for the disposal of items not suitable for chutes (i.e., large pieces of cardboard) and for additional *waste* streams which at minimum, will include *WEEE*, *textile waste* and batteries. For *apartment building*s with 100 *dwelling units* or less, the size of the *waste* drop-off area must be a minimum of 7 square metres. For *apartment building*s with more than 100 *dwelling units*, the size of the *waste* drop-off area must be a minimum of 11 square metres. The *waste management plan* must indicate how *waste* will be moved from the *waste* drop-off area to the *waste* storage room or the loading space. The *waste* drop-off area must have appropriate lighting and be properly ventilated as per the Ontario Building Code and include appropriate odour control measures.

.2.4.3 Front-End Waste Set Out/Loading Space

Each development that receives front-end *waste* collection is required to have a loading space for *waste* collection. One residential loading space is required for buildings with up to 399 *dwelling units*. An additional residential loading space is required for buildings with 400 *dwelling units* or more. The loading space(s) must meet the minimum dimensions in Table J-5.

Table J-5: Minimum Loading Space Dimensions

Minimum Length	Minimum Width
13 metres	4 metres

The required unencumbered vertical clearance over the entire loading space is 6.5 metres for 3 or 4 cubic yard containers. If 6 cubic yard containers are used, the required vertical clearance will be increased to 7.0 metres.

The loading space is designed to accommodate one front-end container and the *waste* collection vehicle. Developments with more than 45 *dwelling units*, which will be setting out more than one front-end container per stream, require a staging pad. The staging pad is used for the temporary storing of front-end containers immediately prior to collection and must be adjacent to the area of the loading space opposite to where the collection vehicle will enter the loading space. The size of the staging pad is dependent on the number of front-end containers that will be placed out for collection on each collection day. The minimum size of the staging area will be 5 square metres for each additional container that will be set out for collection. The layout of the staging pad must allow for containers to be easily moved to the loading space during collection.

The loading space and staging pad must not exceed a grade of 2% and must be at grade with the adjacent *driveway* levels. The loading space and staging pad are required to be constructed of 150mm concrete with a minimum specified compressive strength of 32MPa. The loading space and staging pad must also be constructed of a base with a minimum 300mm of 20mm crusher run limestone, with an exposure class of C-2 and reinforcement mesh as required.

.2.4.4 Cart Waste Storage

Each *apartment building* with less than 33 *dwelling units*, approved by the *City* to use Cart Collection, will have a *waste* storage room where *waste* containers and *bulky waste* will be stored in between collection days. The *waste* storage room must be internally accessible by all residents and the layout of the *waste* storage room shall allow for convenient access by residents to *waste* containers for all streams and provide an area for the storage of *bulky waste*. A *bulky waste* storage room located on the ground floor is preferred to facilitate access, transportation and collection of *bulky waste*. Space allocation of $5m^2$ for *bulky waste* storage has been included in the minimum size of *waste* storage room dimensions in Table J-6. If *bulky waste* is to be stored in a separate room, the size of the *waste* storage room can be decreased by $5m^2$ and allocated to the *bulky waste* storage room. If the *waste* storage room is located underground and includes *bulky waste* storage, the *waste management plan* must indicate the route residents would take to dispose of the *bulky waste* to the *waste* storage room and the route of the *bulky waste* to the collection/set out area. The *waste* storage room must also have appropriate lighting and be properly ventilated as per the Ontario Building Code and have a hose bib, floor drain and include appropriate odour control measures.

The *waste* containers that will be used for this dwelling type will be 95-gallon carts for *garbage* and *recyclable materials* and 65-gallon carts for *organic materials*. Table J-6 provides the required minimum size of the *waste* storage room depending on the number of *dwelling units* in the *apartment building*.

Table J-6: Minimum Waste Storage Room Sizes for Cart Collection from Apartment Building Developments

Number of Dwelling Units	Minimum Number of Carts			Minimum Size of Waste Storage Room
	Garbage	Recyclable Materials	Organic Materials	
First 7	2	1	1	11 m^2
8 to 14	3	2	1	15 m^2
15 to 21	5	3	2	21 m^2
22 to 28	6	4	2	24 m^2
29 to 32	7	5	2	27 m^2

.2.4.5 Cart Waste Set Out Area

Each *apartment building* development that receives cart *waste* collection is required to have a collection pad for staging the containers for all 3 *waste* streams to facilitate municipal *waste* collection. The collection pad must be located on private property, accessible by a *private street* or driveway and located within 15 metres of the curb where waste collection will occur. Additionally, the pad, and any necessary walkways leading to the pad, must be constructed of concrete, asphalt or another surface approved by the *City*. The collection pad must be large enough to accommodate the total number of carts based on Table J-6. The minimum area to be used when designing the collection pad is 1 m^2 per garbage or recycling cart and 0.5 m^2 per organics cart. The required minimum width of the collection pad is 1 metre.

.2.5 Industrial, Commercial and Institutional Developments

ICI developments are not eligible for municipal *waste* collection services; however, these developments are still required to meet the following Design Standards. All *ICI developments* are required to have at least one *waste* storage room completely located on private property that is part of a parking structure, part of the ICI *building* or an *accessory structure* independent of other *building*s in the development and must be fully enclosed including a roof. A*ccessory structures* must meet all applicable by-laws and requirements of the Ontario Building Code. The *waste* storage room must be large enough to store all *waste* generated from the development between collection days as no *waste* is permitted to be stored outside in between collection days. *ICI developments* that are restaurants or eating establishments are required to have refrigerated *waste* storage areas. All *waste* collection activities must occur completely on private property.

ICI developments on Yonge Street between Crosby Avenue/Benson Avenue in the north and Major Mackenzie Drive in the south, may be eligible to receive municipal *waste* collection. *Development application*s for *ICI developments* within this area will be considered on a case-by-case basis to determine the applicable standards.

.2.6 Mixed-Use Developments

The residential and ICI components of *mixed-use developments* must meet the Design Standards that are outlined above for the individual development types. Separate *waste* storage areas are required. Each building within a *mixed-use development* must provide internal access from each ICI unit to the ICI *waste* storage room. ICI waste generated in *mixed-use developments* is not eligible for municipal waste collection. A shared loading space may be permitted between residential and non-residential uses where the total GFA for the non-residential component is less than 465m^2 (5,000 sq. ft.), however; the non-residential components are not permitted to use the loading space on days when municipal waste collection occurs. If the non-residential component is more than 465m^2 (5,000 sq. ft.), a separate loading space is required.

Section J3
Collection Standards

.1 Application for Municipal Waste Collection Services

Commencement of municipal *waste* collection services requires the *owner* of a new development or re-development to provide the *City* with a completed City of Richmond Hill Application for Municipal Waste Collection Services (Appendix J-1) and a City of Richmond Hill Acknowledgement and Release for Municipal Waste Collection Services on Private Property (Appendix J-2). New developments will be eligible to receive municipal *waste* collection services once the development or, alternatively each *building* or phase, achieves 70% occupancy.

The *owner* is also responsible to provide the *City* with a letter stamped by a licensed Ontario Professional Engineer certifying that all portions of the access routes, loading spaces and staging pads have been constructed as per the design requirements in this document. The letter must also certify that all access routes and loading spaces that require a *waste* collection vehicle to drive over a supported structure (such as an underground parking garage) are capable of supporting a fully loaded *waste* collection vehicle of 35,000 kilograms and a point load of 6,000 kilograms. Finally, the letter must confirm that the supported structures conform to all applicable legislation, including but not limited to Section 4, Structural Design of the Ontario Building Code.

The *owner* of the development is responsible for providing *waste* collection services prior to receiving municipal *waste* collection services.

.2 Collection Accessibility and Safety

It is the responsibility of the *owner* to ensure that all access routes, loading spaces and collection pads have been constructed to meet the applicable Design Standards and that they are free of any obstructions, prior to the commencement of municipal *waste* collection services. Obstructions include, but are not limited to, sightline obstructions, overhanging structures, overhead wires, snow, ice, parked vehicles, debris and construction equipment. For new developments where curbside collection will occur, all boulevards must be rough graded at a minimum. Curbside collection from new developments must not occur from any Regional roads due high traffic volume and risk of collision. It is also the responsibility of the *owner* to provide the required safety provisions as determined by the *City* for access routes and loading spaces which may include, but are not limited to, pavement markings, warning lights, mirrors and signage. All loading spaces must include no parking signage.

In cases where more than one front-end *waste* container is required for collection, it is the responsibility of the *owner* to ensure that competent staff will be at the loading space during *waste* collection to maneuver front-end *waste* containers to and from the staging pad and loading space.
Failure to provide a well-maintained access route and loading space, or failure to provide staff to maneuver front-end *waste* containers, will result in the cancellation of municipal *waste* collection services and/or prevent the commencement of municipal *waste* collection services.

.3 Waste Containers and Educational Material

Prior to commencement of municipal *waste* collection services, the *owner* is responsible for providing the development with the required minimum number of acceptable *waste* containers and educational material for the size and type of development. Educational material provided by the *City* may include the *City's* Waste Management Calendar or the Waste Management Guide for Apartments and Condominiums depending on the Development type as well as educational posters for each chute room to inform residents of proper *waste* sorting. The *owner* may be required to obtain *waste* containers from the *City* or the *owner* may be required to source the *waste* containers themselves as detailed below.

.3.1 Individual & Shared Curbside Developments

For Individual and Shared Curbside Developments, it is the responsibility of the *owner* to distribute to each *dwelling unit* within the development two b*lue boxes*, one *green bin* and one *kitchen catcher*, obtained from the *City*, as well as the required informational material (typically the Waste Management Calendar) prior to municipal *waste* collection services commencing. The *owner* must notify the *City* at least four weeks prior to occupancy to arrange an appointment when the *owner* will collect the *waste* containers and educational material from the *City* or have it delivered directly to the development.

.3.2 Shared, Bulk Collection Townhouse and Apartment Building Developments

It is the responsibility of the *owner* to distribute to each *dwelling unit* an *in-unit blue box* and a *kitchen catcher*, obtained from the *City*, as well as the required informational material prior to municipal *waste* collection services commencing. The educational material for each *dwelling unit* shall outline the *waste* management and separation system used in the development. The *owner* must notify the *City* at least four weeks prior to occupancy to arrange an appointment for the containers and educational material to be delivered to the development.

It is also the responsibility of the *owner* to provide the development with the appropriate number and type of front-end or cart *waste* containers as detailed below. The *City* may require that a *City* provided *RFID* tag be secured to each front-end or cart *waste* collection container prior to commencing municipal *waste* collection services.

.3.2.1 Front-End Containers

For shared, bulk collection *townhouse* developments and *apartment building*s on front-end collection, use Table J-2 or Table J-4 respectively, to determine the minimum required number of front-end containers for each *waste* stream based on the number of *dwelling units* within the development or *building*. Front-end *waste* containers must be purchased by the *owner* and include appropriate locking mechanisms to prevent them from rolling when set out for collection. The acceptable sizes of front-end containers for each development will be based on the design and construction of the development but will range between 3 cubic yards to 6 cubic yards for *garbage* and *recyclable material* and will

be 2 cubic yards for *organic material*. Where residents dispose of material directly into front-end containers, it may be required that the containers have side openings so that residents do not have to open the lids. For developments that utilize *garbage* compactors, it is required that compaction does not exceed a ratio of 3:1.

.3.2.2 Cart Collection

For shared, bulk collection *townhouse* developments *and apartment building*s on cart collection, use Table J-3 or Table J-6 respectively, to determine the minimum required number of carts for each *waste* stream based on the number of *dwelling units* within the development.

Cart *waste* containers must be purchased by the *owner*. Acceptable sizes of cart *waste* containers are 95-gallon carts for *garbage* and *recyclable materials* and 65-gallon carts for *organic material* and typical dimensions of these *waste* containers can be found in Appendix J-5.

.4 Inspections, Waste Audits and Resident Education

Prior to the commencement of municipal *waste* collection services, the *City* will inspect the *owner’s* property to ensure that all applicable Collection Standards have been met.

On a continuous basis, the *City* reserves the right to carry out inspections and *waste* audits on any residential properties receiving municipal *waste* collection services to ensure compliance with this document and the Waste By-law and to determine the effectiveness of the *waste* management program. The *City* also reserves the right to discontinue municipal *waste* collection services to any development that is not compliant with this document, any applicable *City* of Richmond Hill By-laws and all other applicable legislation, municipal standards and policies.

The *City* may, prior to the commencement of municipal *waste* collection services and/or on an on-going basis, require that the *owner* accommodate resident education events organized by *City* staff.

Appendix J-1

City of Richmond Hill Application for Municipal Waste Collection Services

CITY OF RICHMOND HILL APPLICATION FOR MUNICIPAL WASTE COLLECTION SERVICES	

APPLICANT INFORMATION		
Property Address (include names of any new public or private streets):		
Date of Application:		
Name of Property Owner:		
Address of Property Owner:		
City:	Province:	Postal Code:
Phone # of Property Owner:		
Email Address of Property Owner:		
Name of Property Contact Person #1(if different than Property Owner):		
Phone # of Contact Person #1:		
Email Address for Contact Person #1:		
Name of Property Contact Person #2 (Optional):		
Phone # for Contact Person #2 (Optional):		
Email Address for Contact Person #2 (Optional):		
Signature of Applicant:	Date:	

PROPERTY INFORMATION		
Site Plan Application #:		
Property Type (i.e., condo building):		
Number of dwelling units on the property/building:		
Has the building/property reached 70% occupancy?	Yes:	No:
If not, provide a date when it is planned that 70% occupancy will be achieved:		
Have all access routes for waste collection vehicles, loading spaces, staging and collection pads been constructed as per approved site plan drawings?		
Yes:	No:	
Please explain deviations from the approved site plan drawings:		
Are any access routes or loading spaces part of supported structures?		
Yes:	No:	

Has a letter stamped by a licensed Ontario Professional Engineer been included with this application certifying that: • All access routes, loading spaces and staging pads have been constructed as per the design standards outlined in this document; and • All supported structures that collection vehicles will travel over are capable of supporting at least 35,000kgs and a point load of 6,000kgs		
Yes:	No:	
Are all access routes for waste collection vehicles, loading spaces, staging pads and collection pads free of obstruction?		
Yes:	No:	
If this application is for a property receiving curbside collection, have all boulevards been rough graded?		
Yes:	No:	N/A:
If this application is for a property with a chute system, is the chute system operational including washing and lock-out systems?		
Yes:	No:	N/A:
Have no parking signs been installed at the loading space?		
Yes:	No:	N/A:
WASTE COLLECTION INFORMATION		
Please indicate the type of waste collection the property is applying for:		
Front-End:	Carts:	Curbside:
For Front-End collection, please indicate the size of containers that will be used for garbage and recyclable materials (i.e., 3 yards): *Note: Front-End Containers for organic material must be 2 yards		
Please indicate the number of Front-End containers provided to the building for each waste stream:		
Garbage:	Recyclables:	Organics:
Is a Garbage compactor in use on the property?		
Yes:	No:	N/A:
Do all front-end containers have wheels with locking mechanisms?		
Yes:	No:	N/A:
For Cart collection, please indicate the number of carts provided to the property or building for each waste stream:		
Garbage:	Recyclables:	Organics:
For curbside collection, have containers and educational material been delivered?		
Yes:	No:	N/A:
Is this a mixed-use development (i.e., includes residential and ICI uses)?		

Yes:	No:	N/A:
If yes, is the ICI waste storage area separate from the residential waste storage area?		
Yes:	No:	N/A:

FOR INTERNAL USE ONLY		
Date application received:	Date application reviewed:	
Inspection date:	Inspected by:	
Was the site constructed as per approved site plan drawings	Yes:	No:
Approved for collection	Yes:	No:
Signature of inspector:		
Acknowledgement and Release for Municipal Waste Collection Services on Private Property received?		
Yes:		No:
Start date for municipal waste collection services:		
Date application and property information entered into database:		

Appendix J-2

City of Richmond Hill Acknowledgement and Release for Private Property Waste Collection Services

Acknowledgement and Release for Private Property Waste Collection Services

1. In consideration of the Corporation of the City of Richmond Hill (hereinafter the "City") providing waste collection service, _____ (hereinafter the "Owner") being the registered Owner of the property located at _____(hereinafter the "Lands") shall:

   a) Permit the City and its employees, contractors and authorized agents, entry onto the land for purposes of providing waste collection services;

   b) Release, save harmless and indemnify the City from all actions, causes of actions, damages, liability, fines proceedings, claims and demands arising as a result of the City and its employees, Contractors and authorized agents utilizing the Lands, including but not limited to, the driveway, ramp, landing and parking areas of the Lands for purposes of providing waste collection services save and except any claims or damages attributable to the negligence of the City or those for whom it is in law responsible for; and

   c) Permit the City, its employees and authorized agents entry onto the Land for the purposes of inspecting and auditing the effectiveness of the waste management program at the Lands.

2. It is herein acknowledged by the Owner that the City's waste collection from the Lands is conditional on:

   a) The Owner providing free and clear access to loading spaces and collection pads determined satisfactory by the City as provided on approved site plans and described within the site plan agreement;

   b) The Owner utilizing waste containers approved by the City;

   c) The Owner maintaining all compaction equipment and containers in good and operable condition including regularly cleaning and sanitizing containers and replacing said equipment and containers when required;

   d) The Owner permitting any of their waste containers to have data-collecting equipment (i.e., RFID tags) affixed to them by the City;

   e) The Owner maintaining all waste chute systems in clean and operable condition including washing and lock-out systems;

   f) All designated waste being set out for collection in approved containers no later than 7:00 a.m. on the designated collection day and being returned to waste storage rooms/areas no later than 7:00 p.m. on the day of collection once collection has occurred;

   g) The Owner or its agents moving front-end waste containers during collection if so required. The City or its Contractor will not be responsible for emptying containers that are inaccessible to the collection vehicle;

   h) The Owner maintaining waste enclosures in a safe, clean, sanitary, odour free and tidy condition, including cleaning and sanitizing enclosures on a weekly basis or more frequently as required. Garbage, recyclable materials and organic materials are to be placed in appropriate containers. Cardboard is to be broken down and placed within appropriate recycling containers or bundled according to the City's Waste By-Law;

   i) The collection area being signed, kept clear of parked vehicles, large garbage items and large appliances to be collected loose (i.e., not within front-end containers or carts).

   j) The access routes, loading space(s) and collection pad(s) being fully cleared of snow and ice;

k) The Owner notifying and obtaining approval from the City prior to making any changes that will affect waste collection services including but not limited to moving or making changes to waste collection loading spaces and pads and adding or changing waste containers;

l) The Owner ensuring that all tenants or unit owners in developments with shared waste storage have equally convenient access to containers for garbage, recyclable material and organic material;

m) The Owner conducting daily examination of waste containers for garbage, recyclable material and organic material to:

   i. Correct and/or prevent overflow problems.

   ii. Remove contaminants from recycling containers, only if safe to do so.

   iii. Correct and/or prevent recyclable materials from being mixed with Garbage.

l) The Owner attaching and maintaining labels and/or signs provided by the City to waste containers;

m) The Owner placing and maintaining information posters provided/approved by the City describing the City's waste diversions program in common areas, including chute rooms, waste rooms, waste drop-off rooms at a minimum and as required in the lobby, mailroom and laundry room of the building or complex;

n) The Owner notifying tenants or unit Owners in writing of the current waste management program within the building or complex. Notice must be kept up to date, redistributed regularly and be provided to all new tenants or unit Owners;

o) The Owner including the requirement to separate recyclable and organic material from garbage in all tenant leases or condominium packages; and,

p) The Owner complying with all other requirements within the City's Waste By-law.

3. The Owner further acknowledges the City's waste collection service is limited to:

   a) Waste collection service on such days as designated by the City;

   b) Garbage, recyclable material, organic material, yard waste (if applicable), Bulky Items and Metal Items and Large Appliances all as defined in the City's Waste By-law;

   c) Metal Items and Large Appliances as defined in the City's Waste By-law shall be collected subject to scheduling and notice to be provided by the Owner to the City one week prior to pick up.

4. The Owner further acknowledges that the City shall not collect Garbage generated from building renovations, apartment fires and parking lot sweepings. All materials to be collected must be in accordance with the City's Waste By-law.

5. The Owner acknowledges that waste generated from Industrial, Commercial and Institutional (ICI) components of a mixed-use development will not be collected by the City. The waste storage room(s) for ICI generated waste must be separate from residential waste storage room(s). If sharing of the residential loading space has been permitted by the City, the ICI components are not permitted to use the loading space on days when municipal waste collection occurs.

6. Owner further acknowledges that: (a) should the Owner fail to perform or comply with the conditions in this Acknowledgement and Release, the City will cease providing waste collection services to the Owner; (b) The City will only provide the Owner with 48 hours' prior written notice of the cessation of such services.

7. The Owner may terminate this Agreement upon providing the City with 60 days written notice of termination. The Owner further acknowledges that should the services no longer by required by the Owner, the Owner must provide the City with 60 days prior written notice.
8. Any notice which the City or the Owner is required to give pursuant to this Agreement shall be given at:

Owner: _____

Company Name: _____

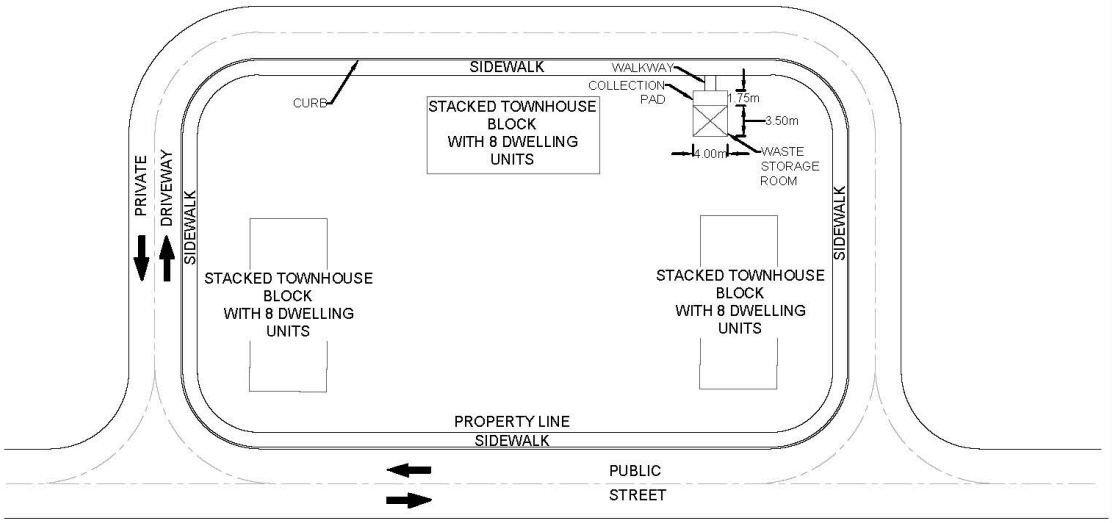
Name: _____ Title: _____

Name: _____ Title: _____

Signature/Authorization: _____ Signature Date: _____

I/We have the authority to bind the corporation/owner. (YYYY/MM/DD)

Appendix J-3
Townhouse Cart Collection Pad Example



NOTES:
1. COLLECTION WILL OCCUR ON PRIVATE DRIVEWAY
2. THIS DRAWING IS ONLY A SAMPLE AND THE LOCATION OF THE COLLECTION PAD WILL DEPEND ON EACH SITE.
3. WASTE STORAGE ROOM CANNOT BE LOCATED FORWARD OF THE MAIN BUILDING WALL.

Appendix J-4
Waste Collection Vehicle Dimensions

Waste Collection Vehicle Dimensions

Dimension	Front-End	Rear-Packer	Top-Loader
Overall Width without mirrors	2.59m	2.56m	2.54m
Overall Width with mirrors	3.59m	3.56m	3.54m
Front and Rear Track Width	2.49m	2.49m	2.49m
Overall Length (Arms Up/No Arms -Travelling)	9.39m	10.71m	10.82m
Overall Length (Arms Down /Collecting)	11.4m	N/A	N/A
Overall Height (Travelling)	4.05m	3.35m	3.35m
Overall Height (Collecting)	6.33m	N/A	4.86m

Appendix J-5
Waste Container Dimensions

Waste Container Dimensions

Front-End Waste Container Dimensions		
Container Size	Width	Depth
2 Cubic Yards	1.81m	0.92m
3 Cubic Yards	1.81m	1.05m
4 Cubic Yards	1.81m	1.32m
6 Cubic Yard	1.81m	1.81m

Cart Waste Container Dimensions		
Container Size	Width	Depth
65 gallons	0.68m	0.72
95 gallons	0.73m	0.86

Appendix J-6
Development Application Checklist

Development Application Checklist

All items below must be included in the Waste Management Plan

ACCESS ROUTES (RESIDENTIAL AND ICI DEVELOPMENTS)

Site Plan drawing(s) include/indicate:

- ☐ Travel path of the waste collection vehicle throughout the site demonstrating continuous forward motion
- ☐ Proper signage
- ☐ Pavement markings, warning lights and mirrors
- ☐ The waste collection vehicle does not require to make more than a 3-point turn, or reverse more than 16.5m
- ☐ Access routes, including points of ingress and egress, that are designed for fire routes and/or two-way traffic have a minimum width of 6m and a minimum inside turning radius of 9m
- ☐ Access routes designed for one-way traffic and are not fire routes have a minimum width of 4m, a minimum inside turning radius of 15m and a minimum outside turning radius of 14.5m
- ☐ Access routes are to maintain a minimum vertical clearance of 4.4m
- ☐ Access routes are to have a grade of no more than 5% on private property
- ☐ Access route on a driveway ramp to connect with an above or below grade structure shall have a maximum ramp grade of 8%
- ☐ Pavement structure of a private road shall be designed and constructed as per the specifications for “Light Industrial, Commercial, Apartment Residential/Condominium” found in Section C1.5 of the City of Richmond Hill’s Standards and Specifications Manual or a City approved alternative
- ☐ All supported structures travelled on by waste collection vehicles will be designed to support at least 35,000kgs with a point load of at least 6,000kgs

INDIVIDUAL CURBSIDE COLLECTION

Site Plan drawing(s) include/indicate examples of:

- ☐ Each Dwelling Unit to have its own waste storage area in non-habitable space (i.e., garage) of at least $2m^2$ with a minimum width of $0.5m^2$
- ☐ Each Dwelling Unit to have a waste set out area of at least $2m^2$ with a minimum width of $0.5m^2$ (may be on the driveway or boulevard)

SHARED CURBSIDE COLLECTION

Site Plan drawing(s) include/indicate examples of:

- ☐ Each Dwelling Unit to have its own waste storage area in non-habitable space of at least $2m^2$ with a minimum width of $0.5m^2$
- ☐ Waste set out area of at least $2m^2$ with a minimum width of $0.5m^2$ for each Dwelling Unit

ALL SHARED, BULK COLLECTION TOWNHOUSE DEVELOPMENTS – WASTE STORAGE

Site Plan drawing(s) include/indicate:

- ☐ Waste storage room(s)
- ☐ All Dwelling Units are within 50m walking distance of a waste storage room
- ☐ If more than one waste storage room is planned, the number of Dwelling Units each waste storage room will service
- ☐ Resident accessibility to waste storage room(s)
- ☐ Route of waste containers from waste storage room(s) to waste collection pads or staging pads/loading spaces
- ☐ Minimum internal vertical clearance of all waste storage rooms to be 2.5m
- ☐ All waste containers in waste storage room(s) including size of waste containers
- ☐ Size of each waste storage room in square metres
- ☐ Hose bib and floor drain
- ☐ Waste storage rooms as being climate controlled

SHARED, BULK COLLECTION TOWNHOUSE DEVELOPMENTS, FRONT-END – WASTE STORAGE AND COLLECTION

Site Plan drawing(s) include/indicate:

- ☐ Size of front-end waste containers planned for garbage and recyclable material. Front-end containers for organic material indicated as being 2 cubic yards in size
- ☐ Garbage compactor, if planned
- ☐ Measures to ensure resident/public access to garbage compactor is restricted
- ☐ If waste chutes are planned, three separate chutes are provided (garbage, recyclable materials and organic materials)
- ☐ Lock out and washing systems for all waste chutes
- ☐ Each chute room is provided with sufficient space for displaying educational material
- ☐ At least one loading space with minimum length of 13m, width of 4m and with a vertical clearance of at least 6.5m
- ☐ Staging pad if the development has more than 45 dwelling units
- ☐ Size of the staging pad in square metres
- ☐ Planned movement of front-end containers to and from the staging area and loading space during collection
- ☐ Maximum grade of loading space and staging pad no more than 2%
- ☐ Construction details of loading space and staging area

SHARED, BULK COLLECTION TOWNHOUSE DEVELOPMENTS, CARTS – WASTE SET OUT

Site Plan drawing(s) include/indicate:

- ☐ Size of waste collection pad(s) in square metres with dimensions
- ☐ Construction details of collection pad(s)

ALL APARTMENT BUILDINGS – WASTE STORAGE

Site Plan drawing(s) include/indicate examples of:

- ☐ Internal waste storage room(s) with area in m^2
- ☐ Route of waste containers from waste storage room(s) to waste collection/set out areas
- ☐ Termination of three separate chutes in waste room with waste containers under each chute and a garbage compactor under one chute
- ☐ Internal vertical clearance of all waste storage rooms as 2.5m
- ☐ Size of each waste storage room in square metres
- ☐ Hose bib and floor drain
- ☐ Waste storage room as being climate controlled

APARTMENT BUILDINGS, FRONT-END – WASTE SEPARATION AND COLLECTION

Site Plan drawing(s) include/indicate examples of:

- ☐ Three separate chutes (garbage, recyclable materials and organic materials)
- ☐ Lock out and washing systems for all waste chutes
- ☐ Chute rooms on each floor
- ☐ Waste separation method for dwelling units on the same floor as the waste room
- ☐ Each chute room is provided with sufficient space for displaying educational material
- ☐ Route of waste containers from waste storage room(s) to waste collection/set out areas
- ☐ Internal vertical clearance of all waste storage rooms as 2.5m
- ☐ Garbage compactor and all waste containers in waste storage room(s) including size of waste containers
- ☐ Measures to ensure resident access to garbage compactor is restricted
- ☐ Hose bib and floor drain
- ☐ Waste storage room as being climate controlled
- ☐ Waste drop-off room adjacent to the storage room
- ☐ Size of waste drop-off room in square metres
- ☐ At least one loading space with minimum length of 13m, width of 4m and with a vertical clearance of at least 6.5m
- ☐ Staging pad if the development has more than 45 dwelling units
- ☐ Size of the staging pad in square metres
- ☐ Planned movement of front-end containers to and from the staging area and loading space during collection
- ☐ Grade of loading space and staging pad to not exceed 2%
- ☐ Construction details of loading space and staging area

APARTMENT BUILDINGS, CARTS – WASTE SEPARATION AND COLLECTION

Site Plan drawing(s) include/indicate examples of:

- ☐ Size of waste collection pad(s) in square metres with dimensions
- ☐ Waste collection pads within 15m of where collection will occur
- ☐ Walkway to collection pad
- ☐ Construction details of the collection pad(s) and walkway

INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS

Site Plan drawing(s) include/indicate examples of:

- ☐ Waste storage room
- ☐ That waste collection will occur entirely on private property
- ☐ If the development includes restaurants or eating establishments that the waste storage room be refrigerated