

Our ref: 12641210

November 5, 2024

Starmont Estates Inc.
2555 Erin Centre Boulevard
c/o Trinity Point Developments
Julian Baldassarra

2555 Erin Centre Boulevard, Mississauga – Waste Management Plan

Dear Julian,

1. Introduction

GHD Limited (GHD) was retained by Starmont Estates Inc. to complete a Waste Management Plan in support of a Site Plan Application for the proposed multi-residential development located at 2555 Erin Centre Boulevard in the City of Mississauga. The proposed development consists of 1,022 residential units within three towers that are divided into two Blocks (A and B). Block A includes Tower 1 with 367 residential units and Tower 2 with 337 residential units and features a principal lobby, 1,088 square metres (m²) retail space, amenity areas, two 7 storey podiums, two 4 storey podiums, and parking. Block B includes 318 residential units in Tower 3 and features a 7-storey podium, grade-related non-residential areas, amenity areas, a principal lobby, and parking. **Table 1.1** shows the number of residential units in Towers 1, 2 and 3. The Waste Management Plan has been prepared to address requirements from both the Region of Peel's (Region) waste collection perspective and the City of Mississauga's (City) development application requirements in relation to the proposed development.

Table 1.1 Residential Units Per Building

Tower	No. of Storeys	No. of Residential Units
Tower 1	34	367
Tower 2	31	337
Tower 3	28	318
Total		1,022

The waste management requirements within the Region are outlined in By-Law 35-2015¹ as well as within the Region's *Waste Collection Design Standards Manual*² (Manual). This Waste Management Plan has been prepared with both of these items in mind.

¹ By-Law 35-2015 - A by-law to regulate the collection of waste in the Regional Municipality of Peel and to repeal By-law Number 47-2014.

² Peel Region. (2020). Waste Collection Design Standards Manual. Retrieved from:

<https://www.peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf>

This letter discusses the waste management issues related to the Site and should be considered to be the “Waste Management Plan” to satisfy the Region’s requirements. The following elements are discussed within this Waste Management Plan:

- Waste Volume and Storage
 - Storage Location
 - Capacity Requirements
- Waste Collection
 - Schedule and Frequency
 - Collection Vehicle Routing
- Recycling and Diversion Initiatives
- Recommendations

2. Solid waste collection by the region

As stated in the Region’s Manual, the Region provides waste collection services to residential units, some institutions, and small businesses located within Business Improvement Areas (BIAs). Eligibility for the Region’s waste collection services requires compliance with the requirements set out in their Manual.

As per the Region’s Manual, *“The developer must submit a completed ‘Acknowledgement and Release for Private Property Waste Collection Form’ and ‘Application for Private Property Waste Collection Form’ to the Region’s Waste Management Division prior to commencement of Waste Collection” (pg. 22 of 62).”*

As described in the Region’s Manual, before the application is approved, the development must be more than 90 percent occupied. In the interim, the developer is responsible for solid waste management.

After the above-mentioned forms and confirmation of 90 percent occupancy is received by the Region, the Waste Management Division will visit the development within 5 to 10 business days to determine if the occupancy level has reached 90 percent, and if the development is in compliance with the Region’s Manual.

The Region’s collection of waste material involves the separation of waste streams into garbage and recycling. In addition, the Region will provide bulk waste pickup (e.g., furniture and carpets). Based on discussions with the Region, there is a possibility that owners of multi-unit residential buildings in southern Ontario will be required to collect source separated food and organic waste to meet the provincial target of 50 percent waste reduction and resource recovery by 2025.

At this time, the Region recommends three separate chutes.

3. Solid waste management plan – waste collection on private property

As per the Region’s Manual, the design requirements for multi-residential complexes with more than 60 dwelling units are as follows:

1. Recycling receptacle access must be equally or more convenient than that of garbage.
2. A waste storage room must be of sufficient area to accommodate the required number of front-end bins and/or recycling carts required for the development.
3. Recyclable materials must not be compacted.

4. If a chute system is used then separate chutes must be provided for garbage and recyclable materials, or a single chute can be used if equipped with an automated mechanical separation system to direct garbage and recyclable materials into separate front-end bins.
5. The design of developments must include features that make the set-out of recyclable materials as convenient to each occupant as that for garbage.
6. A minimum 18 m straight head-on approach to the collection point is required. This approach is to be level, solid (maximum 2 percent slope) and the same width as the collection point.
7. A minimum clear height of 7.5 m from the concrete pad must be provided at the collection point. The clear height of 7.5 m must be free of obstructions such as sprinkler systems, ducts, balconies, wires and trees.
8. Outside the collection point, a clear height of 4.4 m from the top of the access road must be provided along the waste collection vehicle access and egress route. The clear height of 4.4 m must be free of obstructions such as sprinkler systems, ducts, balconies, wires and trees.
9. The collection point should be designed with sufficient area to eliminate the need for property management staff to jockey front-end bins to make them accessible to the waste collection vehicle.
10. Where these requirements cannot be met, reliance on property management staff to facilitate waste collection will be considered at the Commissioner's discretion, subject to the following conditions:
 - a. The driver is not required to exit the waste collection vehicle to facilitate collection.
 - b. Property management staff is responsible for jockeying of front-end bins during collection.
 - c. The Region will not be responsible for emptying bins that are inaccessible to the waste collection vehicle.
 - d. Property management staff must be visible to the waste collection vehicle on approach to the site; otherwise, the waste collection vehicle will not enter.
11. The minimum width of the collection point must be 3 m for each front-end bin. The minimum depth of the collection point must be 2 m for a 3-cubic yard (cu. yd.) front end bin and 3 m for 4 and 6-cu. yd. front end bins. However, where these requirements cannot be met, reliance on property management staff to facilitate waste collection will be considered at the Commissioner's discretion, subject to the following conditions:
 - a. The driver is not required to exit the waste collection vehicle to facilitate collection.
 - b. Property management staff is responsible for jockeying of front-end bins during collection.
 - c. The Region will not be responsible for emptying bins that are inaccessible to the waste collection vehicle.
 - d. Property management staff must be visible to waste collection vehicle on approach to the site, otherwise the waste collection vehicle will not enter the site.
12. The waste collection vehicle is not permitted to reverse in excess of 15 m, turn while reversing, or reverse onto a municipal roadway.
13. The collection point and storage area, including the number and size of front-end bin(s) to be used for garbage and the number, size, and type of recycling receptacle(s) (front-end bin or cart), the compactor and chute systems, are to be clearly shown and labelled on drawings (e.g., site plan, ground floor plan, etc.). The drawings must also show the waste collection vehicle's route through the development and the radius of every turn must be labelled.
14. Bollards or a concrete curb must be installed at the rear of the collection point to protect the structural wall from damage when the front end bins are picked up or returned in place by the waste collection vehicle.
15. Multi-residential complexes and stacked townhouses must supply front-end bins for garbage collection. Recycling carts or front-end bins for recyclable materials will be provided by the Region.
16. The maximum walking distance from a dwelling unit to the closest concealed collection point or storage room must be less than 100 m.

17. Developers will be required to inform prospective owner(s) of the location of the concealed collection point(s) in:
 - a. Agreements of purchase and sale, a written contract between a seller and a buyer for the purchase and sale of a particular property.
 - b. The condominium declaration and description, also sometimes known as master deed, is a fundamental document that establishes the existence of and further governs the use and maintenance of a condominium property.

3.1 Site plan

With the Region's Manual in mind, the Site Plan has been designed to meet the applicable design requirements. As stated above, the proposed development consists of three Towers (Tower 1, Tower 2, and Tower 3) within two Blocks (A and B), with a total of 367 residential units in Tower 1, 337 residential units in Tower 2, and 318 residential units in Tower 3, and 1,088 m² retail space. See **Figure 1** for the Site Plan. The current Ground Floor Plan (**Figure 2**) shows the three proposed residential waste storage areas, labelled as "Garbage Room." The Ground Floor Plan provides dimensions for the anticipated sizes of each of the three Garbage Rooms and includes the use of a dual sorting chute system, with two chutes per residential floor in Towers 1, 2 and 3. The Ground Floor Plan shows the termination of chutes in each Tower.

Loading Areas are located on the Ground Floors of each Block, including one combined area for Tower 1 and Tower 2 (Block A) and one area for Tower 3 (Block B) for the purpose of waste collection. The Loading Areas in Blocks A and B provide the required dimensions based on the Region's guidelines including a 7.5 m height clearance.

The City of Toronto Waste Collection Staging Area requirements³ are used as best practices to ensure that a sufficient staging area is provided for the proposed development. Waste Staging Areas for Blocks A and B are shown on the Ground Floor Plan and are sufficiently sized.

3.1.1 Collection vehicle routing

An AutoTURN analysis was completed to determine the anticipated movement of waste collection vehicles, the geometrics of the proposed private road and to verify that the loading turnaround areas will facilitate the safe and unobstructed movement of a waste collection vehicle (see **Figures 3, 4, and 5**). The AutoTURN analysis was completed using the specifications in the Region's Manual for collection vehicle dimensions and minimum turning radii required for Site Plan approval. The development's internal roads meet the minimum 6 m width and a turning radius of 13 m, as required by the Region's Manual to be able to receive municipal waste collection services. A staff member will be on-site to assist the driver of the waste collection vehicle in accessing the collection point and exiting the Site.

Figure 3 provides the waste collection vehicle routing that will be used to service Block A. Waste collection vehicles will enter the site from Erin Centre Boulevard and make a left-hand turn into the Loading Area (see **Figure 3**). Once the waste is collected, the waste collection vehicle will reverse for approximately 13 m and continue to the Loading Area in Block B in a forward moving fashion (see **Figure 4**).

Figures 4 and 5 show the anticipated movement of waste collection vehicles for Block B. Waste collection vehicles will enter the Block B Loading Area in a forward direction following servicing of Block A (see **Figure 4**). Once the waste is collected, the waste collection vehicle will reverse for approximately 28 m and exit the site on Erin Centre Boulevard in a forward moving fashion (see **Figure 5**).

³ CITY OF TORONTO REQUIREMENTS FOR GARBAGE, RECYCLING AND ORGANICS COLLECTION SERVICES FOR NEW DEVELOPMENTS AND REDEVELOPMENTS

3.1.2 Waste volume and storage requirements

As per the Region's Manual, the volume and type of waste generated is required to assist in determining the appropriate level of storage capacity and method of storage. We have utilized the Region's estimates in determining appropriate waste storage to satisfy the Region's requirements for collection from multi-residential developments.

Multi-Residential

In terms of Tower 1, Tower 2, and Tower 3 the estimated residential waste volumes were determined by working backwards from the Region's Manual for waste capacity requirements. The Region collects front-end bins for garbage and recycling for multi-residential complexes with 60 and more dwelling units. Based on the number of units, GHD completed calculations to determine the minimum number of bins required for garbage and recycling as well as the bin footprints (see **Attachment 1** for detailed waste capacity calculations). The units in each Tower are required to use their designated waste chutes for disposal. The breakdown is as follows:

Table 3.1 *Block A – 367 units from Tower 1*

Minimum Number of Bins Required - Residential	Value	Unit
Garbage (compacted) ⁴	7	3 cu. yd. bin(s)
Recycling	9	3 cu. yd. bin(s)
Organics (not currently collected by Peel Region) ⁵	2	3 cu. yd. bin(s)

Table 3.2 *Block A – 337 units from Tower 2*

Minimum Number of Bins Required - Residential	Value	Unit
Garbage (compacted) ⁶	7	3 cu. yd. bin(s)
Recycling	8	3 cu. yd. bin(s)
Organics (not currently collected by Peel Region) ⁷	2	3 cu. yd. bin(s)

Table 3.3 *Block B – 318 units from Tower 3*

Minimum Number of Bins Required - Residential	Value	Unit
Garbage (compacted) ⁸	6	3 cu. yd. bin(s)
Recycling	8	3 cu. yd. bin(s)
Organics (not currently collected by Peel Region) ⁹	2	3 cu. yd. bin(s)

It should be noted that the above calculations are all based on public collection.

Attachment 1 provides the detailed waste capacity calculations which are based on public collection.

As seen in **Figure 2** the Ground Floor plan provides sufficient numbers of garbage and recycling bins in each of the Garbage Rooms, meeting the requirements of the Region.

⁴ The required number of bins for Garbage may reduce in the future, as the Region's Manual currently incorporates the organic fraction in its bin calculation for Garbage.

⁵ Organic waste is currently collected co-mingled with garbage by the Region; however, the Region recommends to source separate.

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⁸ The required number of bins for Garbage may reduce in the future, as the Region's Manual currently incorporates the organic fraction in its bin calculation for Garbage.

⁹ Organic waste is currently collected co-mingled with garbage by the Region; however, the Region recommends to source separate.

Garbage Floor Footprint

The Region's Manual does not require the development to utilize a compactor; however, it is highly recommended as it will save on the number of bins and floor space required. As per the Region's Manual, recycling material is not to be compacted.

Compactors can range in size and dimensions. The calculated footprint for the compactor and dual-chute system layout is 16.9 m².

It is recommended that the development utilize a compactor in conjunction with 3 cu. yd. bins to minimize the number of bins for garbage and total footprint required.

Using the footprint dimensions¹⁰ of a 3 cu. yd. bin included in the Region's Manual, the total space required for garbage bins for the three Towers are as follows:

- Tower 1 – 15 m²
- Tower 2 – 15 m²
- Tower 3 – 13 m²

Recycling Floor Footprint

Using the footprint dimensions of a 3 cu. yd. bin included in the Region's Manual the total space required for recycling bins for the three Towers are as follows:

- Tower 1 – 20 m²
- Tower 2 – 17 m²
- Tower 3 – 17 m²

Total Storage Space for Mixed Waste and Recyclable Material

GHD calculated the total footprint required for the Waste Storage Rooms incorporating the number of bins, 16.9 m² area for the compactor, dual-chute system, and 2.00 m² maneuvering factor. The total waste storage space recommended for each of the three Towers is as follows:

Table 3.4 Minimum Waste Storage Room Size for Front-End Collection Bins

Tower	Minimum Waste Storage Room Size Requirement (m²)
Tower 1	95.10
Tower 2	90.75
Tower 3	86.41

The Ground Floor Plan (**Figure 2**) provides sufficient area for each of the three Garbage Rooms including 128.0 m² in Tower 1, 103.6 m² in Tower 2, and 100.8 m² in Tower 3.

Bulk Waste Floor Footprint

The Region's Manual requires that a clear and accessible area of 10 m² is made available within each Tower for the storage of larger items such as bulk waste. For safety, this area should be separated from the Garbage Room, either by a chain-link fence or wall. The Ground Floor Plan (**Figure 2**) currently provides Bulk Storage Rooms adjacent to each of the three Garbage rooms, all greater than 10 m², and accessible to residents without having to access the Garbage Rooms.

¹⁰ 3-cu. yd. inside storage area bin dimensions: 1.26 m (H) x 2.03 m (W) x 1.07 m (D)

Non-Residential

The Site Plan shows a total 1,088 m² of non-residential space on the Ground Floor in Block A including 674 m² for Retail A and 414 m² for Retail B. Calculations were carried out to estimate waste generation for common commercial (non-food) operations for Retail A and Retail B (see Tables 3.5 and 3.6).

Table 3.5 Retail A 674 m²

Waste Types	Bins	Units	Footprint
Commercial (non food)			
Garbage (not compacted)	2	3 cu. yd. bin(s)	3.74 m ²
Recycling	2	3 cu. yd. bin(s)	3.74 m ²
Estimated total space required in waste room without compactor (including maneuvering factor)			9.7 m ²

Table 3.6 Retail B 414 m²

Waste Types	Bins	Units	Footprint
Commercial (non food)			
Garbage (not compacted)	1	3 cu. yd. bin(s)	1.87 m ²
Recycling	1	3 cu. yd. bin(s)	1.87 m ²
Estimated total space required in waste room without compactor (including maneuvering factor)			6.0 m ²

Dimensions for each of the two Garbage Rooms for non-residential uses are provided on the Ground Floor Plan (**Figure 2**). A minimum of 9.7 m² area of Retail Garbage Room is recommended on the Ground Floor of Block A for Retail A. The Site Plan currently provides 24.8 m². A minimum of 6.0 m² area for the Retail Garbage Room is recommended on the Ground Floor in Block A for Retail B. The Site Plan currently provides 17.4 m².

3.1.3 Waste collection

The waste collection for Tower 1 and Tower 2 and Tower 3 will occur within the provided Loading Areas in Block A (Tower 1 and Tower 2) and Block B (Tower 3). On the collection day, a staff member on-site will be responsible for emptying/moving full waste bins from the proposed Garbage Rooms on the Ground Level of each Tower to the Staging and Loading Area.

3.1.3.1 Residential

On the collection day, a staff member on-site will be responsible for emptying/moving full waste bins from the proposed Garbage Rooms on the Ground Level of each Tower to the Staging and Loading Area. Waste collection will occur at the dedicated waste collection point. Signs will be posted to indicate that the area is a waste collection point and that there shall be no parking or blocking of the waste collection containers. A staff member will be on-site to assist the driver of the waste collection vehicle in accessing the collection point and exiting the Site.

All waste collection containers will be placed at the collection point for pick up before 7:00 a.m. on the day scheduled for waste collection.

Schedule and Frequency

Based on the number of waste collection containers allocated, it is anticipated that the collection frequency will be a minimum of once a week. All collections would occur during the hours of 8:00 a.m. to 5:00 p.m. and as stated above, will be contracted to a private waste hauler until 90 percent occupancy is reached. The collection

frequency and hours of collection will be determined and set out in the contract between the private hauler and the developer.

A development must be more than 90 percent occupied before the Region will approve the application for waste collection services. After the *Acknowledgement and Release for Private Property Waste Collection Form* and *Application for Private Property Waste Collection Form* are submitted to the Region's Waste Management Division, and confirmation of 90 percent occupancy is received by the Region, the Waste Management Division will visit the development within five to ten business days to determine if the occupancy level has reached 90 percent, and if the development is in compliance with the Region's Manual. Once approved for final clearance, collection service will be scheduled to commence ten to 15 business days thereafter. In the interim, the developer is responsible for solid waste management and will need to set up a contract with a private hauler to remove waste from site.

3.1.4 Commercial

The commercial uses of this development are not eligible for commercial waste collection by the City. Therefore, a contract with a private waste hauler must be established before the commercial space is occupied. The Retail spaces will utilize bins located in the Retail Garbage areas shown on the Ground Floor Plan (**Figure 2**). The bins are to be clearly labelled to ensure they are used for commercial collection only. Retail Garbage collection will occur on a different day than residential waste collection.

The completed capacity calculations state that Retail A will require two 3 cu. yd. bins for garbage and two 3 cu. yd. bins from recycling, while Retail B will require one 3 cu. yd. bin for garbage and one 3 cu. yd. bin for recycling.

Schedule and Frequency

Based on the number of bins allocated for the Commercial uses, it is anticipated that the collection frequency will be a minimum of once a week. It is anticipated that all collections would occur during the hours of 8:00 a.m. to 5:00 p.m. and will be contracted to a private waste hauler. The collection frequency and hours of the collection will be determined and specified in the contract between the private hauler and the developer.

3.1.5 Best management practices

In addition to the above, we have provided Best Management Practices (BMPs) that will mitigate any potential issues or complaints from residents as it relates to the management of waste on-site:

Continuous communication with tenants/owners about the waste management system.

A letter should be provided to all tenants/owners informing them of the waste management system in place and the services provided by the Region or by the private hauler (interim collection). In addition to this, we suggest that quarterly notifications be sent out to tenants/owners indicating any potential issues related to waste management that property management are encountering, such as people not sorting waste correctly and providing information on the importance of waste diversion and reduction.

The lids of the waste storage containers should be kept closed at all times, except when depositing waste / collection is to occur.

Keeping the lids securely fastened, (except when depositing waste/ waste collection), will reduce nuisance related effects, such as odour, and attraction of vermin.

Clean up litter from around waste Collection Area and Staging Area.

Waste Collection Area and Staging Area should be checked for litter after waste has been collected each week.

Noise

Ensure that collection hours are written into the contract with the private waste haulers and are established for normal business hours to reduce the noise effects from back-up beepers.

3.1.6 Recommendations and conclusions

The following recommendations are provided:

- The development should utilize a compactor in conjunction with 3-cu. yd. bins to minimize the number of garbage bins and total footprint required.
- Establish a waste collection contract with a private waste hauler for all commercial waste and for residential waste collection before the development reaches the 90 percent occupancy requirement.
- Follow best management practices for residential and commercial waste collection.

By implementing the recommendations set out in this Waste Management Plan, the Region's requirements for a development application as it relates to waste management will be satisfied.

Should you have any questions on the above, please do not hesitate to contact us.

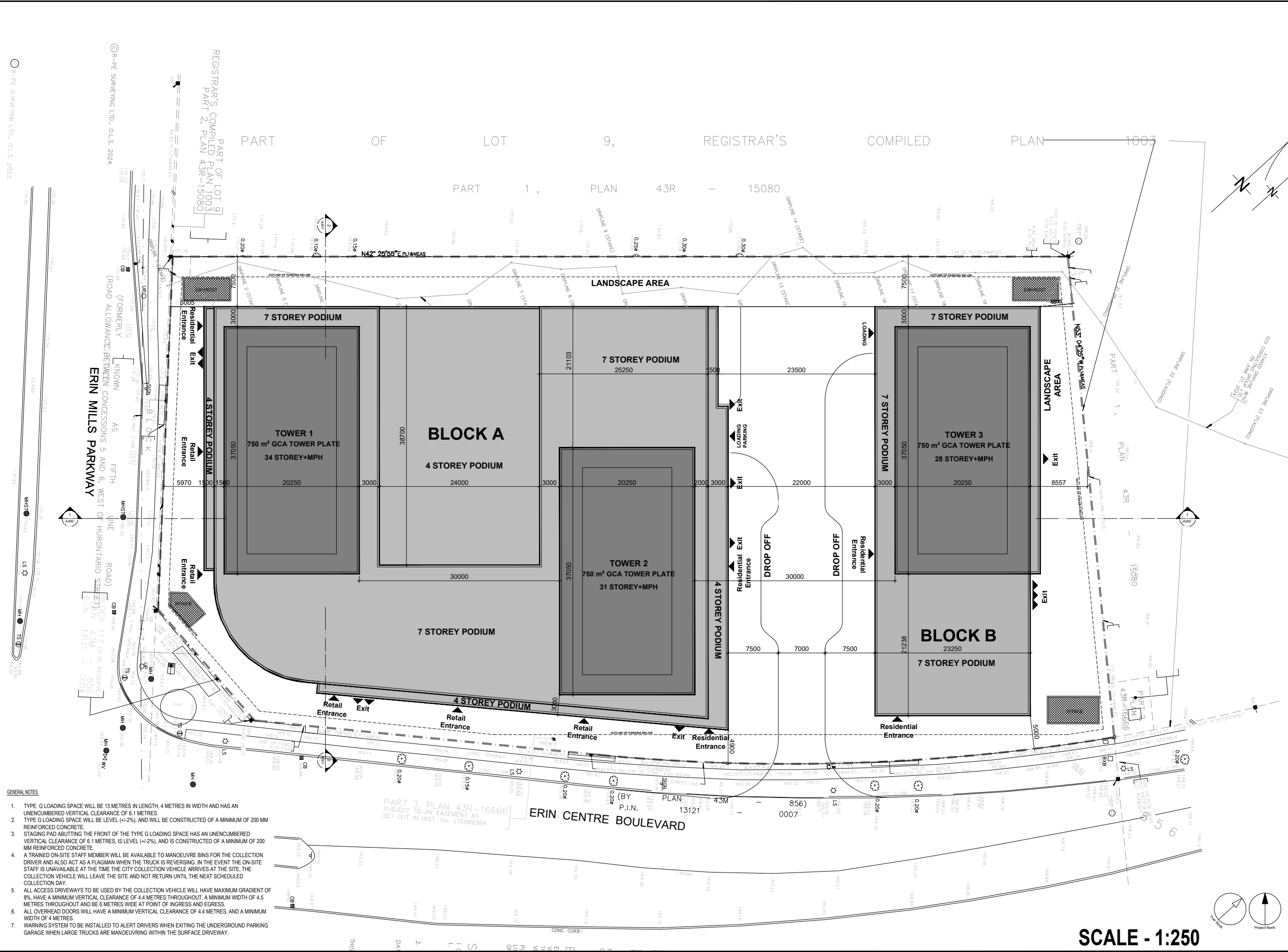
Regards



Erika Brown, MEnv., RPP
Waste & Environmental Planner

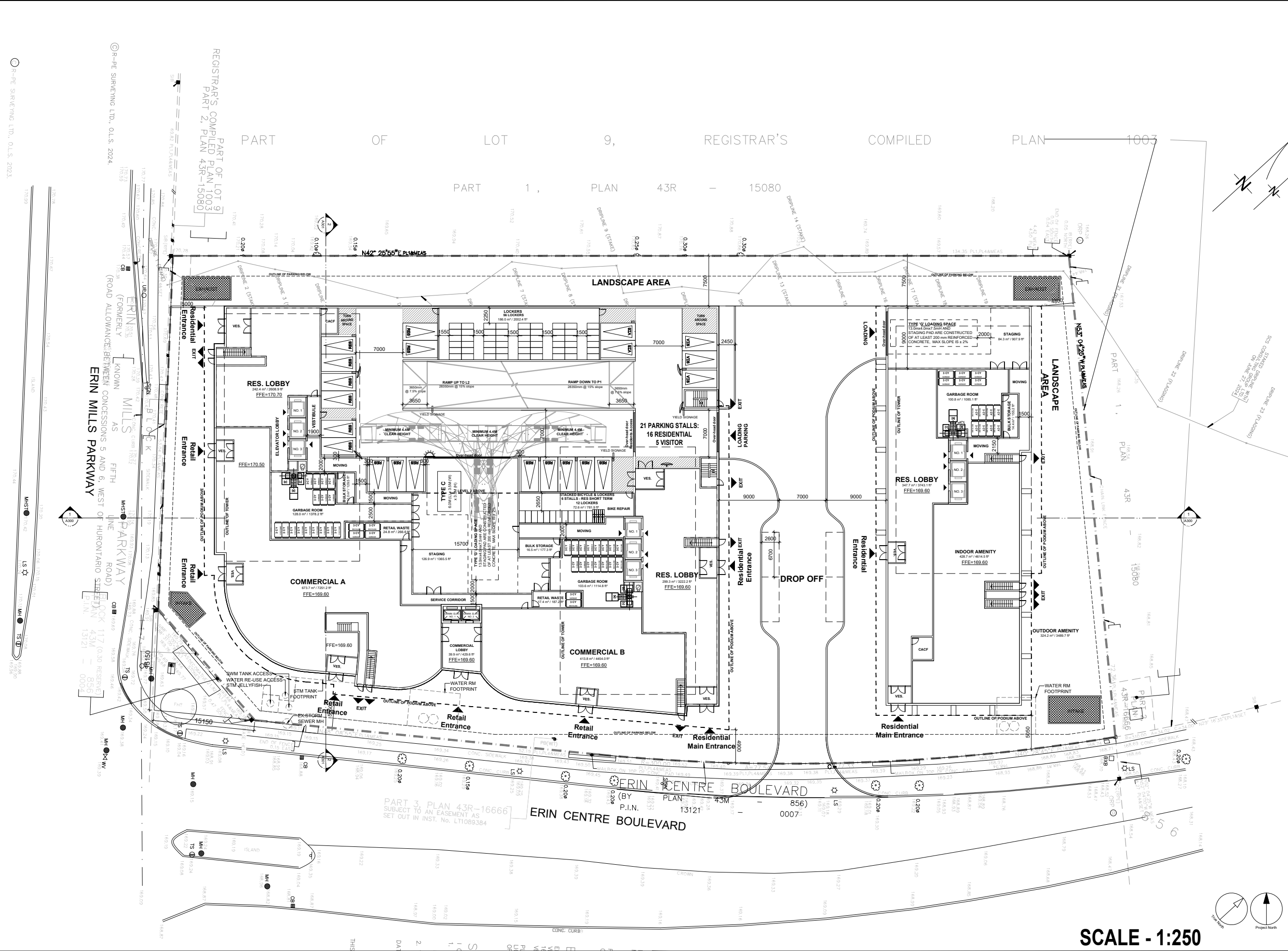
+1 416 866-2351
Erika.Brown@ghd.com

Figure 1 Site Plan



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ISSUES	
01	ISSUED FOR REZONING OCT. 18th 2024
SEAL	
ARCADIS	
55 St. Clair Avenue West, Toronto, ON M4V 2Y7, Canada tel 416 596 1930 www.arcadis.com	
PROJECT	
2555 ERIN CENTRE BLVD	
PROJECT NO:	
SHEET TITLE	
SITE PLAN	
SHEET NUMBER	ISSUE
A102	

Figure 2 Ground Floor Plan



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ISSUES		01 ISSUED FOR REZONING OCT. 18th, 2024	
SEAL			
PROJECT		2555 ERIN CENTRE BLVD	
PROJECT NO:			
SHEET TITLE		GROUND FLOOR PLAN	
SHEET NUMBER		A200	
ISSUE			



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PROJECT
2555 ERIN CENTRE BLVD

PROJECT NO:

SHEET TITLE
GROUND FLOOR PLAN

SHEET NUMBER
A200

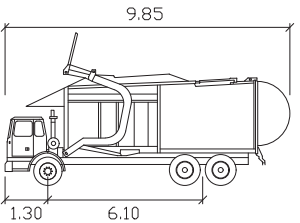
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Figure 3



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Peel Garbage Front
Width : 2.77
Track : 2.77
Lock to Lock Time : 6.0
Steering Angle : 28.0

1	First Submission	W.M	W.M	11/4/24
No.	Issue	Checked	Approved	Date
Author	S.B	Designer	S.B	
Drafting	W.M	Design	W.M	
Check		Check		
Project Manager	W.M	Project	W.M	
		Director		
Client				
Project				

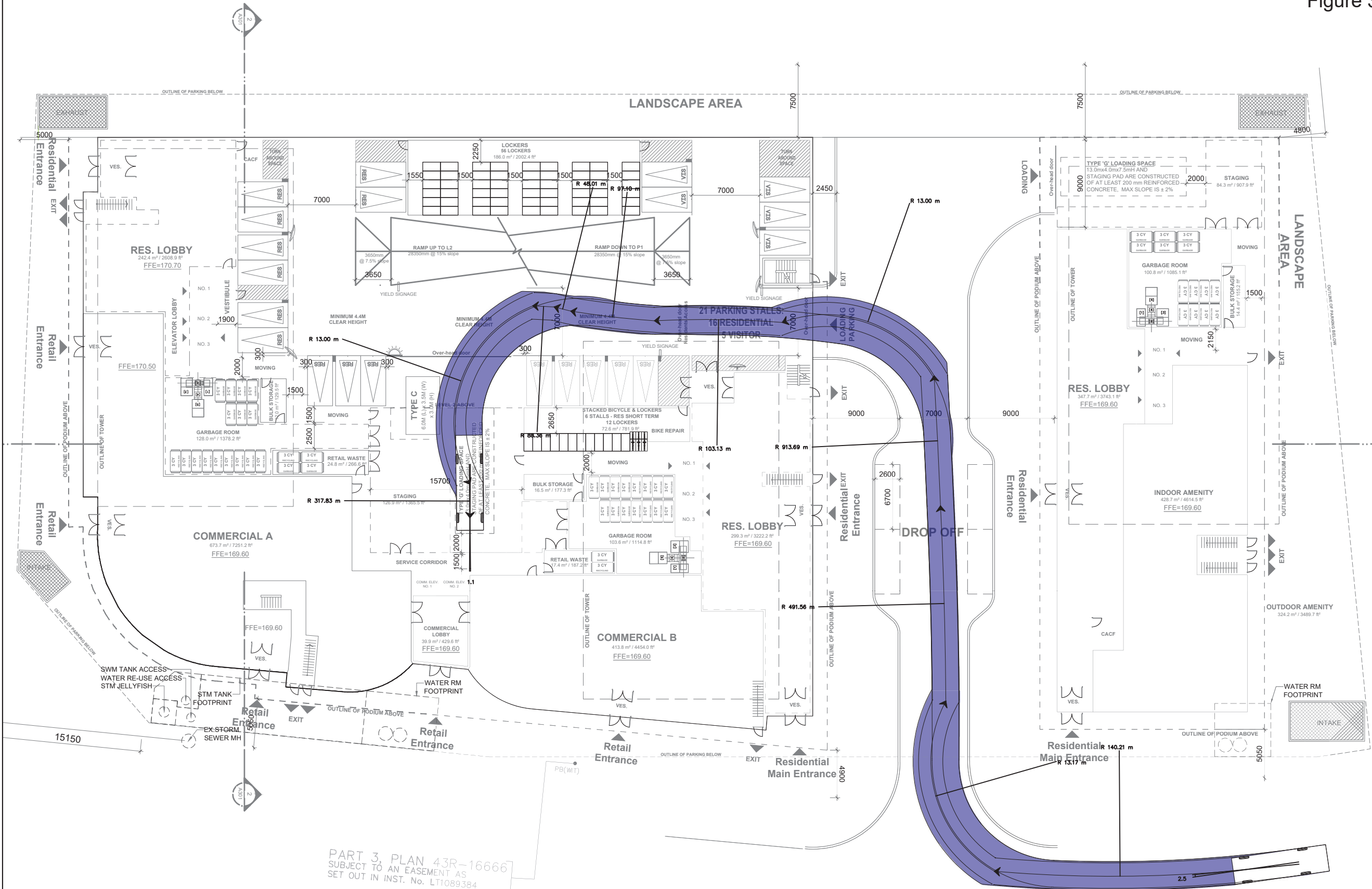
Date November 4, 2024 Scale NTS

Project No.

Title

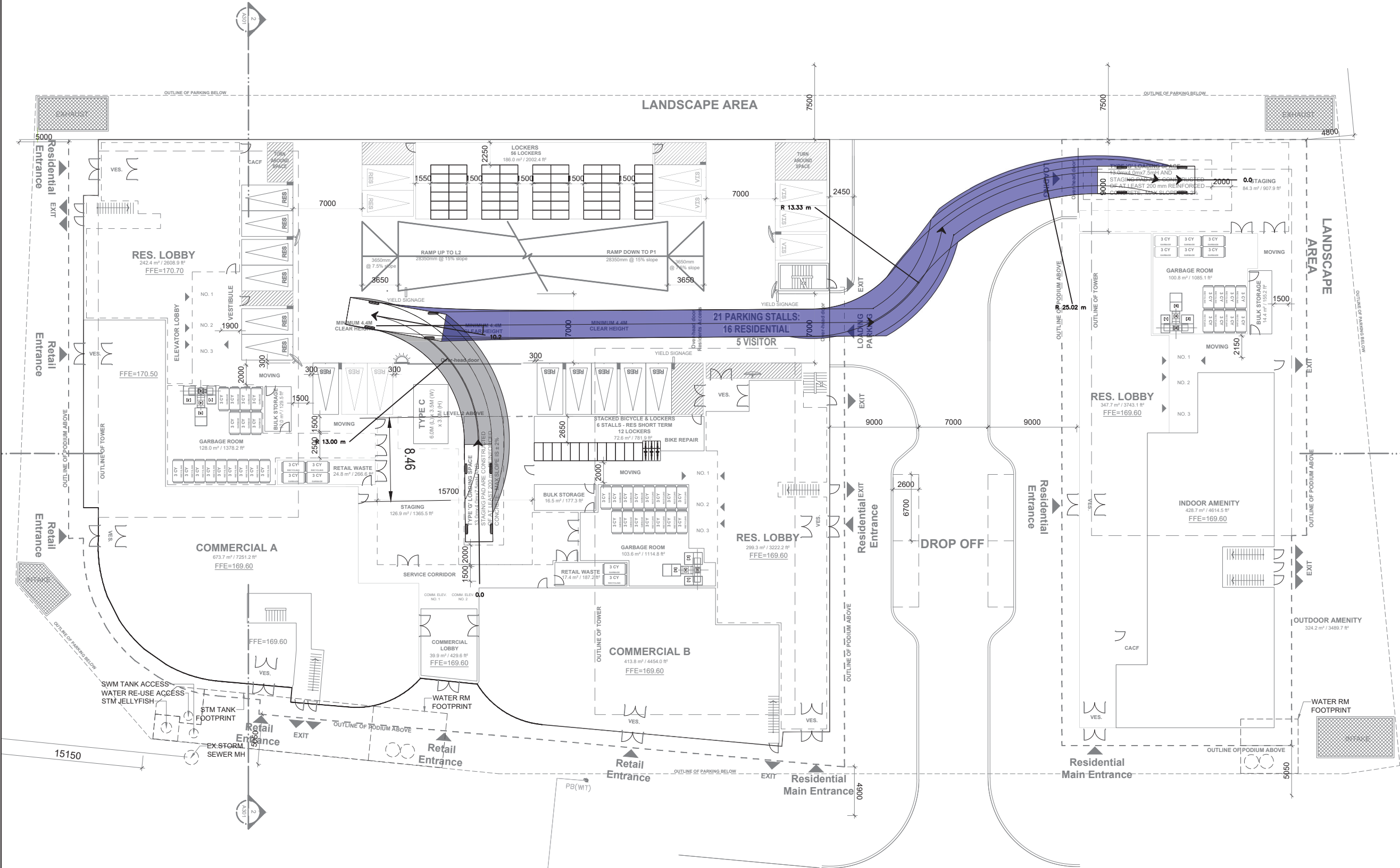
2555 Erin Centre Boulevard
Waste Collection
Inbound 1

Size
ANSI D
Sheet No.
AT-101



PART 3, PLAN 43R-16666
SUBJECT TO AN EASEMENT AS
SET OUT IN INST. No. LT1089384

Figure 4



PART 3, PLAN 43R-16666
SUBJECT TO AN EASEMENT AS
SET OUT IN INST. No. LT1089384

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1	First Submission	W.M	W.M	11/4/24
No.	Issue	Checked	Approved	Date
Author	S.B	Designer	S.B	
Drafting	W.M	Design	W.M	
Check		Check		
Project Manager	W.M	Project	W.M	
		Director		
Client				
Project				

Date	November 4, 2024	Scale	NTS
Project No.			
Title	2555 Erin Centre Boulevard Waste Collection Inbound 2		
Size	ANSI D		

Sheet No. AT-102

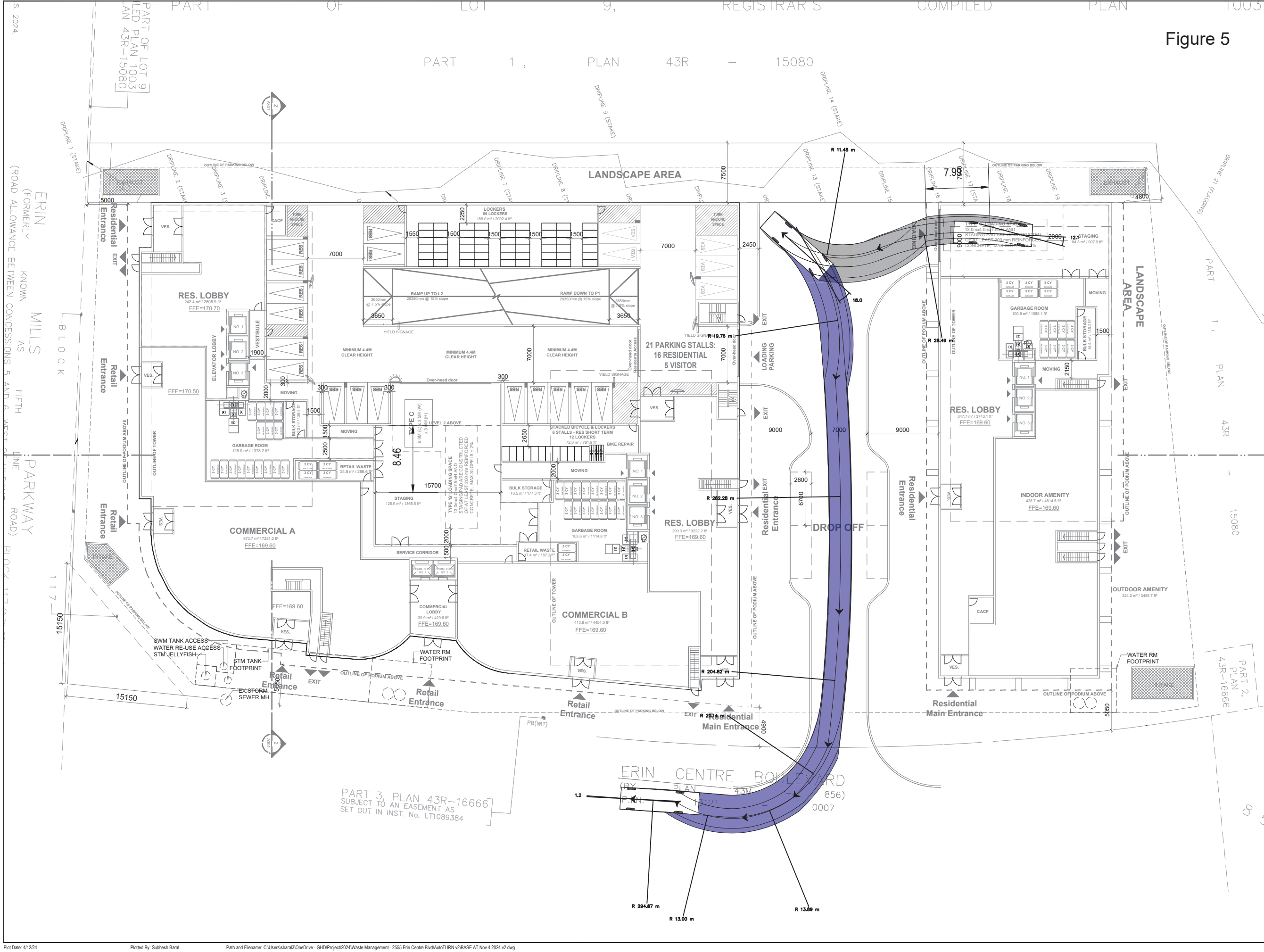
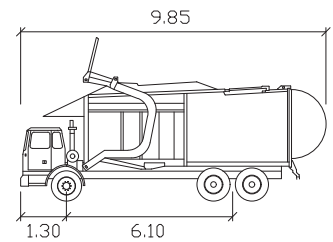


Figure 5



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Peel Garbage Front
Width : 2.77
Track : 2.77
Lock to Lock Time : 6.0
Steering Angle : 28.0

1	First Submission	W.M	W.M	10/2/24
No.	Issue	Checked	Approved	Date
Author	S.B	Designer	S.B	
Drafting	W.M	Design	W.M	
Check		Check		
Project Manager	W.M	Project	W.M	
		Director		
Client				
Project				
Date	October 2, 2024	Scale	NTS	
Project No.				

Title
2555 Erin Centre Boulevard
Waste Collection Circulation
(OUTBOUND)

Size
ANSI D

Sheet No.
AT-103

Attachment 1



Table 1 - Tower 1

**Residential Waste Capacity Estimates
2555 Erin Centre Boulevard, Mississauga**

Building Stats			
Stats/Item	Value	Unit	Comments
Dwelling Units	367	units	727 Units from Tower A & B
Bulk Waste Room Space Recommended	10	m ²	Ref #1, Internal Waste Storage Rooms must be a minimum of 10 square metres for the storage of Bulky Items for each Multi-Residential Complex.
Collection Frequency	Weekly	-	Assumed waste collection frequency

Estimated Number of Bins Required			
Stats/Item	Value	Unit	Comments
Garbage (compacted)	7	3 cu. yd. bin(s)	Ref #1, compacted garbage (includes ratio of organics), one 3 cu. yd. per 54 units
Recycling	9	3 cu. yd. bin(s)	Ref #1, does not compact, one 3 cu. yd. per 45 units
Organics	2	3 cu. yd. bin(s)	Does not compact, one 3 cu. yd. per 225 units, Provided by Region of Peel
Total	18	bins	(Estimate)

Bin and Equipment Footprint for Sizing			
Stats/Item	Value	Unit	Comments
Single 3 Cubic Yard Bin	2.17	m ²	Ref #1, 2.03 m (W) X 1.07 m (D), may slightly differ from various manufactures
Single 4 Cubic Yard Bin	4.08	m ²	Ref #1, 2.03 m (W) X 2.01 m (D), may slightly differ from various manufactures
Single 6 Cubic Yard Bin	4.12	m ²	Ref #1, 2.03 m (W) X 2.03 m (D), may slightly differ from various manufactures

Estimated Footprint			
Compactor and Dual-Sytem Layout	16.9	m ²	This may vary by model/ company, 4.368 m (W) X 3.869 m (L)
Garbage	15	m ²	
Recycling	20	m ²	
Organics	4	m ²	
Manoeuvre Factor	2.00	N/A	Ref #2, this is a consideration to factor in. Allocates space required to move the containers inside the storage facility. A value of 2 to 2.25 is recommended.
Total footprint required in Waste Storage Room	95.10	m ²	

References	
1. Region of Peel. (2020). Region of Peel Waste Collection Design Standards Manual. Retrieved from: https://www.peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf	
2. City of Richmond. (2013). City of Richmond Commerical and Multi-Family Developments Waste Management Design Guidelines. Retrieved from: https://www.richmond.ca/__shared/assets/City_of_Richmond_Waste_Management_Design_Guidelines_10-25-2370576.pdf	

78.1956



Table 2 - Tower 2

**Residential Waste Capacity Estimates
2555 Erin Centre Boulevard, Mississauga**

Building Stats			
Stats/Item	Value	Unit	Comments
Dwelling Units	337	units	727 Units from Tower A & B
Bulk Waste Room Space Recommended	10	m ²	Ref #1, Internal Waste Storage Rooms must be a minimum of 10 square metres for the storage of Bulky Items for each Multi-Residential Complex.
Collection Frequency	Weekly	-	Assumed waste collection frequency

Estimated Number of Bins Required			
Stats/Item	Value	Unit	Comments
Garbage (compacted)	7	3 cu. yd. bin(s)	Ref #1, compacted garbage (includes ratio of organics), one 3 cu. yd. per 54 units
Recycling	8	3 cu. yd. bin(s)	Ref #1, does not compact, one 3 cu. yd. per 45 units
Organics	2	3 cu. yd. bin(s)	Does not compact, one 3 cu. yd. per 225 units, Provided by Region of Peel
Total	17	bins	(Estimate)

Bin and Equipment Footprint for Sizing			
Stats/Item	Value	Unit	Comments
Single 3 Cubic Yard Bin	2.17	m ²	Ref #1, 2.03 m (W) X 1.07 m (D), may slightly differ from various manufactures
Single 4 Cubic Yard Bin	4.08	m ²	Ref #1, 2.03 m (W) X 2.01 m (D), may slightly differ from various manufactures
Single 6 Cubic Yard Bin	4.12	m ²	Ref #1, 2.03 m (W) X 2.03 m (D), may slightly differ from various manufactures

Estimated Footprint			
Compactor and Dual-Sytem Layout	16.9	m ²	This may vary by model/ company, 4.368 m (W) X 3.869 m (L)
Garbage	15	m ²	
Recycling	17	m ²	
Organics	4	m ²	
Manoeuvre Factor	2.00	N/A	Ref #2, this is a consideration to factor in. Allocates space required to move the containers inside the storage facility. A value of 2 to 2.25 is recommended.
Total footprint required in Waste Storage Room	90.75	m ²	

References	
1. Region of Peel. (2020). Region of Peel Waste Collection Design Standards Manual. Retrieved from: https://www.peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf	
2. City of Richmond. (2013). City of Richmond Commerical and Multi-Family Developments Waste Management Design Guidelines. Retrieved from: https://www.richmond.ca/__shared/assets/City_of_Richmond_Waste_Management_Design_Guidelines_10-25-2370576.pdf	

73.8514



Table 3 - Tower 3

**Residential Waste Capacity Estimates
2555 Erin Centre Boulevard, Mississauga**

Building Stats			
Stats/Item	Value	Unit	Comments
Dwelling Units	318	units	727 Units from Tower A & B
Bulk Waste Room Space Recommended	10	m ²	Ref #1, Internal Waste Storage Rooms must be a minimum of 10 square metres for the storage of Bulky Items for each Multi-Residential Complex.
Collection Frequency	Weekly	-	Assumed waste collection frequency

Estimated Number of Bins Required			
Stats/Item	Value	Unit	Comments
Garbage (compacted)	6	3 cu. yd. bin(s)	Ref #1, compacted garbage (includes ratio of organics), one 3 cu. yd. per 54 units
Recycling	8	3 cu. yd. bin(s)	Ref #1, does not compact, one 3 cu. yd. per 45 units
Organics	2	3 cu. yd. bin(s)	Does not compact, one 3 cu. yd. per 225 units, Provided by Region of Peel
Total	16	bins	(Estimate)

Bin and Equipment Footprint for Sizing			
Stats/Item	Value	Unit	Comments
Single 3 Cubic Yard Bin	2.17	m ²	Ref #1, 2.03 m (W) X 1.07 m (D), may slightly differ from various manufactures
Single 4 Cubic Yard Bin	4.08	m ²	Ref #1, 2.03 m (W) X 2.01 m (D), may slightly differ from various manufactures
Single 6 Cubic Yard Bin	4.12	m ²	Ref #1, 2.03 m (W) X 2.03 m (D), may slightly differ from various manufactures

Estimated Footprint			
Compactor and Dual-Sytem Layout	16.9	m ²	This may vary by model/ company, 4.368 m (W) X 3.869 m (L)
Garbage	13	m ²	
Recycling	17	m ²	
Organics	4	m ²	
Manoeuvre Factor	2.00	N/A	Ref #2, this is a consideration to factor in. Allocates space required to move the containers inside the storage facility. A value of 2 to 2.25 is recommended.
Total footprint required in Waste Storage Room	86.41	m ²	

References	
1. Region of Peel. (2020). Region of Peel Waste Collection Design Standards Manual. Retrieved from: https://www.peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf	
2. City of Richmond. (2013). City of Richmond Commerical and Multi-Family Developments Waste Management Design Guidelines. Retrieved from: https://www.richmond.ca/__shared/assets/City_of_Richmond_Waste_Management_Design_Guidelines_10-25-2370576.pdf	

69.5072



Table 4 - Waste Loading Space and Staging Area
Tower 1 and Tower 2
Waste Staging Area Estimates
2555 Erin Centre Boulevard, Mississauga

Building Stats			
Stats/Item	Value	Unit	Comments
Dwelling Units	704	units	
Collection Frequency	Weekly	-	Assumed waste collection frequency

Stats/Item	Value	Unit	Comments
Vertical Loading Clearance	7.5	m	
Width	6.0	m	
Length	18.0	m	
Loading Space Minimum Area	108.0	m ²	
Waste Staging Minimum Area	70.4	m ²	Ref #1: Staging Area varies with # of units. 5m2 is the minimum requirement for developments with 50 units or less. Add 0.10m2 to the 5m2 for each additional unit for developments with over 51 units.
Total Loading Space and Staging Minimum Area Required	178.4	m²	

References			
1. City of Toronto. (2023). City of Toronto Requirements for Garbage, Recycling, and Organics Collection Services for New Developments and Redevelopments. Retrieved from: https://www.toronto.ca/wp-content/uploads/2022/05/97c6-SWMS-Development-Requirements.pdf			



Table 5 - Waste Loading Space and Staging Area
Tower 3
2555 Erin Centre Boulevard, Mississauga

Building Stats			
Stats/Item	Value	Unit	Comments
Dwelling Units	318	units	
Collection Frequency	Weekly	-	Assumed waste collection frequency

Stats/Item	Value	Unit	Comments
Vertical Loading Clearance	7.5	m	
Width	6.0	m	
Length	18.0	m	
Loading Space Minimum Area	108.0	m ²	
Waste Staging Minimum Area	31.8	m ²	Ref #1: Staging Area varies with # of units. 5m2 is the minimum requirement for developments with 50 units or less. Add 0.10m2 to the 5m2 for each additional unit for developments with over 51 units.
Total Loading Space and Staging Minimum Area Required	139.8	m²	

References			
1. City of Toronto. (2023). City of Toronto Requirements for Garbage, Recycling, and Organics Collection Services for New Developments and Redevelopments. Retrieved from: https://www.toronto.ca/wp-content/uploads/2022/05/97c6-SWMS-Development-Requirements.pdf			



Table 6
Non-Residential Space Block A Retail A
Waste Capacity Estimates
2555 Erin Centre Boulevard, Mississauga

Stats/Item	Value	Unit	Comments
Commercial Floor Space	674	m ²	Gross floor area
Commercial Use	Common Commercial (non-food)		
Collection Frequency	1	per week	Assumed waste collection frequency

Estimated Waste Generation Rate			
Stats/Item	Value	Unit	Comments
Garbage Waste Generation Rate per Floor Area per Day	0.50	L/m ² /day	Ref #1, 50L/100 m2 floor area/day
Recycling Waste Generation Rate per Floor Area per Day	0.50	L/m ² /day	Ref #1, 50L/100 m2 floor area/day
	d		
Garbage Waste Generation Rate per Day	344.0	L/day	
Recycling Waste Generation Rate per Day	344.0	L/day	
Estimated Commercial Garbage Waste Generated in Litres	2,480	L/Week	
Estimated Commercial Recycling Waste Generated in Litres	2,480	L/Week	
Estimated Commercial Garbage Waste Generated in Gallons	636	gallon	converted units, Conversion factor: 3.79L/gallon
Estimated Commercial Recycling Waste Generated in Gallons	636	gallon	converted units, Conversion factor: 3.79L/gallon
Estimated Commercial Garbage Waste Generated in Cubic Yards	3.1	cu. yd.	converted units, Conversion factor: 765L/cubic yard
Estimated Commercial Recycling Waste Generated in Cubic Yards	3.1	cu. yd.	converted units, Conversion factor: 765L/cubic yard

Estimated Number of Bins Required			
Stats/Item	Value	Unit	Comments
Garbage (uncompacted)	2	3 cu. yd. bin(s)	
Recycling	2	3 cu. yd. bin(s)	uncompacted
Total	4	bins	(Estimate)

- - - Or - - -

Garbage (compacted)	1	3 cu. yd. bin(s)	conservatively assumed ratio of 2:1; will vary on manufacturer and on material
Recycling	2	3 cu. yd. bin(s)	uncompacted
Total	3	bins	(Estimate)

Bin and Equipment Footprint for Sizing			
Stats/Item	Value	Unit	Comments
Single 2 Cubic Yard Bin	1.64	m ²	Ref #2 based on bin size: 1.80m(L), 0.91m(W), 0.91m(h) may slightly differ from various manufactures
Single 3 Cubic Yard Bin	1.87	m ²	Ref #2 based on bin size: 1.80m(L), 1.04m(W), 1.22m(h) may slightly differ from various manufactures

Estimated Bin and Equipment Footprint with Manoeuvring Space			
Stats/Item	Value	Unit	Comments
Uncompacted Garbage Bins	3.74	m ²	
Recycling Bins	3.74	m ²	
Manoeuvre Factor	2.25	m ²	Ref #3, this is a consideration to factor in. Allows for manoeuvring and access path ways. The City minimum floor space requirements are provided above
Total Space Required in Waste Storage Room without a Compactor	9.7	m ²	(Estimate)

- - - Or - - -

Compacted Garbage Bins	0.00	m ²	Minus area of 1 bin which is covered under the compactor footprint
Recycling Bins	3.74	m ²	
Compactor	10.41	m ²	This may vary by model/ company, 4.877 m (W) X 2.134 m (L); includes 1 bin
Manoeuvre Factor	2.25	m ²	Ref #3, this is a consideration to factor in. Allows for manoeuvring and access path ways. The City minimum floor space requirements are provided above
Total Space Required in Waste Storage Room with a Compactor	16.4	m ²	(Estimate)

References			
1. Earle, J., & Monckton, R. (2004). Waste Management Guidelines for Proposed Developments. Randwick: GHD Pty Ltd. Retrieved from https://www.randwick.nsw.gov.au/__data/assets/pdf_file/0008/38249/Waste-Management-Appendices-A-K.pdf			
2. City of Toronto. (2022). City of Toronto Requirements for Garbage, Recycling, and Organics Collection Services for New Developments and Redevelopments. Retrieved from: https://www.toronto.ca/wp-content/uploads/2022/05/97c6-SWMS-Development-Requirements.pdf			
3. City of Richmond. (2018). Commercial and Multi-Family Developments Waste Management Design Guidelines. Retrieved from: https://www.richmond.ca/__shared/assets/Waste_Management_Design_Guidelines48945.pdf			



Table 7
Non-Residential Space Block A Retail B
Waste Capacity Estimates
2555 Erin Centre Boulevard, Mississauga

Stats/Item	Value	Unit	Comments
Commercial Floor Space	414	m ²	Gross floor area
Commercial Use	Common Commercial (non-food)		
Collection Frequency	1	per week	Assumed waste collection frequency

Estimated Waste Generation Rate			
Stats/Item	Value	Unit	Comments
Garbage Waste Generation Rate per Floor Area per Day	0.50	L/m ² /day	Ref #1, 50L/100 m2 floor area/day
Recycling Waste Generation Rate per Floor Area per Day	0.50	L/m ² /day	Ref #1, 50L/100 m2 floor area/day
	d		
Garbage Waste Generation Rate per Day	207.0	L/day	
Recycling Waste Generation Rate per Day	207.0	L/day	
Estimated Commercial Garbage Waste Generated in Litres	1,449	L/Week	
Estimated Commercial Recycling Waste Generated in Litres	1,449	L/Week	
Estimated Commercial Garbage Waste Generated in Gallons	383	gallon	converted units, Conversion factor: 3.79L/gallon
Estimated Commercial Recycling Waste Generated in Gallons	383	gallon	converted units, Conversion factor: 3.79L/gallon
Estimated Commercial Garbage Waste Generated in Cubic Yards	1.9	cu. yd.	converted units, Conversion factor: 765L/cubic yard
Estimated Commercial Recycling Waste Generated in Cubic Yards	1.9	cu. yd.	converted units, Conversion factor: 765L/cubic yard

Estimated Number of Bins Required			
Stats/Item	Value	Unit	Comments
Garbage (uncompacted)	1	3 cu. yd. bin(s)	
Recycling	1	3 cu. yd. bin(s)	uncompacted
Total	2	bins	(Estimate)

- - - Or - - -

Garbage (compacted)	1	3 cu. yd. bin(s)	conservatively assumed ratio of 2:1; will vary on manufacturer and on material
Recycling	1	3 cu. yd. bin(s)	uncompacted
Total	2	bins	(Estimate)

Bin and Equipment Footprint for Sizing			
Stats/Item	Value	Unit	Comments
Single 2 Cubic Yard Bin	1.64	m ²	Ref #2 based on bin size: 1.80m(L), 0.91m(W), 0.91m(h) may slightly differ from various manufactures
Single 3 Cubic Yard Bin	1.87	m ²	Ref #2 based on bin size: 1.80m(L), 1.04m(W), 1.22m(h) may slightly differ from various manufactures

Estimated Bin and Equipment Footprint with Manoeuvring Space			
Stats/Item	Value	Unit	Comments
Uncompacted Garbage Bins	1.87	m ²	
Recycling Bins	1.87	m ²	
Manoeuvre Factor	2.25	m ²	Ref #3, this is a consideration to factor in. Allows for manoeuvring and access path ways. The City minimum floor space requirements are provided above
Total Space Required in Waste Storage Room without a Compactor	6.0	m ²	(Estimate)

- - - Or - - -

Compacted Garbage Bins	0.00	m ²	Minus area of 1 bin which is covered under the compactor footprint
Recycling Bins	1.87	m ²	
Compactor	10.41	m ²	This may vary by model/ company, 4.877 m (W) X 2.134 m (L); includes 1 bin
Manoeuvre Factor	2.25	m ²	Ref #3, this is a consideration to factor in. Allows for manoeuvring and access path ways. The City minimum floor space requirements are provided above
Total Space Required in Waste Storage Room with a Compactor	14.5	m ²	(Estimate)

References			
1. Earle, J., & Monckton, R. (2004). Waste Management Guidelines for Proposed Developments. Randwick: GHD Pty Ltd. Retrieved from https://www.randwick.nsw.gov.au/__data/assets/pdf_file/0008/38249/Waste-Management-Appendices-A-K.pdf			
2. City of Toronto. (2022). City of Toronto Requirements for Garbage, Recycling, and Organics Collection Services for New Developments and Redevelopments. Retrieved from: https://www.toronto.ca/wp-content/uploads/2022/05/97c6-SWMS-Development-Requirements.pdf			
3. City of Richmond. (2018). Commercial and Multi-Family Developments Waste Management Design Guidelines. Retrieved from: https://www.richmond.ca/__shared/assets/Waste_Management_Design_Guidelines48945.pdf			