


PLAN

Outline Operational Waste Management Plan for Whitebox Student Campus at Groody Road, Newcastle, Castletroy, Limerick

January 2025

GARLAND
Concepts Realised

CONTENTS

Description of change	Originator	Rev	Approval	Date
Initial Release	BL	1st	BL	02/10/2024
Updated Sections 1 & 3.1	PC	A	BL	16/10/2024
Updated Project Details	PC	B	BL	23/01/2025

1. INTRODUCTION

GARLAND were commissioned by Groody Developments Limited to prepare an Outline Operational Waste Management Plan (OWMP) for a proposed development consisting of 196 no. bed clusters, is distributed across 5 no. separate blocks, ranging in height from 5 - 8 storeys, with a total of 1,400 no. student bedspaces at Groody Road, Newcastle, Limerick.

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, Environmental Protection Agency Act 1992 as amended, Litter Pollution Act 1997 as amended, the 'Southern Region Waste Management Plan 2015 – 2021' and the Limerick City and County Council (LCCC) "City and County of Limerick (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws (2019)". 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 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 titled as *"Changing Our Ways*" 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. 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 Irelands Development Sustainable – Review, Assessment and Future Action'. This document also stressed the need to break the link between 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. 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'(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) to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. 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 14 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.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' 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 National Waste Statistics web resource) reported the following key statistics for 2020:

- 3.17 million tonnes of municipal waste was generated in Ireland in 2021
- 17.6 million tonnes of waste was generated in Ireland in 2021. Mineral wastes including soil, gravel, rock, clay, concrete, slag and ash accounted for 11.9 million tonnes of this.
- 1.84 million tonnes of waste was generated by Irish households in 2021
- 62,931 tonnes of waste tyres were managed in Ireland in 2020
- 590,000 tonnes quantity of waste accepted for treatment at composting & anaerobic digestion facilities in 2021
- 8.3 million tonnes of C&D waste was generated in Ireland in 2022
- 750,000 tonnes of food waste was generated in Ireland in 2022
- 58% of Ireland's packaging waste was recycled in 2021 down from 62% in 2020
- Almost 390,000 tonnes of hazardous waste was generated in Ireland in 2022
- 66,018 tonnes of WEEE was collected in Ireland for treatment in 2022
- 88.47% Ireland's ELV reuse and recycling rate in 2022
- 109,384 tonnes of BMW was disposed to landfill in Ireland in 2021
- 3 landfills in Ireland accepted municipal waste in 2021, compared with 21 a decade earlier
- 10.64 kg per person Is Ireland's annual reuse rate in 2021
- 21,789 tonnes of waste oils were made available for energy recovery in Ireland in 2022

2.2. Regional Level

The proposed development is located in the Local Authority area of Limerick City and County Council (LCCC).

The Southern Region Waste Management Plan 2015 – 2021 is the regional waste management plan for the LCCC area published in 2014. Currently the Southern region and other regional waste management plans are under review and the Regional Waste Management Planning Offices expected to published.

The Regional Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of "70% preparing for reuse, recycling and other recovery of construction and demolition waste" (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Munster Region, charges are approximately €200 per tonne of waste which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015.

The Limerick Development Plan 2022-2028 sets out a number of objectives for the Limerick City and County area, in line with the objectives of the regional waste management plan and the Circular Economy Policy. Waste objectives with a particular relevance to the proposed development are:

Objective IN O17 *Waste Management and the Circular Economy It is an objective of the Council to:*

- Support innovative, smart solutions and processes, based on the principles of the circular economy to implement the Regional Waste Management Plan for the Southern Region 2015 – 2021 and any subsequent plan, including any targets contained therein.
- Collaborate with the Regional Waste Management Office and other agencies to implement the EU Action Plan for the Circular Economy – Closing the Loop, 2015, its successor the Circular Economy Action Plan: A New Circular Economy Action Plan for a Cleaner More Competitive Europe, 2020 and the Resource Opportunity Waste Management Policy, DECLG, 2012 and any subsequent plans.
- Promote sustainable patterns of consumption and production in the areas of product design, production processes and waste management.
- Implement the provisions of the Waste Action Plan for a Circular Economy – Ireland's National Waste Policy 2020 - 2025, DECC, 2020 in the assessment of planning applications.

2.3. Legislative Requirements

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

- Waste Management Act 1996 as amended;
- Environmental Protection Agency Act 1992 as amended;
- Litter Pollution Act 1997 as amended and
- Planning and Development Act 2000 as amended
- These Acts and subordinate Regulations enable the transposition of 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 operator and any tenant(s) of the medical building undertake on-site management of waste in accordance with all legal requirements and 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 or IE (Industrial Emissions) 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.

2.3.1. Limerick City and County Council Waste Bye-Laws

The LCCC "City and County of Limerick (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws (2019)" came into use in March 2019. The Bye-Laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the LCCC functional area. Key requirements under these Bye-Laws of relevance to the proposed development include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 6.00 pm on the day immediately preceding the designated waste collection day; while the Metropolitan District of Limerick area shall not be presented for collection earlier than 8.00 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 9.00pm the day of collection; while the Metropolitan District of Limerick area shall remove their bins no later than 9.30am on the designated waste collection day.
- 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 Waste Bye-Laws is available from the LCCC website.

2.4. Regional Waste Management Service Providers and Facilities

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

There are a number of licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There is a proposed thermal treatment facility in Ringaskiddy, Co. Cork which was approved by An Bord Pleanála in 2018 followed by a Supreme Court Decision in 2022.

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

3. DESCRIPTION OF THE PROJECT

3.1. Location, Size and Scale of the Development

Groody Developments Limited seeks planning permission for a Purpose-Built Student Accommodation (PBSA) scheme at Groody Road, Newcastle, Limerick, including permission for use of the accommodation during summer months for short-term letting purposes.

The development consisting of 196 no. Bed Clusters, is distributed across 5 no. separate blocks, ranging in height from 5 - 8 storeys, with a total of 1,400 no. student bedspaces to be delivered in two phases of development including: (i) Block A comprising 8 storeys providing for (a) 28 no. bed clusters and 224 no. bedspaces; (b) Student library; (c) Student union; (d) Plant room; (e) Bin store; (f) Bicycle store; (ii) Block B comprising 7 storeys providing for (a) 52 no. bed clusters and 400 no. bedspaces; (b) Reception & Office; (c) Post room; (d) Laundry room; (e) Student canteen; (f) Maintenance store; (g) Plant room; (h) ESB sub station & switch room; (i) Bin Storage; (j) and Bicycle store; (iii) Block C comprising 6 storeys providing for (a) 51 no. bed clusters and 355 no. bedspaces; (b) Student Gym; (c) Maintenance store; (d) Plant room; (e) ESB sub station & switch room; (f) Bin Storage; (g) and Bicycle store; (iv) Block D comprising 6 storeys providing for (a) 32 no. bed clusters and 211 no. bedspaces; (b) Reception & Office; (c) Post room; (d) Laundry room; (e) Student canteen; (f) Student supply retail unit (60m2); (g) Plant room; (h) Maintenance store; (i) Bin Storage; and (k) Bicycle Storage; (v) Block E comprising 5 storeys providing for (a) 33 no. bed clusters and 210 no. bedspaces; (b) Reception & Office; (c) Laundry room; (d) Maintenance store; (e) Bicycle store; and (f) Plant room; and (vi) ancillary site development works including car parking provision; boundary treatments; roof plant; public lighting; water supply; foul and surface water drainage infrastructure; signage; and a temporary construction access to facilitate Phase 2. The site will be accessed via the Groody Road. Extensive landscaping proposals, including (a) landscaped courtyards; (b) pedestrian and cycle connections from the Groody Road to the Groody Green Wedge; (c) natural landscaping and public walkways within the Groody Green Wedge; and (d) a Wetland & Biodiversity area adjacent to the Groody River are also proposed.

Figure 1 - Site Layout

4. TYPICAL WASTE CATEGORIES

The National Waste Prevention Programme (NWPP) is playing an important enabling role in that necessary transformational change by supporting businesses, households and the public sector to be more resource efficient.

4.1.1. Typical Waste Categories

The typical non-hazardous waste streams that will be generated will include the following:

- Dry Mixed Recyclables (DMR) - includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- 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 in small quantities which will need to be managed separately including:

- Green/garden waste from landscaping activities;
- Textiles;
- Batteries (non-hazardous) *note: hazardous batteries may also be generated*

- Waste electrical and electronic equipment (WEEE) including computers, printers and other ICT equipment (non-hazardous) *note: WEEE containing hazardous components may also be generated2*;
- Metals, timber and mixed C&D waste generated from operational maintenance activities; and
- Furniture (and from time to time other bulky wastes).
- Printer/toner cartridges;
- Batteries (hazardous) note: non-hazardous batteries may also be generated
- Light bulbs

4.2. European Waste Codes

In 1994, the *European Waste Catalogue* and *Hazardous Waste List* were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List*, 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'*, applicable since the 1st of June 2015. 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, CORs, permits and licences and the EPA National Waste Database.

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

Waste Material	LoW/EWC 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 25/26*
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*/28/2
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky Wastes	20 03 07
Healthcare wastes (wastes from natal care, diagnosis, treatment or prevention of disease in humans, includes non-hazardous and	18 01*

Waste Material	LoW/EWC Code
** Individual waste type may contain hazardous materials*	

Table 1 - Typical Waste Types Generated and LoW Codes

4.1. 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.

4.1.1. Green waste

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.

4.1.2. Batteries

Waste batteries must be separately stored and returned to retailer or collected for recycling and recovery of resources and the tenant(s) are responsible for arranging this. Waste batteries generated may be returned to any retail outlet where similar batteries are sold, regardless of whether they were originally purchased in that outlet. The operator and any tenant(s) will arrange for return to retailers or collection by an authorised waste contractor, as required.

4.1.3. Waste Electrical and Electronic Equipment (WEEE)

WEEE must be separately stored and returned to manufacturer/retailer or collected for recycling and recovery of resources and the tenant(s) are responsible for arranging this. The WEEE Directive 2002/96/EC and associated European Union (WEEE) Regulations 2014 as amended have been enacted to ensure a high level of recycling of electronic and electrical equipment. It is the manufacturers' responsibility to take back the WEEE, regardless of whether a replacement product is purchased or not and retailers are required to take back WEEE where a similar product is purchased. WEEE will be stored within the main WSA or internal waste stores, the operator and any tenant(s) will arrange for return to retailers or collection by an authorised waste contractor, as required.

4.1.4. Printer Cartridge/Toners

It is recommended that a printer cartridge/toner bins are provided, where appropriate. It will be arranged to return them to retailers or collection by an authorised waste contractor, as required.

4.1.5. Chemicals (solvents, paints, adhesives, resins, detergents etc)

Chemicals (such as solvents, paints etc) are largely generated from building maintenance works. Such works are usually 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 within the medical building that is classed as hazardous (if they arise) will be appropriately

stored in designated secure area in the WSA or internal waste stores. Collection will be arranged as required.

4.1.6. Light Bulbs (Fluorescent Tubes, Long Life, LED and Lilament bulbs)

Waste light bulbs may be generated by lighting in the building. Collection will be arranged as required.

4.1.7. Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse.

4.1.8. Furniture (and other bulky wastes)

Furniture and other bulky waste items may occasionally be generated. The collection of bulky waste will be arranged as required.

4.1.9. Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, tenants 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

5. ESTIMATED WASTE ARISINGS

A waste generation model (WGM) has been developed, has been used to predict waste types, weights and volumes arising from operations within this development. The WGM incorporates buildings area and uses and combines these with other data including Irish and US EPA waste generation rates. The BS5906:2005 Waste Management in Buildings – Code of Practice was considered in the estimations of the waste arising.

The modelling methodology used to determine waste generation rates is based on waste production rates per m^2 floor area for the proposed uses or per bed or person as advised by the project architects.

5.1. Residential Waste Statistics

EPA Household Waste Statistics for Ireland state that ***'The quantity of household waste managed in Ireland in 2021 equates to 361 kg per person, down from 372 kg/person in 2020 but up from 320 kg/person in 2019 and 314 kg/person in 2018'***. Therefore, a value of 0.989 kg of waste generated per person per day has been taken for the purposes of this report to estimate the volume of waste to be generated by the residential units; this is based on data obtained from the EPA.

It is noted that the usage factor of the student accommodation will be below that of a typical household as students will be returning home for weekends. It is also noted that the accommodation will be used for short term letting. Therefore, a factor of 75% has been applied to typical waste generation from a typical household.

5.1.1. Student Accommodation Block A

Waste Type	Per individual (kg / week)	Beds	Total (kg / week)	Total (l / week)
Organics (18%)	0.13	224	209.4	697.8
DMR (21%)	0.16	224	244.2	3489.2
MNR (59%)	0.44	224	686.2	3431.0
Glass (2%)	0.01	224	23.3	9.3
Total	**0.74**	**224**	**1,163.1**	**7,627.4**

Table 2A - Estimated waste generation

5.1.2. Student Accommodation Block B

Waste Type	Per individual (kg / week)	Beds	Total (kg / week)	Total (l / week)
Organics (18%)	0.13	400	373.8	1246.1
DMR (21%)	0.16	400	436.1	6230.7
MNR (59%)	0.44	400	1225.4	6126.9
Glass (2%)	0.01	400	41.5	16.6
Total	**0.74**	**400**	**2,076.9**	**13,620.3**

Table 3B - Estimated waste generation

5.1.3. Student Accommodation Block C

Waste Type	Per individual (kg / week)	Beds	Total (kg / week)	Total (l / week)
Organics (18%)	0.13	355	331.8	1105.9
DMR (21%)	0.16	355	387.1	5529.7
MNR (59%)	0.44	355	1087.5	5437.6
Glass (2%)	0.01	355	36.9	14.7
Total	**0.74**	**355**	**1,843.2**	**12,088.0**

Table 4C - Estimated waste generation

5.1.4. Student Accommodation Block D

Waste Type	Per individual (kg / week)	Beds	Total (kg / week)	Total (l / week)
Organics (18%)	0.13	211	197.2	657.3
DMR (21%)	0.16	211	230.1	3286.7
MNR (59%)	0.44	211	646.4	3231.9
Glass (2%)	0.01	211	21.9	8.8
Total	**0.74**	**211**	**1,095.6**	**7,184.7**

Table 5D - Estimated waste generation

5.1.5. Student Accommodation Block E

Waste Type	Per individual (kg / week)	Beds	Total (kg / week)	Total (l / week)
Organics (18%)	0.13	210	196.3	654.2
DMR (21%)	0.16	210	229.0	3271.1
MNR (59%)	0.44	210	643.3	3216.6
Glass (2%)	0.01	210	21.8	8.7
Total	**0.74**	**210**	**1090.4**	**7,150.7**

Table 6E - Estimated waste generation

6. 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 LCCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice,
- Southern Region Waste Management Plan 2015 – 2021;
- LCCC Limerick Development Plan 2022-2028;
- LCCC City and County of Limerick (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws (2019);
- HSE, Waste Management Awareness Handbook; and
- HSE and DOHC, Healthcare Risk Waste Management: Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste.

6.1. Waste Storage

Students in the accommodation will be required to segregate waste into the following main waste streams:

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

Segregated bins for DMR, MNR, organic waste and glass will be provided within the kitchens of the student cluster units by the building management company. Additional bins for segregation of DMR and MNR will also be provided in the common areas, where appropriate. Students will be required to segregate their waste as above into the provided receptacles in accordance with the terms of the letting agreements of the Operator. No food macerators will be installed within any area of the student accommodation building.

All bins/containers will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted on or above the bins to show which wastes can be put in each bin. As required, the students will bring waste from within their clusters to the dedicated waste storage areas. Students on the floors above ground level will use the lifts or stairs of their building to bring waste to the ground floor. Students will be provided with access

fobs/key/code by the Operator to access the Waste Storage Area. Building cleaning staff will bring waste from within the common areas to the WSA as required.

Larger segregated waste receptacles will be provided by the building management company in the waste storage areas. Receptacles will also be labelled, and colour coded to avoid cross contamination. Other waste materials such as batteries, printer toner/cartridges and WEEE may be generated infrequently in the student accommodation areas. Students will be required to identify suitable temporary storage areas for these waste items themselves and dispose of them appropriately. The LCCC Mungret Civic Amenity Centre is located 10 min away by car being some 10.7km away.

It is envisaged that organic waste, DMR and MNR will be collected **twice a week**. The exact day, need and requirement for collections will be actively managed and will adjusted based on actual waste generated at the development. Given that there are 5 different waste areas across the five buildings, waste and the movement of bins can also occur between blocks to meet particular demands between collections. Further additional allowance will be considered for glass storage in the student accommodation to account for student specific lifestyles.

6.2. Waste Storage Areas

Within Blocks A to D a dedicated interna area for waste storage has been integrated within the ground floor of each building, as shown on the architectural plans. A separate covered and secure waste storage area building is provided adjacent to Block E to service it as indicated on the architectural site layout plan. These areas will be used to store the main waste types listed in Tables 2A to 2E.

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 2. All waste receptacles used will comply with the SIST EN 840- 1:2020 and SIST EN 840-2:2020 standard for performance requirements of mobile waste containers, where appropriate.

Figure 2 - Typical waste receptacles of varying size (120L, 240 L and 1100 L)

6.2.1. Quantity of Bins Required - Block A

Using the estimated waste generation volumes, the waste receptacle requirements for organic waste, DMR, MNR and glass waste have been established for the WSA as follows:

No	Type
2	1100L wheelie bins for mixed non-recyclables
2	1100L wheelie bins for dry mixed recyclables
2	240L bin for organic waste
1	120L bin for glass waste

6.2.1. Quantity of Bins Required - Block B

Using the estimated waste generation volumes, the waste receptacle requirements for organic waste, DMR, MNR and glass waste have been established for the WSA as follows:

No	Type
3	1100L wheelie bins for mixed non-recyclables
3	1100L wheelie bins for dry mixed recyclables
3	240L bin for organic waste
1	120L bin for glass waste

6.2.1. Quantity of Bins Required Block C

Using the estimated waste generation volumes, the waste receptacle requirements for organic waste, DMR, MNR and glass waste have been established for the WSA as follows:

No	Type
3	1100L wheelie bins for mixed non-recyclables
3	1100L wheelie bins for dry mixed recyclables
3	240L bin for organic waste
1	120L bin for glass waste

6.2.1. Quantity of Bins Required - Block D

Using the estimated waste generation volumes, the waste receptacle requirements for organic waste, DMR, MNR and glass waste have been established for the WSA as follows:

No	Type
2	1100L wheelie bins for mixed non-recyclables
2	1100L wheelie bins for dry mixed recyclables
2	240L bin for organic waste
1	120L bin for glass waste

6.2.1. Quantity of Bins Required - Block E

Using the estimated waste generation volumes, the waste receptacle requirements for organic waste, DMR, MNR and glass waste have been established for the WSA as follows:

No	Type
2	1100L wheelie bins for mixed non-recyclables
2	1100L wheelie bins for dry mixed recyclables
2	240L bin for organic waste
1	120L bin for glass waste

6.2.1. Quantity of Bins Required – TOTAL ACCOMODATION

In order the services the entire development, the total bins provided based on a twice a week collection are as follows:

No	Type
10	1100L wheelie bins for mixed non-recyclables
10	1100L wheelie bins for dry mixed recyclables
10	240L bin for organic waste
1	120L bin for glass waste

6.3. Waste Storage Area Designs

The waste stores should be designed with non-slip floor finishes which are suitable for washing. A water supply should also be provided to enable cleaning of the room. The rooms should also be provided with suitable lighting and mechanical ventilation to prevent build-up of odors.

The main WSA should be designed and fitted-out to meet the requirements of relevant design Standards, including:

- Waste Storage areas should not present any safety risks to users;
- Be fitted with a non-slip floor surface;
- Provide ventilation to reduce the potential for generation of odours;
- Provide suitable lighting – a minimum Lux rating of 220 is recommended;
- Appropriate sensor controlled lighting;
- 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;
- Have access to suitable power supply for power washers, if required;
- Have a sloped floor to a central foul drain for bins washing run-off;
- Have appropriate graphical and written signage placed above and on bins
- indicating correct use;
- Have access for potential control of vermin, if required;
- Robust design of doors to bin area incorporating steel sheet covering where
- appropriate; and
- Be monitored by CCTV.

All bins should be suitably colour coded and labelled to identify which waste types should be placed into which bins.

The operator will be required to maintain the bins and waste storage areas in good condition to avoid public nuisance or attracting vermin.

The project Architects site layout plans indicate the site and building layout, including waste storage areas for planning purposes.

6.4. Waste Collection

There are numerous private contractors that provide waste collection services in the LCCC 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.

Bins from the proposed development will be collected directly from the external main WSAs by the waste contractor. Bins will be returned to the WSAs immediately following collection.

Suitable access and egress has been provided to enable the bins to be moved easily from the WSA 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 should be clearly identified as required by waste legislation and the requirements of the LCCC 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.

5.5 Facility Management Responsibilities It shall be the responsibility of the The Student Housing Company to ensure that all domestic waste generated by residents is managed to ensure correct storage prior to collection by an appropriately permitted waste management company. The Student Housing Company should provide the following items in accordance with the DLR the Guidance Notes for Waste Management in Residential & Commercial Developments: • Provision of a Waste Management Plan document, prepared by the Facilities Management Company to all residential units, which 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 of their obligation to reduce waste, segregate waste and in the correct bin; • Preparation of an annual waste management report for all residential units; • Designation of access routes to common waste storage areas to ensure safe access from the units 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; • Daily inspection of waste storage areas and signing of a daily check list, which shall be displayed within the area; and • Maintenance of a weekly 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

7. CONCLUSIONS

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 SR Waste Management Plan 2015 – 2021.

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

The waste strategy presented in this document will provide sufficient storage capacity 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.

8. REFERENCES

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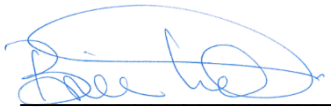
Signed: 

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