OPERATIONAL WASTE & RECYCLING MANAGEMENT PLAN

(OWRMP)

AT

"CROWPARK 1ST DIVISION"

KILDALKEY ROAD

TRIM

CO. MEATH

Prepared for

Loughglynn Developments Ltd

Prepared by

Traynor Environmental Ltd

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CONTENT

1.0 INTRODUCTION

This Operational Waste and Recycling Management Strategy (the 'Strategy') has been prepared by Nevin Traynor BSc.Env, HDIP IT, of Traynor Environmental Ltd on behalf of Loughglynn Developments Limited ('The Applicant') in support of the proposed Large Scale Residential Development (LRD) (hereafter referred to as the 'Proposed Development') within Meath County Council area.

The principal aim of this Strategy is to demonstrate how the Proposed Development has considered sustainable methods for waste and recycling management during its operation. Furthermore, with regards to waste and recycling management within the Proposed Development, this Strategy has the following aims:

- To contribute towards achieving current and long-term government, National Waste Management Plan for the Circular Economy (NWMPCE) 2024-2030 and Meath County Council targets for waste minimisation, recycling, and re-use.
- To comply with all legal requirements for handling operational waste.
- To achieve high standards of waste management performance, through giving (and continuing to give) due consideration to the waste generated by the Proposed Development during its operation; and
- To provide the Proposed Development with a convenient, clean, and efficient waste management strategy that enhances the operation of the Proposed Development and promotes recycling.

This OWRMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. The OWRMP 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.

Estimate volumes of waste generated during operation of the Proposed Development have been provided in the report which also includes a breakdown of the waste management process, which details waste handling, storage area provision, and collection arrangements. All waste reduction measures are compliant with BS 5906:2005, NWMPCE and Sustainable Urban Housing: Design Standards for New Apartments which are also discussed in this strategy.

2.0 LEGISLATION/ PLANNING POLICY

A summary of the national regional and local planning policy relevant to the Proposed Development is outlined in section 2.1 below. It should be noted that this summary identifies those elements of the policy or guidance applicable to waste management within the Proposed Development.

2.1 International and European Policy

The EU Waste Framework Directive (EU WFD) provides the overarching legislative framework for the collection, transport, recovery, and disposal of waste, and includes a common definition of waste. It encourages the prevention and reduction of harmful waste by requiring that Member States put waste control regimes into place. These waste management authorities and plans should ensure that necessary measures exist to recover or dispose of waste without endangering human health or causing harm to the environment and includes permitting, registration, and inspection requirements.

The directive also requires Member States to take appropriate measures to encourage firstly, the prevention or reduction of waste production and its harmfulness and secondly the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy. The directive also puts an end to co-disposal of waste streams.
The definition of waste for the Ireland is governed by the EU Waste Framework Directive (2008/98/EC) as:

"*Any substance or object…which the holder discards or intends or is required to discard.*"

It is the responsibility of the holder of a substance or object to decide whether they are handling waste. The Environmental Protection Agency is the authority responsible for enforcing waste management legislation in Ireland, but where there is a disagreement as to whether something is waste it is ultimately a matter for the courts to decide.
The European Waste Catalogue 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 been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* which became valid from the 1st 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, COR's, permits and licences and EPA National Waste Database.

The European Landfill Directive is in place to reduce the negative effects of land filling on the environment and health. It aims to encourage waste minimisation and increased levels of recycling and recovery; the increased costs of land filling associated with compliance with the Directive will also encourage alternative waste management methods.
The first requirement of the regulations was a ban on the co-disposal of hazardous waste with non-hazardous waste in landfills. The Directive has also imposed a ban on whole tyres going to landfill since 2003, with this ban extending to shredded tyres from July 2006, while liquid wastes were banned from landfill from October 2007.
The Directive also brings with it, tighter site monitoring and engineering standards. This is supplemented by the European Waste Catalogue, which has extended the range of materials classified as 'hazardous', and the Waste Acceptance Criteria, which has introduced potential pre-treatment requirements.

2.2 National Legislation

The 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) waste.

A further policy document 'Preventing and Recycling Waste – Delivering Change' was published in 2002. This document proposed several 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

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 about 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.

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 & 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 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' which as of 2023 have been renamed Circular Economy and Waste Statistics Highlight 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 2024 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (2024) reported the following key statistics for 2022:

- **Generated** – Ireland produced 3,190,000 t of municipal waste in 2022. This is a slight increase since 2021. Of this, 55% came from households and 45% came from commercial and public service sources.
- **Managed** - In 2022, a total of 1.76 million Household waste collected and treated by the waste industry.
- **Unmanaged** – An estimated 36,970 tonnes of household waste was unmanaged waste i.e., not disposed of in the correct manner in 2022
- **Recovered** – A rounded 1.3 million tonnes of Ireland's municipal waste went for incineration with energy recovery in 2022. This tonnage is 43% of municipal waste managed and a marginal increase on the 42% achieved in 2021.
- **Recycled** – Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2022, resulting in a recycling rate of 41 per cent. This indicates that we face significant challenges to meet the upcoming EU recycling targets for 2025 to 2035
- **Disposed –** Ireland's landfill rate for municipal waste managed was 15% in 2022. This is a 1% decrease from 2021's rate of 16%.
- **Reuse** – 54,800 tonnes of second-hand products we estimated by the EPA to have been reused in Ireland in 2021. The average annual Reuse rate per person in Ireland is 10.6 kg per person

2.3 Regional Level

The proposed development is located in the Local Authority area of Meath County Council. The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the MCC area which was published in May 2015. The EMR Waste Management Plan 2015 – 2021 is the regional waste management plan for the MCC area which was published in May 2015.

The EMR Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the National Waste Management Plan for a Circular Economy (NWMPCE) 2024 - 2030.

The NWMPCE 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:

Proposed 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 clothes or furniture to prevent waste
• 3B (Refuse Facilities) Provide for reuse at 10 Civic Amenity Sites, minimum

The *Meath County Development Plan 2021 – 2027* sets out a number of policies and actions for the Meath area in line with the objectives of the regional waste management plan.

Waste policies and actions with a particular relevance to this development are:

- **INF POL 61** To facilitate the implementation of National Waste Legislation, National and Regional Waste Management Policy and the circular economy.
- **INF POL 62** To encourage and support the provision of a separate collection of waste throughout the County in accordance with the requirements of the Waste Management (Household Food Waste) Regulations 2009, the Waste Framework Directive Regulations, 2011, the Waste Management (Commercial Food Waste) Regulations 2015 and other relevant legislation to meet the requirements of the Regional Waste Management Plan
- **INF POL 64** To encourage and support the expansion and improvement of a three-bin system (mixed dry recyclables, organic waste, and residual waste) in order to increase the quantity and quality of materials collected for recycling in conjunction with relevant stakeholders.
- **INF POL 65** To adopt the provisions of the waste management hierarchy and implement policy in relation to the County's requirements under the current or any subsequent Waste Management Plan. All prospective developments in the County shall take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter-regional movement of waste.
- **INF POL 66** To ensure that hazardous waste is addressed through an integrated approach of prevention, collection, and recycling and encourage the development of industry-led producer responsibility schemes for key waste streams.
- **INF POL 69** To require the provision of bring banks, bottle banks or other appropriate recycling facilities as part of the overall development in the case of new or extended commercial, employment, educational, recreational facilities, and managed residential developments.
- **INF POL 70** To encourage the recycling of construction and demolition waste and the reuse of aggregate and other materials in future construction projects.
- **INF OBJ 55** To facilitate the provision of appropriate waste recovery and disposal facilities in accordance with the principles set out in the appropriate Waste Management Plan applicable from time to time made in accordance with the Waste Management Act 1996 (as amended).
- **INF OBJ 64** To ensure that during the assessment of planning applications through the Development Management process that provision for household waste recycling is adequately addressed in all new residential developments.
- **INF OBJ 67** To require developers to prepare construction and demolition waste management plans for new construction projects over certain thresholds which shall meet the relevant recycling/recovery targets for such waste in accordance with the national legislation and national and regional waste management policy.

2.4 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate legislation includes:
    - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended o Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended.
    - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended.
    - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended.
    - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended.
    - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
    - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
    - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
    - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended.

- Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended o European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015)
- Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended.
- Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended.
- Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
- European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)
- European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.

- Environmental Protection Act 1992 (No. 7 of 1992) as amended.
- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended.

2.5 Responsibilities of the Waste Producer

The waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal.) Waste contractors will be employed to physically transport waste to the final waste disposal / recovery site.

It is therefore critical that the residents and the proposed management company 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 IED (Industrial Emissions Directive) 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.

2.6 Meath County Council Byelaws

These Bye-Laws for the Storage, Presentation and Collection of Household Waste were brought into force by Meath County Council in December 2018. The Bye-laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the MCC 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 proceeding 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 8:00am on the day following the designated waste collection day.
- Household waste that comprises hazardous waste or waste electrical and electronic equipment shall not be placed in an appropriate waste container for kerbside collection.
- Household kerbside waste shall be segregated into residual household kerbside waste and recyclable household kerbside waste, with these fractions being stored separately. Any such separated recyclable waste shall not be deposited into a container designated for residual household kerbside waste and no such residual waste shall be deposited into a container designated for recyclable household kerbside waste.
- Neither recyclable household kerbside waste nor food waste arising from households shall be contaminated with any other type of waste before or after it has been segregated.

- Where an occupier of a dwelling is not participating in a household kerbside waste collection service, that person shall ensure that:
- (a) recyclable household kerbside waste segregated in compliance with bye-law 2.7 is taken to an authorised waste facility and is deposited there in a manner that allows it to be recycled or otherwise recovered,
- (b) residual household kerbside waste segregated in compliance with bye-law 2.7 is taken to an authorised waste facility, and
- (c) 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. Documentation required to be obtained and retained by this bye-law, or copies of it, shall be presented to an authorised person within a time period specified in a written request from either that person or from another authorised person employed by Meath County Council.
- A management company, or another person if there is no such company, who exercises control and supervision of residential in multi-unit developments, mixed-use developments, flats or apartment blocks, combined living/working spaces or other similar complexes shall ensure that:
- (a) separate receptacles of adequate size and number are provided for the proper segregation, storage and collection of recyclable household kerbside waste and residual household kerbside waste
- (b) additional receptacles are provided for the segregation, storage, and collection of food waste where this practice is a requirement of the national legislation on food waste, (c) the receptacles referred to in paragraphs (a) and (b) are located both within any individual apartment and at the place where waste is stored prior to its collection,
- (d) any place where waste is to be stored prior to collection is secure, accessible at all times by tenants and other occupiers and is not accessible by any other person other than an authorised waste collector,
- (e) written information is provided to each tenant or other occupier about the arrangements for waste separation, segregation, storage, and presentation prior to collection,
- (f) an authorised waste collector is engaged to service the receptacles referred to in this section of these bye-laws, with documentary evidence, such as receipts, statements, or other proof of payment, demonstrating the existence of this engagement being retained for a period of no less than two years. Such evidence shall be presented to an authorised person within a time specified in a written request from either that person or from another authorised person employed by Meath County Council, (g) receptacles for kerbside waste are presented for collection on the designated waste collection day, (h) adequate access and egress onto and from the premises by waste collection vehicles is maintained.

2.7 Regional Waste Management Service Providers & Facilities

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

As outlined in the new regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and are all 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 facility in Poolbeg in Dublin. A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all waste/IED licenses issued are available from the EPA. Additionally, glass, cans and textiles and be brought to the bring bank in the Trim area:

- Car Park at Playground (opposite Aldi), Trim, Meath

2.8 Policy Context

Development Plan Policy generally sets out guidelines for waste management which conform to the European Union and National Waste Management Hierarchy as follows:

- Waste Prevention
- Minimisation
- Re-use
- Waste Recycling
- Energy Recovery
- Disposal

This guidance is subject to economic and technical feasibility and environmental assessment. Council's Waste Management Strategy is firmly grounded in EU and National policy and can be summarised by the waste hierarchy of prevention, recycling, energy recovery and disposal.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The proposed development will comprise a Large-Scale Residential Development (LRD) on lands at Crowpark (1st Division), Kildalkey Road, Trim, Co. Meath. The scheme provides a total of 183 residential units, comprising 127 houses and 56 apartments. The housing mix includes 19 no. detached 4-bedroom houses, 9 no. semi-detached/end-terrace 4-bedroom houses, 4 no. detached 3-bedroom houses, 43 no. semi-detached/end-terrace 3-bedroom houses, and 52 no. mid-terrace 3-bedroom houses, with building heights from 2 to 2 ½ storeys. The apartment element comprises 56 no. units in two blocks of up to four storeys, including 16 no. one-bedroom and 40 no. two-bedroom units. The development also includes a crèche facility, new vehicular and pedestrian accesses from Kildalkey Road. The proposal provides for associated infrastructure and site works, including landscaping, public and communal open space, internal streets and footpaths, car and bicycle parking, bin stores, private open space, boundary treatments, plant and waste management areas, utility infrastructure and a foul sewer connection to the existing network adjoining the OPW offices on Jonathan Swift Street, to be delivered beneath the River Boyne and Trim Pitch & Putt.

Houses	Number of Units				Total
	1-Bed	2-Bed	3-Bed	4-Bed	
Houses	-	-	99	28	127
Totals			**99**	**28**	**127**

Table 1.0 *Residential Development (Houses)*

Apartments	Number of Units		Total
	1-Bed	2-Bed	
Block A	16	16	32
Block B	-	24	24
Totals	**16**	**40**	**56**

Table 1.1 *Residential Development (Apartments)*

Non-Residential Floor Areas	Total Floor Area (m^2)
Creche	394.26
Total	**394.26**

Table 1.2 *Non-Residential Floor Area*

3.2 Typical Waste Categories

The predicted waste types that will be generated at the proposed development include the following:

- **Dry Mixed Recyclables (DMR**) – includes Newspaper / General paper Magazines, Cardboard Packaging, Drink (Aluminium) Cans, Washed Food (Steel/Tin) Cans, Washed Tetra Pak Milk & Juice Cartons, Plastic Bottles (Mineral/Milk/Juice/Shampoo/Detergents), Rigid Plastics. (Pots/Tubs/Trays*)
- **Mixed Non-Recyclables (MNR) / All General Waste** – Nappies, soiled food, packaging, old candles, plasters, vacuum cleaner contents, broken delph, contaminated plastics.
- **Organic (food) Waste** – Leaves, weeds, and mosses (not sprayed with weed killer), Dead plants and flowers, Grass, and hedge cuttings (finger sized twigs), Bread, pasta and rice, Meat, fish, poultry bones, out of date food (no plastic packaging), Tea Bags, Coffee grounds and paper filters**.** Fruit and vegetables (cooked and uncooked). Food soiled cardboard or paper (no coated paper) Eggs and dairy products (no plastic packaging) Paper napkin and paper towels.
- **Glass**

In addition to the typical waste materials that will be generated on a daily basis, there will be some additional waste types generated in small quantities that will need to be managed separately including:

- Green/garden waste - may be generated from internal plants and external landscaping carried out by the management company.
- Textiles
- Batteries (both hazardous/ non-hazardous)
- Waste electrical and electronic equipment (WEEE)
- Chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc.)
- Furniture (and from time-to-time other bulky wastes)
- Drink Cans and Bottles (Deposit Return Scheme)
- Furniture (and, from time to time, other bulky wastes);

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 in line with Waste Management (Food Waste) Amendment Regulations 2015 (S.I. 191 of 2015) and the European Union (Household Food Waste and Bio Waste) Regulations 2015 (S.I. 191 of 2015), Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009) and the National Waste Management Plan Circular Economy 2024-2030.

3.3 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 been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* which became valid from 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, 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 (also referred to as European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the proposed development are provided in the Table below.

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastic	20 01 39
Metals	20 01 40
Mixed Municipal Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25/26*
Biodegradable garden and park waste	20 02 01
Textiles	20 01 11
Batteries and accumulators*	20 01 33*-34
Printer Toner / Cartridges*	20 01 27* -28
Green Waste	20 02 01
Waste electrical and electronic equipment*	20 01 35*-36
Solvents	20 01 13*

Pesticides	20 01 19
Paints, inks, adhesives (hazardous)	20 01 27*
Paints, inks, adhesives (non-hazardous)	20 01 28
Detergents (hazardous)	20 01 29*
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky wastes	20 03 07

Table 2.0 *LoW Codes*

3.4 Methodology

3.4.1 Residential Calculation Methodology

Waste arisings were calculated in accordance with BS 5906:2005 and included a provision of 5 litres (L) of food waste per residential unit per week for 1 bedroom and increasing per no. of bedrooms. These guidelines determine the minimum capacity for waste storage space to be allocated and are as follows:

- 30 litres (L) per unit + 70L per bedroom (see Table 3.0 for further details).
- Split 50:50 between DMR and residual waste; and
- 5L increasing per residential unit for food waste

Number of Bedrooms	Weekly Waste Arisings per Unit (L)			
	MDR	Food Waste	Residual Waste	Total
	50	5	50	**105**
2 Bedrooms	85	10	85	**180**
3 Bedrooms	120	15	120	**255**
4 Bedrooms	155	20	155	**330**

Table 3.0 *Weekly Waste Arisings Methodology*

3.4.2 Commercial Calculation Methodology

BS 5906:2005 provides a methodology for the calculation of waste arisings from Crèche area. These calculation methodologies are outlined within Table 5.0 of this Strategy. A 50:50 split between DMR, and residual waste has been assumed for the Crèche area.

Land Use Class	Waste Storage Requirements	Waste Stream Ratios
Crèche	10L per m^2 NIA	50: 50 DMR: Residual

Table 3.1 *Crèche Area Waste Arising Calculations (Weekly*

4.0 ESTIMATED WASTE ARISING

The estimated quantum/volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units and is presented in table 4.0 & 4.1 below.

	Waste Volume (L/week)				
	Organic Waste	**Dry Mixed Recyclables**	**Mixed Municipal Waste**	**Glass**	**Total**
Houses	635	16,220	16,220	635	**33,710**

Table 4.0 *House Waste Prediction (L/per week)*

	Waste Volume (L/week)				
Apartments	**Organic Waste**	**Dry Mixed Recyclables**	**Mixed Municipal Waste**	**Glass**	**Total**
Block A	140	1,080	1,080	140	**2,440**
Block B	105	1,020	1,020	105	**2,250**

Table 4.1 *Apartments Waste Predication (L/per week).*

Non-Residential Floor Areas	**Area (m²)**	**Area (m².) GIA**	**Area (m²) (NIA)**	**DMR Recycling**	**Food Waste**	**MNR Residual**	**Glass**	**Total (L)**
Crèche	152							

Table 4.2 *Creche Waste Prediction (L/per Week)*

4.1 Waste Storage and Collection

This section provides information on how waste generated within the development will be stored and how the waste will be collected from the development. 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 Meath County Council. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice.
- National Waste Management Plan for a Circular Economy 2024 - 2030.
- Meath County Council, *Presentation and Storage of Waste Byelaws* (2018).
- DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018).

4.2 Residential Waste and Recycling Management and Storage Strategy

It is required that space be provided for recycling bins to accommodate 50% of the total weekly volume. This is in line with the BS5906:2005 requirements. Storage capacity has been designed in accordance with BS 5906:2005, ensuring adequate provision for segregated waste streams based on projected arisings.

Waste Volume (L/week)				
Block	**Organic Waste**	**Dry Mixed Recyclables**	**Mixed Municipal Waste**	**Glass**
Houses (Per Dwelling)	1 x 50L	1 x 240L	1 x 240L	1 x 50L
Block A	1 x 240L	1 x 1100L	1 x 1100L	1 x 240L
Block B	1 x 240L	1 x 1100L	1 x 1100L	1 X 240L

Table 5.0 *Storage Requirements (Houses & Apartments)*

Location	**Number of Bins Required for a Weekly Collection**			
	DMR	**Organic**	**MNR**	**Glass**
Crèche	2 x 1100L	1 x 240L	2 x 1100L	1 x 240L

Table 6.0 *Storage Requirements (Creche)*

4.3 Waste Storage Residential Units

Provision is made for the segregation and storage of domestic waste within each unit. Each unit is provided with bins in the kitchen area to enable the separation of waste into different waste streams – glass, food, DMR (Dry Mixed Recycling) and general waste.

4.3.1 Houses

Residents will be required to segregate their waste into the following waste categories within their own house:

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

The residents will bring their waste and recycling to the waste storage areas located in the rear gardens of the property and place the waste and recycling into the appropriate waste storage bins. Figure one displays the proposed waste storage unit to accommodate mid terrace and spilt houses

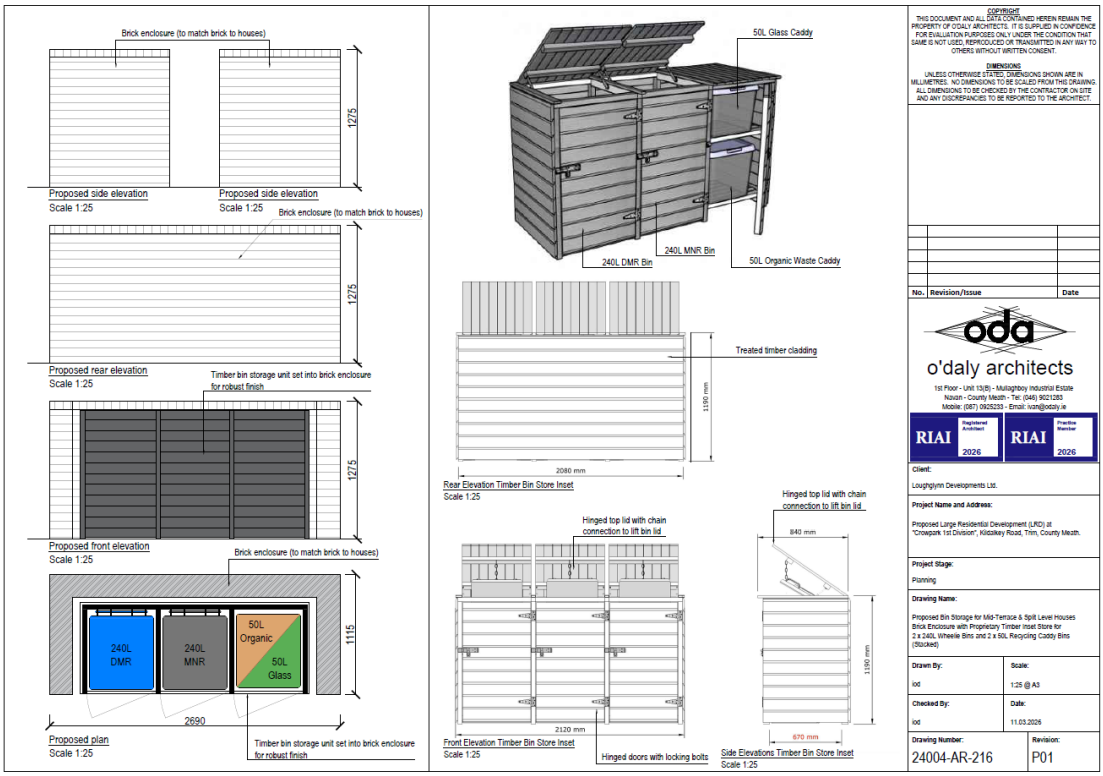

Figure 1.0 Proposed Bin Storage for Mid Terrace & Spilt Level Houses.

4.3.2. Apartments

Residents will be expected to take all waste arisings from their units to the appropriate residential waste storage area. Residents will be required to segregate their waste into the following waste categories within their own apartment units:

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

The residents will bring their waste and recycling to the waste storage area located on the ground level as per Figure 1.1 and place the waste and recycling into the appropriate bins. It is recommended that the WSAs will have secure access with either key or fob to ensure only residents may place waste in the WSA. On collection day, the bins will be brought from the bin store up to the waste collection point by the management company personnel. Once the bins are emptied the bins will be brought back to the waste storage area.

The Waste Storage Areas serving the duplex units are located at ground level and positioned to ensure that residents are not required to carry waste excessive distances. All WSAs are designed to be secure, well-ventilated, and accessible, with sufficient space to accommodate all required bins without obstruction.

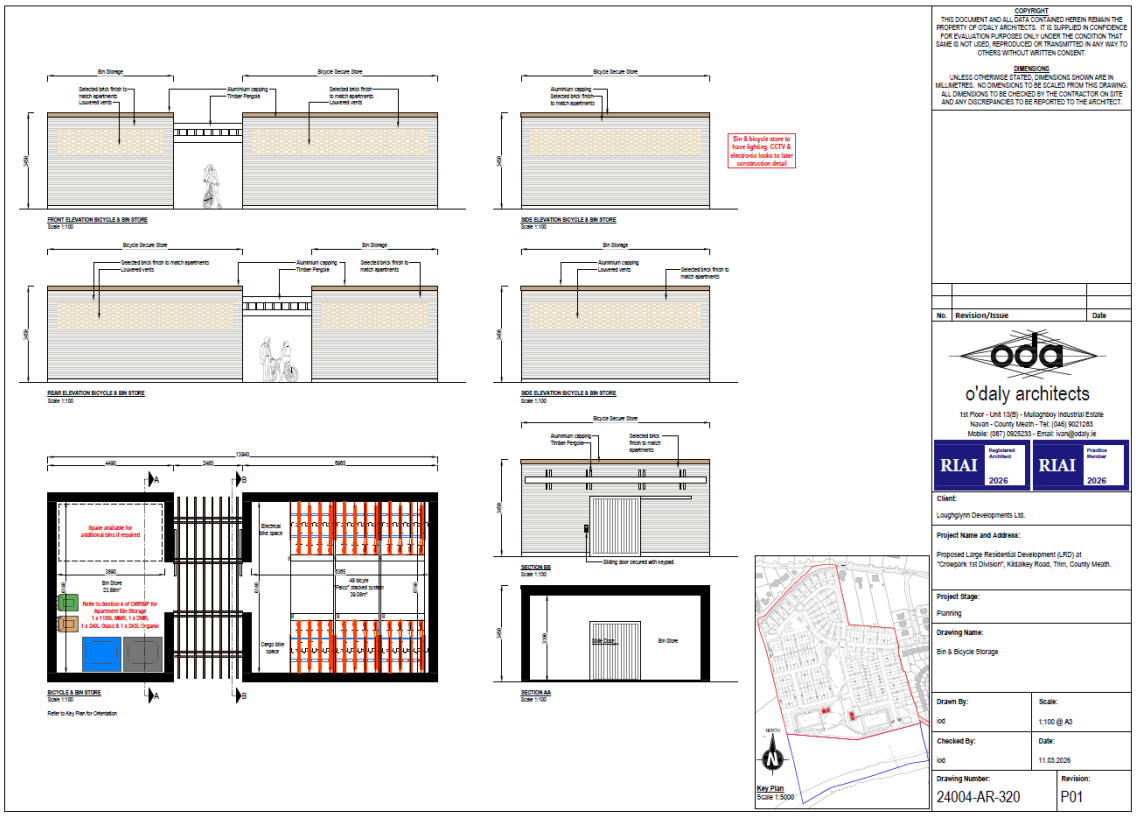

Figure 1.1 Bin Storage Layout for Apartments

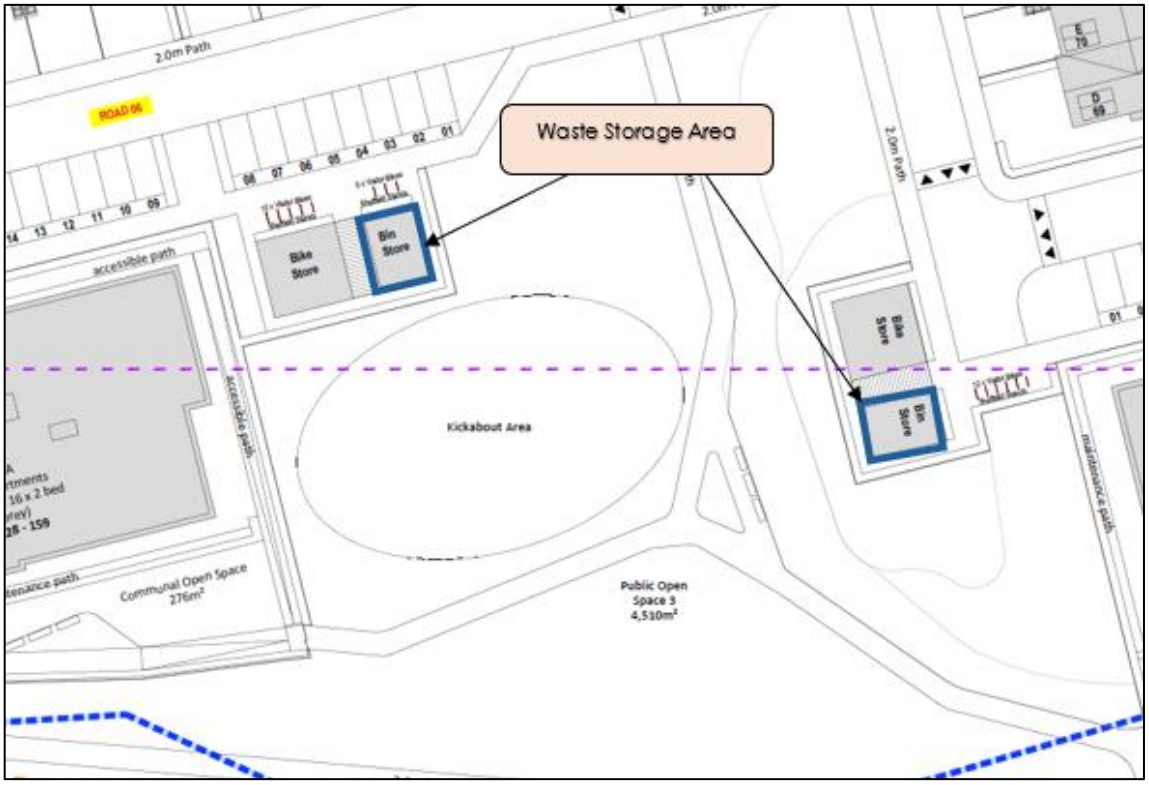

Figure 2.0 Location of Bin Storage at Apartments

4.3.3 Crèche – Childcare Facility

Staff will be required to segregate their waste into the following waste categories within their own unit:

- DMR;
- MNR; and
- Organic waste;

As required, the staff will need to bring segregated DMR, MNR and organic waste to the dedicated WSA located on the ground level as per Figure 3.0 below. Each bin/container in the WSA 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 WSA will be restricted to authorised childcare facility staff, facilities management, and waste contractors by means of a key or electronic fob access. In addition to general waste streams, the crèche facility is expected to generate sanitary and nappy waste, which will be managed within the residual (MNR) waste stream in accordance with industry practice. Waste will be segregated at source by staff and transferred to the designated Waste Storage Area. Appropriate hygiene measures will be implemented to ensure no risk to human health or environmental quality.

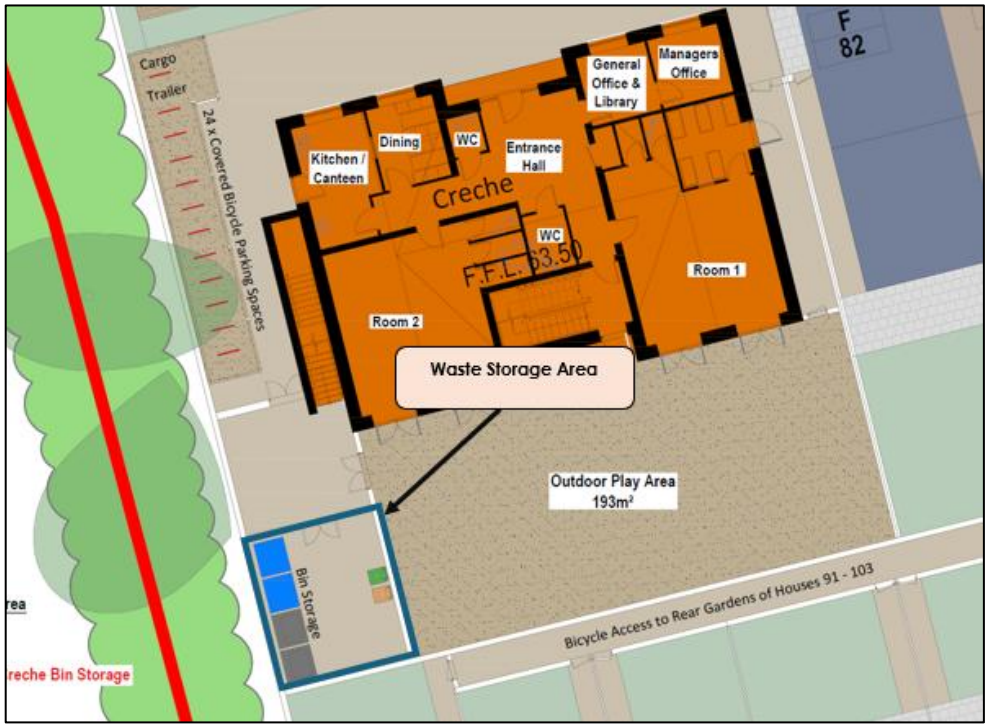

Figure 3.0 Location of Waste Storage Area at Creche

4.4 Waste Collection

There are numerous private contractors that provide waste collection services in the Meath area who 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 requiring collection by the appointed waste contractor will be collected from the WSAs by nominated waste contractors or facilities management depending on the agreement and will be brought to the temporary waste marshalling/collection areas. The empty bins will be promptly returned to the appropriate WSAs. A clear route for the Refuse Collection vehicle is displayed in figure 4.0 below.

All waste receptacles presented for collection will be clearly identified as required by waste legislation and the requirements of the Meath Waste Byelaws. Also, 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.

4.5 Additional Waste Materials

There is likely to be a small component of the overall waste arisings from the Proposed Development that will comprise other waste streams, such as WEEE, printer and toner cartridges, and fluorescent light tubes. Building maintenance will also give rise to materials such as paints and will be the responsibility of the management company to dispose of this waste.

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 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)

4.6 Waste Storage Area Design

This area will be installed in accordance with BS 5906:2005.

- The walls and roofs of the bin stores will be formed of non-combustible, robust, secure, and impervious material, and have a fire resistance of one hour.
- All containers for waste, including recyclable material, will be easily accessible to both the occupier and waste collector.
- Waste stores will be designed and located in such a way as to limit potential noise disturbance to residents.
- Storage areas for waste and DMR will be clearly designated for this use only, by a suitable door or wall sign and, where appropriate, with floor markings.
- Waste storage sites will include areas for instructional signage detailing correct use of the facilities.
- The entrance of the waste storage room will be free from steps and projections.
- Where the area is to be enclosed in a roofed building, adequate ventilation will be provided. Permanent ventilators will be provided, giving a total ventilation area of not less than 0.2m^2.
- Contain electrical lighting by means of sealed bulkhead fittings (housings rated to IP65 in BS EN 60529:199 for the purpose of cleaning down with hoses and inevitable splashing. Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by proximity detection or a time delay button to prevent lights being left on; and
- Gullies for wash down facilities will be positioned so as not to be in the track of container trolley wheels.
- In addition to the above requirements, experience, and best practice for the storage of waste materials will include the following provisions:
- Waste storage facilities will not block any utility service points.
- Waste storage areas will not obstruct sight lines for pedestrians, drivers, and cyclists, if doors open outwards, they will not open onto a road or highway.
- Waste containers will be inside or at least enclosed. If bins are outside, they will be secured in a compound; Information packs will be provided to residents to include full information on available recycling facilities.
- Colour coding will be used for bins of different streams; and any internal storage areas adjacent to a fire escape route will be fitted with fire doors, automatic fire detection and a sprinkler system and comply with the Building Regs.
- The facilities management company will be required to maintain the bins and their WSAs in good condition. All residents should be made aware of the waste segregation requirements and waste storage arrangements.

5.0 Waste Collection Requirements

In line with BS 5906:2005 and Meath Bye Laws 2018 guidance, the following collection requirements have been designed into the Proposed Development to comply with all mandatory waste storage requirements:

5.1 BS 5906 2005

All paths used to transport bins from the storage area to the collection point will have a minimum width of 2m, be free from kerbs or steps, have a solid foundation and be finished with a smooth, continuous finish. Based on the clearance height and tonnage specified by the dimensions of a standard refuse vehicle have been used to undertake the swept path analysis.

Dimensions	
Width	2.53 metres
Gross vehicle weight	26 tonnes
Length	11.2 metres
Clearance Height	4.75m (Any part of a building through which a waste collection vehicle passes must have a minimum clear height of 4.75 m, to allow for overhead fixtures and fittings)
Turning Circle (diameter)	9.5 metres

Table 11.0 *Collection Vehicle Dimensions: Waste/Recycling Collection Vehicle*

6.0 SUMMARY AND CONCLUSIONS

The Proposed Development will be sustainable with high standards of waste management performance. As such, due consideration has been given to waste which will be generated by the Proposed Development during its operation. Waste management within the Proposed Development has the following aims:

- To contribute towards achieving current and long-term government, Meath County Council and NWMPCE targets for waste minimisation, recycling, and reuse.
- To allow that all legal requirements for the handling and management of waste during the operation of the Proposed Development are complied with; and
- To provide tenants with convenient, clean, and efficient waste management systems that enhance the operation of the buildings and promote high levels of recycling.

Residential waste storage allows for a weekly (seven day) storage capacity for MDR, food, glass, and residual (i.e., nonrecyclable). Residential bins will be provided within each unit. On the day of collection, the waste collection company will be able to access the Site and collect refuse from dedicated collection areas.

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