

FINAL REPORT

Preliminary Solid Waste Management Plan

Former Public Works Site (PWS)
2274 and 2320 Trafalgar Road, Oakville, ON



Prepared for Oakville Municipal Development Corporation

by Arcadis

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**FINAL REPORT - PRELIMINARY SOLID WASTE MANAGEMENT PLAN
FOR DEVELOPMENT AT FORMER PUBLIC WORKS SITE, 2274 AND 2320 TRAFALGAR
ROAD, OAKVILLE, ONTARIO**

To whom it may concern,

Arcadis Canada Professional Services Inc. (Arcadis) is pleased to submit the enclosed Preliminary Solid Waste Management Plan in support of the Residential Development and Zoning Application process to permit the redevelopment of lands for 2274 and 2320 Trafalgar Road located in Oakville, Ontario.

Should you have any questions or comments, please do not hesitate to contact the undersigned.

Best Regards,

Arcadis

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1 Introduction

Arcadis Canada Professional Services Inc. (Arcadis) has been retained by Oakville Municipal Development Corporation (Oakville MDC) (known as the “landowner”) to prepare a Preliminary Solid Waste Management Plan. This document is in support of a Residential Development and Zoning Application process to permit the redevelopment of lands (hereinafter referred to as the “Proposal”) municipally addressed 2274 and 2320 Trafalgar Road (together known as the “subject site”), in the Town of Oakville (the “Town”) and Halton Region (the “Region”).



Figure 1 – The Waste Hierarchy

This report outlines a waste management approach for the subject site, including key waste management principles, estimated waste volumes, and service access considerations. The report has been developed following review of **Halton Region Official Plan Guidelines: Development Design Guidelines for Source Separation of Solid Waste**. The overarching goal of the project is to develop a waste management system that promotes landfill diversion, waste prevention, reuse, and recycling, fully integrating the waste hierarchy (**Figure 1**).

This report serves as a general guideline, acknowledging that the Property Management Company of this complex may further refine a specifically detailed program tailored to enhance operational efficiency.

2 Project Background

2.1 Proposal

The Proposal aims to deliver a mixed-use, high-density intensification of a large 15-acre Town-owned undeveloped site located within the Uptown Core growth area, generally located south of the Dundas Street and Trafalgar Road intersection in the Town of Oakville. Based on the 2024 Revised Master Plan published by Bousfields Inc., the intent of this Proposal is to deliver a Comprehensive Development Plan which will enable the delivery of a mixed-use vertical community. This will include multiple urban development blocks connected by an integrated street network. The proposed Site Plan is shown in **Figure 2** below.



Figure 2 - Site Plan

2.1.1 High-Density Mixed-Use Development

The proposal for the subject site outlines a development that incorporates a blend of residential, commercial, green roof systems, and community facilities, all integrated into urban development blocks, as illustrated in **Figure 3 and 4**. A 2024 rendering of the Revised Master Plan identifies four development blocks (Blocks 1 to 4) and two park blocks (Blocks 5 and 6), as shown in **Figure 3** and described below:

- **Block 1:** This block features two (2) buildings with an estimated minimum of 830 residential units. One building consists of a tower podium supporting a 12-storey mid-rise tower and a 20-storey point tower element. The second building has a 6-storey tower podium with a 28-storey point tower element. The commercial retail frontages are primarily located along Georgian Drive.
- **Block 2:** This block includes two (2) buildings with an estimated minimum of 510 residential units. Both buildings feature 6-storey tower podiums supporting 12-storey point tower elements.
- **Block 3:** This block includes two (2) buildings with an estimated minimum of 700 residential units. Both buildings feature 6-storey tower podiums supporting 20-storey point tower elements.
- **Block 4:** This block includes two (2) buildings with an estimated minimum of 622 residential units. One building has a 6-storey tower podium supporting a 10-storey point tower element, while the second building has a 6-storey tower podium with a 20-storey point tower element.
- **Block 5:** This block includes a proposed park covering approximately 3,503 m².
- **Block 6:** This block includes a proposed park covering approximately 1,371 m².

In total, the development will deliver a combination of mid-rise and high-rise buildings ranging from 6 to 28 storeys, with an estimated 2,662 units (at minimum) as per the Revised Master Plan

(2024). Retail frontages are primarily proposed along Georgian Drive between Blocks 1 and 2-3, fostering an active streetscape with non-residential uses. However, the Revised Master Plan does not preclude the opportunity to develop additional ground floor retail frontages elsewhere in the subject site. Each block is designed to seamlessly integrate residential and commercial elements, contributing to both community engagement and economic vitality within the urban core.

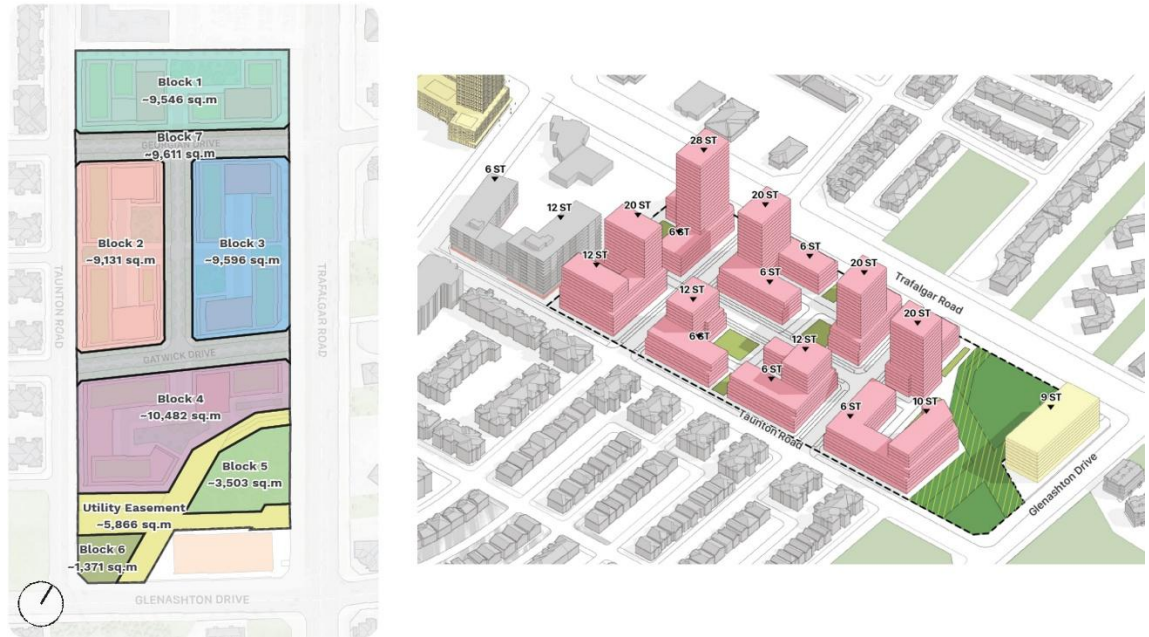


Figure 3 – Comprehensive Development Plan



Figure 4 – Updated Master Plan

Vehicular access to back-of-house (BOH) facilities, including parking, loading, servicing, and drop-offs, will be provided via private drive-aisles positioned along and at the termination points of the north-south spine road, as shown in Figure 5.

2.1.3 Phasing Strategy

Given the large scale of the subject site, the proposal will be implemented in phases. Based on existing services, the 2024 Updated Master Plan suggests that service phasing from west to east would be more cost-effective. Approaches to phasing will be considered upon submission of future site-specific development applications and should be considered throughout the development of the waste management plan. The street network is designed to function in both interim and ultimate scenarios.

2.2 Waste Management Design Assumptions

For the purposes of this report, it is assumed that a conventional waste management system will be implemented at the subject site. However, in the case that an alternative waste management system is preferred, **Section 4** outlines a potential alternative option for consideration.

The conventional waste management is assumed to include the following components:

- Waste chute systems in residential buildings.
- Below-grade interim waste storage rooms in selected buildings.
- Back-of-house corridors for transfer of commercial waste to storage rooms.
- Joint, grade level, external collection points for both residential and commercial waste.
- Residential and commercial waste will be transferred to a respective collection point on a scheduled temporal basis.
- Conventional waste transfer flow from generation to collection points for external transfer.
- Front-end collection vehicles for general waste and recyclables.
- Residential waste collection may be provided in accordance with Halton Region's design guidelines for source separation of solid waste.
- Commercial waste collection shall be provided through a private waste hauler.

These assumptions inform the development of the Preliminary Solid Waste Management Strategy discussed below in **Section 3**.

3 Preliminary Solid Waste Management Plan

The urban design approach for this proposal is currently conceptual and high-level. As such, limited information is available to define the details of the future waste management system. For this proposal, a complete and holistic understanding of the waste management system will be addressed through future development applications, and in compliance with relevant policies and guidelines from the Halton Region Official Plan and Town of Oakville Official Plan, when more specific details of the proposal are known.

3.1 Waste Generation Estimates

A Waste Arising Model has been developed to estimate the waste arising from the proposal. In creating this waste arising model, waste generation estimates were developed.

The waste generation estimates for the residential spaces are based on Arcadis’s experience in developing integrated waste management designs, access to raw data from several physical waste audits, and consultations with key stakeholders in the waste management industry, including waste haulers, relevant NGOs, and city officials.

Waste generation estimates for the commercial spaces have not been included, as the gross floor area has not yet been defined.

Based on the proposed residential gross floor area (GFA) provided in the 2024 Revised Master Plan (as mentioned in **Section 2.1**), the waste generation estimates for the residential units (an estimated total of 2,662 units) are presented in **Table 3.1** below.

Table 3.1 Waste Generation Estimates

SITE BY PROPERTY	RESIDENTIAL GFA (m ²)	WASTE ESTIMATE – RESIDENTIAL (m ³ /week)	TOTAL COMPACTED ESTIMATE AT A 3:1 RATIO (m ³ /week)
Block 1	53,940.25	285.88	95.29
Block 2	33,193.74	175.93	58.64
Block 3	45,499.79	241.15	80.38
Block 4	40,404.56	214.14	71.38
Total	173,038.34	917.10	305.69

Note: Units are in cubic meters/week unless otherwise stated.

Based on the calculations in **Table 3.1** above, it is estimated that the proposal will generate approximately 917 cubic meters of waste per week. Notably, with proper recycling practices from tenants and maintenance staff, up to 60% of this total waste could potentially be diverted, based on Oakville’s latest waste diversion rate as outlined in the Town of Oakville’s *Living Green Life - Oakville’s Guide to Environmental Stewardship*. With this diversion rate and a typical compaction ratio of 3:1, the net waste generated by the proposal is estimated to be approximately 306 cubic meters of waste per week. This waste will be collected on a weekly basis by bulk-lift vehicles and transported to a waste sorting facility and landfill.

3.2 Potential Waste Collection Points

To ensure an effective waste management strategy, efforts need to be directed towards the waste truck service access route into and out of each development block. Measures addressing operational planning, traffic and congestion concerns, visual appearance and vehicle constraints (e.g., height requirement) are to be considered.

It is important to note that the loading areas are depicted conceptually, and changes may be required to address Halton Region’s waste collection requirements as the overall design further develops during rezoning or site plan development approval stages.

The off-site transfer route along with collection points is illustrated in **Figure 6** below. As demonstrated in **Figure 6**, the proposed waste truck service access route is expected to begin at the northeast end of the subject site, entering at the intersection of Georgian Drive and Trafalgar Road and concludes by exiting the subject site at the intersection of Gatwick Drive and Trafalgar Road on the west portion of the subject site. Upon exiting, the waste truck would exit heading west along Glenashton Drive towards Sixth Line followed by heading west on Dundas Street West towards Regional Road North. The waste and recoverable material will likely be hauled to Halton Waste Management Site, located approximately 15km northwest of the subject site at 5400 Regional Road 25 in Milton, Ontario.



Figure 6 – Off-Site Transfer Route

The eight (8) proposed buildings on the subject site will be serviced by four (4) proposed at-grade collection points, as follows:

- Collection Point A will service the two buildings in Block 1 on the north portion of the subject site.
- Collection Point B will service the two buildings in Block 2 on the west portion between Georgian and Gatwick Drive of the subject site.
- Collection Point C will service the two buildings in Block 3 on the east portion between Georgian and Gatwick Drive of the subject site.
- Collection Point D will service the two buildings in Block 4 on the south portion of Gatwick Drive of the subject site.

Each residential building is expected to have interior and below-grade waste storage/staging areas, referred to as interim waste storage rooms. Waste will be collected via a waste chute system and stored throughout the week. On the assigned collection day, the waste will be transferred to the appropriate at-grade collection point. At this stage, it is unclear whether multiple chute systems will be installed or if tenants will be responsible for transferring recyclables and organics to internal storage areas. However, to comply with Halton guidelines, recyclables and organics must be addressed at the source.

The interim waste storage rooms and collection points are likely to be shared between residential and commercial uses. Collection Point A, located near the urban promenade north of Georgian Drive, will likely be shared by both commercial and residential areas, as retail frontages are expected along this section. All retail locations will have access to the collection zone through back-of-house corridors, to ensure hygiene and prevent cross-contamination. The respective collection zones will be scheduled for separate use by residential and commercial tenants.

It is important to note that the 2024 Revised Master Plan does not rule out future prospects of developing additional ground floor retail frontages elsewhere on the subject site. As such, a detailed review of additional retail frontages and waste management systems will be required at a later stage of the development.

All four (4) proposed collection points are individually accessible along the route outlined in **Figure 6**, via the proposed Georgian Road Extension, Gatwick Drive Extension, and/or private roads. The specific collection order is not critical, as all roads within the subject site will be designed to accommodate the required waste truck specifications. Waste generation volumes, the number of waste trucks, collection trips, and collection days per week will need to be further evaluated to formulate a site-specific waste collection schedule for the four potential collection points.

3.3 Halton Region Waste Collection Requirements

At this stage it is too early to provide in-depth waste collection requirements but as the design progresses (during rezoning or site plan development approval stages), Arcadis's waste management team will consider and implement the following key elements in the waste strategy:

1. A 13-metre centreline turning radius entering and exiting the loading area as well as any turns on site.
2. A head-on approach that is 18 metres from the entrance of the loading area.
3. A 6-metre width within the loading area.
4. The design of the loading/collection area will include adequate space to achieve:
 - a. Operational comfort for all turns within the site (buffer room for operations)
 - b. Egress from collection vehicles
 - c. No reversing on a turn and no reversing into a two-way or oncoming traffic
 - d. Health & safety best practices (e.g., collection vehicles will not back up across any doors where pedestrians or staff are entering/exiting or accessing the building)
 - e. Elimination of any blind spots for collection vehicles to access the area.

3.4 Waste Collection Vehicle Specifications

Approximate waste collection vehicle specifications have been provided by Halton Region in which best effort should be employed to ensure that similar specifications are accommodated for this Proposal. It is noted that all dimensions provided are estimates only and will vary depending on which waste hauler is retained for the development.

Based on Section 149 of the Halton Region Official Plan and as set out in the Halton Region Development Design Guidelines for Source Separation of Solid Waste, the following waste collection specifications should be met:

- All turns shall have a minimum turning radius from the centre line of 13.0 metres.
- Overhead clearance (e.g., working height) of 7.5 metres for any loading of waste and/or recyclables within the loading zone.
- All private roads, including loading areas, shall have a minimum width of 6.0 metres.
- In cases where the collection vehicle is required to drive onto or over a supported structure (such as a ventilation grate, transformer cover, or underground parking garage or ramp), a letter certified by a professional engineer stating that the structure will safely support a weight of 35 tonnes; and

- 18 metre straight head-on approach to the collection point. If the 18 metres head-on approach is not achievable, the Collection Point must be designed in such a way as to allow a collection vehicle to enter the site, collect the Waste and exit without the need to backup more than 18 metres (from front tire to front tire) and shall not back onto a Municipal Road. A turnaround area allowing for a three-point turn of not more than one truck length or a drive through access route are acceptable options for accommodating this requirement, to the satisfaction of the Region.

Depending on the retained waste hauler, the need for both a Type 2 and Type 3 vehicle will differ according to the capacity of the trucks used. **Figure 7** illustrates a typical front-end waste collection vehicle.

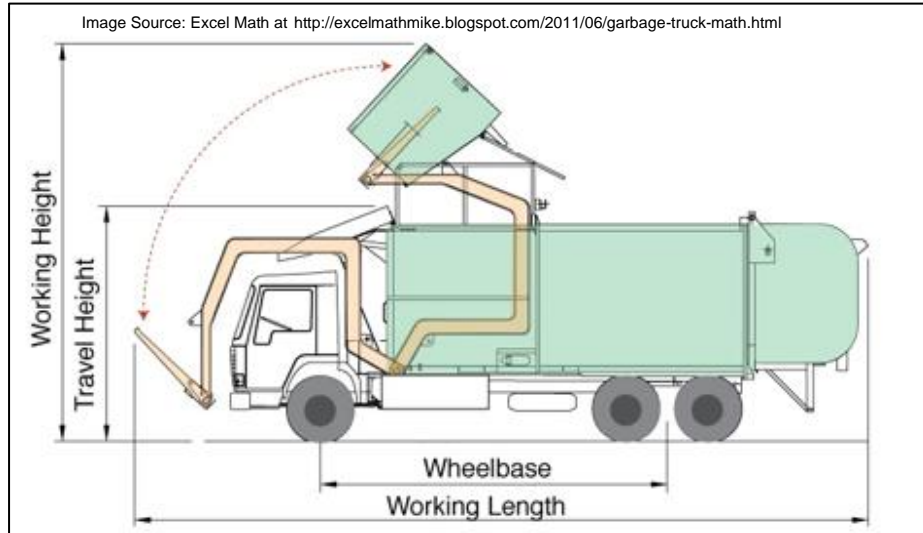


Figure 7 – Front-End Waste Collection Vehicle

4 Innovative Waste Management Solution

An alternate, and more efficient, system to the conventional above-ground waste collection practice is a potential option for the Proposal that could be explored during future development application stages. The underground automated vacuum waste collection system, also known as a pneumatic refuse collection system, is well-matched when planning how waste will be managed in a mixed-use development.

The system is a technology that reduces manual handling and storage bins by transporting waste from buildings through an underground pipe network, connected to a central collection station. There are several examples of such systems in the U.S., Europe, and Asia with a few in Canada.

Benefits include fewer waste collection trucks in the immediate vicinity of residential towers and commercial outlets which could result in less noise, pollution, and greenhouse gas emissions. There are some challenges with this system around potential cross-contamination if the materials are not in bags and complexity around ownership and operations of the piped infrastructure.

The consideration of a pneumatic refuse collection system is conceptual at this point in time. In future phases of design development, the feasibility of a pneumatic refuse collection system may be explored and would require collaboration and discussion of alternative standards with regional staff.

5 Conclusion

The report provides a preliminary evaluation of the anticipated waste disposal impacts associated with the construction and long-term occupation of the proposed residential and commercial development at 2274 and 2320 Trafalgar Road. The Proposal follows waste industry and complies with Halton Region's requirements. Further studies will be required at a later stage of the process.

Based on our preliminary waste generation estimates for the Proposal we have a high-level understanding of the space allotment that would be required to holistically manage all waste and recyclable materials expected to be generated. To further define and create a fully integrated waste management system, the waste design team will require definition and client input to progress the design further, and this includes:

- Understanding client requirements and aspirations for waste management (e.g., conventional, automated or a fusion of collection systems).
- Once decisions about the waste collection system are understood, design definition of the Proposal will be required to further develop the waste estimates, area specifications, route circulation and many other key waste management elements.

Although it is too early, at this stage, to comment on the implementation of the waste management strategy, it must be said that awareness among tenants and maintenance staff of this Proposal is critical for a successful waste management program. During rezoning or site plan development approval stages, the philosophy behind the strategy should be disseminated and initial guidance for the segregation of the waste at source should be provided to achieve a comprehensive and fully integrated waste management strategy.