

Waste Management Design Report

Prepared for:
Valery Group
Development Project
Block 297
Oakville, ON

Prepared by:
PragmaTech Waste Solutions



Valery Group
2140 King St East
Hamilton, Ontario, L8K 1W6

Attention: Danielle Braemer. – Development Manager

May 29, 2025

RE: Waste Management Guidance for Block 297 Oakville

Thank you for the opportunity to prepare a report and provide guidance on the waste management design of the multi-residential building project, located at Block 297 Oakville, Ontario.

The PragmaTech team has completed a waste stream analysis for the mixed use multi-residential building based on the documents and architectural drawings provided. Using this information, the PragmaTech team has developed a comprehensive report that includes findings from our analysis with respect to service frequencies, room sizing and equipment considerations for all agreed upon waste storage and retrieval areas, with careful consideration for the perspectives of primary stakeholders, including tenants, operations staff and service providers.

The analysis, guidance and recommendations provided in this report are based on an optimized source-separated waste management program for multi-unit commercial building and have been developed within the legislative context of the province of Ontario and the Regional Municipality of Halton (“Halton Region”).

PragmaTech is a full-service environmental sustainability consulting firm with over 30 years of experience in the waste management industry. Our team of Environmental Performance Consultants, Process and Project Managers, Certified Waste Auditors, Technicians and Analysts are well equipped to support the next stages of this waste management program and provide guidance for the implementation of well-executed waste management decisions throughout the course of the project. Subsequent sections of the Scope of Work will be delivered over the next three weeks.

We would be happy to provide additional information or participate in further discussion on how PragmaTech can continue to be of service during this project.

Best Regards,

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1.0 Introduction

PragmaTech Waste Solutions (“PragmaTech”) was retained by Valery Group to prepare a waste management design report and provide recommendations on the creation of an optimal waste management program pertaining to waste generation, equipment, space, optimal bin maneuvering, and regulations. Project direction, architectural drawings, and information regarding the proposed multi-unit development and waste management plans were provided by Danielle Braemer, Development Manager Valery Group. The analysis and recommendations provided in this report are based on an optimized source-separated waste management program and have been developed within the legislative context of Halton Region and the province of Ontario.

Disclaimer: During the preparation of this report, PragmaTech Waste Solutions has developed recommendations for appropriately sized equipment to adequately reach the goals of an optimal waste management program. Although recommendations have been provided with respect to specific pieces of equipment, these are simply suggestions to provide context to the report. Please note that PragmaTech holds no bias towards specific manufacturers or their equipment. Further, waste generation volumes may vary (e.g. increase) depending on building occupancy rates.

2.0 Waste Management Regulations

Block 297 Oakville, Ontario is located in Halton Region and must abide by the regional and provincial regulations for a multi-unit commercial complex containing more than six units.

2.1 Halton Region

Mandatory recycling of recyclable material. Section 17 - No person shall place any recyclable material with other garbage put out for collection. Every person shall dispose of all recyclable material in the manner set out in Section 18 herein. Section 18 - See below three main disposal programs. Section 19 - Every person who contravenes Section 17 or 18 of this By-law is guilty of an offence and is liable upon conviction to a maximum penalty of \$2,000.00 exclusive of costs.

Halton Region offers three main disposal programs: (*private contractor acceptance criteria may differ*)

1. Blue Box Recycling (Single Stream Recycling)

Blue Cart

Blue Cart acceptable items

 Disposable, plastic containers and packaging, plastic microwave trays	 Single use plastic plates, cups and coffee cup lids – no cutlery	 Plastic food and beverage containers – no film, foil or caps
 Plastic bottles – caps are garbage	 Plastic plant pots and trays	 Boxed beverage containers Tetra Paks®, milk and juice cartons
 Empty metal paint cans – dry and lids removed	 Aluminum foil, trays, metal food and beverage cans	
 Glass bottles and jars	 Cardboard cans	 Boxboard – flattened cereal, detergent and tissue boxes, etc. (liners go in garbage)
 Newspapers, flyers, fine paper, magazines and books, envelopes (including plastic windows)	 Corrugated cardboard	

Remember: No plastic bags, plastic film or Styrofoam.

2. Green Cart Recycling (Organic/Compost Materials)

Green Cart

 **Green Cart acceptable items**

All food waste including:

 Fruit and vegetables – no plastic, elastics or stickers	 Baked goods, bread and cereals	 Candy, chocolate and nuts	 Coffee grounds & filters, teabags	 Dairy products – no containers
 Pasta, couscous and rice	 Eggs and egg shells	 Meat, fish & shellfish – including bones	 Sauces, jams, oils and fats – no containers	

Paper products:

 Paper microwave trays	 Paper tubes	 Paper cups and plates	 Paper egg cartons	 Paper bags	 Tissue and paper towel
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Other acceptable items:
Dryer lint, feathers, human & pet hair, houseplants, nail clippings, wooden popsicle sticks, sawdust & cold wood ashes (in paper bags), shredded paper, soiled paper towels & soiled facial tissues.

Remember: no plastic, glass, metal, Styrofoam, stickers, gum, elastics, pet waste or litter.

3. Garbage (Non-Recyclable Waste Materials)

Garbage

Common garbage materials

After recycling and composting, anything left over is garbage. Garbage is sent to a landfill.
Please ensure all garbage is bagged — no loose garbage.

 Plastic cutlery, straws and bottle caps	 Plastic wrap, bubble wrap and film	 Box liner bags e.g., cereal bags	 Snack bags, wrappers and cookie bags	 Disposable mop sheets, sanitizing wipes and dryer sheets
 Gift wrap, ribbons and bows	 Styrofoam	 Pet waste and cat litter	 Gum packages and blister packs	 Diapers, pads, floss, cotton swabs
 Cigarette butts and ashes (cold)	 Light bulbs (not CFLs), ceramics, drinking glasses, window glass (wrap in newspaper)	 Juice pouches	 Plastic bags	

Halton Region offers a Waste Diversion Guide for detailing recycling solutions for other waste streams, such as:

- Household Hazardous Waste
- Medications and Sharps
- Battery Recycling
- Paints and Stains
- Electronics
- Tires
- Plastic Shopping Bags
- Waste Reduction Methods
- Donation drop-off locations for reusable items

2.2 Waste Legislation Changes in Ontario

Ontario is shifting to a waste management approach where waste is seen as a resource that can be recovered, reused and reintegrated back into the economy

Ontario is shifting to a circular economy with a new waste management approach, where waste is treated as a resource that can be recovered, reused and reintegrated into the economy and production stream. This will support the health of both Ontario's environment and communities. Our new approach will:

- reduce litter and waste in our communities
- protect the environment
- drive innovation, performance and competitiveness
- stimulate economic growth and development

Ontario's new waste management framework includes updated legislation and a strategy to guide progress that will protect the environment, drive innovation, enhance performance and competitiveness, and stimulate economic growth and development.

Bill 151, the Waste-Free Ontario Act, 2016 was passed on June 1, 2016, and enacts the Resource Recovery and Circular Economy Act 2016 and the Waste Diversion Transition Act 2016. Once fully implemented, the Bill, along with the Resource Recovery and Circular Economy Act will replace the existing waste diversion program requirements operating under the Waste Diversion Act (2002).

The Strategy for a Waste-Free Ontario: Building the Circular Economy will serve as the roadmap to divert more waste from landfills, create jobs, reduce greenhouse gas emissions responsible for climate change, save scarce resources and create a system where all resources, organic or non-organic materials are recovered, reused and integrated back into the economy. This is meant to ensure that nothing is wasted, and valuable materials destined for landfill create economic value without having negative effects on the environment.

The Food and Organic Waste Framework, released on April 30th, 2018 outlines actions for the province and municipalities to take and provides direction to the waste management industry and the IC&I sector to prevent and reduce food waste, rescue surplus food, recover food and organic waste from disposal, and support beneficial uses of end products such as compost, digestate and biogas.

Disposal bans for specific materials are currently being reviewed by the province and are included in public consultations. The primary materials considered for disposal bans include:

- food waste
- materials designated under existing waste diversion programs
- beverage containers
- corrugated cardboard and some paper materials
- fluorescent bulbs and tubes

The proposed Food and Organic Waste Framework, Strategy for a Waste-Free Ontario, and the 5-year Climate Change Action Plan were developed to work together to help fight climate change by reducing greenhouse gas emissions from landfilled materials that could otherwise be reduced, reused, recycled, composted and reintegrated into the economy.

2.3 5 Year Implementation Plan – Strategy for a Waste-Free Ontario

2020 – Interim goal of 30% diversion achieved. Complete the transition of existing waste diversion programs (except Blue Box) and designate additional materials under producer responsibility regulations (e.g. mattresses, carpets, furniture)

- 2021** – Begin implementing disposal bans on material under existing waste diversion programs
- 2022** – Implement a possible food waste disposal ban and release a progress report on the Waste-Free Ontario Strategy
- 2023** – Complete transition of Blue Box program and designate additional materials under the producer responsibility regulation
- 2024** – Develop and consult on additional policy statements
- 2025** – Begin review of Waste-Free Ontario Strategy and designate additional materials under the producer responsibility regulation

2.4 Source Separation Programs– Ontario Regulation 103/94

Recycling is mandatory in the province of Ontario. Ontario Regulation 103/94 is the Provincial legislation that requires property owners to operate a building recycling program if the building has six or more units, and it is located in a municipality with a population of at least 5,000. The legislation requires the implementation of a ‘Source Separation’ Program within multi-unit buildings.

A source separation program includes activities to separate recyclables from other waste at the source (point of generation). Activities must include the provision of facilities for the collection, handling and storage of recyclables, including suitable containers for tenants to deposit their recyclables. These containers must be conveniently located, properly sized, and adequately contain the recyclable materials. Reasonable effort must be made to ensure that full use of the program is made. The program must be communicated to all employees and tenants to ensure that source separation procedures, responsibilities and equipment use are properly understood and followed. New employees should be informed of the program and trained in its operation.

The Ministry of the Environment is responsible for enforcement of *O. Reg. 103/94*. Inspections of buildings are conducted by the Ministry’s Compliance Branch, which has authority to issue fines to property owners for non-compliance.

For more information, please visit: <https://www.ontario.ca/page/waste-management>

2.5 Ontario Regulation 102/94 – Part IV – Large Construction Projects

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*. The 1044 South Service Rd W project is **NOT** subject to the following section from <https://www.ontario.ca/laws/regulation/940102>.

Please Note: *PragmaTech specializes in conducting Waste Audits and preparing Waste Reduction Work Plans in accordance with Ontario legislation, and would be happy to provide this service to ensure the project meets its provincial compliance obligations.*

PART IV

LARGE CONSTRUCTION PROJECTS

19. (1) This Part applies to a person who undertakes, on their own behalf or on behalf of another person, a construction project consisting of the construction of one or more buildings with a total floor area of at least 2,000 square meters.

(2) In this Part,

“builder” means a person described in subsection (1). *O. Reg. 102/94, s. 19.*

20. (1) The builder shall conduct a waste audit covering the waste that will be generated in the construction project. The audit shall also address the extent to which materials or products used consist of recycled or reused materials or products.

(2) After conducting the waste audit, the builder shall prepare a written report of the audit. O. Reg. 102/94, s. 20.

21. The builder shall prepare a written waste reduction work plan, based on the waste audit, to reduce, reuse and recycle waste generated in the construction project. O. Reg. 102/94, s. 21.

22. The builder shall implement the waste reduction work plan. O. Reg. 102/94, s. 22.

23. The waste reduction work plan shall include measures for communicating the plan to the workers at the construction site and, as a minimum, those measures shall require,

(a) that the plan or a summary be posted at the construction site in a place where most of the workers will see it; and

(b) if a summary is posted, that any worker who requests to look at the plan be allowed to do so. O. Reg. 102/94, s. 23.

24. (1) The report of the waste audit and the waste reduction work plan required under this Part shall be prepared before construction work begins at the site.

(2) If construction work has begun at the site before this Regulation comes into force, the following transitional rules apply with respect to the waste audit, the report and the plan:

1. The report and plan shall be prepared within six months after this Regulation comes into force.

2. The report and plan need not be prepared if all work is finished within six months after this Regulation comes into force.

3. The waste audit need not cover any waste generated within six months after this Regulation comes into force.

4. The plan need not address any waste generated within six months after this Regulation comes into force. O. Reg. 102/94, s. 24.

3.0 Environmental Sustainability & Circular Economy Framework

Effective resource management practices that consider the full life-cycle of materials are critical to environmental sustainability. The movement towards a circular economy is putting resource recovery and waste reduction at the forefront of effective waste management practices.

We recommend that you regularly review and revise your Waste Management and Procurement Policies and Practices to ensure that every effort is made to create integrated systems where nothing is wasted and waste (destined for landfill or incineration) is treated as a valuable resource for recovery and reuse and is put back into the economy without having negative effects on the environment.

In addition to environmental and social responsibility, companies have a legal obligation to demonstrate due diligence for waste management and resource recovery. To ensure compliance with these obligations, we recommend using continuous quality improvement and employee/tenant engagement best practices to develop innovative waste management programs and practices. We also recommend that you partake in regular monitoring and reporting of program performance indicators. For programs using contractors with policies and practices, we recommend continuous monitoring to ensure that transparency and integrity are maintained in their sustainable waste management practices.

Waste reduction and resource recovery should be the first consideration in product, processing and packaging design. Strive to purchase materials and equipment that can be recovered or recycled at their end of life, as well as those produced using recycled and/or recyclable materials. Ensure that items such as paper, paper towel, paper cups, and office equipment are addressed in the procurement policy. Encourage company employees, management responsible for product and/or space design and procurement personnel to source and purchase products containing recycled content and/or are recyclable after use.

Reduce, Reuse and Recycle

Continue to explore innovative ways to reduce or eliminate waste. There is a common misconception that recycling is the easiest, most cost-effective and most convenient form of waste diversion. In fact, REDUCTION is the most efficient waste management and environmental stewardship practice. Reducing waste production can lead to conserving natural resources, decreasing toxicity of wastes, and reducing the cost impact on communities, businesses, and consumers. Most waste reduction strategies fail because of using the 3Rs (REDUCE, REUSE and RECYCLE) in the reverse order.

Some of the costs associated with recycling could be reduced or eliminated by reducing the types and/or volume of materials generated. Some potential cost savings may be associated with material handling, equipment costs, disposal and contamination fees, floor space and storage areas, employee training, recycling program promotion and sourcing available end-markets.

Disposal

Environmental Sustainability and Stewardship legislation changes continue to target specific materials for reduction/removal from landfill disposal. In addition, landfill costs are increasing due to the shrinking availability of space. These costs and conditions are key drivers for companies to develop innovative solutions and alternatives to dispose of their waste.

In Canada, incineration or “waste to energy” is considered a *disposal alternative*, NOT a method of *waste diversion*. Incineration does not promote the 3Rs. An important distinction is that burning waste destroys resources; it does not reduce waste. In addition, burying or burning waste may discharge toxins or pollutants into land, water or air that could prove to have negative human and/or environmental consequences. It is therefore important to consider both the human and environmental impacts associated with all waste disposal methods.

Waste Legislation – Ontario

Ontario is shifting to a circular economy with a new waste management approach, where waste is seen as a resource that can be recovered, reused and reintegrated into the production stream. Ontario’s new waste management framework includes new legislation and a strategy to guide progress that will protect the environment, drive innovation, performance and competitiveness, and stimulate economic growth and development.

Bill 151 of the Waste-Free Ontario Act, 2016, passed on June 1, 2016, enacted the Resource Recovery and Circular Economy Act 2016 and the Waste Diversion Transition Act 2016. Once fully implemented, Bill 151, along with the Resource Recovery and Circular Economy Act and Waste Diversion Transition Act will replace the existing waste diversion program requirements under the Waste Diversion Act (2002).

As a result, the Resource Productivity and Recovery Authority (RPPRA) was created to help the province transition to a circular economy and Waste-Free Ontario. The RPPRA receives direction from the Resource Recovery and Circular Economy Act to oversee and enforce the Individual Producer Responsibility (IPR) framework associated with products and packaging. The purpose of the IPR is to have producers be held responsible for the sustainable management of their products once these products are no longer used by the consumer.

Materials designated and to-be designated under the IPR framework include:

- Tires: Tires were the first material to be enforced under this framework as of January 1, 2019
- Batteries: Batteries will be the next product to be added to the IPR framework in July of 2020
- Electronics: Electronics will be added as of Jan 2021
- Hazardous or Special Waste: Hazardous or Special Waste will be added as of July 2021

The RPPRA also receives direction from the Waste Diversion Transition Act to oversee the following programs:

- Blue Box Program (operated by Stewardship Ontario)
- Municipal Hazardous or Special Waste (MHSW) (Operated by Stewardship Ontario)
- Waste Electrical and Electronic Equipment (WEEE) program. (Program ending December 31, 2020)

The Strategy for a Waste-Free Ontario means building a circular economy to serve as a roadmap to divert more waste from landfills, create jobs, reduce greenhouse gas emissions responsible for climate change, conserve scarce resources, and create a system where all resources and materials (organic or inorganic) are recovered, reused and integrated back into the economy. The goal is to achieve a system where nothing is wasted, and valuable materials destined for landfill create economic value without having negative effects on the environment.

The Food and Organic Waste Framework released on April 30th, 2018 outlines actions for the province and its municipalities. It also provides direction to the waste management industry, as well as the IC&I sector to prevent and reduce food waste, recover organic waste from disposal and support beneficial uses of end products such as compost, digestate and biogas. <https://www.ontario.ca/page/food-and-organic-waste-framework>
Disposal bans for specific materials are currently being reviewed by the province and are included in public consultations. The first materials considered for disposal bans include:

- food waste
- materials designated under existing waste diversion programs
- beverage containers
- corrugated cardboard and some paper materials
- fluorescent bulbs and tubes

The Food and Organic Waste Framework, Strategy for a Waste-Free Ontario and the 5-year Climate Change Action Plan were developed to work together to help combat climate change by reducing greenhouse gas emissions from landfilled materials that could otherwise be reduced, reused, recycled, composted and reintegrated into the economy.

5 Year Implementation Plan – Strategy for a Waste-Free Ontario

2020 – Interim goal of 30% diversion achieved. Complete the transition of existing waste diversion programs (except Blue Box) and designate additional materials under producer responsibility regulations (e.g. mattresses, carpets, furniture)

2021 – Begin implementing disposal bans on material under existing waste diversion programs

2022 – Implement a possible food waste disposal ban and release a progress report on the Waste-Free Ontario Strategy

2023 – Complete transition of Blue Box program and designate additional materials under the producer responsibility regulation

2024 – Develop and consult on additional policy statements

2025 – Begin review of Waste-Free Ontario Strategy and designate additional materials under the producer responsibility regulation

For more information please visit: <https://www.ontario.ca/page/waste-management>

The following table outlines implementation timelines for food waste prevention:

Action Number	Action Title	Currently Underway	Short-term (2018-2020)	Long-term (2021-beyond)
1.	Province to work with partners to develop promotion and education tools to support <i>food</i> waste prevention and reduction		✓	
2.	Province to enhance and incorporate <i>waste reduction</i> and <i>resource recovery</i> activities within schools		✓	
3.	Province to work with the Government of Canada on preventing <i>food waste</i>	✓		
4.	Province to work with partners to support innovative approaches and tools to rescue surplus food	✓	✓	
5.	Province to develop food safety guidelines to support the safe donation of surplus food		✓	
6.	Province to support research aimed at reducing and recovering <i>food and organic waste</i>	✓	✓	

Action Number	Action Title	Currently Underway	Short-term (2018-2020)	Long-term (2021-beyond)
7.	Province to develop data collection mechanisms for measuring progress in waste reduction and resource recovery of food and organic waste		✓	
8.	Province to amend the 3Rs Regulations to include food and organic waste and increase resource recovery across the IC&I sector		✓	✓
9.	Province to ban food and organic waste from ending up in disposal sites		✓ (consulting 2018-2019)	✓ (phased-in beginning 2022)
10.	Province to support resource recovery of food and organic waste in multi-unit residential buildings			✓
11.	Province to develop best management practices to support effective use of public waste receptacles		✓	
12.	Province to review existing approval processes and requirements for resource recovery systems using a modern regulator approach		✓	
13.	Province to require standardized training for owners and operators of resource recovery systems that undertake composting and anaerobic digestion		✓	
14.	Province to review its D-Series Land Use Compatibility Guidelines to support the development of resource recovery systems		✓	
15.	Province to support healthy soils with strong standards and clear requirements for the use of soil amendments, while protecting the environment and human health	✓		
A.	Province to review regulatory approaches related to soil amendments		✓	
B.	Province to promote the on and off-farm end-use of soil amendments made from recovered organic resources		✓	✓
C.	Province to promote the use of soil amendments as part of the Agricultural Soil Health and Conservation Strategy		✓	✓
16.	Province to support development of renewable natural gas including consideration for linkages to food and organic waste		✓	✓
17.	Province to support green procurement practices, including the use of end-products, such as compost and digestate	✓	✓	

Upcoming Federal Legislation on Single-use Plastics in Canada

Over the past several years, scientists and government authorities have studied the impacts of plastic pollution on wildlife and our natural environment. Research initiatives have provided plenty of evidence illustrating the detrimental impacts of plastic pollution on a global scale. In Canada alone, over 3 million tonnes of plastic waste are disposed of, 1/3 of which is single-use plastic. Although single-use plastics are durable and convenient for consumers and inexpensive to produce, purchase and landfill, they are difficult to capture and recycle due to their small size, light weight, and mixed plastic composition. Over the years, these plastics have accumulated in our environment at an alarming rate and now represent up to 43% of ocean-plastic pollution worldwide, including macro-plastics (pieces over 5mm in size) and microplastics (less than 5mm in size). As a result, the Government of Canada has proposed to use the Canadian Environmental Protection Act (CEPA) to enact legislation to regulate the manufacturing of all plastics.

A proposed integrated management approach to target zero plastic waste, aligned with the Ocean Plastics Charter and Canada-wide Strategy for Zero Plastic waste, will aim to achieve the following:

- Eliminate certain sources of plastic pollution, such as single-use plastics
- Strengthen domestic end-markets for recycled plastics
- Improve the value recovery of plastic products and packaging
- Support innovation and the scaling up of new technologies

These goals have been specifically set to overcome challenges associated to circular plastic economies.

Single-use plastic items that the Government of Canada is considering banning or restricting based on the analysis of a Management Framework of Single-use Plastics include:

- Stir sticks
- Six-pack rings
- Cutlery and Stir Sticks
- Straws
- Food service ware made from problematic plastics, such as clamshell expanded #6 containers

The analysis is based on a three-step process to assess whether management of the single-use plastic is necessary. Furthermore, scientific evidence and data are used to ensure validity of the results. Businesses in Canada are encouraged to act by sourcing sustainable alternatives for these materials to prepare for the upcoming ban/restriction of single-use plastics.

The Government of Canada further plans to reduce plastic pollution through the establishment of performance standards and by ensuring end-of-life responsibility. To establish performance standards, a “recycled content requirement” of 50% will be implemented to establish market demand. This ensures an end-market for recyclers, and a supply of recycled plastics for plastic manufacturers, creating a circular economy. The other measure, ensuring end-of-life responsibility, will aid in the recovery of plastics by increasing collection and recycling rates. In other words, the responsibility to collect and recycle plastics falls on the one who generated it, a concept well-known as Extended Producer Responsibility.

4.0 Waste Generation Analysis (60 units)

The following waste generation data were determined by calculating the volume of all waste materials generated on a weekly and annual basis. The analysis was conducted to determine the anticipated generation values for the following waste streams:

- Non-Recyclable Waste (Garbage)
- Co-mingled Containers/Cans/Bottles/Jars/Jugs
- Cardboard/Mixed Fibres
- Other Recycling (E-waste, batteries, scrap metals and light bulbs etc.)
- Organics/Compost

Table 1 & 2 below provides an estimate of the waste generated per waste stream on a weekly and annual basis, along with the total anticipated waste generation for each waste stream. Using these estimates, PragmaTech can determine the appropriate equipment needs and space requirements to maximize efficient handling and disposal of each waste stream program. Sample data using waste generation volumes for similar projects along with residential building waste audits for properties of a similar type were used by PragmaTech to perform calculations and determine the following estimates.

Table 1: Estimated Weekly Generation Volumes (Residential)

Kg's/Week	Kg's
Cans/Bottles/Plastic	73.18
Glass Bottles & Jars	4.24
Mixed Fibres	92.21
Organic/Compost	142.48
E-waste, Light Bulbs, Scrap Metal, Batteries	0.59
Non-recyclable Waste	79.70
Total Generation	392.40

Table 2: Estimated Annual Generation Volumes (60 units)

Kg's/Annual	Kg's
Cans/Bottles/Plastic	3,805.50
Glass Bottles & Jars	220.37
Mixed Fibres	4,795.13
Organic/Compost	7,408.98
E-waste, Light Bulbs, Scrap Metal, Batteries	30.61
Non-recyclable Waste	4,144.21
Total Generation	20,404.80

4.1 Equipment Recommendations (60 units)

The following section contains the equipment to house three waste stream from the drawings.

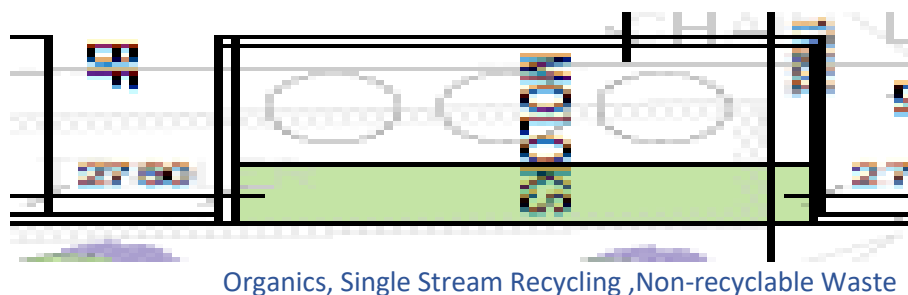


Table 3: Waste and Recycling Volumes (60 units)

Waste Stream Yardage (inground bins)	Generation	Yards	Equipment
Comingled Recycling (Cans/Bottles/Plastic, Glass Bottles/Jars), Mixed Fibres (mixed paper, boxboard) cardboard (flatten)	169.63	6.7	In-ground Bin
Organic/Compost	142.48	2.40	In-ground Bin
Non-recyclable waste (un-compacted)	79.7	1.99	In-ground Bin

Please Note: The information presented in this report is based on optimal recycling practices by the tenants. All calculations are based on typical occupancy per unit and may change depending on number of occupants per unit. Further, these calculations do not take into consideration initial, one-time tenant move-in waste generation volumes or bulk pickups (large items).

6.0 Design Recommendations from Halton Region

6.1 Waste Area Requirements

Guidelines have been prepared in accordance with Section 192 of the ROP (Regional Official Plan).

The design for the internal management and handling of Waste, shall ensure:

- That Recyclable Material and Organic Waste systems are as convenient to use as Garbage systems;
- That Collection Point locations for Waste are accessible to all tenants/occupants and do not hinder tenants/occupants from participating in Recyclable Material and Organic Waste Programs and comply with Ontario's Accessibility for Ontarians with Disabilities Act;
- That all applicable health and safety considerations are incorporated into the design for workers handling or moving Waste Receptacles and comply with the Ontario Health and Safety Act; and
- That the Developer has established an ongoing Management and Maintenance Program for the proposed Waste Management System that will ensure the continued operation of the proposed system (i.e. cost considerations, sustainability).
- An example of an acceptable internal management and handling of Waste design would include:
- A central location on the ground floor that all recyclables and organic that will be safe for tenants to enter, this area will have no mechanical equipment that would pose any danger to tenant or untrained personnel.
- The dedicated storage area must be adequate to store Waste for a minimum of one week based on minimum capacity requirements.
- External storage shall be designed and constructed to store containerized waste according to collection type. There shall be no loose garbage permitted at any time
- The external waste storage area shall be self-contained with a well-maintained mechanism to lock the door/gate to prevent unauthorized access
- The external storage structure shall be maintained in good repair and have industrial quality hinges and closures on all door/gates to withstand frequent use and climate fluctuations
- The external storage structure shall be designed and constructed with the same design element and materials as the main building in terms of colour and external façade
- The Waste storage area shall be constructed to as per guideline of a height of 0.5 meters above collection bins
- The applicant is advised to contact the zoning section of the local Municipality to ensure that the external storage of waste receptacles is permitted in accordance with property standard and by-laws

8.0 Welcome Package for Tenants

Each tenant should be provided with a welcome package at move in. The package should include the recycling guide that indicates how materials should be sorted, as well as tips for recycling and the most up-to-date by-law showing the responsibility to the tenants. The more information that is provided, the easier it is for tenants to get on board with recycling and organics programs; therefore, reducing non-recyclable waste generation.

9.0 Signage Considerations

Developing **signage (stickers) for all waste stream equipment and receptacles that clearly identifies which materials can be deposited into the designated equipment and container(s) can greatly assist with reducing contamination and increasing diversion rates. Signage should depict both images and words explaining the specific materials to be deposited into the equipment and receptacles so that all users are able to clearly understand program requirements. Use common terms that are easily recognizable. Colour-coding is a fantastic way to help people easily identify an item example green is for organics and compost, blue is for cans and bottles, etc.

**** most haulage companies will supply this information when signing a new agreement ****

10. Common Area Waste and Recycling Containers (suggested)

Waste and Recycling Considerations

Exterior

Several areas throughout the property may require three or four-stream disposal receptacles to accommodate the disposal of non-recyclable waste (garbage) and single stream recycling (blue bin). The specific areas that will require a multi-stream disposal receptacle.



Pet Waste Disposal Considerations

Pet waste is considered non-recyclable waste in Halton Region and is required to enter into the non-recyclable waste stream (garbage). However, pet waste can cause odour issues when placed into common area non-recyclable waste bins, so a self-contained disposal bin specifically for pet waste is recommended.



Cigarette Disposal Considerations

Cigarette waste is considered non-recyclable waste in Halton Region and is required to enter the non-recyclable waste stream (garbage). Providing designated bins to capture cigarette butts will help to reduce the amount of litter on the grounds, lessening the need for constant property maintenance. Cigarette specific disposal bins also ensure that the contents are safely secured, minimizing the risk of fire that could occur using other standard disposal bins that may contain potentially flammable materials.

