REPORT

Trinity Consultants

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Operational Waste Management Plan

Parkgate Street Amendment Application

CLIENT	DOCUMENT REFERENCE	DATE
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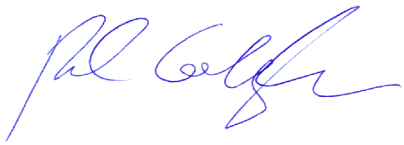
Signature		
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1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Operational Waste Management Plan (OWMP) on behalf of Ruirside Development Limited (the Client). The Proposed Development comprises modifications to a large-scale residential development permitted under LRD6074/24-S3, LRD6042/23-S3A & SHD ABP-310567-21 as amended by LRD6080/25-S3A at No. 42A Parkgate Street, Dublin 8. The proposed modifications to the scheme will result in an increased overall total of 578no. apartment units (an uplift of 16no. units). (the Proposed Development).

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with the current legal and industry standards including, the Waste Management Act 1996 as amended and associated Regulations [1], Environmental Protection Agency Act 1992 as amended [2], Litter Pollution Act 1997 as amended [3], the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024) [4] and Dublin City Council (DCC) 'Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws' 2018 [5]. In particular, this OWMP aims to provide a robust strategy for the storage, handling, collection and transport of the wastes generated at Site.

This OWMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. The OWMP also seeks to provide guidance on the appropriate collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources). The plan estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

At present, there are no specific national guidelines in Ireland for the preparation of OWMPs. Therefore, in preparing this document, consideration has been given to the requirements of national and regional waste policy, legislation and other guidelines.

2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National level

The Irish Government issued a policy statement in September 1998 entitled 'Changing Our Ways' [10], which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, Changing Our Ways stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document, 'Preventing and Recycling Waste – Delivering Change' was published in 2002 [11]. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled 'Making Ireland's Development Sustainable – Review, Assessment and Future Action' [12]. This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document Changing Our Ways, a review document was published in April 2004 entitled '*Taking Stock and Moving Forward'* [13]. Covering the period 1998 – 2003, the aim of this document was to assess progress to date with regard to waste management in Ireland, to consider developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

In September 2020, the Irish Government published a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan *'A Waste Action Plan for a Circular Economy'* [14] (WAPCE), was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities, replacing the previous national waste management plan *"A Resource Opportunity"* (2012).

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021) [15] to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity. This was issued in December 2021. The Strategy states "*It is anticipated that the Strategy will be updated in full every 18 months to 2 years*".

The Circular Economy and Miscellaneous Provisions Act 2022 [16] was signed into law in July 2022. The Act underpins Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in our economy for as long as possible and that will to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for

the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The Department of Housing, Local Government and Heritage authored Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024) [17], suggests the below thresholds at which the need for the supplemental information such as the OWMP should be considered.

- 30 or more residential units,
- 1,000 sq. metres of mixed-us development

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' which, as of 2023, have been renamed Circular Economy and Waste Statistics Highlight Reports [18] detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The 2025 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (2025) reported the following key statistics for 2023:

- *Ireland generated 3.13 million tonnes of municipal waste in 2023, relatively unchanged compared to the 3.19 million tonnes generated in 2022.*
- *Between 2016 and 2023, municipal waste increased from 2.7 million tonnes to 3.13 million tonnes.*
- *Some 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2023, resulting in a recycling rate of 42%. This indicates that we face significant challenges to meet the upcoming EU recycling targets for 2025 to 2035.*
- *Of the municipal waste recycled in 2023, over 814,000 tonnes went for material recycling (approximately the same as 2022) and over 480,000 tonnes were treated by composting/anaerobic digestion (approximately the same as 2022 but up 37% on 2020).*
- *A rounded 1.3 million tonnes of Ireland's municipal waste went for incineration with energy recovery in 2023. This tonnage is 43% of municipal waste managed.*
- *Ireland's landfill rate for municipal waste managed was 14% in 2023. This is a 1% decrease from 2022's rate of 15%.*
- *There has been a steep decline in Ireland's landfill rate for municipal waste from over 80% in 2001. Ireland must reduce the share of municipal waste landfilled to 10% or less by 2035, which includes waste landfilled at each step along the waste treatment process in Ireland and abroad.*
- *An estimated 42% (1.2 million tonnes) of all municipal waste managed was exported abroad in 2023, an increase from the 39% in 2022. Of the waste exported, most went for recycling (49%) or energy recovery (36%) while 11% went for composting or anaerobic digestion.*

2.2 Regional Level

The proposed development is located in the Local Authority administrative area of Dublin City Council (DCC). The EMR Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the NWMPCE 2024 - 2030.

The NWMPCE does not dissolve the three regional waste areas. The NWCPCE sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition sector. This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

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National Targets

1A. (Residual Municipal Waste) 6% Reduction in Residual Municipal Waste per person by 2030

2A. (Contamination of Materials) 90% of Material in Compliance in the Dry Recycling Bin

2B. (Material Compliance Residual) 10% per annum increase in Material Compliance in the residual bin. (90% by the end of 2030)

3A. (Reuse of Materials) 20kg Per person / year – Reuse of materials like cloths or furniture to prevent waste.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015 [19]. *The Circular Economy (Waste Recovery Levy) Regulations 2024 [20] will also add a levy of €10 per tonne to waste accepted for recovery.*

The *Dublin City Development Plan 2022 – 2028* [21] sets out a number of policies and objectives for Dublin City in line with the objectives of the National climate action policy and emphasises the need to take action to address climate action across all sectors of society and the economy. In the waste sector, policy on climate action is focused on a shift towards a 'circular economy' encompassing three core principles: designing out waste and pollution; keeping products and material in use; and regenerating natural systems. Further policies and objectives can be found within the development plan.

- *CA8 (f): minimising the generation of site and construction waste and maximising reuse or recycling.*
- *CA23: The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, or as updated.*
- *SI27: Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.*
- *SI29: Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.*
- *SI30: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2020 (or and any future updated versions of these guidelines produced during the lifetime of this plan).*

Objectives:

- *SIO14 Local Recycling/Reuse Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15 minute city.*
- *SIO16 Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan 2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the proposed development are:

- *Waste Management Act 1996 as amended;*
- *Environmental Protection Agency Act 1992 as amended;*
- *Litter Pollution Act 1997 as amended;*
- *Planning and Development Act 2000 as amended* [22]*;*
- *Circular Economy and Miscellaneous Provisions Act 2022;*
- *Waste Management (Food Waste) (Amendment Regulations) 2015 (S.I. 190/2015);*
- *the European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. 430/2015);*
- *the Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009).*

These Acts and subordinate Regulations transpose the relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Act 1996 as amended and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to physically transport waste to the final waste disposal site.

It is, therefore, imperative that the residents, tenants and/or facilities management undertake on-site management of waste in accordance with all legal requirements and that the facilities management company employ suitably permitted / licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contactor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007, as amended, or a Waste Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and / or disposed of at the specified site.

2.4 Dublin City Council Waste Management Bye-Laws

The DCC "*Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)*" were bought into force in May 2019. These bye-laws repeal the previous Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste. The bye-laws set a number of enforceable requirements on waste holders with regard to storage, separation and

presentation of waste within the DCC administrative area. Key requirements under these bye-laws of relevance to the operational phase of the proposed development include the following:

- *Kerbside waste presented for collection shall not be presented for collection earlier than 5.00 pm on the day immediately preceding the designated waste collection day;*
- *All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 10:00 am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law 2.3;*
- *Documentation, including receipts, is obtained and retained for a period of no less than one year to provide proof that any waste removed from the premises has been managed in a manner that conforms to these bye-laws, to the Waste Management Act and, where such legislation is applicable to that person, to the European Union (Household Food Waste and Bio-Waste) Regulations 2015; and*
- *Adequate access and egress onto and from the premises by waste collection vehicles is maintained.*

The full text of the bye-laws is available from the DCC website.

2.5 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the commercial and residential sector in the DCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and all are operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second in Poolbeg in Dublin.

There is a DCC civic amenity centre c. 2.79km to the south east of the development at Eamonn Ceannt Park, which can be utilised by the residents of the development for certain household waste streams. This centre can accept paper, cans, cardboard, batteries, WEEE, plastics, textiles, glass and flat glass. There is also a bring bank at the Tesco Metro Stoneybatter c. 1.01km to the north east where glass and textiles can be deposited.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste Licenses issued are available from the EPA.

3. DESCRIPTION OF THE DEVELOPMENT

3.1 Location, Size and Scale of the Development

The Proposed Development comprises modifications to a large-scale residential development permitted under LRD6074/24-S3, LRD6042/23-S3A & SHD ABP-310567-21 as amended by LRD6080/25-S3A at No. 42A Parkgate Street, Dublin 8. The proposed modifications to the scheme will result in an increased overall total of 578no. apartment units **(an uplift of 16no. units).** This will be achieved by the following proposals:

- Permitted 2no. 2-beds (total 10no.) to proposed 4no. studios (total 20no.), repeated across L02 – L06 (5 levels) in Block B1 and C.
- Permitted 1no. studio and 1no. 1-bed and study to proposed 2no. 1-beds, repeated across L01-L09 (9 levels) in Block A.
- Permitted 1no. studio and 1no. 1-bed and study to proposed 2no. 1-beds, repeated across L10-L26 (17 levels) in Block A.
- Permitted mezzanine co-working to proposed 2no. studios, 1no. 2-bed (4-person) and 1no. 2bed (3-person), in Block B2.
- Permitted mezzanine residential amenity (151sq) to proposed residential amenity (44sqm) and 1no. 2-bed 4-person in Block B1.
- Permitted 1no. 3-bed to proposed 1no. 1-bed and 1no. 2-bed, at L27 Block A.
- Alterations to elevation fenestration and internal reconfiguration of 2-bed 4-person units (total 09), repeated across L00-L08 (9 levels) in Block C.
- Alterations to elevation fenestration and internal reconfiguration of 2-bed 4-person units (total 11), repeated across L01-L11 (11 levels) in Block B1.
- Internal reconfiguration of 2-bed 4-person units (total 27), repeated across L01-L27 (total 27 levels) in Block A.
- Alterations to elevation fenestration and internal reconfiguration of 2-bed 3-person units (total 11) to create 2-bed 4-person units repeated across L01-L11 (11 levels) on Block B1.
- Alterations to elevations fenestration and internal reconfiguration of 2-bed 3-person units (total 09) to create 2-bed 4-person units repeated across L00-L08 (9 levels) in Block C.
- Permitted 1no. 1-bed and study to proposed 1no. 2-bed 3-person unit at L08 in Block B2.
- Minor associated adjustments to the floor plan layouts at Blocks A, B & C at all levels.
- Reconfiguration of Block A ground floor layout resulting in a reduction in the area of the F&B use from c. 282sqm to c. 225sqm.
- A minor reduction of the café at Block B from c. 100.7sqm to c. 96.6 sqm.
- Increase in the area of community space in Block B from c. 49sqm to 51.7sqm.
- Provision of an additional ESB substation and reconfiguration of permitted substation and switch room at Block B resulting in a minor decrease in the total area of the F&B unit at Block B from 295sqm to c. 252sqm.
- Relocation of substation at Block C resulting in a decrease in the total area of the retail unit at Block C unit from 173.5sqm to c. 128.9sqm.
- Reconfiguration and reduction of the basement and undercroft
- Provision of additional bicycle parking spaces for the additional units/unit mix change proposed
- Reduction in the total number of car parking spaces at grade to 17no. spaces.
- Adjustments to the material finishes of balconies, from glass to metal balustrades.

3.2 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following:

- Dry Mixed Recyclables (DMR) - includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Cardboard (bailed)
- Plastic packaging (bailed)
- Organic waste – food waste and green waste generated from internal plants / flowers;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated less frequently / in smaller quantities which will need to be managed separately including:

- Drink Cans and Bottles (Deposit Return Scheme)
- Green / garden waste may be generated from external landscaping;
- Batteries (both hazardous and non-hazardous);
- Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- Printer cartridges / toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Light bulbs;
- Textiles;
- Waste cooking oil (if any generated by the tenants or residents);
- Furniture (and, from time to time, other bulky wastes); and
- Abandoned bicycles.

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

3.3 List of Waste Codes

In 1994, the *European Waste Catalogue* [23] and *Hazardous Waste List* [24] were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* [25], which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous*' [26] 2018. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3-1 below.

Table 3.1 Typical Waste Types Generated and LoW Codes

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastics	20 01 39
Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25

Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.) *	20 01 13*/19*/27*/28/29*30
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky Wastes	20 03 07

** Individual waste type may contain hazardous materials*

4. ESTIMATED WASTE ARISING

A waste generation model (WGM) developed by AWN has been used to predict waste types, weights and volumes expected to arise from operations within the proposed development. The WGM incorporates building area and use and combines these with other data, including Irish and US EPA waste generation rates.

The estimated quantum / volume of waste that will be generated from the residential units and shared communal amenity space has been determined based on the predicted occupancy of the units. While the floor area usage (m^2) has been used to estimate the waste arising from the commercial units which include cultural/community, retail, café, restaurant/café and F&B (commercial units).

The estimated waste generation for the proposed development for the main waste types is presented in Tables 4-1.

Table 4.1 Estimated Waste Generation for Proposed Development

Waste Type	Waste Volume (m^3 / week)			
	Residential Block A	Residential Block B	Residential Block C	Café/ Restaurant Block A
Organic Waste	3.08	2.44	2.62	0.25
DMR	21.09	17.90	17.33	0.59
MNR	0.60	0.47	0.51	0.66
Glass	14.03	9.92	10.01	0.01
Total	**38.79**	**30.74**	**30.46**	1.52

Table 4.2 Estimated Waste Generation for Proposed Development

Waste Type	Waste Volume (m^3 / week)			
	Community / Cultural Block B Unit 1	Community / Cultural Block B Unit 2	F&B Block B	Café Block B
Organic Waste	0.01	0.01	0.25	0.10
DMR	0.11	0.22	0.59	0.23
MNR	0.05	0.09	0.66	0.25
Glass	0.00	0.01	0.01	0.00
Total	0.17	0.33	1.51	0.58

Table 4.3 Estimated Waste Generation for Proposed Development

Waste Type	Waste Volume (m^3 / week)			
	Retail Block C			
Organic Waste	0.04			
DMR	0.85			
MNR	0.36			
Glass	0.02			
Total	1.28			

BS5906:2005 Waste Management in Buildings – Code of Practice[18] has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data (Irish

EPA) and data from numerous other similar developments in Ireland and, as it is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the proposed development.

5. WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the site will be stored and collected. This has been prepared with due consideration of the proposed site layout as well as best practice standards, local and national waste management requirements, including those of DCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice,
- The NWMPCE (2024);
- Dublin City Council Development Plan 2022 – 2028 (Appendix 7);
- DCC Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018);
- DoHLGH, *Design Manual for Urban Roads and Streets* (2019) [26]; and
- DoHLGH, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2025) [27].

Waste Storage Areas

Dedicated communal Waste Storage Areas (WSA) have been allocated within the development design at the ground floor level for the residential units and can be viewed in the drawings submitted with the application. Communal area waste will be accommodated in the closest shared residential WSAs and waste estimates are included as part of the overall residential waste figures provided in Table 4.1.

The commercial units have their own commercial waste stores located in each zone in an internal location.

Locations of all Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application.

The waste receptacles from the residential WSAs and commercial WSAs will be collected by facilities management or the waste contractor (agreement dependant), at the time of collection and brought to one of the staging areas, within the development redline boundary.

Waste Storage Requirements

Using the estimated waste generation volumes in Table 4.1, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSA. These are presented in Table 5.1. It is envisaged that all commercial waste will be collected on a weekly basis. For the residential waste collection, DMR and MNR will be collected three times per week, organic waste will be collected twice weekly and glass will be collected on a weekly basis.

Table 5.1 Waste storage requirements for the proposed development

Area/Use	Bins Required			
	MNR[1]	DMR[2]	Glass	Organic
Residential Block A	5 no. 1100 L	7 no. 1100 L	3 no. 240 L	7 no. 240 L
Residential Block B & C	7 no. 1100 L	12 no. 1100 L	4 no. 240 L	11 no. 240 L
Commercial Block A	1 no. 1100 L	1 no. 1100 L	1 no. 240 L	1 no. 240 L
Commercial Block B	1 no. 1100 L	1 no. 1100 L	1 no. 240 L	2 no. 240 L

Area/Use	Bins Required			
	MNR[1]	DMR[2]	Glass	Organic
Commercial Block C	1 no. 1100 L	1 no. 1100 L	1 no. 240 L	2 no. 240 L

Note: 1 = Mixed Non-Recyclables
2 = Dry Mixed Recyclables

The waste receptacle requirements have been established from distribution of the total weekly waste generation estimate into the holding capacity of each receptacle type, along with collection frequency.

Waste storage receptacles as per Table 5.1 above (or similar appropriate approved containers) will be provided by the waste contractor in the WSA.

As outlined in the current Dublin City Development Plan, it is preferable to use 1,100 L wheelie bins for waste storage, where practical. However, in the case of organic and glass waste, it is considered more suitable to use smaller waste receptacles due to the weight of bins when filled with organic and glass waste. The use of 240 L bins, as recommended in Table 5.1, will reduce the manual handling impacts on the facilities management personnel and waste contractor employees.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSA are shown in Figure 5-1. All waste receptacles used will comply with the SIST EN 840-1:2020 and SIST EN 840-2:2020 as the standards for performance requirements of mobile waste containers, where appropriate.

Figure 5.1 Typical waste receptacles of varying size (240L and 1100L)

Receptacles for organic, DMR, glass and MNR waste will be provided in the WSAs prior to first occupation of the development.

Alternative options can be considered in future by the facilities management company, as technologies are developed. Solely for the purpose of ensuring the WSA is sufficiently sized to accommodate bins which take up more space.

A waste management plan will be provided to each resident and commercial tenants from first occupation of the development. This Plan will be supplemented, as required, by the facilities management company with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

5.1 Waste Storage – Residential Units

Residents will be required to segregate waste into the following main waste streams:

- Organic Waste;
- DMR;
- Glass; and
- MNR.

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in Figure 5.3 below.

Figure 5.3 Example three bin storage system to be provided within the unit design

Residents will be required to take their segregated waste materials to their designated residential WSAs and deposit their segregated waste into the appropriate bins. The locations of the residential WSAs are illustrated in the drawings submitted with the planning application under separate cover, and in appendices of this report.

Each bin / container in the residential WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin. Access to the residential WSA will be restricted to authorised residents, facilities management of the development and waste contractors by means of a key or electronic fob access.

Other waste materials such as textiles, batteries, printer toner/cartridges, waste cooking oil and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.4.

5.2 Waste Storage – Commercial Units

The commercial tenants will be required to segregate waste within their own unit into the following main waste types:

- Organic Waste;
- DMR;
- Glass; and
- MNR;

The commercial tenants will be required to take their segregated waste materials to their designated commercial WSA and deposit their segregated waste into the appropriate waste receptacles. The location of the WSA are illustrated in the drawings submitted with the planning application under separate cover and in the appendices of this report.

Suppliers for the commercial tenants should be requested by the tenant to make deliveries in reusable containers, minimize packaging or remove any packaging after delivery, where possible, to reduce waste generated by the proposed development.

If any kitchens are allocated in unit area, this will contribute an increased portion of the volume of waste generated on a daily basis, and as such it is important that adequate provision is made for the storage and transfer of waste from these areas to the WSA.

If kitchens are required it is anticipated that waste will be generated in kitchens throughout the day, primarily at the following locations:

- Food Storage Areas (i.e. cold stores, dry store, freezer stores and stores for decanting of deliveries);
- Meat Preparation Area;
- Vegetable Preparation Area;
- Cooking Area; and
- Dish-wash and Glass-wash Area.

Small bins will be placed adjacent to each of these areas for temporary storage of waste generated during the day. Waste will then be transferred from each of these areas to the commercial bin stores.

All bins / containers in the commercial tenants s' areas as well as in the WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which wastes can be put in each.

Other waste materials such as textiles, batteries, lightbulbs, WEEE, cooking oil and printer toner / cartridges will be generated less frequently. Space has been allocated within the commercial WSAs for the storage of these items. Collections of these items will be arranged as required by the tenant or facilities management depending on the agreement. Further details on additional waste types can be found in Section 5.4.

5.3 Waste Collection

There are numerous private contractors that provide waste collection services in the Dublin City area. All waste contractors servicing the proposed development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered / permitted / licensed facilities only.

All waste from the development will be collected by the waste contractor from the shared loading area adjacent to the carpark in Block C2/C3 or from the loading bay adjacent to Block B2. Facilities management or the waste contractor (depending on the agreement) will be in responsible for moving waste receptacles from the residential WSAs to their collection location. The waste collection point and WSAs can be viewed on the drawings submitted with planning application. This locations have not changed from the previous application.

The waste receptacles from the WSAs will be collected by facilities management, immediately prior to collection and brought to where the bins will be staged temporarily awaiting collection. The staging areas are such that they will not obstruct traffic or pedestrians (allowing a footway path of at least 1.8m, the

space needed for two wheelchairs to pass each other) as is recommended in the *Design Manual for Urban Roads and Streets* (2019)[28].

A trolley / tug or suitable vehicle may be required to convey the bins to and from the collection area. The facilities management or waste contractor will ensure that empty bins are promptly returned to the WSAs after collection / emptying.

Suitable access and egress has been provided to enable the bins to be moved easily from the temporary staging area to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors.

All waste receptacles will be clearly identified as required by waste legislation and the requirements of the DCC *Waste Bye-Laws*. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

It is recommended that bin collection times are staggered to reduce the number of bins required to be emptied at once and the time the waste vehicle is on-Site. This will be determined during the process of appointment of a waste contractor.

5.4 Additional Waste Materials

In addition to the typical waste materials that are generated on a daily basis, there will be some additional waste types generated from time to time that will need to be managed separately. A non-exhaustive list is presented below.

Deposit Return Scheme
Most drinks containers can be recycled via the deposit return scheme, such as bottles, cans and tins made from plastic, aluminium or steel. These items can be returned once they are between 150ml and 3 litres in size and have the Re-turn logo on them.

At the shops you can either return the containers:

- Using a Reverse Vending Machine (RVM)
- Manually in the shop

If a shop does not have a RVM but they sell containers with the Re-turn logo, the shop may allow you to manually return containers in store, unless they have a take back exemption.

Locations of RVM machines can be found via the Re-turn website (www.re-turn.ie)

Green Waste
Green waste may be generated from gardens, external landscaping and internal plants / flowers. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from gardens internal plants / flowers can be placed in the organic waste bins.

Batteries
A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the S.I. No. 283/2014 - European Union (Batteries and Accumulators) Regulations 2014, as amended. In accordance with these regulations, consumers are able to bring their waste batteries to their local civic amenity centre or can return them free of charge to retailers which supply the equivalent type of battery, regardless of whether or not the batteries were purchased at the retail outlet and regardless of whether or not the person depositing the waste battery purchases any product or products from the retail outlet.

The commercial tenants cannot use a civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (Directive 2002/96/EC) and associated Waste Management (WEEE) Regulations have been enacted to ensure a high level of recycling of electronic and electrical equipment. In accordance with the regulations, consumers can bring their waste electrical and electronic equipment to their local recycling centre. In addition, consumers can bring back WEEE within 15 days to retailers when they purchase new equipment on a like for like basis. Retailers are also obliged to collect WEEE within 15 days of delivery of a new item, provided the item is disconnected from all mains, does not pose a health and safety risk and is readily available for collection.

As noted above, the commercial tenants cannot use a civic amenity centre. They must segregate their WEEE and either avail of the take-back / collection service provided by retailers or arrange for recycling / recovery of their WEEE by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Printer Cartridge / Toners

It is recommended that a printer cartridge / toner bin is provided in the commercial units, where appropriate. The commercial tenants will be required to store this waste within their units and arrange for return to retailers or collection by an authorised waste contractor, as required.

Waste printer cartridge / toners generated by residents can usually be returned to the supplier free of charge or can be brought to a civic amenity centre.

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, etc) are largely generated from building maintenance works. Such works are will be completed by external contractors who are responsible for the off-site removal and appropriate recovery / recycling / disposal of any waste materials generated.

Any waste cleaning products or waste packaging from cleaning products generated in the commercial units that is classed as hazardous (if they arise) will be appropriately stored pending disposal within the tenants' own space. Facilities management may arrange collection, depending on the agreement.

Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents should be brought to a civic amenity centre.

Light Bulbs

Waste light bulbs (fluorescent, incandescent and LED) may be generated by lighting in the commercial units. It is anticipated that the commercial tenants will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilities management may arrange collection, depending on the agreement.

Waste light bulbs generated by residents should be taken to the nearest civic amenity centre for appropriate storage and recovery / disposal.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. Commercial tenants and residential units will be responsible for disposing of waste textiles appropriately.

Waste Cooking Oil

If the commercial tenants use cooking oil, waste cooking oil will need to be stored within their units on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required. Under sink grease traps will be installed in any cooking space.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre.

Furniture & Other Bulky Waste Items

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the commercial tenants. The collection of bulky waste will be arranged, as required by the tenant. If residents wish to dispose of furniture, this can be brought a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles should be donated to charity if they arise or facilities management may arrange collection by a licensed waste contractor.

5.5 Waste Storage Area Design

The commercial and residential WSAs will be designed and fitted-out to meet the requirements of relevant design Standards, including:

- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSA;
- Provide suitable lighting – a minimum Lux rating of 400 is recommended;
- Be easily accessible for people with limited mobility;
- Be restricted to access by nominated personnel only;
- Be supplied with hot or cold water for disinfection and washing of bins;
- Be fitted with suitable power supply for power washers;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate signage placed above and on bins indicating correct use;
- Robust design of doors to bin area incorporating steel sheet covering where appropriate;
- Have access for potential control of vermin, if required; and
- Be fitted with CCTV for monitoring.

The facilities management company, the commercial tenants and residents will be required to maintain the bins and storage areas in good condition as required by the DCC Waste Bye-Laws.

5.6 Facility Management Responsibilities

It shall be the responsibility of the facilities manager to ensure that all waste generated is managed to ensure correct storage prior to collection by an appropriately permitted waste management company.

The facilities manager will provide the following items to all residents, commercial tenants and any facilities management team appointed*:*

- Provision of a Waste Management Plan document, prepared by the facilities manager, to all residents, commercial tenants and facilities management staff. It shall clearly state the methods of source waste segregation, storage, reuse and recycling initiatives that shall apply to the management of the development;

- Provision and maintenance of appropriate graphical signage to inform residents and the commercial tenants of their obligation to reduce waste, segregate waste and dispose of it in the correct bin;
- Preparation of an annual waste management report for all residents, the commercial tenants and staff to view;
- Designation of access routes to common waste storage areas to ensure safe access from the unit by mobility impaired persons;
- Provision of an appropriately qualified and experienced staff member, who will be responsible for all aspects of waste management at the development;
- Frequent inspection of waste storage areas and signing of a monitoring check list, which shall be displayed within the area; and
- Maintenance of a register, detailing the quantities and breakdown of wastes collected from the development and provision of supporting documentation by the waste collector to allow tracking of waste recycling rates.

5.7 Pest Management

A pest control operator will be appointed as required to manage pests onsite during the operational phase of this development. All waste generated within the development will be stored in closed waste receptacles both within the residential and commercial units and within the WSAs. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

The WSAs will have access for potential control of vermin, if required, be supplied with hot or cold water, drainage point and will be regularly inspected by facilities management to deter pests.

6. SUMMARY AND CONCLUSION

In summary, this OWMP presents a waste strategy that addresses all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the proposed development.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus contributing to the targets set out in the *NWMPCE*.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *DCC Waste Bye-Laws.*

The waste strategy presented in this document will ensure sufficient storage capacity is provided for the estimated quantity of segregated waste. The designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

7. REFERENCES

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2. Litter Pollution Act 1997 as amended;
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13. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2020* and the *Circular Economy and National Waste Database Report 2021 -2022 (2024)*
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18. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
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20. EPA, *European Waste Catalogue and Hazardous Waste List* (2002)
21. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2018)
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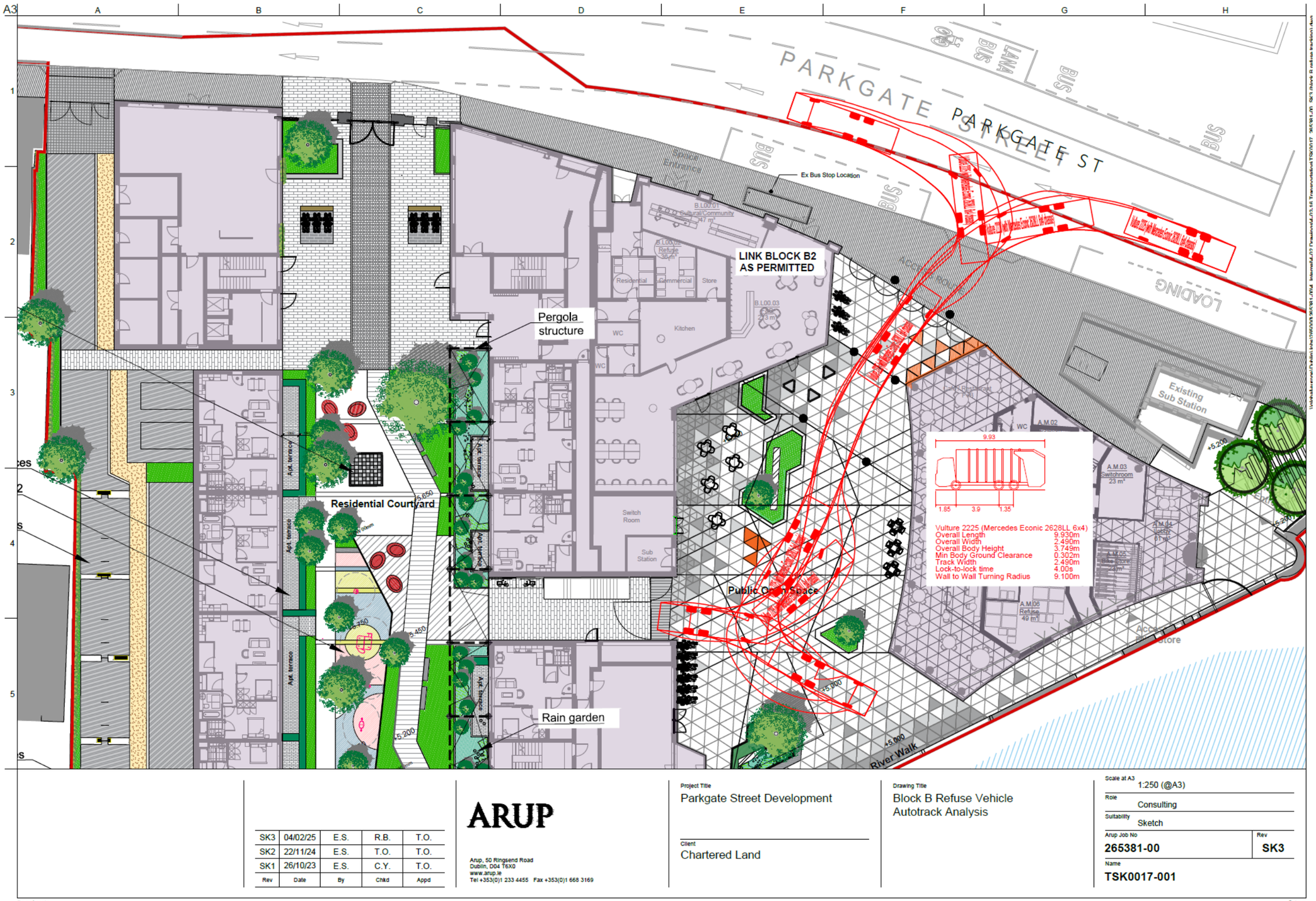
APPENDIX A. ROAD SWEEP ANALYSIS FOR REFUSE TRUCK



Rev	Date	By	Chkd	Appd
SK3	04/02/25	E.S.	R.B.	T.O.
SK2	22/11/24	E.S.	T.O.	T.O.
SK1	26/10/23	E.S.	C.Y.	T.O.

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Project Title: Parkgate Street Development

Client: Chartered Land

Drawing Title: Block B Refuse Vehicle Autotrack Analysis

Scale at A3: 1:250 (@A3)
Role: Consulting
Suitability: Sketch
Arup Job No: 265381-00
Rev: SK3
Name: TSK0017-001

Do not scale

APPENDIX B. WASTE STORAGE AREA LOCATIONS