PROPOSED SOLID WASTE MANAGEMENT PLAN FOR

Brampton Mixed Use Residential
c/o Greenwin

Date: May 2022
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1.0 INTRODUCTION

Greenwin has made a zoning and site plan application to the Region of Peel and City of Brampton for the development of a mixed-use multi-family residential complex consisting of two (2) multi-family buildings consisting of one (1), forty-two (42) and one (1) thirty-seven storey building located at 24 Elizabeth Street North & 33 George Street North, Brampton, ON.

As part of the development review process, the Region of Peel waste management department requests that a solid waste management plan be undertaken to advise on how the development deals with the waste and recyclables that will be generated from occupancy. In addition, the report must propose a system for separating and collecting recyclable materials that makes it as convenient as garbage disposal as per Region of Peel waste management guidelines.

This report will provide the relevant information to assist Greenwin in meeting the Region of Peel's waste management objectives.

2.0 GENERAL INFORMATION

Person Preparing Plan:	Nikko Stone, Waste Consultant, CanAm Waste
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Person Reviewing Plan:	Partner, CanAm Waste
	E: jason@canamwaste.ca
Date Prepared:	May 2022
	One (1), forty-two (42) storey building for residential use.
Building Use:	One (1) thirty-seven (37) storey building for residential use

Figure 1 – Overall Site Layout, Brampton, ON

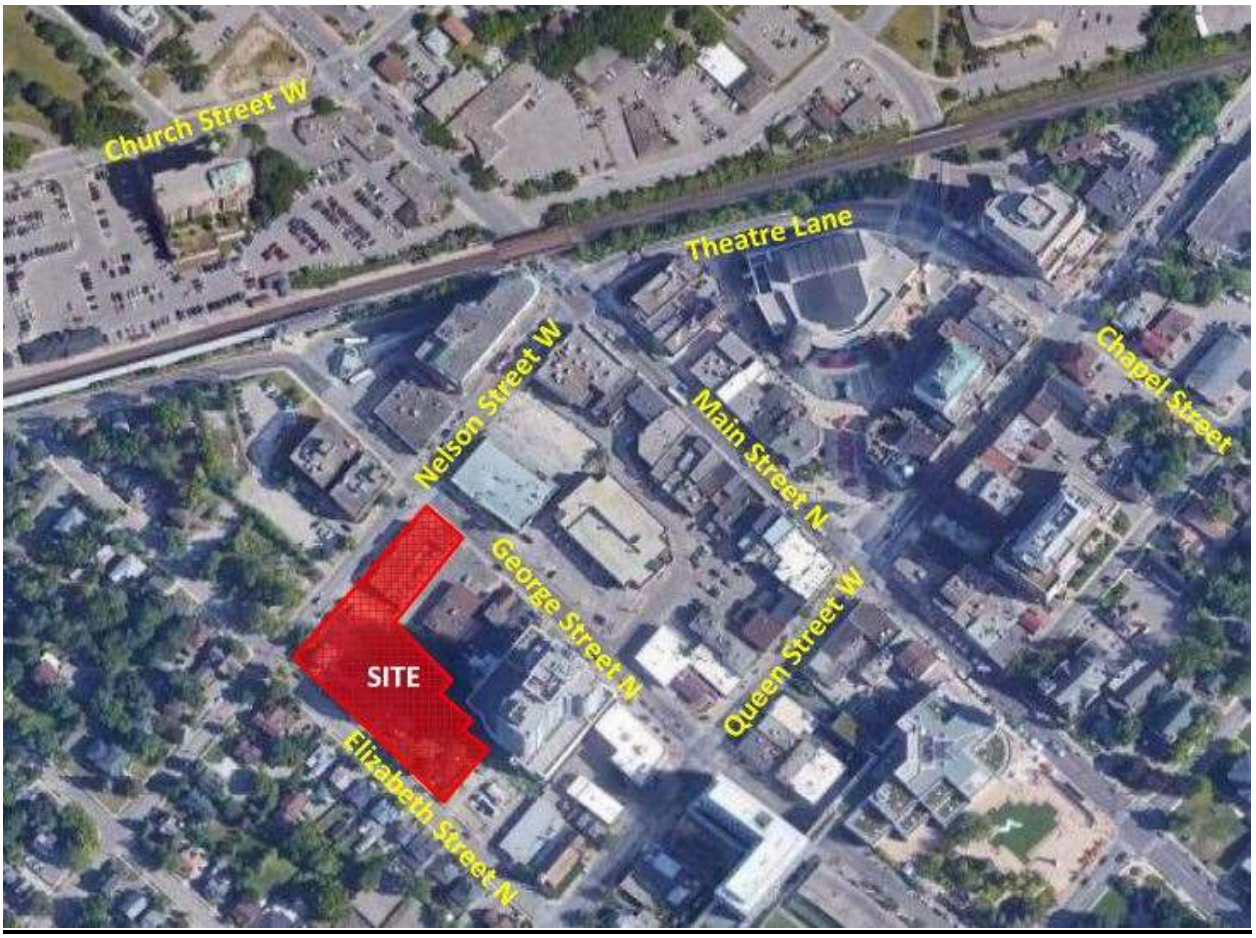


Figure 2 – Overall Site Layout, Brampton, ON

3.0 CONSTRUCTION WASTE

Ontario Regulation 103/94 (O. Reg. 103/94 Source Separation Programs) applies to the industrial, commercial and institutional (IC&I) sector, including construction projects such as the one proposed in this report. The builder of a "construction project" (a person who is undertaking the construction project on their own behalf or on behalf of another) that consists of the construction of one or more buildings with a total floor area of at least 2,000 square metres is subject to *O. Reg. 103/94* and must implement a source separation program.

The builder is responsible for implementing a source separation program or ensuring that a source separation program is implemented. The source separation program must be in place before construction work begins at the site. For the purposes of determining when construction begins at the site, it generally begins at the point foundations for the building(s) is/are being dug. Where, however, a building is going to be constructed in phases (e.g. one builder constructs the outer shell and another contractor constructs the inner shell), construction for the second phase begins when the builder begins construction on the second phase. During the construction period, the incorporation of recycling throughout the site will be promoted through contract documentation.

According to the Regulation, the following items must be incorporated into the construction source separation program:

- Cardboard (corrugated)
- Brick & Portland cement concrete

Additional items that should be considered, but are not mandatory include:

- Wood
- Drywall
- Other relevant materials

It will be the responsibility of the construction project manager to ensure that all local regulations are adhered to, and proper separation procedures are in place to maximize recycling of construction waste.

4.0 PROJECTED WASTE GENERATION QUANTITIES & COMPOSITION FOR THE RESIDENTIAL CONDOMINIUMS BASED ON CHUTE USE

There are two (2) proposed buildings on the property, consisting of high-rise residential. There are two (2) proposed garbage room locations, consisting of one in each room on the property.

4.1 Residential Tower 1

Greenwin proposes to have one (1) CanAm Waste BiSorter Recycling System at Tower #1 (automated waste, recycling and future organics system) installed at the building assist residents and property management in handling waste and recyclables using two (2) chutes as indicated on the architectural drawings with resident access located on each residential floor of occupancy.

4.2 Residential Tower 2

Greenwin proposes to have one (1) CanAm Waste BiSorter Recycling System at Tower #2 (automated waste, recycling and future organics system) installed at the building assist residents and property management in handling waste and recyclables using two (2) chutes as indicated on the architectural drawings with resident access located on each residential floor of occupancy.

Figure 4 - Proposed Floor Panel Configuration & Chute Door Set-Up – BiSorter

DESCRIPTION OF WASTE MANAGEMENT PROGRAM

The materials designated for collection include recyclable paper fibres such as newspaper, magazines, household fine paper, telephone directories, cardboard and boxboard containers.

Recyclable containers will be collected as a commingled stream in the dedicated recycling chute. This container stream (commingled) will include glass bottles and jars, ferrous food, beverage, aerosol and empty paint cans, aluminum cans and rigid foil products, polycoated cartons and aseptic drinking boxes, PET (#1) and HDPE (#2) bottles and jugs.

The system will also accommodate future organics collection if and when this material is collected by the Region of Peel and can be collected in either 95-gallon carts or Front End loading containers. When organics materials are selected on the resident control panel, it would be defaulted to garbage until such time that this material is collected.

Acceptable Region of Peel Recyclable items such as the following are collected:

- Most paper, plastic, glass and metal containers and packaging
- Magazines, newspaper, and cardboard cartons (small bits or pieces go in the garbage)
- Plastic and glass bottles
- Milk and juice cartons
- Juice boxes
- Plastic cups (straws go in the garbage)

For up-to-date information on method and type of each collection item, please refer to the "Recycle it Right" website as published by the Region of Peel and can be accessed by:

https://www.peelregion.ca/recycleright/

Additionally, the Region of Peel also publishes the "What is Recyclable" for apartment residents. This document can be accessed on the Region of Peel website, or by:

https://peelregion.ca/waste/recycling/#recycling-acceptable

The proposed recycling program, with additions or deletions to the program may be included by the time that occupancy occurs as indicated by the contracted waste hauler and/or municipality.

The reviewed is also aware and has incorporated where possible, the design requirements by the Region of Peel as outlined in their document: “Waste Collection Design Standards Manual”, version 2020, as amended from time to time.

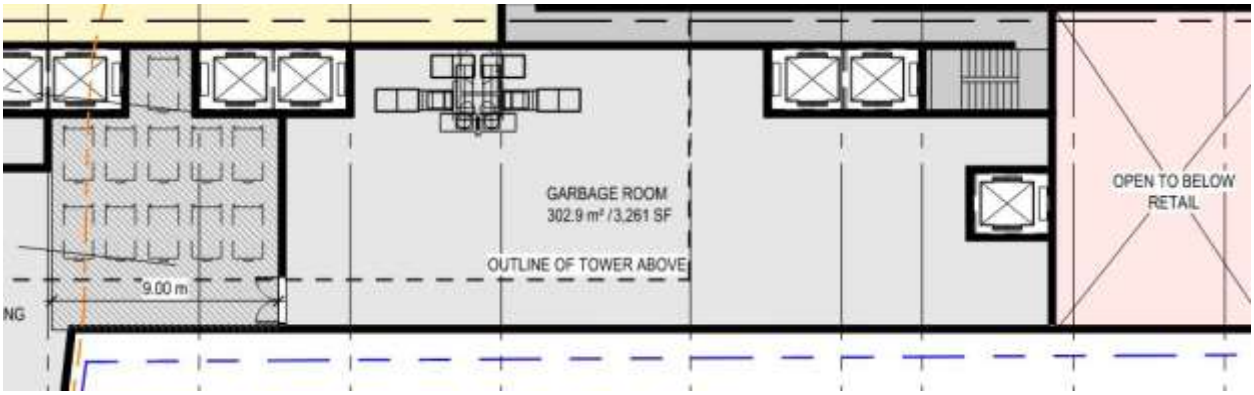
Additionally, the primary areas of focus of implementing a successful waste reduction and management strategy at multi-family properties will incorporate the following principles:

- Reduce
- Reuse
- Repurpose
- Redistribute
- Repair

The BiSorter recycling systems as installed by CanAm Waste are specialized garbage chute extensions that use the chute(s) to direct, via a resident-controlled keypad located on each floor, materials into one of the supplied containers in the waste handling room – Garbage and commingled recyclable materials. Each BiSorter labelling on the floor control panel will read “Garbage” and “Organics”. Recyclables will be collected through the 2nd available chute.

For the BiSorter Systems, organics will be an available selection on the resident floor control panels on each floor, however when users press that selection button, it will default into the garbage compactor, until such time that it can be municipally or privately collected. Garbage will be deposited into the compactor, while recyclables will be deposited into the 2nd chute.

Figure 5 – Tower 1 Garbage Room

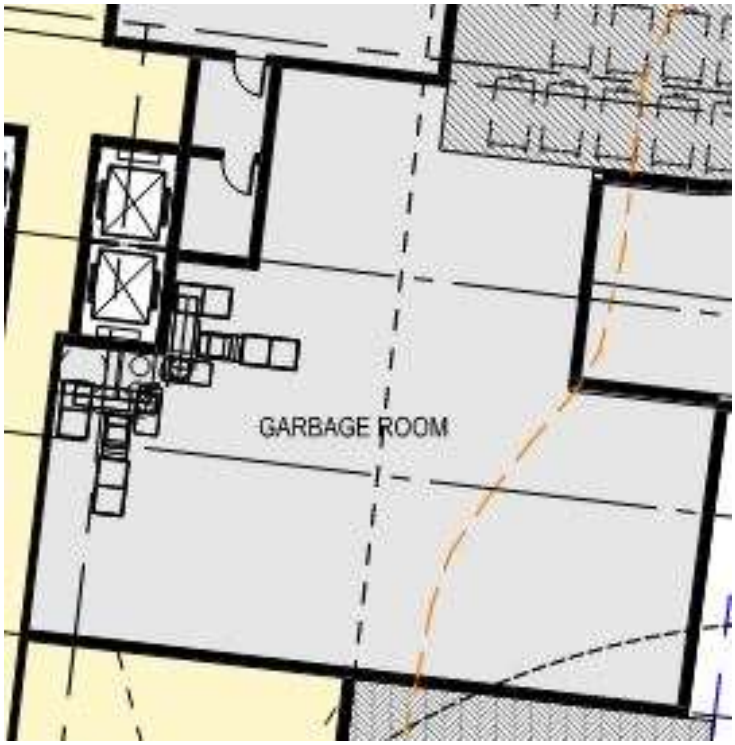


The garbage room for Tower 1 is located on the Ground level, as per architectural AZ205 prepared by Sweeny&Co. Architects. The waste handling storage room design will permit enough room to install a properly laid out BiSorter, compactor, and relevant garbage and recycling containers. Shop drawings will be provided by the supplier.

It would be recommended that a bulky item room be designed on the ground floor to allow residents to dispose and recycle items that otherwise do not go down the chute. Additionally, a powered man-door be installed between the vestibule and bulky item room to allow residents access into the bulky item room hands-free.

Front end loading containers (one for garbage, one for recycling) are recommended for this room. When full, maintenance staff can move the containers through the provided double door into the main garbage room.

Figure 6 – Tower 2 Garbage Room



The garbage room for Tower 2 is located on the Ground level, as per architectural AZ205 prepared by Sweeny&Co. Architects. The waste handling storage room design will permit enough room to install a properly laid out BiiSorter, compactor, and relevant garbage and recycling containers. Shop drawings will be provided by the supplier.

It would be recommended that a bulky item room be designed on the ground floor to allow residents to dispose and recycle items that otherwise do not go down the chute. Additionally, a powered man-door be installed between the vestibule and bulky item room to allow residents access into the bulky item room hands-free.

Front end loading containers (one for garbage, one for recycling) are recommended for this room. When full, maintenance staff can move the containers through the provided double door into the main garbage room.

5.0 MATERIAL STORAGE & COLLECTION

The installation of the CanAm BiSorter waste and recycling system allows residents to deposit their garbage and recyclables as conveniently as each other in the same location.

The garbage materials disposed down the chute will be compacted using a properly specified and designed compactor by CanAm Waste. Additionally, each of the garbage chute locations is less than 100m in relation to any condominium unit. This project appears to meet the Region of Peel requirement for walking distance from each residential unit to the garbage chute.

A control panel on each floor enables the resident to instruct the system, located at the bottom of the BiSorter chute systems, to direct materials into the appropriate container below – please refer to Figure 4 above.

The system will also accommodate future organics collection if and when this material is collected by the Region of Peel and can be collected in either 95 gallon carts or Front End loading containers. When the Organics button on the resident control panel is pressed, the material will be directed into garbage container.

For additional safety of the maintenance staff, the chute will have a manual lock out feature at the bottom of each chute. The “CanAm Chute Blocker” as it is known, will allow maintenance staff the added safety and security by providing the ability to “close down” the garbage chute – either when the containers are empty, or during servicing or emergency. Under the chute blocker, a compactor and 3 cubic yard bin will handle the garbage. Recyclable paper and containers will be collected in a 3yard front end loading container provided by the building.

Additionally, all waste handling rooms shall be equipped with these additional features, as per OBC:

- Garbage chute will be equipped with a wash down system
- Main garbage room will be equipped with electrical provisions for service
- Main garbage room will be equipped with a hose bib and floor drain

Further waste reduction initiatives may include:

- Garbage room, via bulk item room, may be equipped with W.E.E.E. cabinet (dependant on Region of Peel program availability)
- Garbage room, via bulk item room may be equipped with a textiles cabinet for residents to drop-off for collection by a local charity or local business to aid in the diversion of materials from landfill (dependant on local collection and program availability)
- Garbage room, via bulk item room, may also be equipped with a “Drop-off Station” for CFL’s, batteries, printer cartridges an small electronic waste (dependant on Region of Peel program availability)

Figure 7 – Region of Peel Electronic Waste Cabinet

Figure 8 – Region of Peel Drop-off Station

Figure 9 – Region of Peel Fluorescent Light Bulb Tube Drop off Station

Figure 10 – Textiles Drop-off Station

5.1 - RESIDENTIAL CONTAINERS

The two (2) proposed garbage and recycling rooms will contain 3yard front end loading containers for garbage as well as 3yard containers for recyclables. Both of the garbage rooms are located on the ground level, and is connected to the type “G” loading area via double doors.

Based on the following unit counts, the appropriate type, size and quantity of containers are proposed as follows:

Tower 1 – 444 units total – Twenty-one (21) total containers

- Nine (9), 3 cubic yard garbage compaction containers
- Ten (10) 3 cubic yard recyclable containers
- One (1) 3 cubic yard garbage container for bulky item room
- One (1) 3 cubic yard recyclable container for bulky item room

Tower 2 – 377 units total – Nineteen (19) total containers

- Eight (8), 3 cubic yard garbage compaction containers
- Nine (9) 3 cubic yard recyclable containers
- One (1) 3 cubic yard garbage container for bulky item room
- One (1) 3 cubic yard recyclable container for bulky item room

It is noted that the garbage containers in the bulky item rooms will be designed as compactor containers in order for flexibility and compatibility with the main garbage room.

In addition to the containers in each of the bulky item rooms, any special collection program containers or cabinets will also be contained in this room (HHW, Fluorescent Light Bulb collection, textiles), dependant on municipal collection programs.

Proper lighting, signage, a floor drain, access to a hose bib and odour control will also be present in this room.

The calculations for the quantity of containers is based on the Region of Peel guidelines. In addition, they also take into consideration the seasonal fluctuations in garbage & recycling

generation rates based on historical performance of similarly performing properties across the Greater Toronto Area (GTA) over the past 20 years.

Property management staff will be responsible for moving the garbage & recyclables bins from each ground floor garbage room to the type “G” collection area located adjacent to each garbage room.

Based on the recent 2014 memo from the Ontario Ministry of Labour regarding Manual Transfer of Mobile Industrial Waste Containers, it is further recommended that when moving the containers from the garbage room to the collection area that a Bin Buddy be used.

Figure 11 – Container Movement Using a Bin Buddy

Additionally, the garbage room and chute will be cleaned and sanitized on a contract basis as required to reduce odours and build up. To further assist with this process, each residential garbage room will be equipped with an odour control system.

Appropriate signage with educational materials from property management will be prominently displayed on the wall and in the complex common area.

6.0 - COLLECTION

The architectural drawings sufficiently show a collection area that is suitable for front end loading through contracted garbage and recycling vehicles.

A trained on-site staff member will be available to maneuver bins for the collection driver at the combined loading area and also act as a flagman when the truck is reversing. In the event the on-site staff is unavailable at the time the Region of Peel collection vehicles arrive at the site, the collection vehicle will leave the site and not return until the next scheduled collection day.

Additionally, the loading bay will have the following planned design features:

- 7.5m vertical clearance in both loading and staging areas and will be free of obstructions (sprinkler systems, ducts etc).
- Straight 18m clear collection vehicle approach to the staging area, with a maximum slope of 2%, and able to support a 35-tonne collection vehicle, certified by a structural engineer
- Minimum 6m width for storage of containers at collection point
- Recommended 6m deep to allow for jockeying of containers

Currently the Region of Peel has the following waste and recycling collection schedule:

- Garbage – twice weekly
- Recyclable Materials – weekly
- Bulky items - weekly

The planned collection and travel route of front end loading garbage trucks is sufficient to travel, collect, and exit the planned property in accordance with Region of Peel's waste management guidelines. Additional information can be referenced in the Traffic Management Plan.

Figure 12 - Garbage Collection Vehicle

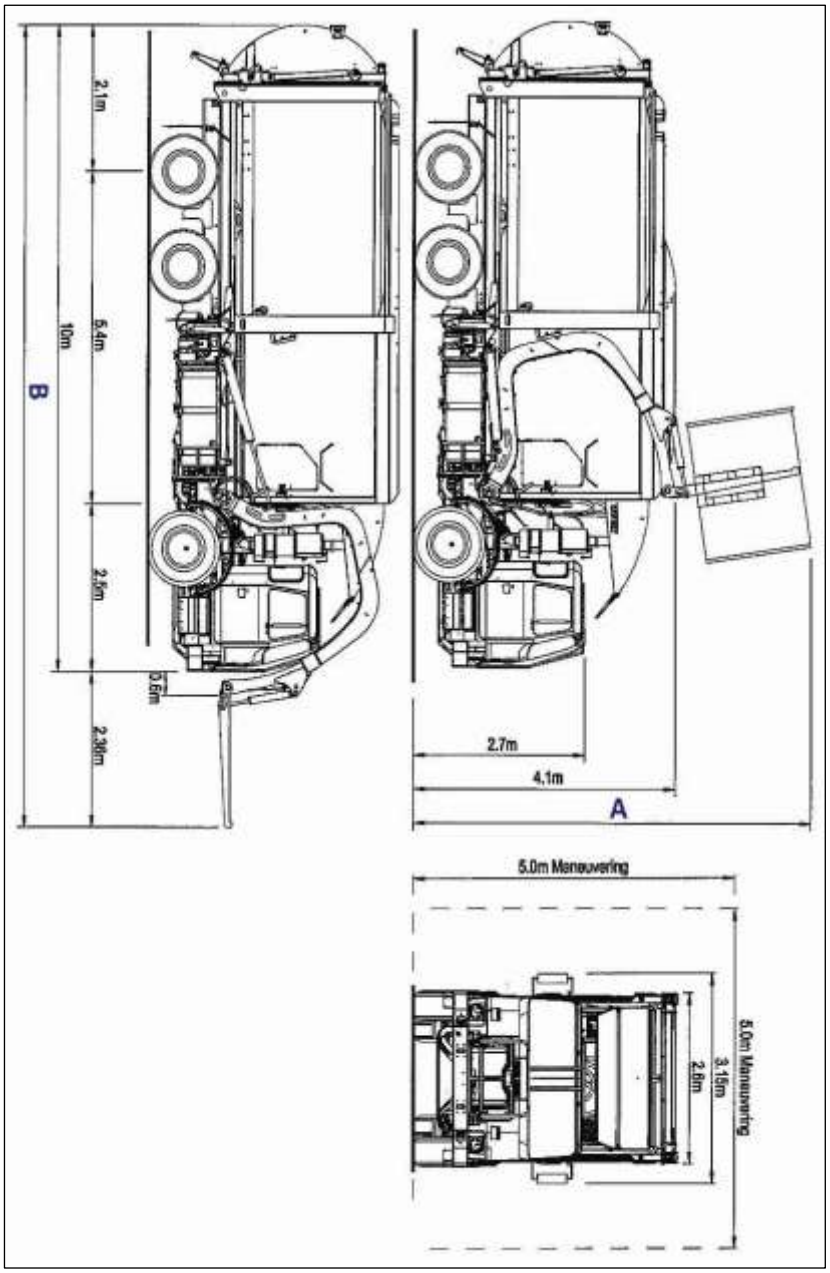
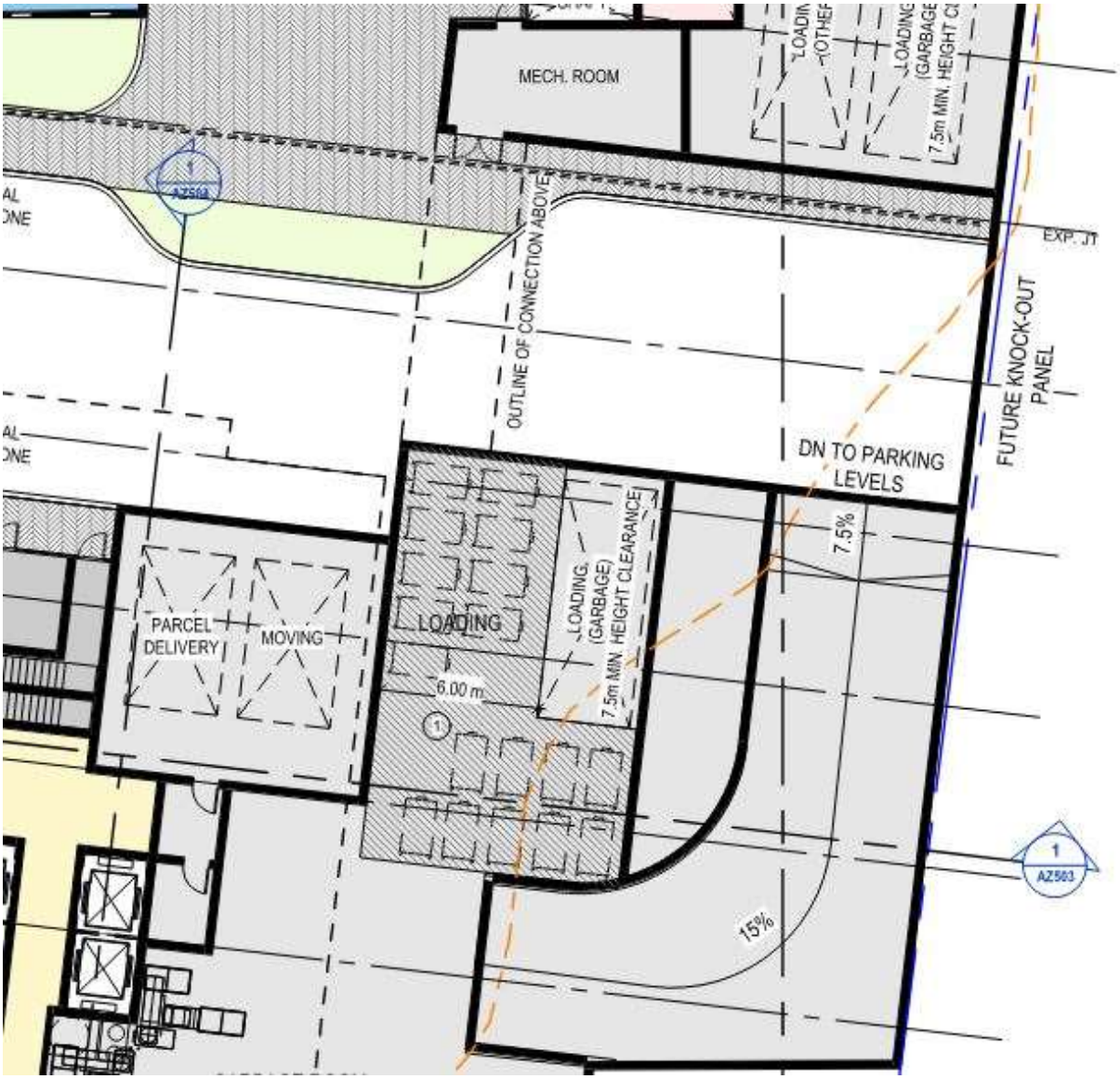


Figure 13 – Tower 1 - Type "G" Collection Area

Figure 14 – Tower 2 - Type "G" Collection Area



6.0 RESIDENT COMMUNICATIONS & SPECIAL MATERIALS

Upon occupancy, property management will provide residents an information package that will provide an overview of the waste management program.

The package will include:

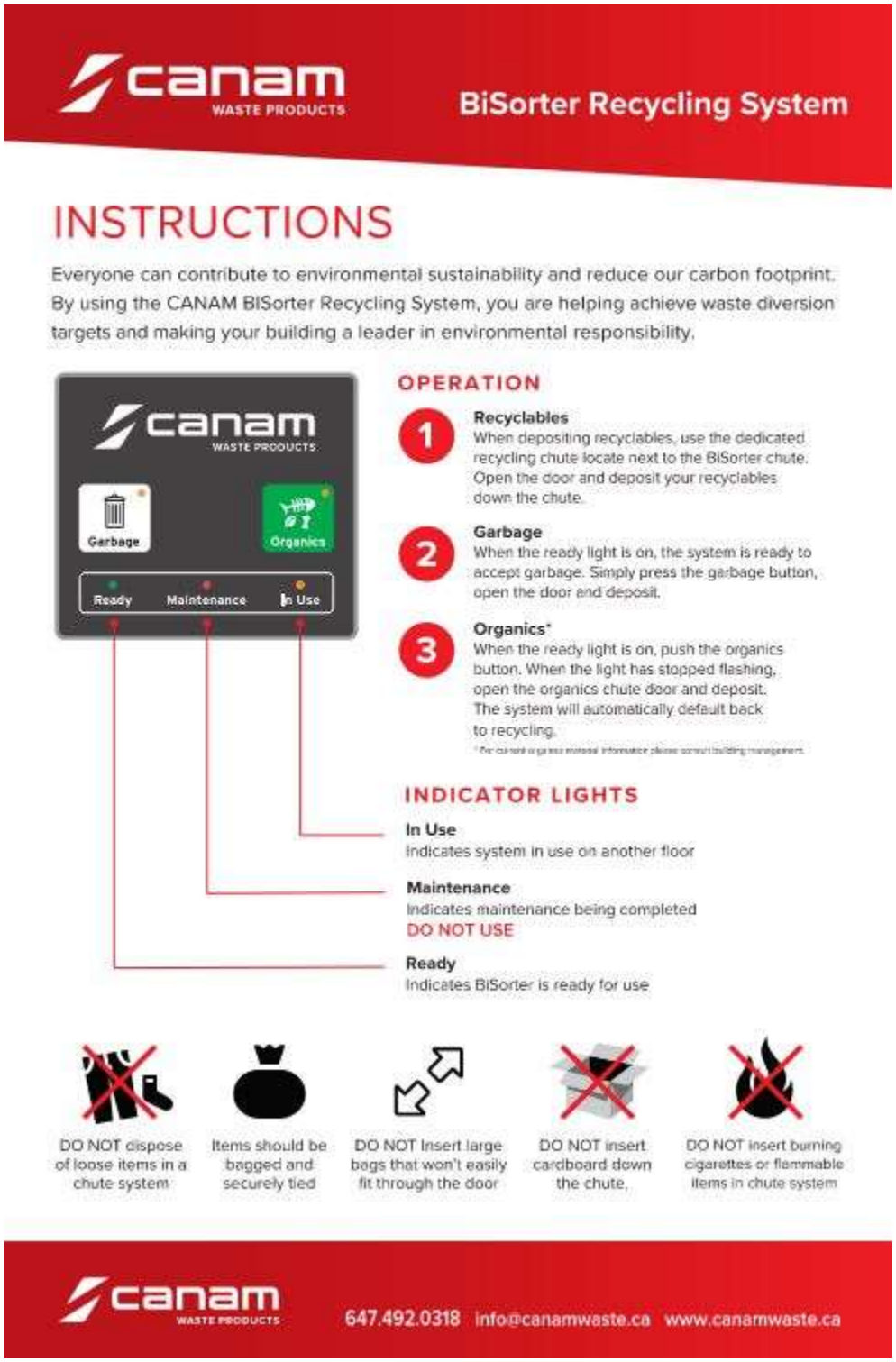
- Any Region of Peel promotional materials, including recycling instruction cards that describe what materials are acceptable
- How the waste, recycling & organics collection system works. This information will be prepared by the waste and recycling system installer
- An information card on how to manage household special wastes such as liquid wastes, paints, solvents and batteries. These will be obtained in advance from the Region of Peel to determine which programs are available;
- Instructions about handling and transporting large volume wastes such as cardboard and used appliances; and

Some waste reduction options, which property management should consider:

- Regular promotion and feedback to residents regarding the recycling program and waste handling issues (e.g. newsletter, notices, and meetings).
- A recycling bin to be placed at the resident's mailbox area to collect unwanted junk mail and flyers. Property management staff will then empty the paper in the recycling carts.
- Property management will encourage the Board of Directors to initiate an annual collection of reusable goods and textiles on a periodic basis (e.g. annual closet cleanup). The materials accumulated could then be collected from a social organization such as The Salvation Army or Goodwill Industries.
- Special wastes such as paints, fluorescent tubes, solvents, batteries that are generated by property management staff will be safely stored in the residential garbage room located on the ground floor level. As necessary, property management will transport these materials to a Region operated hazardous waste drop-off center to ensure proper management and disposal, or consult www.regeneration.ca for additional locations.
- The Region of Peel operates Household Hazardous Waste community resource centres (CRC's) and can be located by accessing the following link:

https://www.peelregion.ca/waste/community-recycling-centres

Figure 15 – Sample Resident Instruction Sheet for BiSorter System



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BiSorter Recycling System

INSTRUCTIONS

Everyone can contribute to environmental sustainability and reduce our carbon footprint. By using the CANAM BISorter Recycling System, you are helping achieve waste diversion targets and making your building a leader in environmental responsibility.

OPERATION

1 **Recyclables**
When depositing recyclables, use the dedicated recycling chute locate next to the BiSorter chute. Open the door and deposit your recyclables down the chute.

2 **Garbage**
When the ready light is on, the system is ready to accept garbage. Simply press the garbage button, open the door and deposit.

3 **Organics***
When the ready light is on, push the organics button. When the light has stopped flashing, open the organics chute door and deposit. The system will automatically default back to recycling.

INDICATOR LIGHTS

In Use
Indicates system in use on another floor

Maintenance
Indicates maintenance being completed
DO NOT USE

Ready
Indicates BiSorter is ready for use

DO NOT dispose of loose items in a chute system

Items should be bagged and securely tied

DO NOT Insert large bags that won't easily fit through the door

DO NOT insert cardboard down the chute.

DO NOT insert burning cigarettes or flammable items in chute system

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The proposed waste management system as described in this report is sufficient to accommodate the type, size and method of waste handling that is expected to be generated from a building of this type and size, located in the Region of Peel, in the City of Brampton.

Statement of Limitations

The information presented in our plan is based on information gathered and observations made by CanAm Waste Products Inc. based on information provided by the client. The plan will incorporate details and base figures provided during interviews with client representatives; follow-up discussions and materials made available and information available from regulatory authorities and industry associations. The analysis, conclusions and recommendations are based on the knowledge, experience, judgment, and best practices of the author(s) and apply specifically and only to conditions existing at the time of the plan.

There is no warranty expressed or implied that the plan uncovers all potential issues associated with the management of waste and recycling at the site. The plan has involved the application of a structured methodology and standard of care consistent with industry practices to address the specific project objectives. In providing our analysis and conclusions, we cannot guarantee the completeness or accuracy of information supplied by any third-party.

**** END OF REPORT ****