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PROPOSED SOLID WASTE MANAGEMENT PLAN FOR

Northshore Phase 2 Condominiums

c/o National Homes (Plains Road) LP

Date: May 2024

Prepared by: Jason Tower, B.E.S., E.M.P.D
CanAm Waste
jason@canamwaste.ca
T: 647.492.0318

1.0 INTRODUCTION

National Homes (Plains Road) LP has made a zoning and site plan application to the Region of Halton and City of Burlington for the development of a mixed-use multi-family residential complex consisting of two phases.

Phase 2, is a proposed nine (9) storey, 166 unit property with two blocks of townhouses (Blocks “E”, “F”) with approximately 45 units and is located at 484 Plains Road, Burlington.

Phase 1, which is not covered in this report, is a nine (9) storey, 153 unit mixed use multi-family building, with two blocks of townhouses comprised of 36 units.

As part of the development review process, the Region of Halton waste management department requests that a solid waste management plan be undertaken to advise on how the development deals with the waste, recycling and organics that will be generated from occupancy. In addition, the report must propose a system for separating and collecting recyclable materials.

This report will provide the relevant information to assist National Homes GP (Plains Road) Inc. in meeting the Region of Halton’s waste management objectives.

2.0 GENERAL INFORMATION

Person Preparing Plan:	Jason Tower, B.E.S., E.M.P.D Partner, CanAm Waste E: jason@canamwaste.ca
Date Prepared:	May 2024
Address of Development:	484 Plains Road, Burlington, ON
Building Use:	Mixed use & residential condominiums

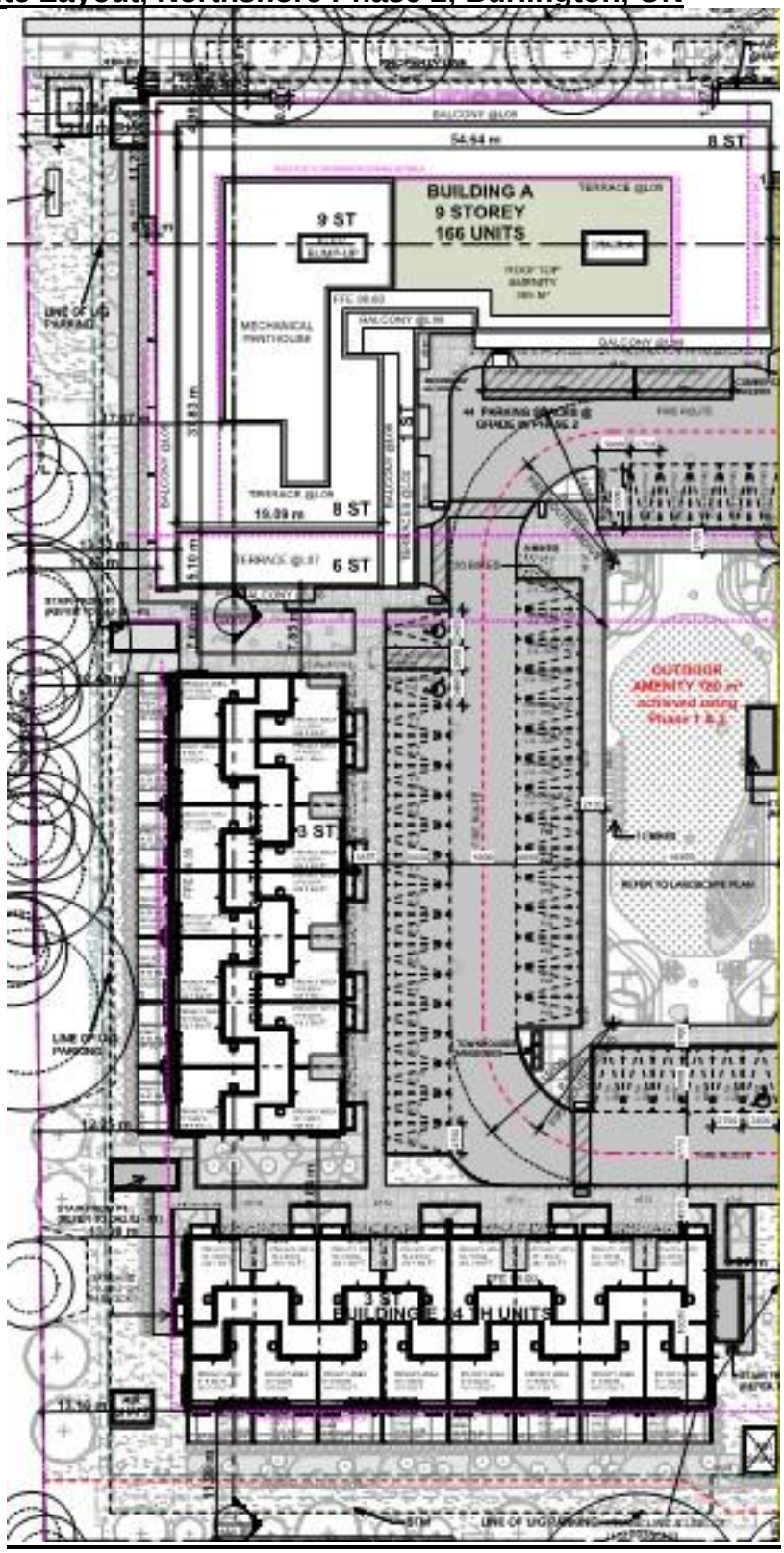
Figure 1 – Concept Drawing, Northshore Phase 2, Burlington, ON



Figure 2 – Overall Site Layout, Northshore Phase 2, Burlington, ON



Figure 3 – Site Layout, Northshore Phase 2, Burlington, ON



Reference: Architectural drawing A1.02 as prepared by Kirkor Architects

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.

The following section outlines the requirements governing large construction projects with respect to Waste Audits and Waste Reduction Work Plans under *O. Reg. 102/94*. This project subject to the following section from https://www.ontario.ca/laws/regulation/940102

PROGRAM

Waste Reduction Work Plan

a) Do not burn or bury rubbish on site.

b) Promote care in stripping of formwork to avoid damage to false work materials, thereby extending the reuse of wood materials.

c) Identify haulers and recycling companies and establish participants.

d) Establish effective education and information programs for on-site workers.

e) Establish reduction, reuse and on-site separation activities.

f) Investigate Blue Box pick up in the area during summer months to recycle soft drink cans.

g) Review how waste is produced vs. management policies and practices.

h) Review how waste is managed, and how it can be better managed.

i) Review timing and frequency of waste collections.

j) Establish formal agreements with subcontractors and suppliers to participate in waste reduction and separation programs.

Waste Reduction Work Plan

k) Post plan on site where most workers will see it.

l) Allow any worker to view plan, upon request.

m) Identify person(s) responsible for source separation.

n) Provide display sign to identify waste reduction methods to be used on site.

o) Establish Waste Reduction Committee, if warranted.

p) Identify Waste Collection Company who will separate any recyclable materials & dispose of only non-recyclables at a licensed landfill.

Waste Reduction Work Plan

q) Prepare Container Log to monitor actual waste generated, trades responsible, hauler and final disposition of waste.

r) Evaluate incorporation of specified materials to provide feedback to Architect.

4.0 PROJECTED WASTE GENERATION QUANTITIES & COMPOSITION FOR THE RESIDENTIAL CONDOMINIUMS

4.1 Residential Condominiums – MID-RISE

National Homes (Plains Road) LP proposes to have one (1) CanAm Waste TriSorter Recycling System (automated waste, recycling and organics system) installed at the mid-rise tower to assist residents and property management in handling waste, recyclables and organics using one (1) chute as indicated on the architectural drawings – with resident access located on each residential floor of occupancy.

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. 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 organics collection using Region of Halton supplied organics carts (currently 95 gallon).

For up to date information on method and type of each collection item, please refer to the "Apartment Resident Waste Diversion Guide" document as published by the Region of Halton and can be accessed by:

http://www.halton.ca/getmedia/0e2574d5-c18e-4351-be54-1c5773754a15/PW-apartment-resident-waste-diversion-guide.pdf.aspx

Additionally, the Region of Halton also publishes the "Put Waste in its Place" flyer for apartment residents. This document can be accessed on the Region of Halton website, or by:
http://www.halton.ca/Repository/Put-Waste-In-Its-Place-Apartments

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. Additionally, the separations by chute may change and will be determined at time of installation.

The reviewed is also aware and has incorporated where possible, the design requirements by the Region of Halton as outlined in their document: “Development Design Guidelines for Source Separation of Solid Waste”, as amended from time to time.

The TriSorter recycling system as installed by CanAm Waste is a specialized chute extension that uses one chute to direct, via a resident controlled keypad located on each floor, materials into one of three containers in the waste handling room – garbage, commingled recyclables, and organics. With the TriSorter, building residents have the convenience of garbage, recycling and organics disposal on each floor – making each material AS CONVENIENT as the other.

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





Figure 5 – Typical Chute Layout

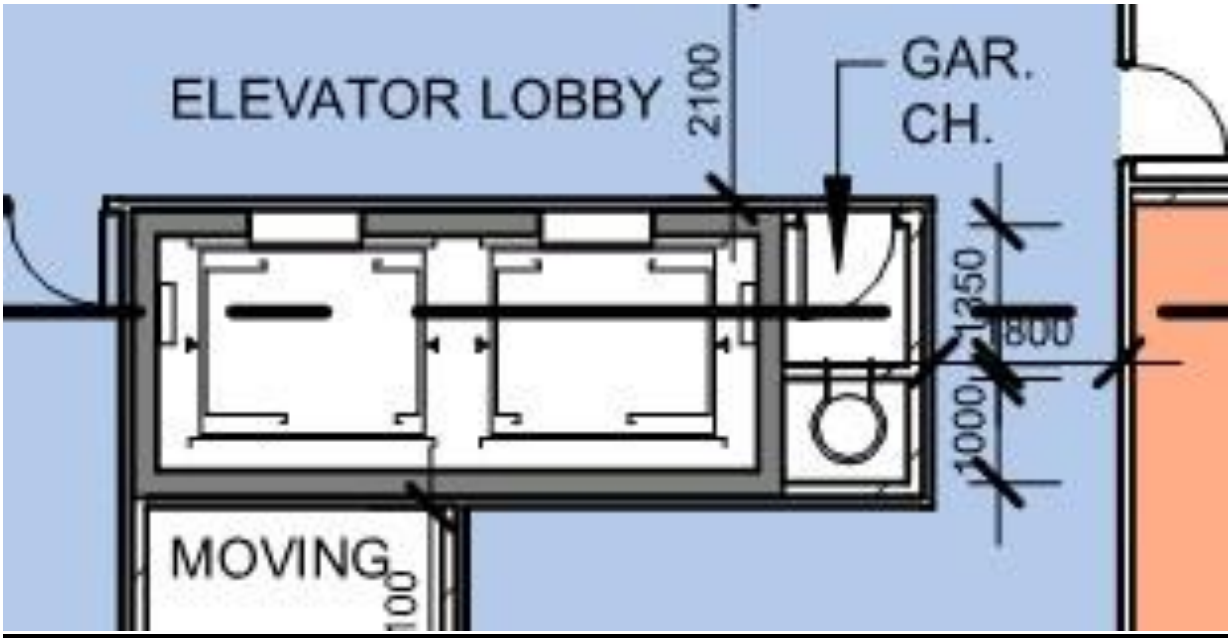
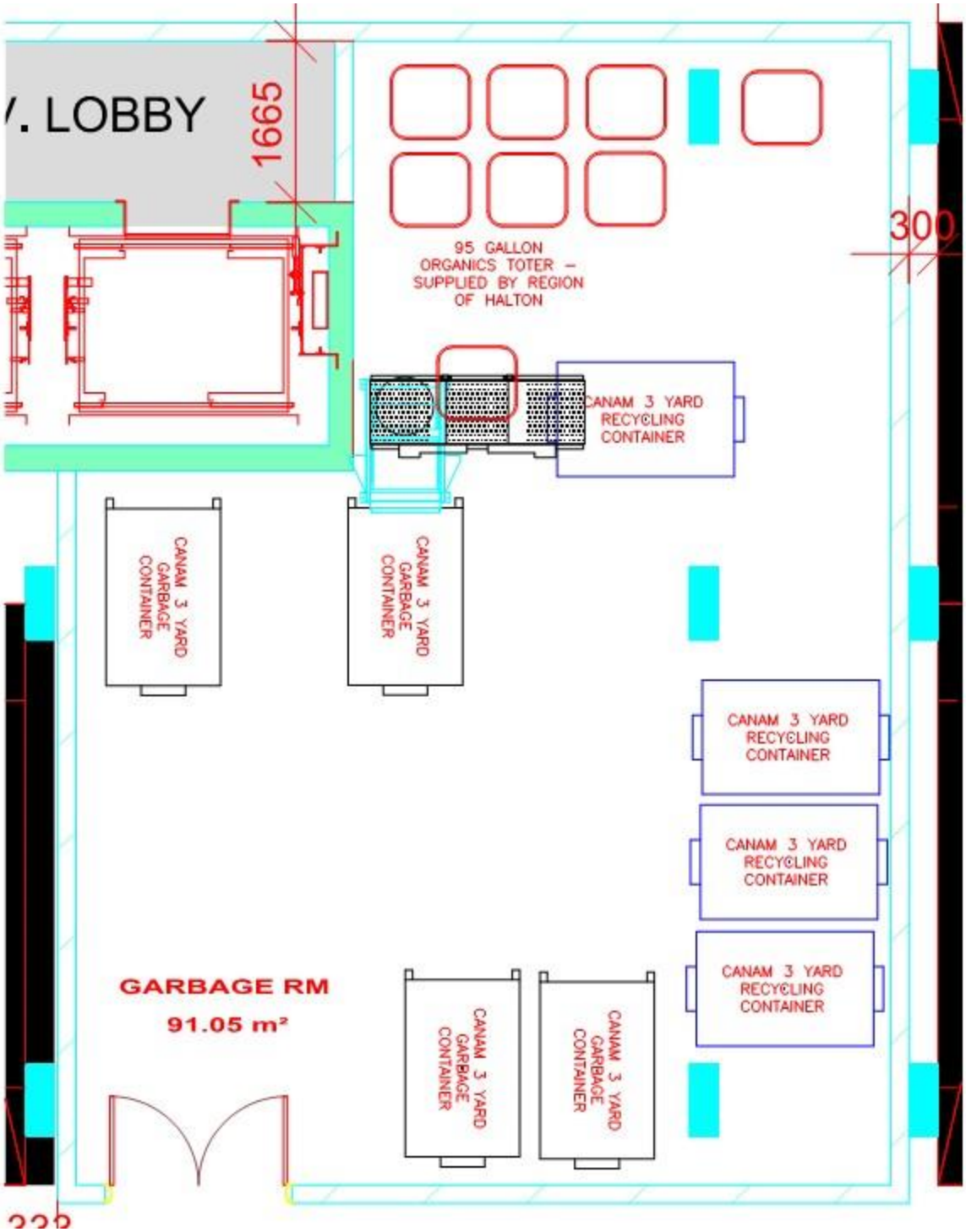


Figure 6 – Mid-Rise P1 Garbage Room



Reference: Architectural drawing dA2.01 as prepared by Kirkor Architects

Based on the current architectural design of the buildings, the garbage room for the mid-rise located at the P1 level. The waste handling storage room design will permit enough room to install a properly laid out TriSorter, compactor, and relevant garbage, recycling and organics containers. Shop drawings will be provided by the supplier.

4.2 Residential Condominiums – TOWNHOUSE BLOCKS C & D

National Homes (Plains Road) LP proposes to have one (1) waste, recycling and organics collection room located on the P1 level consisting of three (3) chutes (one chute for garbage, one chute for recyclables, and one chute for organics) to assist residents and property management in handling waste, recyclables and organics as indicated on the architectural drawings.

Building residents have the convenience of garbage, recycling and organics disposal at the deposit point – making it **AS CONVENIENT** as regular garbage disposal.

Residents will travel less than 100m to the chute access point located on the ground floor.

This is a stacked townhouse complex with two (2) residential blocks – Block “E” and Block “F” consisting of a total of 45 units.

TOWNHOUSE BLOCKS E & F:

BLOCK #	# OF UNITS
E	24
F	21

TOTAL # OF UNITS: 45

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.

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.

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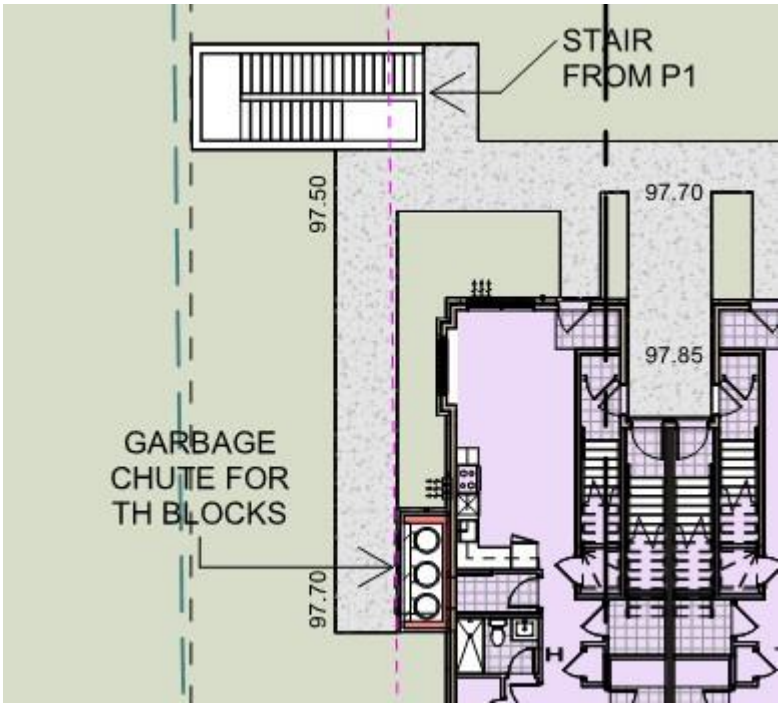
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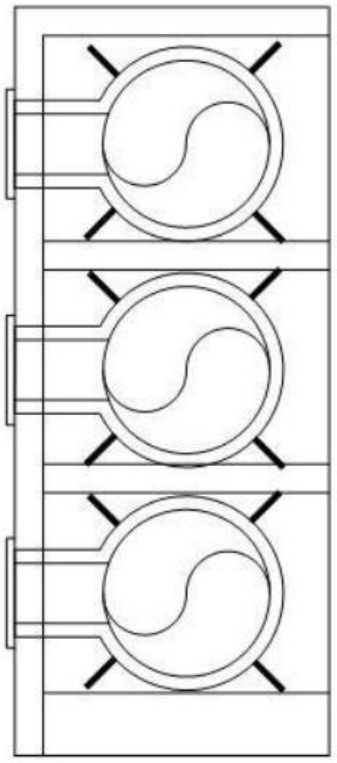
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The reviewed is also aware and has incorporated where possible, the design requirements by the Region of Halton as outlined in their document: "Development Design Guidelines for Source Separation of Solid Waste", as amended from time to time.

Figure 7 – Townhouses – Sample Chute Configuration



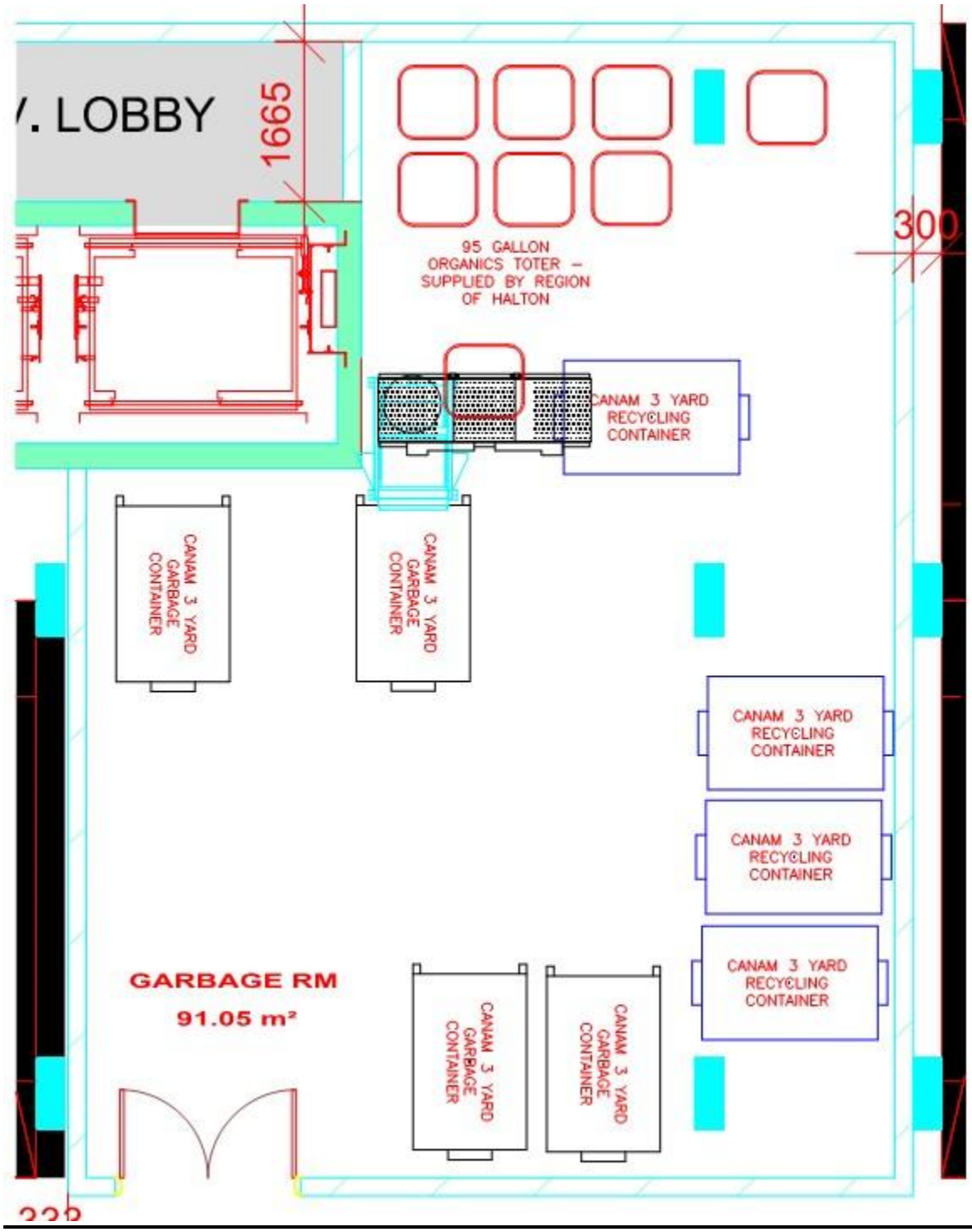


24" Organic Chute

24" Recycling Chute

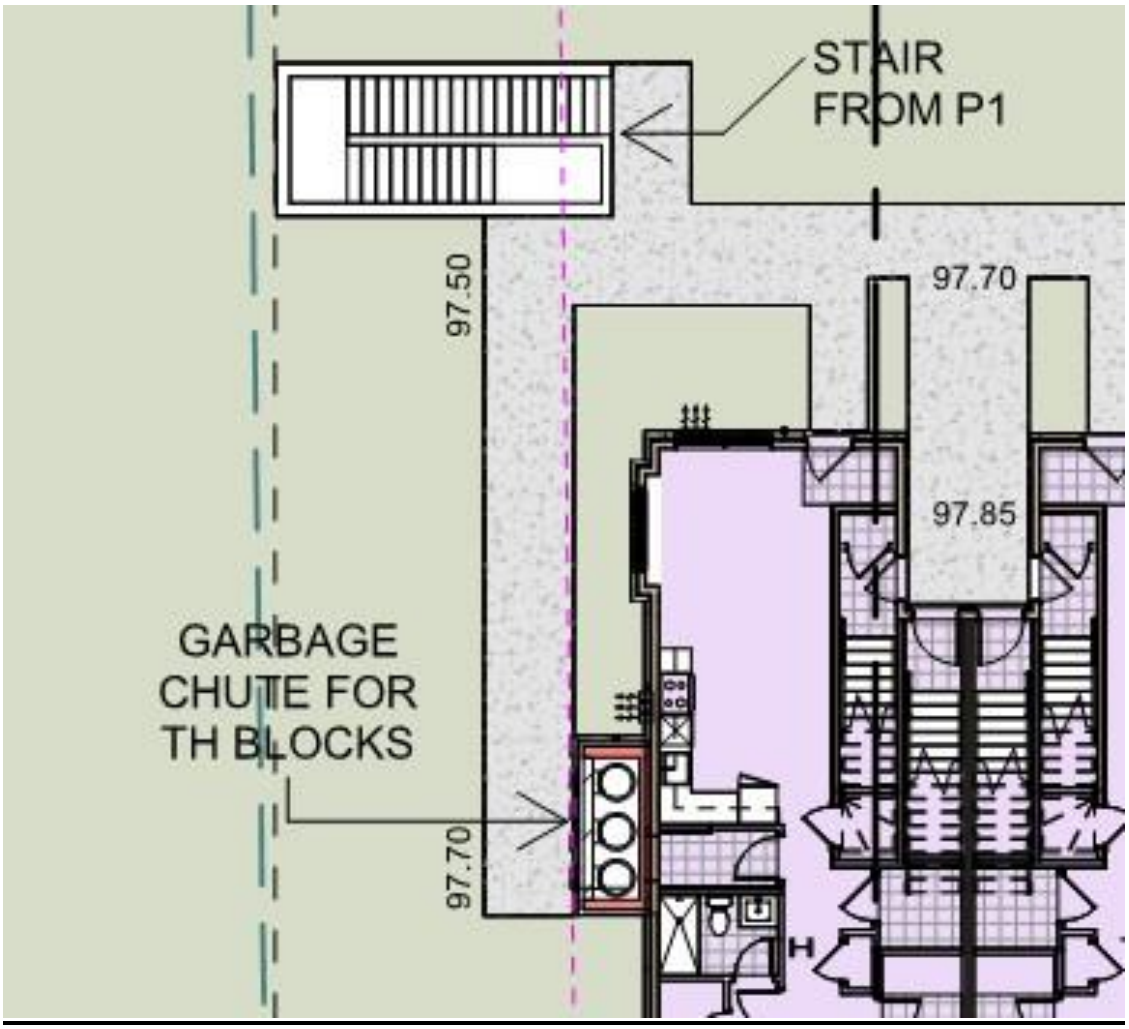
24" Garbage Chute

Figure 8 – Townhouses – Garbage Room P1 Level



Reference A2.01 architectural drawing as prepared by Kirkor Architects

Figure 9 – Townhouses – Resident Access Point – Ground Floor



Reference – Drawing A2.02 as prepared by Kirkor Architects

Based on the architectural design of the P1 level garbage room there is enough room to install a properly laid out system with relevant garbage, recycling and organics containers. Shop drawings will be provided by the supplier.

5.0 MATERIAL STORAGE & COLLECTION

The installation of the recycling system allows tenants to recycle materials and organics as conveniently as they dispose of garbage. Garbage, recyclable papers & containers (currently collected by the municipality as “commingled”), and organics all go down the chute. Resident control panels for each residential floor will be located next to the chute door and will separate the garbage, recyclables and organics.

A control panel on each floor of the mid-rise enables the resident to instruct the system, located at the bottom of the TriSorter chute, to direct materials into the appropriate container below – see illustration above. Labelling on the floor control panel will read “Garbage”, “Recyclables” and “Organics”.

There is one Type “G” loading bay located on the Ground Level and located across the driveway in Phase 1. Collection for both – mid-rise and townhouse block buildings will take place in this area.

Staff will move the containers from the mid-rise and townhouse block located on the P1 garbage rooms to the type “G” loading bay located in the Phase 1 mid-rise building using a recommended tractor as described later in the report.

The containers will then be staged for collection in the Type G loading bay. An onsite staff/maintenance person will be responsible for moving and jockeying the containers into proper position for collection.

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 & Ram Blocker™, 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. Organic materials will be collected in 95 gallon toters provided by the Region. The system is adaptable to front end loading organics should the municipality change the method of collection for this material.

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

- ✓ Each chute will be equipped with a wash down system
- ✓ Each garbage room will be equipped with electrical provisions for serviceability
- ✓ Each garbage room will be equipped with a hose bib and floor drain
- ✓ Each garbage room can be equipped with W.E.E.E. cabinets for future collection of Waste and Electronic Equipment
- ✓ Each garbage room can 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

The proposed garbage and recycling rooms will contain front end loading containers as well as 95 gallon containers for materials as described above. Both garbage rooms of the complex are located on the P1 level.

Figure 10 – Proper Tractor for Container Movement from garbage to loading area



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

Mid-Rise – 9 floors, 166 units

- Four (4), 3 cubic yard compaction containers
- Four (4) 3 cubic yard recyclables containers
- Eight (8) 95 gallon toters for organic materials

Townhouse blocks "E" and "F" – 24 and 21 units respectively

- Two (2), 3 cubic yard compaction containers
- Two (2) 3 cubic yard recyclables containers
- Two (2) 95 gallon toters for organic materials

There is a bulky items room on the ground floor of the mid-rise. This is for large items that normally would not go down the chute, including large cardboard. There will be one container of each type of material inside this room. Proper lighting, signage, a floor drain, access to a hose bib and odour control will also be present in this room.

There will also be a bulky items room on the P1 level adjacent to the townhouse garbage room. This is for large items that normally would not go down the chute, including large cardboard. There will be one container of each type of material inside this room. Proper lighting, signage, a floor drain, access to a hose bib and odour control will also be present in this room.

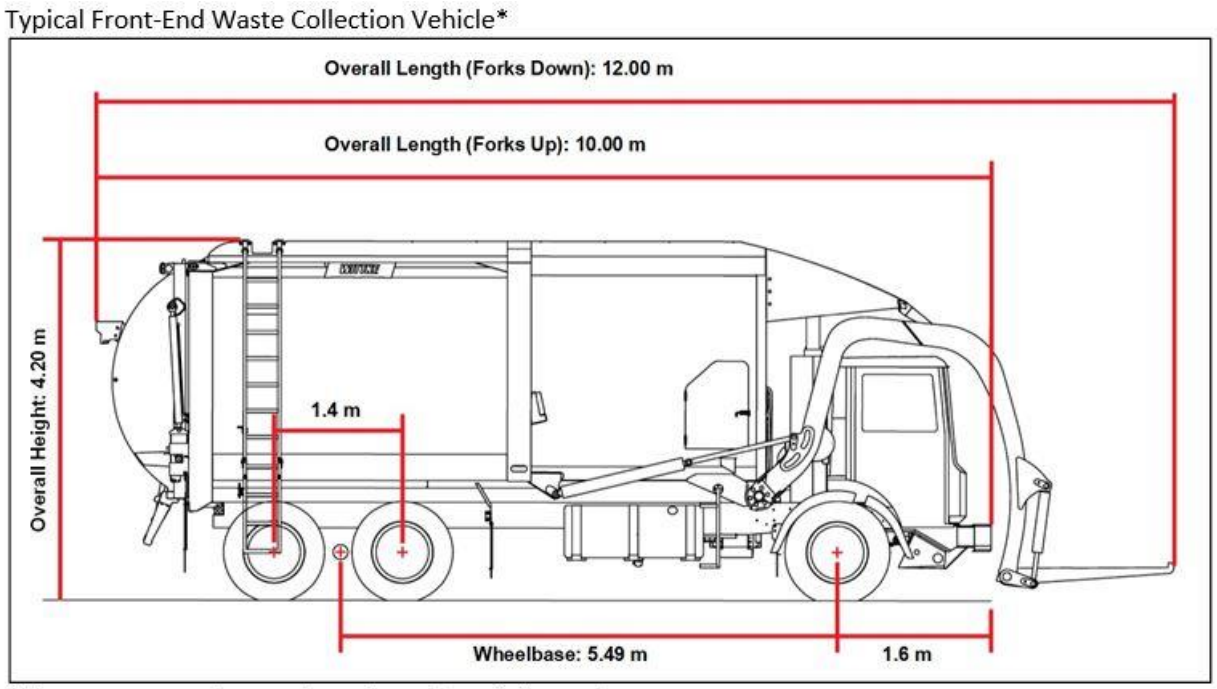
The calculations for the quantity of containers are based on the Region of Halton guidelines. In addition, they also take into consideration the seasonal fluctuations in garbage & recycling generation rates based on historical performance of similarly performing properties across the Greater Toronto Area (GTA) over the past 20 years.

Property management staff will be responsible for moving the recyclables, garbage and organics bins from each of the garbage rooms to the type “G” collection area located on the ground floor. There are not any collection vehicle height restrictions present in this area and is 7.5m clear height. Waste, recycling and organic collection frequency will be based on a schedule by the Region of Halton.

Additionally, each 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, the 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.

Figure 11 - Garbage collection vehicles

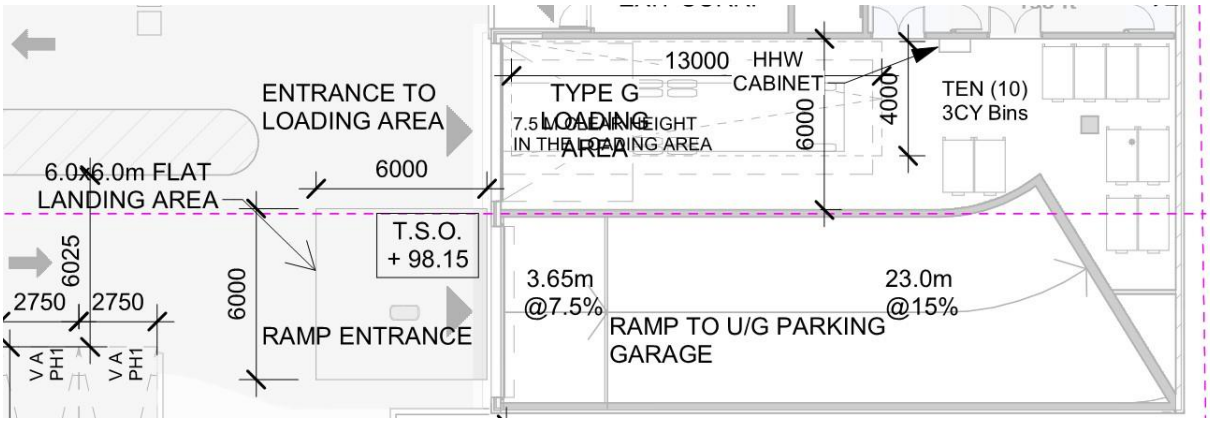


These are approximate dimensions. Actual dimensions vary.

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 each 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 Halton collection vehicles arrive at the site, the collection vehicle will leave the site and not return until the next scheduled collection day.

Figure 12 – Proposed Shared Collection Area



Reference: Architectural drawing dA2.02 as prepared by Kirkor Architects

Figure 13 – Proposed Shared Collection Area Staging

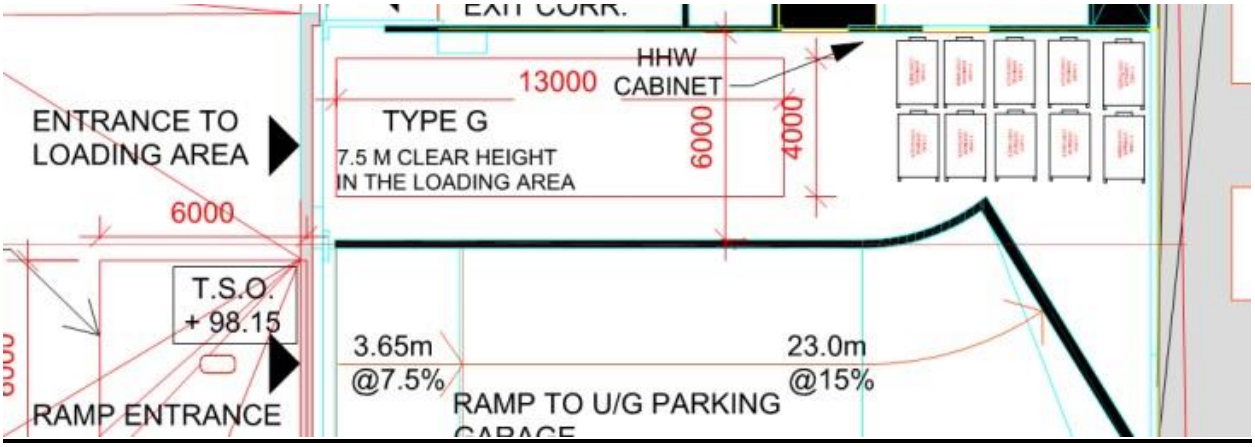


Figure 14 – Collection Area Section

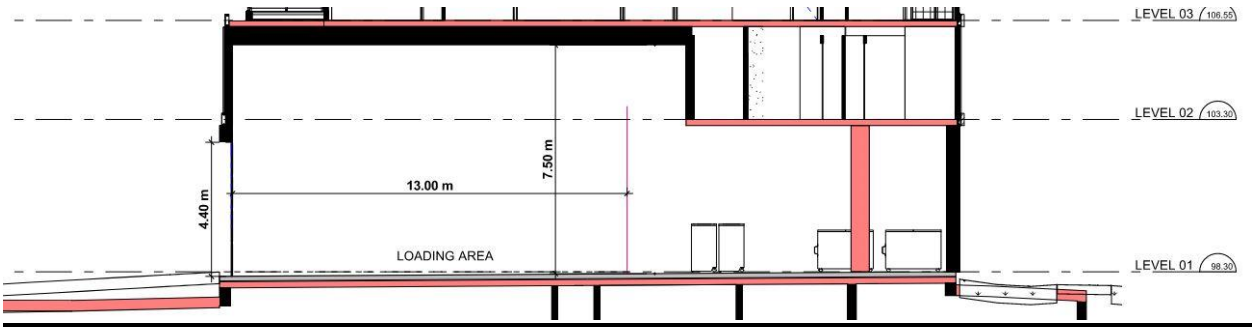
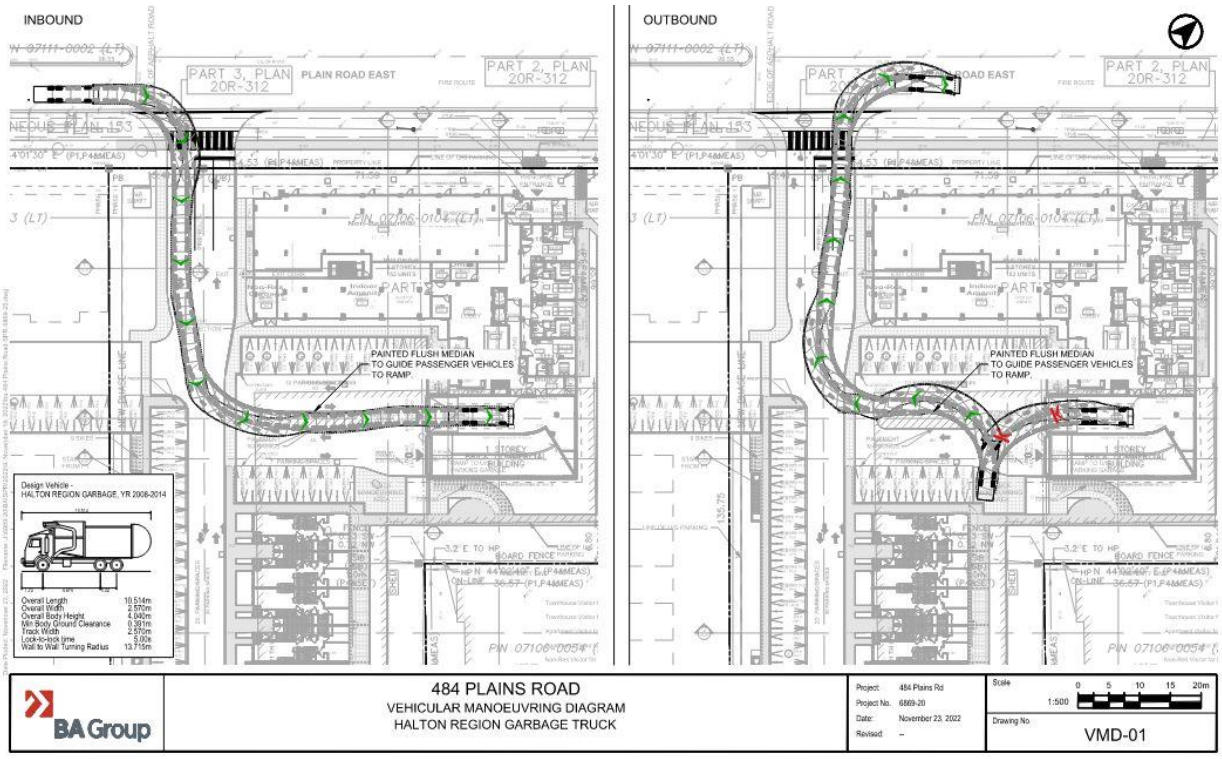


Figure 15 – Proposed Waste Vehicle Route



Reference: Architectural drawing VMD 01 as prepared by BA Group

Figure 16 – Vehicle Alert System – Ground Floor

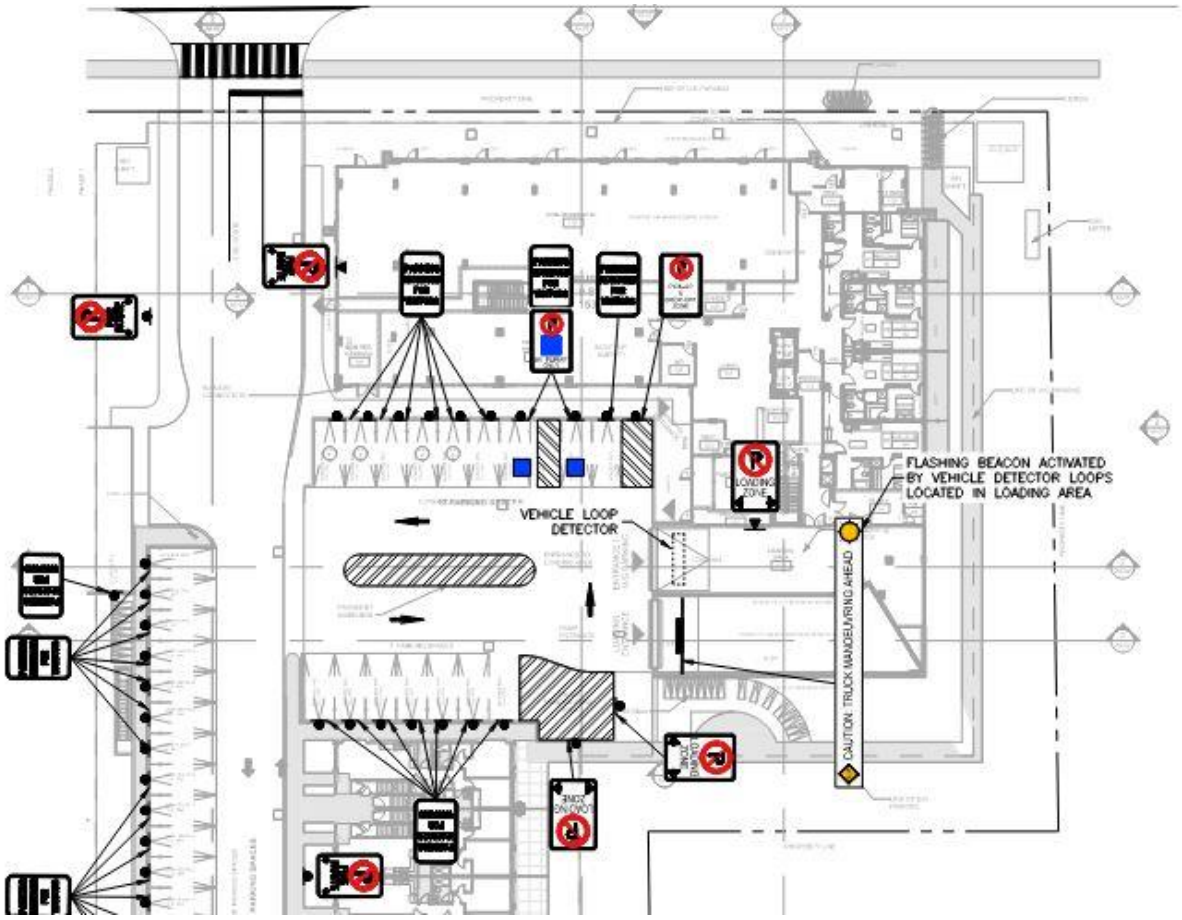
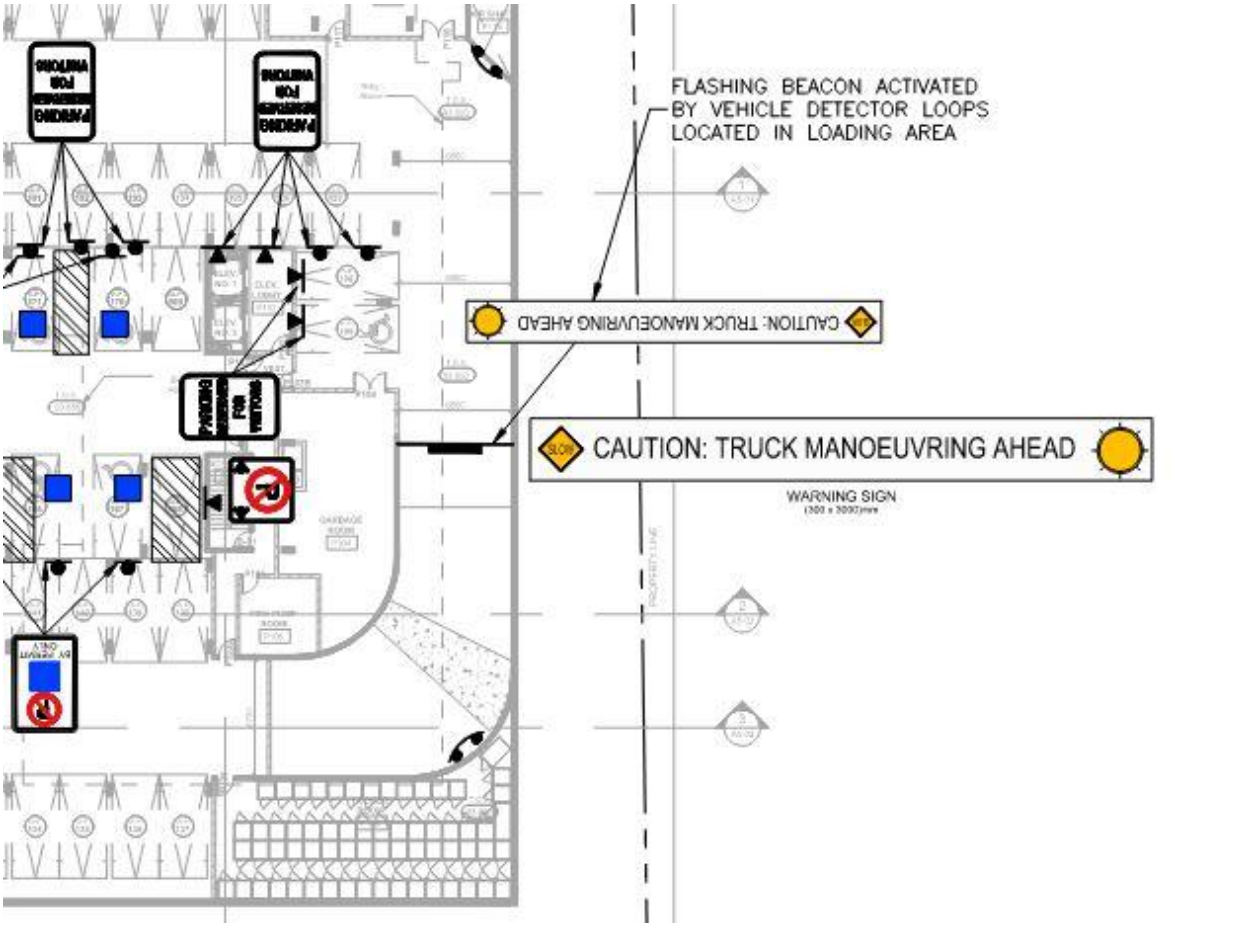


Figure 17 – Vehicle Alert System – P1 Level on Ramp



5.1 NON-RESIDENTIAL WASTE

There is also a small component of the mid-rise building that comprises non-residential, commercial waste. The tenant mix is currently undetermined at this time, however it estimated that it will not generate significant amounts of waste.

To plan for these tenants, a non-residential waste handling room has been created with its own entrance and exit. It will be accessible to staff members using a key-fob or keyed access, with double doors present to accommodate any type of container. Proper lighting, signage, a floor drain, access to a hose bib and odour control will also be present in this room.

It is of note that this project is eligible for commercial cart waste collection curbside on Plains Road through the BIA cart collection program, however, given the size of the retail component of the project, it would be more suitable that one alternate collection days from the residential component of the project, that collection for the non-residential waste takes place in the main loading area of the project.

Based on the size of the non-residential component, the following containers would be recommended:

- ✓ Garbage – two (2), 2yard containers
- ✓ Recycling – two (2) 2yard containers
- ✓ Organics – one (1) 95 gallon toter per retail unit

Figure 18 – Non Residential Component with Waste Storage Room

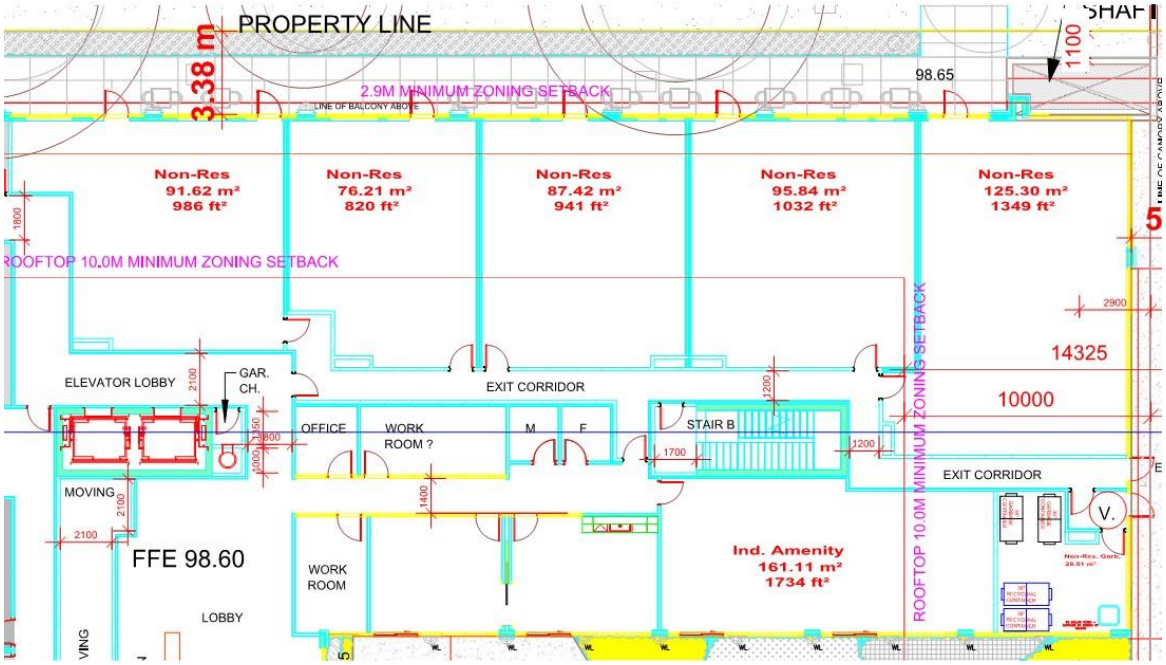
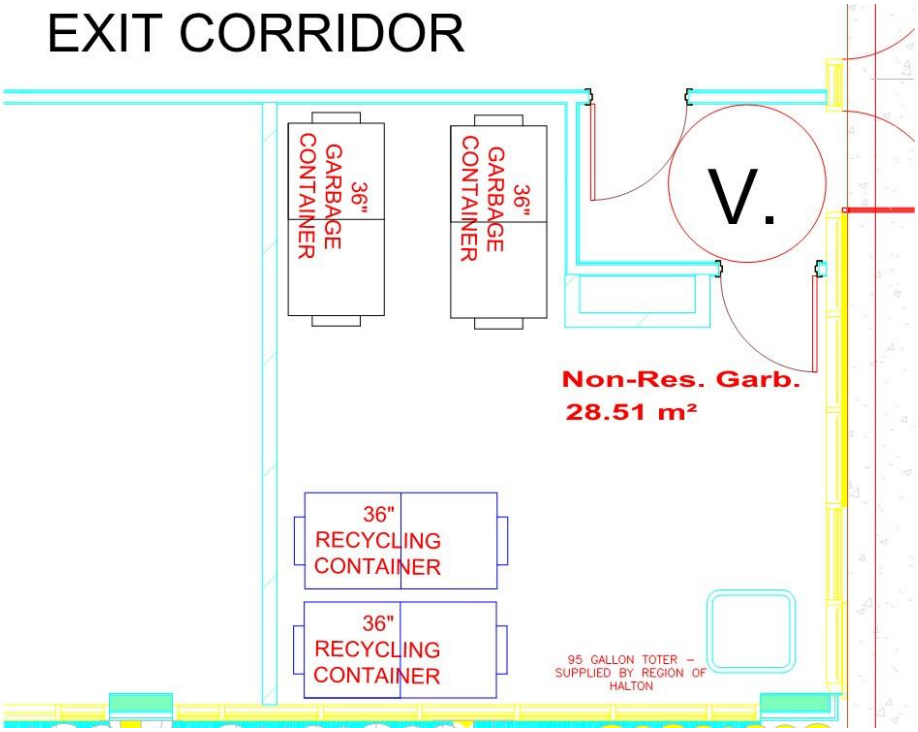


Figure 19 – Non Residential Waste Storage Room



This waste storage room is approximately 28.51 square metres and is sufficient for the storage and collection of the proposed non-residential waste component of the project.

This room will be equipped with the following:

- ✓ Proper lighting and ventilation
- ✓ Electrical provisions for serviceability
- ✓ Hose bib and floor drain
- ✓ CanAm odour control system

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:

- ✓ Recycling instruction card that describes what materials are acceptable
- ✓ How the waste, recycling & organics collection system works. This information will be prepared by the 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 Halton;
- ✓ Instructions about handling and transporting large volume wastes such as cardboard and used appliances; and

Some waste reduction options, which property management should consider includes the following:

- ✓ 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 Halton operates Household Hazardous Waste depots and can be located by accessing the following link:

http://www.halton.ca/For-Residents/Recycling-Waste/Halton-Waste-Management-Site#q4

Figure 20 – Sample Resident Instruction Sheet

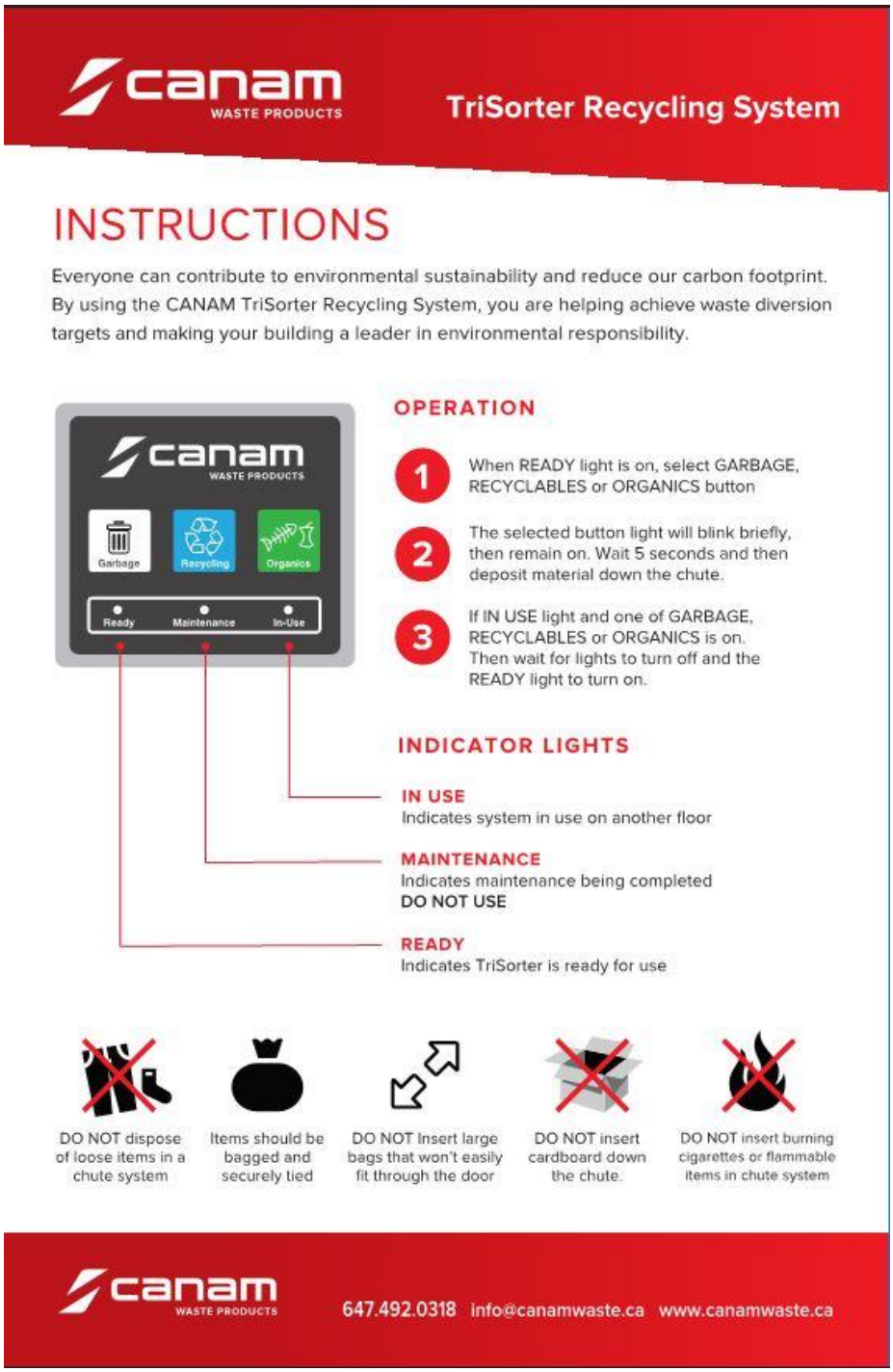


Figure 21 – Sample Region of Halton resident instruction sheet



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 City of Burlington.

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 ****