

**OPERATIONAL
WASTE MANAGEMENT PLAN**

FOR

**SKY CASTLE LIMITED
23 ROCKHILL
BLACKROCK
Co. DUBLIN**

RELATING TO A

STRATEGIC HOUSING DEVELOPMENT

AT

**MOYGADDY, MAYNOOTH,
Co. MEATH**

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1.0 INTRODUCTION

This document presents the Operational Waste Management Plan (OWMP) for the control, management and monitoring of waste associated with a Strategic Housing Development (SHD) at Maoygaddy, Maynooth, Co. Meath.

The development is comprised of 360 no. dwellings in a mix of houses, apartments and duplex units comprising:

19 no. 2-bed houses, 156 no. 3-bed houses and 21 no. 4-bed houses, 51 no 1-bed duplex units, 51 no. 2-bed duplex units, 26 no. 1-bed apartments and 36 no. 2-bed apartments.

A Creche, Scout Den and a Public Park and associated Car-Park are also included in the development proposals.

The **Objective of this Waste Management Plan** is to maximise the quantity of waste recycled by providing sufficient waste recycling infrastructure, waste reduction initiatives and waste collection and waste management information to the residents of the development.

The **Goal of this Waste Management Plan** is to achieve a residential recycling rate of 50% of managed municipal waste in accordance with the current *Eastern-Midlands Region Waste Management Plan 2015-2021*. (Note Regional Waste Management Plans are currently under review and future publications shall be integrated into the OWMP).

The OWMP shall be integrated into the design and operation of the development to ensure the following:

- That sufficient waste management infrastructure is included in the design of the development to assist residents minimise the generation of mixed waste streams.
- That the principle of waste segregation at source is the integrated into the development by the provision of 3-bin systems in all residential units.
- That all waste materials generated by site activities are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the Waste Management Act 1996 and all associated Waste Management Regulations.
- That the Facilities Management Company will manage communal wastes storage areas and provide annual bulky waste collection services to facilitate all residents of the development.

2.0 WASTE MANAGEMENT POLICIES AND GUIDANCE

This OWMP has been prepared with regard to waste management objectives and policies contained in Meath County Council's Development Plan 2021 - 2027 as follows:

DM POL 16: All new residential schemes shall include appropriately sited and designed secure refuse storage areas, details of which shall be clearly shown in pre-application discussion and planning application documentation.

DM OBJ 52: In residential schemes, appropriately sized bin storage areas must be provided to the front of terraced dwellings in locations which are easily accessible by the householder. These areas shall be well screened and the design shall integrate with the dwelling.

DM OBJ 53: Apartment schemes shall make provision for waste segregation and recycling. Bin storage shall generally be on the ground floor level of development, be adequately ventilated, screened from public view and adjacent to the block it serves. Where appropriate, the bin storage area shall be a separate structure to the apartment building.

DM OBJ 54: Shared bin storage areas shall be located conveniently for residents and collection service providers with appropriate security measures.

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 POL69 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 OBJ64 To ensure that during the assessment of planning applications through the Development Management process that provision for household waste recycling is adequately addresses in all new residential developments.

The OWMP has been designed with regard to *Section's 4.8 and 4.9 Refuse Storage of The Department of Housing, Planning and Local Government – Sustainable Urban Housing : Design Standards for New Apartments – Guidelines for Planning Authorities. 2020 which is reproduced below.*

Refuse Storage

4.8 Provision shall be made for the storage and collection of waste materials in apartment schemes. Refuse facilities shall be accessible to each apartment stair/ lift core and designed with regard to the projected level of waste generation and types and quantities of receptacles required. Within apartments, there should be adequate provision for the temporary storage of segregated materials prior to deposition in communal waste storage and in-sink macerators are discouraged as they place a burden on drainage systems.

4.9 The following general design considerations should be taken into account in the provision of refuse storage facilities:

- Sufficient communal storage area to satisfy the three-bin system for the collection of mixed dry recyclables, organic waste and residual waste;
- In larger apartment schemes, consideration should also be given to the provision of separate collection facilities for other recyclables such as glass and plastics;
- Waste storage areas must be adequately ventilated so as to minimise odours and potential nuisance from vermin/flies and taking account the avoidance of nuisance for habitable rooms nearby;
- Provision in the layout for sufficient access for waste collectors, proximity of, or ease of access to, waste storage areas from individual apartments, including access by disabled people;
- Waste storage areas should not present any safety risks to users and should be well-lit;
- Waste storage areas should not be on the public street, and should not be visible to or accessible by the general public. Appropriate visual screening should be provided, particularly in the vicinity of apartment buildings;
- Waste storage areas in basement car parks should be avoided where possible, but where provided, must ensure adequate manoeuvring space for collection vehicles;
- The capacity for washing down waste storage areas, with wastewater discharging to the sewer.

This OWMP has been prepared with regard to *British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice* which provides guidance on methods of storage, collection, segregation for recycling and recovery for residential building.

3.0 KEY ASPECTS TO ACHIEVE WASTE TARGETS

The OWMP is defined by the following stages of waste management with regard to the Circular Economy and the Waste Hierarchy

Stage 1	Occupier Source Segregation
Stage 2	Occupier Deposit and Storage
Stage 3	Bulk Storage and On-Site Management
Stage 4	Off-Site Removal
Stage 5	End Destination of wastes

The Key Aspects that that are designed into the development are:

- 3-Bin systems to encourage waste segregation at source
- House bin enclosures to provide for Organic, Recyclable, Mixed Waste and Glass waste storage.
- Apartment & Duplex Communal Bin Stores to provide for Organic, Recyclable, Mixed Waste, Glass and WEEE waste storage
- Residents to be provided with a Bulky Waste collection service

The Circular Economy

Ireland's national waste policy is 'A Waste Action Plan for A Circular Economy – Ireland's National Waste Policy 2020 – 2025'. The policy, published September 2020, is intended to move Ireland toward a circular economy in which focus is shifted away from waste disposal, favouring circularity and sustainability by identifying and maximising the value of material through improved design, durability, repair and recycling. By extending the time resources are kept within the local economy, both environmental and economic benefits are foreseen.

The OWMP complies with the waste hierarchy whereby waste prevention is the most preferred strategy. Where waste generation is unavoidable, re-use is the most preferred fate, followed by recycling and then energy recovery, with disposal (e.g. to landfill) being the least preferred fate.



4.0 WASTE SEGREGATION AT SOURCE IN RESIDENTIAL UNITS

The design of all dwellings shall include sufficient internal kitchen space for the segregation and storage of up to 10kg of general unrecyclable waste, green recyclable waste and organic waste in a 3-bin system.

Image of typical Domestic kitchen 3 bin systems to segregate waste at source



Image of typical Domestic kitchen 3 bin systems to segregate waste at source



5.0 APARTMENT & DUPLEX COMMUNAL WASTE STORAGE AREAS

The apartment and duplex aspects of the development shall be served by communal waste storage areas and shall include clearly visible guidelines on the appropriate segregation of different waste types.

Signage to inform residents of their obligations to reduce waste and segregate waste within the home and dispose of waste in the correct bulk bin will be clearly posted within the waste storage area.

All waste storage bins shall be clearly labelled with exactly what type of waste materials may be deposited within them.

The communal waste storage area shall be designed to include the following aspects:

- A defined pedestrian route shall be marked from the apartment buildings to the waste storage area.
- A non-slip surface shall be provided within the waste storage area.
- The waste storage area shall be of a block construction with a roof.
- The waste storage areas shall be passively / mechanically ventilated.
- The waste storage area shall be fitted with sensor lighting.
- The waste storage area shall be fitted with CCTV cameras and associated signage.
- The waste storage area shall be designed to provide safe access from the apartment units by mobility impaired persons.
- The waste storage area shall be no more than 50m from any apartment/duplex unit.
- A dedicated and clearly labelled area shall be provided in which mobility impaired persons may place wastes into receptacles at a lower level which will be subsequently transferred to the bulk storage bins on a weekly basis by the Facilities Management Company.
- The waste storage area shall include ground drainage to allow for its regular cleaning and disinfection.
- The Facilities Management Company shall engage a mobile bin cleaning service provider to clean waste bins as required.
- Each communal waste storage area shall contain a brown organic waste bulk bin. Appropriate signage shall be placed on all brown bins informing residents of the exact nature of organic waste that can be placed in the bin. Signage will also state that all organic waste must be placed within biodegradable bags before placing in the bulk bin.
- Each communal waste storage area shall contain a biodegradable waste bag dispenser which will facilitate and encourage residents of apartments and duplexes to separately segregate food and organic waste within their apartments in a dedicated bin.

Image of a typical communal waste storage area



A battery box and a WEEE Bin shall also be provided in the communal waste storage areas, an example of which is shown in the following image. This shall be managed by a specialist waste contractor who will be responsible for its routine collection.

WEEE RECYCLING CAGE

Available FREE for small weee collections

Portable and mobile unit

Can be secured in-doors

FREE collection when full

weee ireland

RECYCLE FOR GOOD

Power Tools

Construction Equipment

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email operations@weeireland.ie
or visit www.weeireland.ie

The communal waste storage areas shall also contain glass recycling bins. This will allow glass to be diverted away from general waste.



6.0 APARTMENT & DUPLEX COMMUNAL WASTE STORAGE AREA DESIGN

The apartment and duplex Blocks shall have communal bin storage areas which shall be of sufficient size to house the required number of 1100 litre bulk bins as detailed in Table 2 below.

The area of a standard 1100 litre bin is 1.8m².

The area of a standard 240 litre glass bin is 0.43m².

To allow free access to the bins and provide sufficient space for their movement and to provide contingency capacity, the required bin store area = bin floor area x 1.5.

Table 2 Communal Residential Bin Store Area Requirements

Block	Minimum Bin Storage Area (m ²)
Apartment Block A	15
Apartment Block B	15
Duplex Block A	9
Duplex Blocks B&C (combined)	19
Duplex Block D	9
Duplex Blocks E&F (combined)	19

7.0 HOUSE BIN ENCLOSURE DESIGN

All semi-detached houses shall store bins in the rear garden or side passage.

Each terraced house shall have a bin enclosure shall accommodate 3 x 240 litre waste bins (Recyclable, Organic and Non-Recyclable and a container for waste glass).

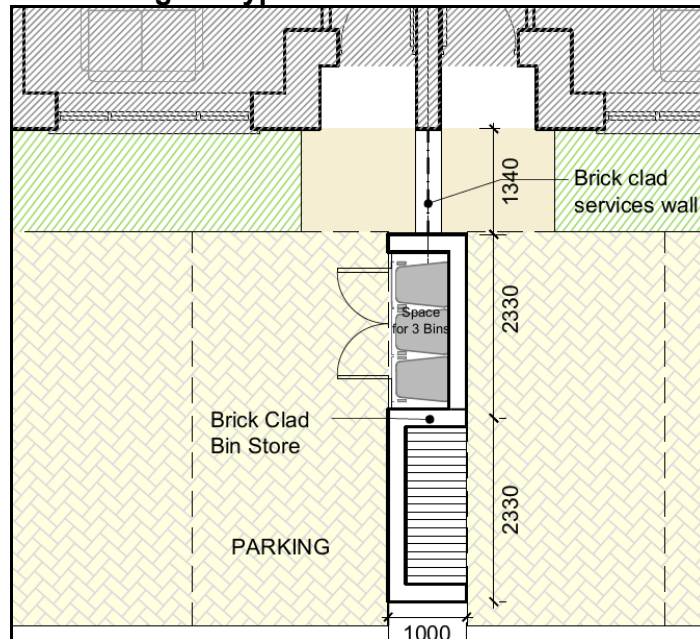
The bin stores located to the front of houses shall be of the following dimensions.
The dimensions of standard 240 litre bin and typical glass bag are:

240 litre Bin	0.45m ² per bin x 3no. bins = 1.35m ²
Glass Recycling Bag	0.25m ²
<i>Total Bin Store Area</i>	<i>1.60m²</i>

Image of waste glass collection bag



Image of typical house bin enclosure



8.0 WASTE MANAGEMENT DUTIES OF THE FACILITY MANAGEMENT COMPANY

Waste Management & Record Keeping

The Facilities Management Company shall maintain a weekly register detailing the quantities and breakdown of general mixed domestic waste, recyclable waste and organic waste wastes removed from the development. Supporting documentation shall be provided by the Waste Collection Contractor on a monthly basis. This will allow for waste recycling targets to be tracked to achieve the 50% recycling target.

The Facilities Management Company shall prepare an annual information report for all residential units detailing the quantities and waste types generated by the development for the previous year. The report shall include reminder information on the correct segregation at source procedures and the correct placement of wastes in the waste storage area. Other aspects of ongoing waste management continuous improvement shall also be stated.

Annual Bulky Waste Collections

The Facilities Management Company shall provide a bulky waste collection and transport service to all residents of the development on an annual basis which will allow residents to have bulky items such as appliances and furniture removed from their houses and apartments and transported to a licenced facility. This initiative will also reduce the potential for illegal waste collections and fly-tipping in the local area.

Resident Amenity Waste Management

Waste generated in the external residential amenity areas shall be managed by the Facilities Management Company who shall ensure there are sufficient 3-bin systems located in each area for easy and clear segregation by residents, an example of which is shown below.

Public Park & Car Park Waste Management

Waste generated in the Public Park and in the Public Car Park shall be managed by the Facilities Management Company who shall ensure there are sufficient 3-bin systems located in each area for easy and clear segregation by members of the Public, an example of which is shown below. The management of waste in these Public Areas shall revert to Meath County Council when they have taken these areas in charge.

These bins shall be inspected and emptied on a daily basis.

Image of external amenity areas waste segregation recycling bin system



9.0 GENERATED WASTE TYPES & QUANTITIES

The most recent EPA Waste statistics (2019) on household waste generation states 628kg is produced per person per year.

A value of 1.7kg of waste generated per person per day has been therefore assumed for the purposes of this report to estimate the volume of waste to be generated at the proposed fully occupied development will be c. 2523Kg/day, 17,660Kg/week or 59m³/week.

Table 1 Domestic Waste Types per day/week

Waste Type	% Waste	Kg/week	Kg/day
Organic waste	30.6	5404	772
Paper	12.5	2207	315
Cardboard	3.6	636	91
Composites	1	177	25
Textiles	15.5	2737	391
Plastics	13.6	2402	343
Glass	3.4	600	86
Metals	3.1	547	78
Wood	1.2	212	30

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Hazardous municipal waste	0.9	159	23
Unclassified combustibles	1.4	247	35
Unclassified incombustibles	1.2	212	30
Fines	11.7	2066	295
Bulky Waste & WEEE	0.3	53	8
Totals	100	17,660	2523

10.0 WASTE COLLECTION STRATEGY

All bulk waste bins shall be brought from the communal bin storage areas to the designated demarcated bin collection areas within the development at road-level by the Facilities Management staff. Kerbside collections for houses shall apply.

The development shall include waste bin collection points in proximity to each communal bin store.

Table 3 Bin Collection Points Area Requirements

Apartment Block	Minimum Area (m ²)
Apartment Block A	6
Apartment Block B	6
Duplex Block A	4
Duplex Blocks B&C (combined)	6
Duplex Block D	4
Duplex Blocks E&F (combined)	6

Emptied bins shall be returned to the bin storage areas immediately following collection. Appendix I presents the waste collection vehicle dimensions and turning dimensions.

Image of bin transport from bin stores to collection point



11.0 CRECHE WASTE MANAGEMENT

Waste generated by the Creche shall be managed by the operators of the creche unit who shall engage a commercial waste contractor to collect waste generated.

Wastes from the creche shall be stored in 5 no. commercial 1100 litre waste bins within the curtilage of the premises and shall be segregated into grey (mixed un-recyclable waste), green (dry recyclable waste), and brown (organic waste).

A minimum bin storage area of 9m² is required.

12.0 SCOUT DEN WASTE MANAGEMENT

Waste generated in the Scout Den shall be managed by the Facilities Management Company in cooperation of the Scout Troop.

Waste shall be stored in 3 no. 240 litre waste bins (dry recyclable waste, organic waste and mixed unrecyclable waste) and waste glass shall be stored in a glass collection bag which shall be stored within the curtilage of the Scout Den.

A minimum bin storage area of 2m² is required.

13.0 CONCLUSIONS

The proposed residential development at Moygaddy, Co. Meath shall be designed and managed to provide residents with the required waste management infrastructure to minimise the generation of un-segregated domestic waste and maximise the potential for segregating and recycling domestic waste fractions.

The **Objective** of this Waste Management Plan is to maximise the quantity of waste recycled by residents by providing sufficient waste recycling infrastructure, waste reduction initiatives and waste collection and waste management information services to the residents of the development.

The **Goal** of this Waste Management Plan is to achieve a residential recycling rate of 50% of managed municipal waste and future targets in subsequent Regional Waste Management Plans.

Residents will be provided with waste recycling and proper waste disposal information by the site's Facility Management Company who will be responsible for providing clean, safe and mobility impaired accessible communal waste storage areas.

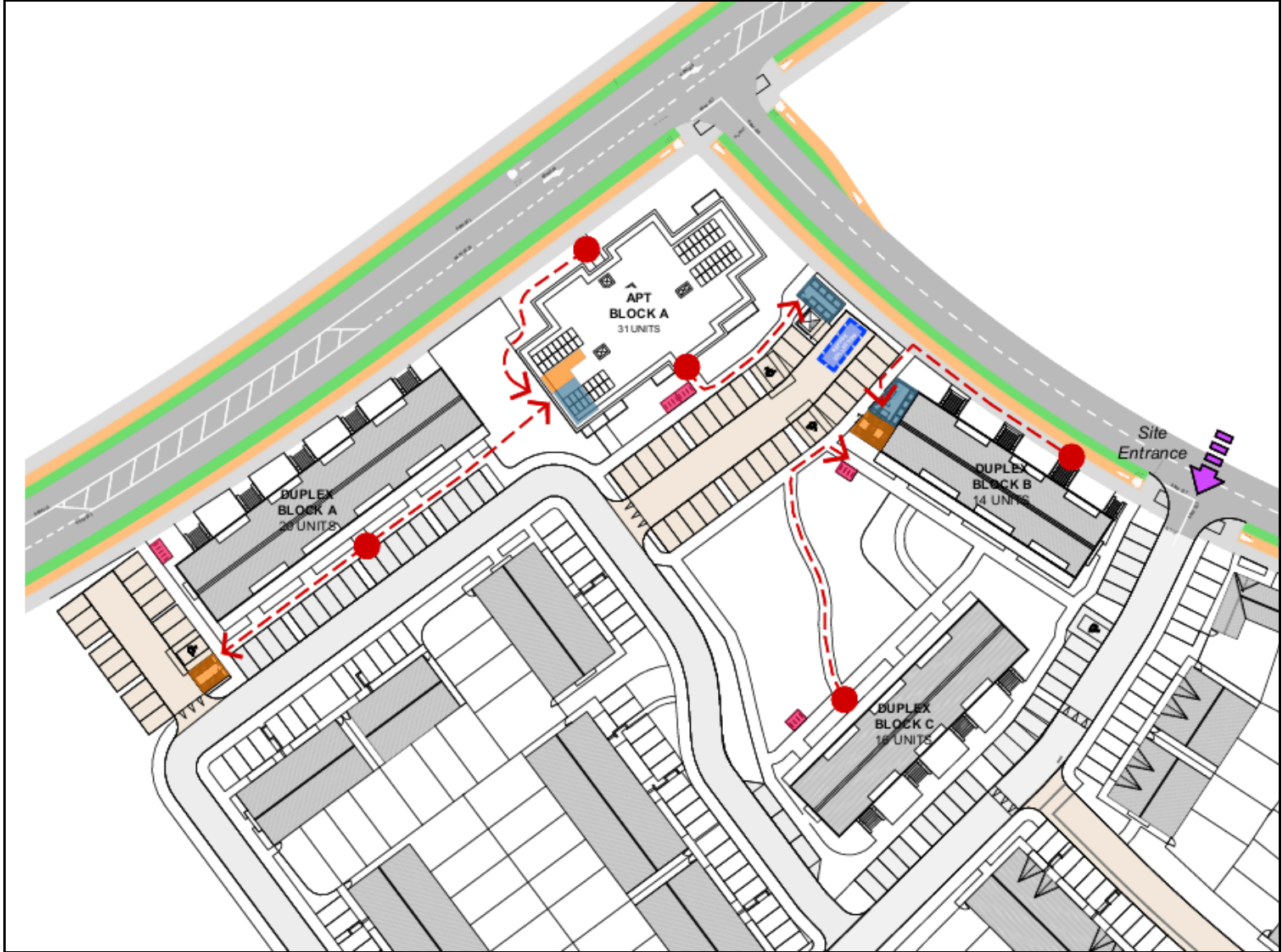
The Facility Management Company shall maintain a register of all waste volumes and types collected from the development each year including a break-down of recyclable waste and where necessary, shall introduce initiatives to further encourage residents to maximise waste segregation at source and recycling. They shall also provide an annual bulky waste collection service for all residents.

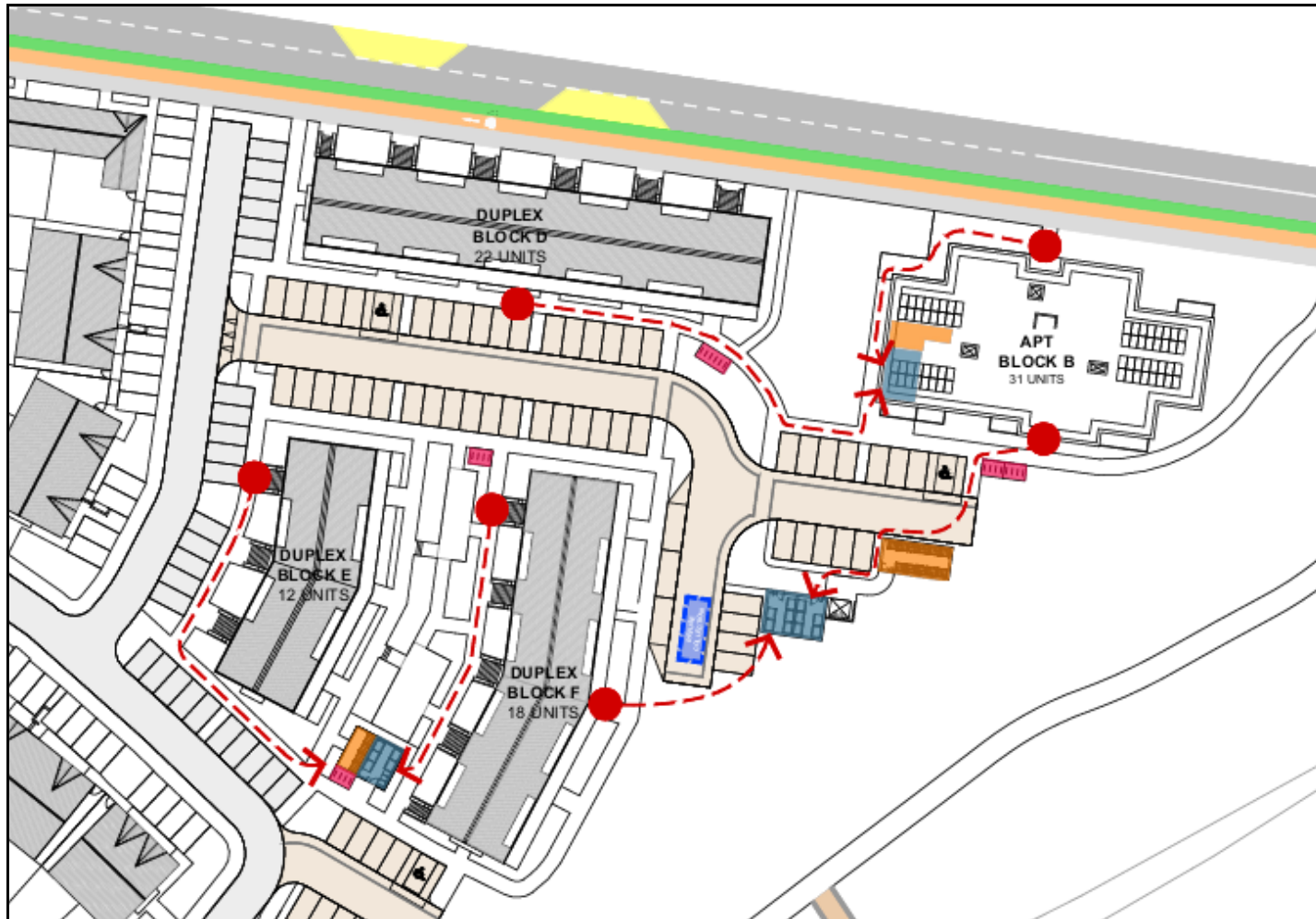
The development shall be designed to provide segregation at source bin systems in each dwelling. This will promote the appropriate segregation at source of domestic generated waste from all residential units at the development.

APPENDIX I
Bin Store Locations
&
Bin Collection Points



Areas A & B





APPENDIX II

Bin Collection Vehicle dimensions and minimum turning requirements

