



These locations are summarised in **Table 12.1**:

Traffic Count Locations		
Site No	Location	Type
1	Killininny Road/Ballycullen Road	Roundabout
2	Ballycullen Road/Stocking Avenue/R113	Roundabout (Proposed)
3	R113/Link Street	Signalised Junction
4	Bohernabreena Park	T-junction (proposed)

Table 12.32: Traffic Survey Locations

12.6.3 Temporal Scope

In line with EPA guidance, the duration of effects has been classified using the following: Momentary (seconds to minutes), Brief (<1 Day), Temporary (<1 Year), Short-term (1 to 7 years), Medium-term (7 to 15 years), Long-term (15 to 60 years), Permanent (>60 years).

The greatest environmental change will generally be when the project traffic is at its largest proportion of the total flow. It is therefore recommended that the environmental assessment should be undertaken at the construction/decommissioning phase and year of opening of the project or the first year of full of its operation.

It is expected that the majority of traffic generated by the development will be generated during the operational phase.

The assessment will consider the future years at which the peak construction traffic and operational traffic occurs.

The assessment scenarios are anticipated to be:

- Baseline Year – 2024 – ‘Do-Nothing’
- Construction Phase - ‘Do-Nothing’+ Construction Traffic.
- Opening Year – 2032 - ‘Do-Nothing’+ Operational Traffic.

A cumulative assessment has been built into the baseline data which is a combination of survey data and committed development data.



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12.6.4 Desktop study

12.6.4.1 Field work

Manual Classified Turning Count was undertaken on 14th of May 2023 between 07:00-10:00 and 16:00-19:00.

This data was converted into 24-Hour traffic flows figures using Project Appraisal Guidelines for National Roads Unit 16.1 - Expansion Factors for Short Period Traffic Counts (PE-PAG-02039) (October 2016) published by TII.

The recorded data, measured in vehicles, is illustrated in the table below along with the expansion factor and corresponding estimate of the 24-Hour traffic flows.

Location	Total Two-Way Movements	Factor	24-Hour Traffic Flows (Vehicles)
Site 1	13669	0.47	29083
Site 2	6212	0.47	13217
Site 3	2351	0.47	5873
Site 4	3052	0.47	6936

Table 12.33: 2024 Estimated 24-Hour Traffic Flows

12.6.5 Assessment Methodology

In the case of the proposed development the sensitive receptors have been considered to be pedestrians and cyclists, road users and the local highway network. The study area includes links and junctions which provide the most direct access routes to the application site and are, therefore, most likely to be affected by traffic arriving and departing the site.

Any links that do not meet defined selection criteria, have not been considered as part of the study area and have been excluded from further analysis in the assessment of significance of effect section.

12.6.6 Assessment Scenarios

Construction Stage

The construction traffic assessment has been limited to the roads immediately adjacent to the application site, as defined by the planning boundary, and any roads further afield where traffic increases by 30% or by 10% at nodes such as accident 'black spots', conservation areas, hospitals, or links with high pedestrian flows.

Potential construction traffic impacts from the Proposed Development have been assessed based upon the number of vehicle movements provided by the Project Team.

The assessment focuses on the most intensive year in terms of the number of construction vehicle movements, which has been considered against the 'Do Nothing' and 'Do Something' scenarios.

Operational Phase

The Proposed Development is anticipated to be completed and fully operational in 2032, when the development is fully built. The assessment considers the full quantum of development at this future year. Estimated trip generation for the Proposed Development was provided for the assessment.



Trips were distributed onto the local highway network based upon the directional splits from the classified traffic counts.

Pedestrian Severance, Delay, Amenity, Fear and Intimidation

Pedestrian severance, delay, amenity, fear and intimidation has been assessed by considering baseline traffic flows, future year traffic flows, as well as the potential impact of the proposed development in terms of change in traffic flows on each link within the study area.

Consideration has been given to daily traffic flows (estimated 24-Hour traffic flows) in respect of pedestrian severance, amenity, fear and intimidation for the construction and operational phases.

Driver Delay

The assessment considers the duration of delays or benefits occurring to road users on the local highway network based upon the estimated increase in traffic resulting from the Proposed Development for the construction and operational phases.

Accidents and Safety

The likely increase or decrease in the number of accidents resulting from the changes in traffic flows and composition for the construction and operational phases has been considered.

Cumulative Assessment

A review of cumulative schemes and their potential impacts on traffic flows on the local highway network has been undertaken. Predicted traffic flows generated by each of the following cumulative schemes have been considered:

1. SD23A0083
2. SD22A0356
3. SD23A 0149
4. SHD3ABP-310578-21

SD23A/0083

Residential development on a site measuring c. 2.56 hectares within the lands designated for the Ballycullen-Oldcourt Local Area Plan 2014 (as extended) consisting of 71 dwellings comprised of 41 three & four bed, two and three storey, detached, semi-detached and terraced houses and 30 two, three & four bed apartments & duplex units accommodated in 1 two/three storey block and 2 three storey blocks; Access to the proposed development will be from Oldcourt Road via permitted roads infrastructure previously granted permission under Planning Ref.'s SD17A/0468 and SD17A/0041 & PL0&S.249367; The proposed development also includes for car parking, bicycle parking, bin storage, communal open spaces, public open space, pedestrian & cyclist connections, landscaping & boundary treatments, drainage connections, road infrastructure etc. and all associated site development works on a site of c. 2.56 hectares.

SD22A/0356

Development on a site located south of Oldcourt Road, which forms part of all overall permitted residential development granted under Ref. SD17A/0468 & has the approved name of Ballycullen Gate; The proposed development consists of changes of dwelling type and increase in unit number from 17 permitted houses to 24 proposed houses; The proposed dwellings are comprised of the following: 5 three bed detached bungalows; 1



two bed detached bungalow; 2 two bed semi-detached bungalows; 1 two storey, 4 bed, detached house; 1 two storey, 3 bed, detached house; 2 two storey, 2 bed, semi-detached houses & 12 two storey, 3 bed, semi-detached houses; The proposed development also includes for all associated site development works, car parking, open spaces, and landscaping, on a site area of c. 0.88 ha. The proposed development will have the effect of modifying extant permission Ref. SD17A/0468 which has an overall site area of 3.8 hectares.

SD23A/ 0149

New educational campus, to be delivered on a phased basis comprising 1 No. part 3 storey, 1,000 pupil Post Primary School (Firhouse Educate Together Secondary School: Roll No. 68307J) and includes accommodation for children with special educational needs, a multi-purpose hall and all ancillary teacher and pupil facilities with a gross floor area of c. 11,021 sq.m; The development will also include and permanently incorporate elements of the temporary two storey post primary school development (permitted under An Bord Pleanála Ref: ABP-311141-21; South Dublin County Council Reg. Ref. SD21A/0137), including vehicular access from Oldcourt Road; 3 ball courts; 2 pedestrian and cyclist access points and 1 pedestrian only access point to the northern boundary of the site; car parking; surface water drainage; attenuation tanks; piped infrastructure and ducting; changes in level and all associated site development and excavation works above and below ground; The development will also include minor revisions to the previously permitted car parking area to allow for the provision of additional car parking spaces to serve the Post Primary School; The development will also include 3 additional ball courts and play areas; 1 storage building (c. 48 sq.m); car parking; electric vehicle charging points; bicycle parking; hard and soft landscaping; waste management provision; cycle and pedestrian routes; boundary treatments; ancillary ramps and stairs; signage; attenuation tank; PV panels; boiler and plant; surface water drainage and SuDS measures (including green roofs); 3 flag poles; street and security lighting; piped infrastructural services and connections; changes in level and all associated site development and excavation works above and below ground; The development will also consist of the retention of an ESB substation located to the south of the vehicular entrance at Oldcourt Road.

SHD3ABP-310578-21

329 residential units comprising 140 x2 storey houses (terraced/semi-detached/detached) and 4 x2-5 storey apartment blocks comprising 57 x1-bed apartments and 132 x2-bed apartment/duplexes. The proposed development also includes a 2-storey creche, a new public park, residential pocket parks, communal open space, car parking (surface/undercroft), bicycle parking, bin stores, plant areas/utilities infrastructure. Vehicular access to be provided from the existing road connection to Stocking Avenue to the west of the site, and via Stocking Wood Drive to the east of the site (with relocation of existing ESB kiosk and associated works to the existing hammerhead providing additional visitor parking for the existing estate). Pedestrian routes to the boundaries Abbots Grove Park, Stocking Wood Copse and White Pines Park also proposed. All associated site development works (including site reprofiling), landscaping, boundary treatments and services provision.

All the aforementioned cumulative schemes are located in close proximity to the site.

The traffic data associated with the selected cumulative developments has been sourced from their respective EIARs/Traffic and Transport Assessments. Where data does not exist, it has been estimated. This data has been combined with the traffic data for the baseline.



12.6.7 Assessment Criteria

The EPA and IEMA Guidelines were reviewed in order to identify appropriate significance criteria applicable to the assessment.

Paragraph 4.5 of the IEMA Guidelines states that: *"For many effects there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible"*.

Under EPA guidelines quality effects are described as either:

- Positive – a change which improves the quality of the environment (such as reduction of traffic, travel time or patronage, or provision of a new service, access or facility).
- Neutral – no effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error; and
- Adverse – a change which reduces the quality of the environment (such as increase of traffic, travel time, patronage or loss of service or facility).

The significance of pedestrian severance, delay, amenity, fear and intimidation effects has been determined by considering future baseline traffic flows obtained from the traffic surveys, as well as the potential impact of the proposed development in terms of change in traffic flows on each link within the study area by reference to the IEMA Guidelines and applying professional judgment.

Pedestrian Severance

The IEMA Guidelines acknowledge that the measurement and prediction of severance is extremely difficult and that the correlation between the extent of severance and the physical barrier of a road is not clear.

It notes that there are no predictive formulae which give simple relationships between traffic factors and levels of severance. However, the IEMA Guidelines do accept that in general, marginal changes in traffic flows are, by themselves, unlikely to create or remove severance.

Factors which need to be considered when determining severance comprise road width, traffic flows, speed of traffic, the presence of pedestrian crossing facilities and the number of pedestrian movements across the affected route.

The IEMA Guidelines suggest that:

- Changes in flow of up to 30% would produce slight changes in severance.
- Changes in flow of up to 60% would produce moderate changes in severance; and
- Changes in flow of up to 90% would produce substantial changes in severance.

It is recognised that these are guidelines only and are highly dependent on existing ambient traffic levels. They are not considered to be definitive measures of severance and should be used with care and regard paid to specific local conditions. The guidelines have been used to inform impact magnitude criteria for the assessment. Professional judgment has been applied to identify the likely scale of effects.



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Pedestrian Delay

The IEMA Guidelines note that changes in the volume, composition and/or speed of traffic may affect the ability of people to crossroads. Typically, increases in traffic levels result in increased pedestrian delay, although increased pedestrian activity itself also contributes. The IEMA Guidelines do not set any thresholds for absolute or actual changes in delay, recommending instead that assessors use their judgment to determine the significance of the impact.

The IEMA Guidelines refer to a report published by the Transport Research Laboratory (TRL) as providing a useful approximation for determining pedestrian delay. The TRL research¹⁴ concludes that the mean pedestrian delay was found to be eight seconds at flows of 1,000 vehicles per hour, and below 20 seconds at 2,000 vehicles per hour for various types of crossing condition.

A two-way flow of 1,400 vehicles per hour has been adopted as a lower threshold for assessment (equating to a mean 10 second delay for a link with no pedestrian facilities) in the TRL report.

Below this flow, pedestrian delay is unlikely to be a significant factor. This is deemed to be a robust starting point for narrowing down the modelled routes within the study area and ensuring the routes selected exceeded the suggested threshold of analysis in IEMA Guidelines. It should be noted that for controlled forms of pedestrian crossing the pedestrian delays are less.

As a result, any road with a two-way flow of less than 1,400 vehicles per hour is deemed to have a negligible effect. Roads above this are assessed on the basis of professional judgment.

Pedestrian Amenity

IEMA Guidelines define pedestrian amenity as the relative pleasantness of a journey and may be influenced by fear and intimidation if they are relevant. As with pedestrian delay, pedestrian amenity is considered to be affected by traffic volumes and composition along with pavement width and pedestrian activity. The IEMA Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flows are halved or doubled.

The Guidelines have been used to inform impact magnitude criteria for the assessment. Professional judgment has been applied to identify the likely scale of effects.

Pedestrian Fear and Intimidation

A number of factors are considered relevant in determining changes in the level of fear and intimidation experienced by pedestrians and cyclists including volume of traffic; percentage of HGVs; speed of traffic; proximity to people; and the availability and quality of pedestrian infrastructure.

¹⁴ Transport Research Laboratory, 1991. The Estimation of Pedestrian Numbers.



Pedestrian Fear and Intimidation Criteria			
Degree of Hazard	Average Traffic Flow over 18hr day (vehicles per hour)	Total 18-hr HGV Flow	Average Speed (mph)
Extreme	1,800+	3,000+	20+
Great	1,200–1,800	2,000–3,000	15-20
Moderate	600–1,200	1,000–2,000	10-15

Table 12.34: Pedestrian Fear and Intimidation Criteria

The IEMA Guidelines set out the criteria reproduced in Table 12.3 for measuring the effects of fear and intimidation.

The IEMA Guidelines stress the need for professional judgment when applying the above criteria. Accordingly, the guidelines have been used to inform impact magnitude criteria for the assessment. Professional judgment has been applied to identify the likely scale of effects.

Driver Delay

IEMA Guidelines note that driver delay can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system. Professional judgment has been applied to determine the significance of residual effects.

Accidents and Safety

There is no formal published guidance for the assessment of accidents and safety. Therefore, professional judgment has been applied to assess the implications of local circumstances and the Proposed Development's likely effect which may increase or decrease the risk of accidents.

12.6.8 Receptor Sensitivity/Value Criteria

Highway Network

The potential receptors are the users of transport networks within the relevant study area. The sensitivity of a road can be defined by the vulnerability of the user groups who are likely to use it, i.e., the elderly or children. A sensitive area may be where pedestrian activity is high, near a school, or an accident black spot.

It also takes into account the existing nature of the road, i.e., an existing residential area is likely to be more sensitive than a road capable of carrying larger volumes of traffic such as an R-Road, N-Road or M-Road.

The sensitivity of receptors has been classified as low, medium or high, in accordance with the criteria set out in Table 12.4.



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Pedestrian Fear and Intimidation Criteria	
Sensitivity	Criteria
High	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.
Medium	Receptors of moderate sensitivity to traffic flow: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision.
Very Low	Receptors with very low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.

Table 12.35: Receptor Sensitivity

Impact Magnitude Criteria

The magnitude of impact has been classified as low, medium or high, in accordance with the criteria set out in Table 12.5 below:

Impact Magnitude Criteria				
Impact	Assessment Criteria			
	Low	Medium	High	Very High
Severance	Increase in total traffic flows of 30% or under	Increase in total traffic flows of 30% – 60%	Increase in total traffic flows of 60%-90%	Increase in total traffic flows of 90% and above
Pedestrian Severance, Delay, Amenity, Fear and Intimidation	This has been assessed on a case-by-case basis using professional judgement subject to the sensitivity and vulnerability of the receptor. Threshold for judging the significance of changes to pedestrian amenity where the traffic flows is halved or doubled.			
Driver Delay	This has been assessed on a case-by-case basis using professional judgement subject to the sensitivity and vulnerability of the receptor. Impacts are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system.			
Accidents and Safety	Accident data for the local area have been reviewed and professional judgement have been applied to assess the implications of potential increase/decrease in traffic.			

Table 12.36: Scale of Effect Criteria

Scale of Effect Criteria

Impacts have been assessed on the basis of the value/sensitivity of receptors against the magnitude of impact to determine the scale of effect as presented in **Table F**. The matrix has been informed by the EPA Guidelines.



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Scale of Effect Criteria				
Magnitude	Sensitivity of Receptors			
	Very Low	Low	Medium	High
Low	Imperceptible	Not Significant	Slight	Slight
Medium	Not Significant	Slight	Slight	Moderate-Significant
High	Slight	Slight	Moderate-Significant	Very Significant
Very High	Slight	Moderate-Significant	Very Significant	Profound

Table 12.6: Scale of Effect Criteria

The criteria used to assess whether an effect is significant or not, are given in the EPA Guidelines 2022 and are set out in Table 4.1 in Chapter 4 of this EIAR. The significance of effects is determined by consideration of the sensitivity of the receptor, the magnitude of impact and scale of the effect. In assessing the significance of an effect, consideration has been given to the quality, duration, probability and type of the effect, and its geographical extent, and the application of professional judgement.

Based on professional judgement, moderate-significant, very significant and profound effects are considered significant in EIA terms.

Where the existing baseline HGV or total traffic flows are very minor, a small increase in vehicles would produce a large change in magnitude whereas in real terms the increase in traffic may still be considered to be negligible or slight. In these instances, appropriate professional and experienced judgements have been made.

Nature of Effect Criteria

- The nature of the effect has been described as either adverse , neutral or positive as follows:
- Positive – An advantageous effect to a receptor.
- Neutral – An effect that on balance, is neither positive nor adverse to a receptor; or
- Adverse – A detrimental effect to a receptor.

12.6.9 Assumptions and Limitations

Traffic generated from the proposed development is assigned to the network based on existing directional flows. Directional flows are based on traffic survey data.



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12.7. Baseline Conditions

12.7.1 Existing Baseline

The following paragraphs provide an overview of the current baseline transport and accessibility conditions within the study area considering the following:

- pedestrian and cycle facilities and access.
- public transport accessibility; and
- the operation of the existing highway network.

Consideration is also given to the existing baseline flows where available. This analysis provides the baseline context against which the transport movements and accessibility of the Proposed Development have been assessed.

The proposed site consists of the development of 319 No. houses, 204 No. apartments/duplexes and a 457sq. m creche.

Local Highway Network

Vehicular access to the development will be via 4 no. access points, as follows: (i) from the west of the site via 2 no. accesses located off Bohernabreena Road, (ii) from the north of the site via 1 no. access at Dodderbrook Place, and (iii) from Oldcourt Road (the R113) to the east, via adjoining residential development. The proposed development includes for pedestrian and cyclist connections and accesses to adjoining lands to the north, east and west, and includes for cycling and pedestrian routes and infrastructure throughout the development.

The site will be access via 2 No. signal-controlled junctions accessed of the Link Street permitted under South Dublin County Council Reg. Reg. SD17A/004. The development will also be accessed via apriority-controlled junction off Bohernabreena Road.

The proposed road scheme comprises a 6.5m wide carriageway, approx. 1500m in length with a with footpaths and verges. A two-way cycle track is located on the northern side of the Link Street linking Oldcourt Road to Bohernabreena Road.

Two bus stops were proposed along the proposed road link scheme. Based on feedback from the National Transport Authority, these bus stops will not be provided for in this application. Instead, the bus stops have been identified and designed to allow for their retrofitting across the footpath/cycle path at some point in the future.

Traffic calming will be provided through geometry design features with such as vertical deflections, particularly at junctions between the Link Street and internal estate roads where the footpath/cycle path crosses.

It is assumed that Ballycullen - Oldcourt LAP Main Link Street will operate with a 50km/h speed limit.

The Ballycullen - Oldcourt LAP Main Link Street will form a signal-controlled junction with at Bohernabreena Road in the west and Oldcourt Road to the east.

12.7.2 Public Transport

Bus Services

Bus transport within the vicinity of the proposed development is illustrated in the figure 12.2 overleaf.

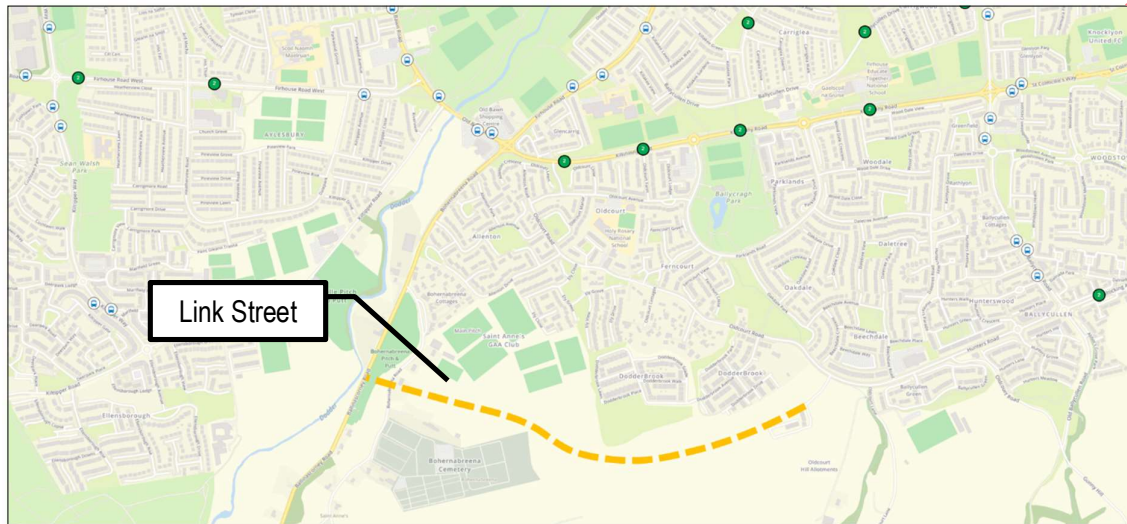


Figure 12.28 Bus Stop Locations (Source: TFI Transport Planner)

There are numerous bus operators providing a bus services locally and within walking distance to the site, with further details shown in Table 12.7 below.

No.	Route	Service		Mon-Fri	Sat	Sun
65B	Poolbeg St. - Citywest	Poolbeg St	First	05:50	05:50	09:00
			Last	23:30	23:30	23:30
		Citywest	First	06:50	07:00	08:30
			Last	23:30	23:30	23:30
		Frequency		Up to 20 services / day	Up to 19 services / day	Up to 15 services / day
175	Citywest – UCD	UCD	First	05:57	08:15	09:22
			Last	00:12	00:14	00:15
		Citywest	First	06:20	07:10	08:14
			Last	23:07	23:10	23:10



		Frequency		Up to 36 services / day	Up to 17 services / day	Up to 16 services / day
15/15B	Clongriffin - Ballycullen Rd.	Clongriffin	First	04:00	04:00	04:00
			Last	02:00	03:30	03:30
		Ballycullen Rd.	First	04:00	04:00	04:00
			Last	03:30	03:30	03:30
		Frequency		Up to 104 services / day	Up to 84 services / day	Up to 54 services / day
49	Pearse Street - Tallaght (The Square)	Pearse Street	First	06:10	06:45	10:30
			Last	23:20	23:20	23:30
		Tallaght (The Square)	First	06:15	06:45	09:30
			Last	23:30	23:30	23:30
		Frequency		Up to 37 services / day	Up to 27 services / day	Up to 15 services / day

Table 12.7: Local Bus Services

Rail

There is no rail facilities located in the vicinity of the Proposed Development.

12.7.3 Walking and Cycling Network

Pedestrians and Cyclists

The Oldcourt Road Main Link Street has various levels of cycle facilities along its alignment. These include off road cycle facilities. The Oldcourt Road Main Link Street has dedicated cycle facilities along this entirety.

Proposed pedestrian infrastructure in the area includes footpaths on all of the main link roads in the surrounding area. Drop kerbs are provided to facilitate people with mobility and visual impairments.

The site is well located to provide non-car access for residents and visitors of the proposed development with local access to retail, education, leisure, and public transport amenities. Public transport connections are within reasonable walking distance for commuter related trips.

12.7.4 Accident Data

A review of the Road Safety Authority (RSA) traffic collision database has been undertaken for the road network in the vicinity of the proposed site to identify any collision trends. This review will assist to identify any potential safety concerns in relation the existing road network.

Traffic collision data was obtained for the period 2005-2015, which is the most recent data available from the RSA website. These incidents are categorised into class of severity, which includes minor, serious or fatal collisions. The analysis is shown in Figure 12.3.

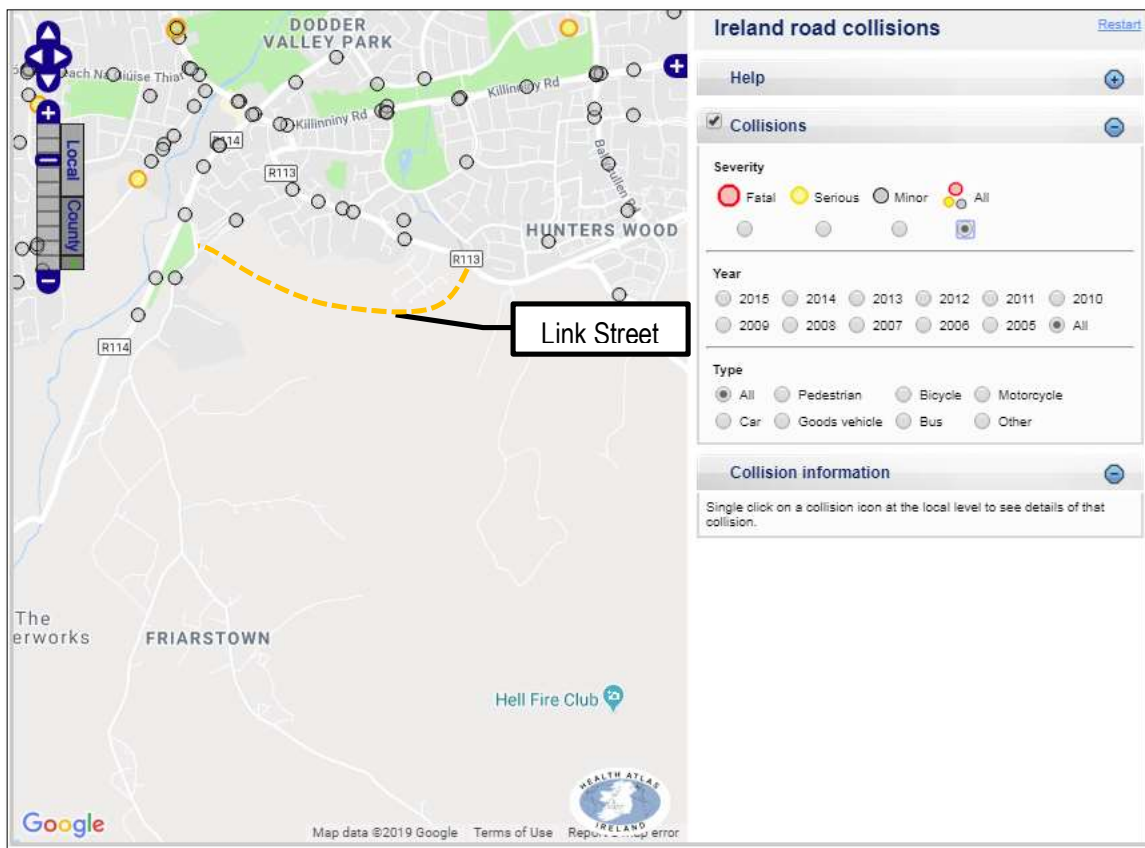


Figure 12.29 Road Collisions (Source: RSA)

The analysis has not identified any incidents adjacent to the proposed development access.



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12.8. Receiving Environment

12.8.1 Potential Effects of the Proposed Development

12.8.1.1 Do-Nothing Scenario

If the Proposed Development does not proceed there will be no additional traffic generated or works carried out on the road network and therefore no effects with respect to traffic.

12.8.1.2 Construction Phase

Construction activities, including but not limited to ground works, foundation pouring and equipment installation, will result in a temporary uplift in traffic on the local roads network.

Light and heavy vehicle construction traffic has been distributed across the surrounding network based on current directional flows as surveyed at the junction with Oldcourt Road and Bohernabreena Road.

A 3d terrain model has been produced to estimate the quantum cut and fill that the site will produce. The 3d terrain model suggests that up to 52,268 cu. m of topsoil will be produced. This will be stored on site and used for landscaping. Any balance will be exported off site.

In addition to topsoil, the site will also produce c. 73,178 cu. m of cut and 57,894 cu. m of fill. This will require the net cut of c. 15,286 cu. m of soil.

The rate at which net cut that will be generated on site for exploration will depend on phasing. At c. 30 cu. m per load, the exploration of cut on to the site will generate c. 500 HGV movements over the lifetime of the project.

It is assumed, based on similar sites run by the applicant, that at peak earthworks per phase, up to 10 HGV movements, 20 two-way movements, would be generated through the removal of soil from the site.

During ground works, various spoil heaps will be created on site. Suitable material will be mounded to create a berm and in turn will allow for the material to be deposited onto the HGVs by excavator when needed.

The road marshal appointed will be responsible to ensure that there is no disruption to traffic or pedestrians and that roadways and paths are kept clean and free of debris.

Whilst it is not possible at this stage to accurately identify the day-to-day traffic movements associated with the construction waste, based on experience of similar sites it is considered that the number of constructions related heavy goods vehicle movements to and from the application site will be on average 2-5 arrivals/departures per day over a 5-year construction period.

Whilst it is not possible at this stage to accurately identify the day-to-day traffic movements associated with material delivery, based on experience of similar sites it is considered that the number of constructions related heavy goods vehicle movements to and from the application site will be on average 2-5 arrivals/departures per day over a 5-year construction period.

At the peak of construction, it is anticipated that there will be a requirement for approximately c.50 construction workers. This will vary over the lifetime of the project. With shared trips accounted for, it is estimated that between 30 and 40 trips will be associated with construction workers.



Should these activities have similar peaks, the development may generate up to 120 two-way movements per day maybe expected.

The traffic generated by the development is applied to each node to give the worst-case scenario and would take into account potential variations in traffic generated by the development depending on the phase in question. This resulted in a maximum uplift of 1.88%.

Percentage Increase between Do Nothing and Do Something Operational Phase			
Location	Construction Phase		
	Baseline Flows	Construction Flows	% Impact
2025-2032			
Site 1	31,997	120	0.36%
Site 2	14,541	120	0.83%
Site 3	6,461	120	1.86%
Site 4	7,631	120	1.57%

Table 12.37: Percentage Increase between Do Nothing and Do Something Construction Phase

The effect will be temporary, lasting the duration of this phase of the construction program with a moderate impact.

It is considered that the above effects represent a worst-case daily scenario, based on the estimated construction program and the assumption that all deliveries are made via one route.

In accordance with the IEMA Guidelines, the assessment would focus on the highway network where a potential increase in traffic of greater than 30% has been identified.

In accordance with IEMA Guidelines, projected changes in traffic flows of less than 10% create no discernible environmental effect. Therefore, the effects to transport and access during construction would be temporary, slight and adverse in EIAR terms for:

- Pedestrian Severance, Delay, Amenity, Fear and Intimidation; and
- Driver Delay.

For Accidents and Safety, the effects to transport and access during construction would be temporary, moderate-significant, adverse and not significant in EIAR.

Refer to Figure 8 in the Outline Construction Traffic Management Plan for details of the proposed haulage routes to/from the site.

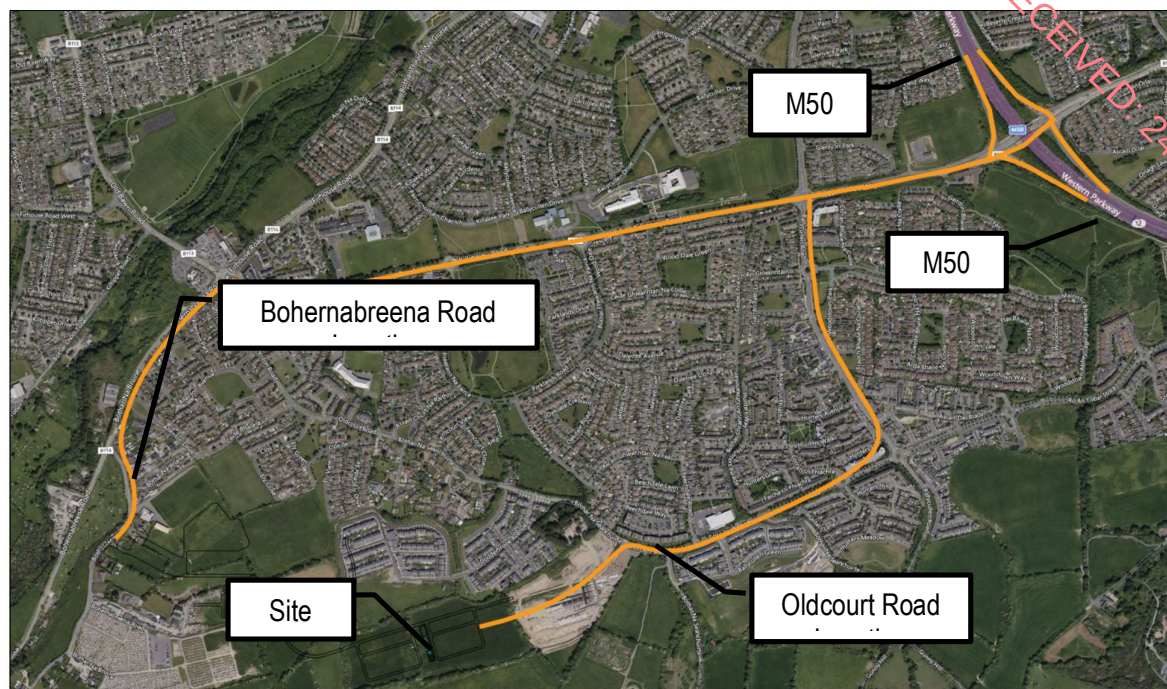


Figure 12.4 Road Collisions (Source: RSA)

12.8.1.3. Operational Phase

The development is likely to be built from 2025 to 2032, the length of its planning permission. The development will be built and occupied on a phased basis with full occupancy expected to happen in 2032.

Percentage Increase between Do Nothing and Do Something Operational Phase			
Location	Operational Phase		
	Baseline Flows	Development Flows	% Impact
2032			
Site 1	31,997	462	1.44%
Site 2	14,541	761	5.23%
Site 3	6,461	1407	21.76%
Site 4	7,631	589	7.72%

Table 12.38: Percentage Increase between Do Nothing and Do Something Operational Phase

This will be adverse, resulting in an increase in traffic levels by up to 21.76% at Site 3, the signal-controlled junction between the Link Street Permitted under Reg. Reg. SD17A/004 and Oldcourt Road.

During the operational phase the effect on the surrounding local highway network will be adverse and long term.

Less than a 30% increase is considered to result in imperceptible changes in the environmental effects of traffic. The IEMA Guidelines considered that projected changes in traffic flows of less than 10% create no discernible environmental effect.



In accordance with IEMA Guidelines, projected changes in traffic flows of less than 30% create no perceptible environmental effect.

Therefore, the effects to transport and access during operation would be permanent, slight and adverse in EIA terms for:

- Pedestrian Severance, Delay, Amenity, Fear and Intimidation; and
- Driver Delay.

For Accidents and Safety, the effects to transport and access during the operational phase would be permanent, moderate-significant, adverse and not significant in EIA.

12.8.1.4 Decommissioning Phase

No decommissioning phase is anticipated. Homeowners will be expected to maintain each dwelling to extend its service life.

12.9. Mitigation Measures

12.9.1 Do-Nothing Scenario

If the Proposed Development does not proceed there will be no additional traffic generated or works carried out on the road network and therefore no effects with respect to traffic.

12.9.2 Construction Phase

The successful completion of the Proposed Development will require significant coordination and planning, and a comprehensive set of mitigation measures will be put in place before and during the construction phase to minimise the effects of the additional traffic generated by the Proposed Development. The range of measures will include the following which are also set out in the submitted Construction Traffic Management Plan, which is enclosed with this LRD planning application as a separate document.

- A detailed **Construction Traffic Management Plan (CTMP)**, incorporating all the mitigation measures set out in the TMP submitted as part of the CTMP, will be finalised and agreed with the relevant road authorities and An Garda Síochána prior to construction works commencing on site. The detailed TMP will include the following:
- **Traffic Management Coordinator** – a competent Traffic Management Co-ordinator will be appointed for the duration of the project and this person will be the main point of contact for all matters relating to traffic management.
- **Communications**: Local residents in the area will be informed of any upcoming traffic related matters e.g., temporary lane/road closures (if required), via letter drops and door knocks. Information will include the contact details of the Contract Project Co-ordinator, who will be the main point of contact for all queries from the public or Local Authority during normal working hours. An "out of hours" emergency number will also be provided.
- **Travel Plans** – Given the site location, the assessment above has assumed the worst case i.e., that construction workers will drive to the site. The Main Contractor will be required to provide a travel plan for



construction staff, which will include the identification of routes to / from the site and identification of an area for parking.

12.9.2.1 Site Access and Egress

Site access will be provided via the new Link Street on to Oldcourt Road and Bohernabreena Road. These will coincide with the future development access.

An access gate will be provided during the construction phase off the Link Street from Oldcourt Road and Bohernabreena Road.

The contractor shall provide advanced warning signs, in accordance with Chapter 8 of the Department of the Environment's Traffic Signs Manual 2019, on the approach to proposed site access locations a minimum of one week prior to construction works commencing at the site.

There will be heras fencing secured to a minimum height of 2 metres alongside the construction compound areas or solid panel hoarding in areas with high/low viewing panels to help reduce unauthorised access to the construction compound.

This fence will be checked daily and maintained as necessary, and it will be the responsibility of the Site Manager to open and lock the gates each working day to ensure the site is not left open and unattended at any time.

Access to the construction site will be limited to authorised persons. The site will be secured at all times with security being employed by the main contractors to ensure no unauthorised access.

Where possible, construction traffic and non-construction traffic will be separated for all modes of transport. Where the construction programme requires mixing of traffic, additional temporary traffic management measures will be put in place.

12.9.2.2 National Road Network

Access to the site along the National Road Network will be via the M50. It is anticipated that the majority of construction related traffic will travel along the M50 at which point construction traffic will enter the regional/local road network i.e., R113

12.9.2.3 Regional & Local Road Network

The majority of access / egress to proposed sites shall be facilitated from the local road networks. To mitigate against possible restrictions in visibility requirements, it is proposed that the contractor shall use a safe system of permanent flag men for the control of traffic during all access / egress operations at each site location, if required. The site marshal, referred to above, will be responsible for this.

The site will be accessed via 2 No. access points via the Oldcourt Road and an Bohernabreena Road. These roads will be accessed via the Link Street.

The contractor shall utilise a safe system of permanent flag men for the control of traffic during all access / egress operations at each site location outlined above. The site marshal, referred to above, will be responsible for this.



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The proposed Access from Link Street will be used for works traveling via public transport.

12.9.2.4 Access

Access to the site will be in the location of the proposed development accesses each of which will be accessed via the Link Street. The contractor will ensure a visibility splay that is appropriate for the local speed limit.

12.9.2.5 Local Schools.

Haulage routes will avoid passing local schools at the start and end of the school day.

12.9.2.6 Signage

The contractor shall undertake consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements. Such signage shall be installed prior to works commencing on site.

Proposed signage may include warning signs to provide warning to road users of the works access / egress locations and the presence of construction traffic. All signage shall be provided in accordance with the Department of Transport's Traffic Signs Manual, Chapter 8 – Temporary Traffic Measures and Signs for Roadworks.

In summary, the contractor will be required to ensure that the following elements are implemented:

- Consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements.
- Provision of temporary signage indicating site access route and locations for contractors and associated suppliers; and
- Provision of general information signage to inform road users and local communities of the nature and locations of the works, including project contact details.

12.9.2.7 Traffic management for road works

The Applicant is currently reviewing the positions of any incoming services that maybe affect as a result of the proposed development. This will be done in conjunction with the relevant service providers.

If work must be done in the Public Highway the Main Contractor will ensure that the Main Contractor obtains the necessary licences and permits in time for the works to proceed on time.

The Main Contractor will procure street works accredited and approved contractors to carry out the utility works. In accordance with plans and drawings submitted to the planning authority, and subject to the necessary approval of Uisce Éireann and in agreement with the Roads and Transport Department of the Local Authority (SDCC).

A specific Traffic Management Plan (TMP) will be required by the Local Authority in conjunction with the application for a road opening licence, in advance of carrying out these road works. The TMP design and service will be provided by an independent specialist and will deal with the efficient management of traffic and pedestrians, mitigating all potential safety risks to users, whilst maintaining effective operation of the carriageway.



12.9.2.8 Pedestrians

Hoarding will be checked daily with a weekly thorough inspection. Any defects will be attended to immediately. The Main Contractor will ensure that there is adequate protection in place to prevent concrete splashing beyond the site boundary when the concrete slabs are being poured. The Main Contractor will carry out a task specific briefing prior to every pour above ground level.

The gateman and traffic marshals will ensure public safety when vehicles are entering and exiting the site. The public will not be allowed to access the site unless they follow the dedicated pedestrian access route on to site. They will be fully protected with appropriate PPE until they reach the security cabin. There is no unauthorised access beyond this point.

12.9.2.9 Programming

In order to reduce impacts on local communities and residents adjacent to the proposed sites, it is proposed that:

- The contractor will be required to liaise with the management of other construction projects and the Local Authorities to co-ordinate deliveries.
- The contractor will be required to schedule deliveries in such a way that construction activities and deliveries activities do not run concurrently e.g., avoiding pouring of concrete on the same day as material deliveries in order to reduce the possibility of numbers of construction delivery vehicles arriving on site simultaneously, resulting in build-up of traffic on the road network.
- The contractor will be required to schedule deliveries to and from the proposed site such that traffic volumes on the surrounding road network are kept to a minimum.
- HGV deliveries to the Proposed Development site will be suspended on the days of any major event in the area that have the potential to cause larger than normal traffic volumes.
- The contractor will be required to interact with members of the local community to ensure that deliveries will not conflict with sensitive events such as funerals.
- HGV deliveries will avoid passing schools at opening and closing times where it is reasonably practicable.
- Deliveries of materials to site will generally be between the hours of 08:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays. There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.

The construction period for the Proposed Development is anticipated to be approximately 18 months from the commencement of the site works. This is subject to change and dependent on market conditions.

12.9.2.10 Recommended Traffic Management Speed Limits

Adherence to posted/legal speed limits will be emphasised to all staff/suppliers and contractors during induction training.

Drivers of construction vehicles/HGVs will be advised that vehicular movements in locations, such as local community areas, shall be restricted to 50km/h. Special speed limits of 30km/h shall be implemented for construction traffic in sensitive areas such as school locations. Such recommended speed limits will only apply to construction traffic and shall not apply to general traffic. It is not proposed to signpost such speed limits in the interest of clarity for local road users.



12.9.2.11 Spoil

Spoil will be removed from site using 8-wheeler muck away lorries. The lorries will arrive at site and will be marshalled onto the site by the traffic marshals. The lorries will be loaded with an excavator. The lorries will be covered prior to leaving site. The traffic marshal will escort the vehicle off site and once the vehicle is on its way, the next vehicle will be called in.

12.9.2.12 Road Cleaning

It shall be a requirement of the works contract that the contractor will be required to carry out road sweeping operations to remove any project related dirt and material deposited on the road network by construction/delivery vehicles. All material collected will be disposed to a licensed waste facility.

12.9.2.12 Road Condition

The extent of the heavy vehicle traffic movements and the nature of the payload may create problems of:

- Fugitive losses from wheels, trailers or tailgates; and
- Localised areas of subgrade and wearing surface failure.

The contractors shall ensure that:

- Loads of materials leaving each site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The transportation contractor shall take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses from a vehicle during transportation to and from site, including but not limited to:
 - Covering of all waste or material with suitably secured tarpaulin/ covers to prevent loss.
 - Utilisation of enclosed units to prevent loss; and
 - The roads forming part of the haul routes will be monitored visually throughout the construction period and a truck mounted vacuum mechanical sweeper will be assigned to roads along the haul route as required.

In addition, the contractor shall, in conjunction with the Local Authority:

- Undertake additional inspections and reviews of the roads forming the haul routes one month prior to the construction phase to record the condition of these roads at that particular time.
- Such surveys shall comprise, as a minimum, a review of video footage taken at that time, which shall confirm the condition of the road corridor immediately prior to commencement of construction. This shall include video footage of the road wearing course, the appearance and condition of boundary treatments and the condition of any overhead services that will be crossed. Visual inspections and photographic surveys will be undertaken of bridges and culverts that are along the haul roads.
- Where requested by the Local Authority prior to the commencement of construction operations, pavement condition surveys will also be carried out along roads forming part of the haul route. These will record the baseline structural condition of the road being surveyed immediately prior to construction.
- Throughout the course of the construction of the Proposed Development, on-going visual inspections and monitoring of the haul roads will be undertaken to ensure any damage caused by construction traffic is



recorded and that the relevant Local Authority is notified. Arrangements will be made to repair any such damage to an appropriate standard in a timely manner such that any disruption is minimised.

Upon completion of the construction of the Proposed Development, the surveys carried out at preconstruction phase shall be repeated and a comparison of the pre and post construction surveys carried out. Where such comparative assessments identify a section of road as having been damaged or as having deteriorated as a result of construction traffic, the construction related damage will be repaired.

12.9.2.13 Vehicles

The following is a non-exhaustive list of possible vehicles that will be used:

- Abnormal Load HGV.
- HGV.
- Rigid Truck.
- Box Van.
- Panel Van.
- Concrete Truck.
- Concrete Pump Truck.
- Mobile Crane (various sizes).
- JCB (various sizes).
- Excavators (various sizes).
- Dump Truck.
- Specialist vehicles maybe required on occasion; and
- Details of size and weights of vehicles will be confirmed on appointment of a Main Contractor.

12.9.2.14 Dust and Dirt Control

The contractor will be obliged to implement the mitigation measures outlined in the EIAR Chapter 8: Air Quality Chapter in respect of dust / dirt control.

12.9.2.15 Noise Control

The contractor will be obliged to implement the mitigation measures outlined in the EIAR Chapter 10: Noise and Vibration in respect of noise control.

12.9.2.16 Protection of Surface Waters

The contractor will be obliged to implement the mitigation measures outlined in the Hydrology Chapter of EIAR in respect of the protection of the surface water.



12.9.2.17 Co Ordination

The Main Contractor will establish a holding area on the site that could accommodate up to 2 concrete trucks, the Main Contractor will also provide a traffic marshal at the site. The holding area will be utilised to prevent congestion of the Link Street from construction traffic.

All vehicles will be tracked by the traffic marshals who will report back to the logistics manager. The logistics manager will control the deliveries with help from the traffic marshals and the gateman. Unscheduled vehicles will be turned away. If deliveries are taking longer to offload, then the following deliveries will be notified of any timing issues.

A copy of the delivery schedule will be issued to the traffic marshals, gateman and contractors' supervisors every morning so that everyone is aware and can make provision for when their delivery arrives.

The traffic marshals will be trained and competent and they will undergo ongoing assessments by the logistics manager to ensure that they are carrying out their duties with due care diligence.

12.9.2.18 Refuelling

Construction plant and equipment will only be parked over-night within the site compound. Construction plant and equipment will be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.

Fuel will not be stored on site for the duration of the construction phase. Fuel will only be brought to site via mobile fuel bowser. For any liquid other than water, this will be stored in suitable tanks and containers which will be housed in the designated area surrounded by bund wall of sufficient height and construction so as to contain 110 percent (110%) of the total contents of all containers and associated pipework. The floor and walls of the bunded area will be impervious to both water and oil. The pipes will vent downwards into the bund.

Where Contractors require to refuel vehicles, this will only be carried out at the designated refuelling location within the site storage compound, which must employ pollution control mechanisms to prevent escape of fluids to the river. No refuelling is permitted on site, i.e., within the river or adjacent due to risk of spillage.

The Local Authority will be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase. Spill kits will be maintained on site at all times.

All small plant such as generators and pumps bunded and stood in drip trays capable of holding 110% of their tank contents.

Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

12.9.2.19 Site Tidiness and Housekeeping

Construction works will be carried out according to a defined schedule agreed with the client and the relevant contractors, with regard to the hours of work outlined above. Any delays or extensions required will be notified at the earliest opportunity to the client and Contractors.

Contractors will ensure that road edges and footpaths are swept on a regular basis.

Any and all waste materials arising during the works will either be immediately taken to a location from which discharge



to local water courses cannot take place, or temporarily stored/covered to prevent washout.

All Contractors will be responsible for the clearance of their plant, equipment and any temporary buildings upon completion of construction. The site will be left in a safe condition.

12.9.2.20 Monitoring, Inspection and Record Keeping

The contractor will be obliged to implement the mitigation measures outlined in the Construction and Environmental Management Plan and the Construction Traffic Management Plan with respect to monitoring, inspections and record keeping.

12.9.2.21 Road Closures

During the course of the works, it is not anticipated that road closures will be required for any extended period of time. Temporary or partial road closures may be required to facilitate utility connections such as watermain, foul water, surface water, etc.

Should works be required on the external road network, road opening licences will be sought from the Local Authority via the Road Management Office.

In areas where existing carriageways are narrow, it is anticipated that Temporary Traffic Management measures such as temporary traffic lights will be utilised to facilitate traffic.

12.9.2.22 Enforcement of Construction Traffic Management Plan

All project staff and material suppliers will be required to adhere to the CTMP (which is a live document). As outlined above, the contractor shall agree and implement monitoring measures to confirm the effectiveness of the CTMP.

12.9.2.23 Details of Working Hours and Days

All deliveries will be notified to the Contractor's Project Manager/Traffic Management Co-ordinator in advance with specific times identified. These will be collated and held in a diary by the Co-ordinator who will manage the deliveries daily. The Co-ordinator will highlight any clashes and anticipated busy periods to streamline the processing of deliveries.

On arrival at the agreed locations, drivers must wait and ring for attention in accordance with the relevant site signage. They will then be escorted to the appropriate location for unloading by the contractor's Banksman. Unloading will be carried out at one of the material storage areas. All deliveries, where possible, must be able to be unloaded by forklift or mechanical means.

Site development and building works shall be carried out only between the hours of 0700 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays.

There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. Where possible, advance warning will be given to South Dublin County Council in writing if construction activities occur outside of these hours. These will be kept to a minimum.

All access roads used by contractors will be monitored for mud and any construction materials and cleared using a shovel and broom and if required a mechanical road sweeper.



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12.9.2.24 Emergency Procedures During Construction

The contractor shall ensure that unobstructed access is provided to all emergency vehicles along all routes and site accesses. The contractor shall provide to the local authorities and emergency services, contact details of the contractor's personnel responsible for construction traffic management. In the case of an emergency the following procedure shall be followed:

- Emergency Services will be contacted immediately by dialling 112.
- Exact details of the emergency / incident will be given by the caller to the emergency line operator to allow them to assess the situation and respond in an adequate manner.
- The emergency will then be reported to the Site Team Supervisors and the Safety Officer. All construction traffic shall be notified of the incident (where such occurs off site).
- Where required, appointed site first aiders will attend the emergency immediately; and
- The Safety Officer will ensure that the emergency services are en-route.

12.9.2.25 Complaints Handling

The Main Contractor will maintain a log of site complaints detailing:

- Name and address of complainant
- Time and date complaint was made.
- Likely cause or source of nuisance
- Weather conditions, such as wind speed and direction
- Investigative and follow -up actions.

The Main Contractor will appointment a Liaison Officer as a single point of contact to engage with the local community and respond to concerns. It will be the role of the Liaison Officer to keep local residents and businesses informed of progress and timing of particular construction activities that may impact on them.

12.9.2.26 Communication

The contractor shall ensure that close communication with the relevant local authorities and the emergency services shall be maintained throughout the construction phase. Such communications shall include:

- Submissions of proposed traffic management measures for comment and approval.
- On-going reporting relating to the condition of the road network and updates to construction programming; and
- Information relating to local and community events that could conflict with proposed traffic management measures and construction traffic in order to implement alternative measures to avoid such conflicts.

The contractor shall also ensure that the local community is informed of proposed traffic management measures in advance of their implementation. Such information shall be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information shall contain contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures, etc., which may conflict with proposed traffic management measures.



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12.9.3 Operational Phase

Vehicular access to the development will be via 4 no. access points, as follows: (i) from the west of the site via 2 no. accesses located off Bohernabreena Road, (ii) from the north of the site via 1 no. access at Dodderbrook Place, and (iii) from Oldcourt Road (the R113) to the east, via adjoining residential development. The proposed development includes for pedestrian and cyclist connections and accesses to adjoining lands to the north, east and west, and includes for cycling and pedestrian routes and infrastructure throughout the development.

The normal function of traffic lights requires more than sight control and coordination to ensure that traffic and pedestrians move as smoothly, and safely as possible.

For signal-controlled junctions all arms are controlled by traffic lights that indicate which approach has the right of way at any given time. This ensures that side road traffic is given the opportunity to cross/join the main road flow. It also allows pedestrians and cyclists to cross along the desire lines in a safe and controlled manner.

Dedicated infrastructure will be provided for pedestrians, cyclists and other vulnerable road users. Were possible, this infrastructure will separate vehicles from pedestrians, cyclists and other vulnerable road users reducing the possibility of a road traffic collision occurring.

Where vehicles interact with pedestrians, cyclists and other vulnerable road users it will be done in a controlled manner. To that end, the proposed development includes a number of controlled crossings such as the signal-controlled junction from the Link Street to Oldcourt Road and Bohernabreena Road. Along the Link Street, a signal-controlled crossing has also been provided, linking the southern side of the development to the northern side.

Dedicated separated cycle infrastructure is provided along the Link Street with controlled crossings provided to accommodate cycling desire lines including to adjoining developments. Cyclist will share road space in areas of low traffic volume and low speed.

A number of uncontrolled crossings are provided throughout the development for pedestrians. These uncontrolled crossings have been designed to accommodate persons with visual impairments and mobility impairments. Pedestrians are given priority across junctions from the Link Street along the cycle track.

12.9.4 Decommissioning Phase

No decommissioning phase is expected for the development. The proposed development maybe subject to refurbishment, either on an individual basis or a block-by-block basis. In either scenario, Decommissioning phase is unlikely to generate traffic at the same levels of other phases assessed.

12.10. Residual Effects

12.10.1 Do-Nothing Scenario

If the Proposed Development does not proceed there will be no residual effects.

12.10.2 Construction Phase

During the construction phase of the Proposed Development, it is predicated that the additional traffic that will appear on the delivery routes indicated in Figure 12.3, which will have a moderate and short-term effect on existing road users, will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2. This includes the



implementation of a CTMP which will be implemented by the appointed Main Contractor.

While traffic delays will be incurred resulting in a slight, temporary impact on local traffic, and potentially on local businesses.

Effects on Pedestrians /Cyclists

During the construction phase of the Proposed Development, it is predicated that a maximum of 20 HGV trips per day will appear on the delivery routes indicated in Figure 12.3, which will have a moderate and short-term effect on pedestrian and cyclists, which will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2.

Driver Delay

During the construction phase, it is predicated that driver delay will increase as additional traffic enters the road network locally as a result of construction activities at the development site.

Driver delay will be moderate and short-term during the Construction Phase, which will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2.

Accidents and Safety

During the construction phase, it is predicated that risk of an accident occurring will increase along with the potential severity in injury due to the increase in HGV activity.

At accident 'black spots', conservation areas, hospitals or links with high levels of vulnerable road user activity the impact of accidents and safety will be significant and short-term during the Construction Phase, which will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2.

Based on the implementation of mitigation measures the residual construction effects are as follows:

- Not significant, adverse effects and short term for Pedestrian Severance, Delay, Amenity, Fear and Intimidation that are not significant in EIA terms.
- Not significant, adverse effects and short term for Driver Delay that are not significant in EIA terms; and
- Slight adverse effects for Accidents and Safety that are not significant in EIA terms.

12.10.3 Operational Phase

The effects to transport and access during operation phase would be permanent, slight and adverse in EIAR terms for:

- Pedestrian Severance, Delay, Amenity, Fear and Intimidation; and
- Driver Delay.

For Accidents and Safety, the effects to transport and access during the operational phase would be permanent, moderate-significant, adverse and not significant in EIAR.

While traffic delays will be incurred resulting in a slight, temporary impact on local traffic, the installation of the traffic



signals will manage optimising safe pass for all road users through the relevant junctions.

Effects on Pedestrians /Cyclists

During the operational phase of the Proposed Development, it is predicated that up to 1996 trips per day will be generated by the proposed development, which will have a moderate and permeant effect on pedestrian and cyclists, which will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2.

Driver Delay

During the operational phase, it is predicated that driver delay will increase as additional traffic enters the road network locally as a result of occupation of the dwellings.

These delays will peak upon full occupation of the development.

Driver delay will be moderate and permanent during the Operational Phase, which will be minimised with the implementation of the mitigation measures outlined in Section 12.9.2.

Accidents and Safety

During the Operation Phase, it is predicated that risk of an accident occurring will increase along with the potential severity in injury due to the increased volume of traffic that will interact with pedestrians, cyclists and other vulnerable road users.

Based on the implementation of mitigation measures the residual construction effects are as follows:

- Not significant, adverse effects and permeant for Pedestrian Severance, Delay, Amenity, Fear and Intimidation that are not significant in EIA terms.
- Not significant, adverse effects and permeant for Driver Delay that are not significant in EIA terms; and
- Slight adverse effects for Accidents and Safety that are not significant in EIA terms.
- No additional mitigation would be required; therefore, the residual operation effects remain as reported in the assessment of effects section, i.e.:
- Imperceptible, adverse effects for Pedestrian Severance, Delay, Amenity, Fear and Intimidation that are not significant in EIA terms.
- Imperceptible, adverse effects for Driver Delay that are not significant in EIA terms; and
- Imperceptible, adverse effects for Accidents and Safety that are not significant in EIA terms.

As stated above, all impacts from the operation of the proposed development would be permanent whilst the site remains operational.

12.10.4 Decommissioning Phase

No additional enhancement measures would be required for the Decommissioning Phase.



12.10.5 Summary of Residual Effects

Table 12.10 provides a summary of the potential effects identified as a result of the proposed development. Where **significant positive effects** are likely these are highlighted in bold green and where **significant adverse effects** are predicted these are highlighted in bold red.

Summary of the Potential Effects Identified	
Item	Outcome
None identified	None identified

Table 12.39: Summary of the Potential Effects Identified

12.11. Monitoring

The proposed construction material haul routes will be monitored during the construction phase to identify any damage which may have been caused by construction traffic.

In order to monitor this, the Main Contractor, in conjunction with the Local Authority shall ensure the following:

- Undertake additional inspections and reviews of the roads forming the haul routes one month prior to the construction phase to record the condition of these roads at that particular time.
- Such surveys shall comprise, as a minimum, a review of video footage taken at that time, which shall confirm the condition of the road corridor immediately prior to commencement of construction. This shall include video footage of the road wearing course, the appearance and condition of boundary treatments and the condition of any overhead services that will be crossed. Visual inspections and photographic surveys will be undertaken of bridges and culverts that are along the haul roads.
- Where requested by the Local Authority prior to the commencement of construction operations, pavement condition surveys will also be carried out along roads forming part of the haul route. These will record the baseline structural condition of the road being surveyed immediately prior to construction.
- Throughout the course of the construction of the Proposed Development, on-going visual inspections and monitoring of the haul roads will be undertaken to ensure any damage caused by construction traffic is recorded and that the relevant Local Authority is notified. Arrangements will be made to repair any such damage to an appropriate standard in a timely manner such that any disruption is minimised.

Upon completion of the construction of the Proposed Development, the surveys carried out at preconstruction phase shall be repeated and a comparison of the pre and post construction surveys carried out. Where such comparative assessments identify a section of road as having been damaged or as having deteriorated as a result of construction traffic, as mentioned, the construction related damage will be repaired.

12.12. Cumulative Effects

12.12.1 Inter Project/Cumulative Effects

Table 12.11 overleaf provides a summary of the likely cumulative effects resulting from the Proposed Development with other identified projects.



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12.12.2 Do-Nothing Scenario

If the Proposed Development does not proceed there will be no cumulative effects.

12.12.3 Construction Phase

Whilst there would be an increase in traffic resulting from the cumulative schemes during the construction phase, overall, there are no significant effects anticipated as a result of the cumulative impacts on the assumption that the mitigation measures previously identified for the Construction Phase of this development are also implemented by the other developments.

12.12.4 Operational Phase

Whilst there would be an increase in traffic resulting from the cumulative schemes during the operational phase, overall, there are no significant effects anticipated as a result of the cumulative impacts and therefore no mitigation is proposed.

12.12.5 Decommissioning Phase

No decommissioning phase is anticipated.

Cumulative Effects				
Cumulative Development Project	Construction		Operation	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
SD23A0083	No	Currently under construction phase meaning their construction phases are unlikely to overlap.	Yes	The developments will share the local road network
SD22A0356	No	Currently under construction phase meaning their construction phases are unlikely to overlap.	Yes	The developments will share the local road network
SD23A 0149	No	Currently under construction phase meaning their construction phases are unlikely to overlap.	Yes	The developments will share the local road network
SHD3ABP-310578-21	Yes	Liley to have similar construction phases	Yes	The developments will share the local road network

Table 12.40: Cumulative Effects

12.13 Summary of Assessment

Background

This chapter has detailed the potential transport and accessibility effects due to the construction, operational (including maintenance), and decommissioning phases of the Proposed Development. The assessment takes into account the relevant national and local guidance and regulations.

Along the haulage routes, there are various standards of pedestrian and cycle infrastructure. Each node has various road widths and footpath widths with differing levels of public lighting.

There is limited public transport located in proximity to the development site with the nearest existing node located at the junctions of the Link Street and Oldcourt Road.

Therefore, it will be possible for future residents and visitors of the development to walk, cycle or use public transport and complete their journeys.



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Construction Effects

The construction of the proposed development is likely to last up to 5 years as the development is built in phases. This results in a maximum uplift in traffic volumes as a result of construction activities of c. 23%.

There is a maximum increase of c. 23% as a result of the up lift in development traffic. As this is less than a 30% increase, it is considered to result in imperceptible changes in the environmental effects of traffic.

A CTMP would require construction traffic including both construction plant and material deliveries to be programmed to avoid peak traffic periods on the surrounding local and strategic road network and minimise any effect on the local highway network, pedestrian and cycle users. No additional mitigation would be required for the construction stage.

Therefore, it is considered that residual effects to transport and access during construction would be temporary, imperceptible, adverse and not significant in EIA terms.

Operational Effects

The Proposed Development would be fully operational in 2032 and is anticipated to generate up to 47 arrivals and 143 departures in the AM peak (two-way total of 189). The total number of vehicle movements in the PM peak hour will be 157 arrivals and 91 departures (two-way total of 248).

In accordance with IEMA Guidelines, projected changes in traffic flows of less than 10% create no discernible environmental effect.

Overall, it is considered that residual effects on transport and access during operation are imperceptible, adverse and not significant in EIA terms.

No additional mitigation would be required for the operation stage.

Cumulative Effects

The cumulative effects of the Proposed Development, and neighbouring schemes has been considered within the traffic assessment.

Whilst there would be an increase in traffic resulting from the cumulative schemes during both the construction and operation phases, overall, there are no significant effects anticipated as a result of the cumulative impacts and therefore no additional mitigation measures, other than what has been previously outlined, is proposed.



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13.0. Material Assets: Resource and Waste Management

13.1. Introduction

This chapter evaluates the likely impacts, if any, which the proposed development may have on Material Assets (related to waste management) as defined in the EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU) and the Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022).

This chapter has also been prepared to address the issues associated with waste management during the construction and operational phases of the proposed development as described in Chapter 3 (Description of Project & Alternatives).

A site-specific Resource Waste Management Plan (RWMP) has been prepared by AWN Consulting Ltd (ref LB/237501.0569WMP01) to deal with waste generation during the excavation and construction phase of the proposed development and has been included as Appendix 13.1. The RWMP was prepared in accordance with the Environmental Protection Agency's (EPA) document Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects (2021).

A separate Operational Waste Management Plan (OWMP) has also been prepared by AWN Consulting Ltd (ref LB/237501.0569WMP02) for the operational phase of the proposed development and is included in Appendix 13.2 of this chapter.

The Chapter has been prepared in accordance with European Commissions Guidelines, Guidance on the preparation of the Environmental Impact Assessment Report (2017), the EPA Guidelines on the Information to be contained in EIAR (2022).

Chonaill Bradley (Bsc ENV, PG Dip Circ Econ, AssocCIWM) of AWN Consulting. Chonaill Bradley is a Principal Environmental Consultant in the Environment Team at AWN. He holds a BSc in Environmental Science from Griffith University, Australia and a Postgraduate Diploma in Circular Economy Leadership for the Built Environment from the Atlantic Technological University, Galway. He is an Associate Member of the Institute of Waste Management (AssocCIWM). Chonaill has over eight years' experience in the environmental consultancy sector and specialises in sustainability, resource and waste management.

These documents will ensure the management of wastes arising at the development site in accordance with legislative requirements and best practice standards.

13.2. Assessment Methodology

The assessment The assessment of the impacts of the proposed development, arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management, including national and regional waste policy, waste strategies, management plans, legislative requirements and relevant reports.

This Chapter is based on the proposed development, as described in Chapter 3 of this EIAR (Description of Project & Alternatives) and considers the following aspects:

- Legislative context;
- Construction phase (including site demolition, excavation and construction works);

- Operational phase; and
- Reinstatement Phase

A desktop study was carried out which included the following:

- Review of applicable policy and legislation which creates the legal framework for resource and waste management in Ireland;
- Description of the typical waste materials that will be generated during the Construction and Operational phases; and
- Identification of mitigation measures to prevent waste generation and promote management of waste in accordance with the waste hierarchy.

Estimates of waste generation during the construction and operational phases of the proposed development have been calculated and are included in section 13.4 of this Chapter. The waste types and estimated quantities are based on published data by the EPA in the National Waste Reports and the National Waste Statistics.

Mitigation measures are proposed to minimise the effect of the proposed development on the environment during the construction and operational phases, to promote efficient waste segregation and to reduce the quantity of waste requiring disposal. This information is presented in section 13.6

A detailed review of the existing ground conditions on a regional, local and site-specific scale are presented in Chapter 6 of this EIAR (Land, Soils & Geology).

13.2.1. Legislation and Guidance

Waste management in Ireland is subject to EU, national and regional waste legislation and control, which defines how waste materials must be managed, transported and treated. The overarching EU legislation is the Waste Framework Directive (2008/98/EC) as amended which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended). European and national waste management policy is based on the concept of 'waste hierarchy', which sets out an order of preference for managing waste (prevention > preparing for reuse > recycling > recovery > disposal) (Figure 13.1).



Fig. 13.1: Waste Hierarchy (Source: European Commission)

EU and Irish National waste policy also aims to contribute to the circular economy by extracting high-quality resources

from waste as much as possible. Circular Economy (CE) is a sustainable alternative to the traditional linear (take-make-dispose) economic model, reducing waste to a minimum by reusing, repairing, refurbishing and recycling existing materials and products. (Figure 13.2).

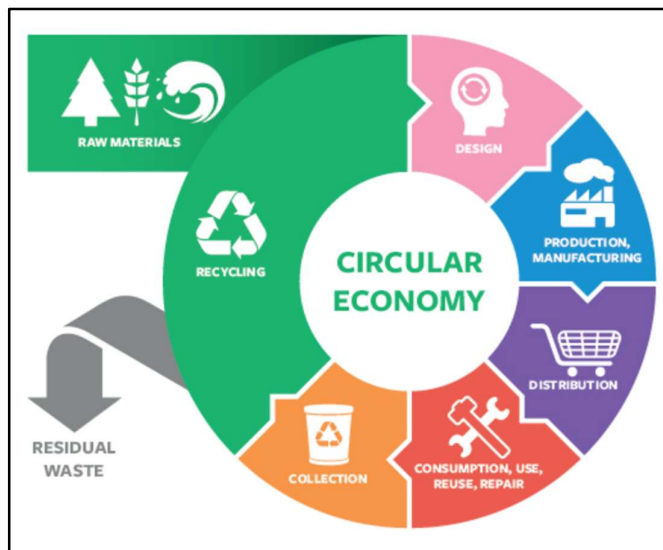


Figure 13.2: Circular Economy (Source: Repak)

The Irish government issues policy documents which outline measures to improve waste management practices in Ireland and help the country to achieve EU targets in respect of recycling and disposal of waste. The most recent policy document, Waste Action Plan for a Circular Economy – *Waste Management Policy in Ireland*, was published in 2020 and shifts focus away from waste disposal and moves it back up the production chain. The move away from targeting national waste targets is due to the Irish and international waste context changing in the years since the launch of the previous waste management plan, *A Resource Opportunity*, in 2012.

One of the first actions to be taken from the WAPCE 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.

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.

The strategy for the management of waste from the construction phase is in line with the requirements of the EPA's 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021). The guidance documents, *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects* (2006) and *Construction and Demolition Waste Management: A Handbook for Contractors and Site Managers* (FÁS & Construction Industry Federation, 2002), were also consulted in the preparation of this assessment.

There are currently no Irish guidelines on the assessment of operational waste generation, and guidance is taken from industry guidelines, plans and reports including the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPC) (2023), BS 5906:2005 Waste Management in Buildings – Code of Practice, the County of South Dublin



(Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws, 2018, the EPA National Waste Database Reports 1998 – 2020, the Circular Economy and National Waste Database Report 2021 (2023) and the EPA National Waste Statistics Web Resource.

13.2.2 Terminology

Note that the terminology used herein is consistent with the definitions set out in Article 3 of the Waste Framework Directive. Key terms are defined as follows:

Waste - Any substance or object which the holder discards or intends or is required to discard.

Prevention - Measures taken before a substance, material or product has become waste, that reduce:

- a) the quantity of waste, including through the re-use of products or the extension of the life span of products;
- b) the adverse impacts of the generated waste on the environment and human health; or
- c) the content of harmful substances in materials and products.

Reuse - Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

Preparing for Reuse - Checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.

Treatment - Recovery or disposal operations, including preparation prior to recovery or disposal.

Recovery - Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II of the Waste Framework Directive sets out a non-exhaustive list of recovery operations.

Recycling - Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

Disposal - Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I of the Waste Framework Directive sets out a non-exhaustive list of disposal operations.

13.3. Receiving Environment

In terms of waste management, the receiving environment is largely defined by SDCC as the local authority responsible for setting and administering waste management activities in the area. This is governed by the requirements set out in the NWMPCE 2024 – 2030 and the Waste Action Plan for a Circular Economy – Waste Management Policy in Ireland.

The waste management plans set out the following targets for waste management in the region:

- Achieve a recycling rate of 55% of managed municipal waste by 2025; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.



The Regional Waste Management Planning Offices have issued a National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) in March 2024, which supersedes the Eastern midlands regional (EMR) waste management plan and the two other regional waste management plans. The NWMPCE does not however dissolve the three regional waste areas. 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.

The South Dublin County Council Development Plan 2022– 2028 sets out the objectives for the SDCC area which reflect those sets out in the regional waste management plan and can be found in Appendix 13.1 and 13.2.

In terms of physical waste infrastructure, SDCC no longer operates any municipal waste landfill in the area. There are a number of waste permitted and licensed facilities located in the EMR Waste Region for management of waste from the construction industry as well as municipal sources. These include soil recovery facilities, inert C&D waste facilities, municipal waste landfills, material recovery facilities and waste transfer stations.

However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.

The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity and serviceability.

13.4. Characteristics of the Proposed Development

The proposed development comprises a Large-scale Residential Development on a site measuring c.20.4Ha, located in the townlands of Bohernabreena, Oldcourt, and Killininny, Dublin 24. The development site is located to the east of Bohernabreena Road, north and east of Bohernabreena cemetery, south and south-east of St. Anne's GAA club, south and south-west of the Dodderbrook residential estate, west of the Ballycullen Gate residential development (currently under construction) and west of Oldcourt Road (the R113).

The purpose of this section is to provide an overview of the key relevant details of the construction phase and operational phase of the proposed development. The information presented in this section is informed by the project design, but it is not a complete description of the proposed development. Therefore, it should be read in conjunction with the full development package. For a more comprehensive understanding of the proposed development, please refer to Chapter 3 (Description of Project & Alternatives) of the EIA Report. Chapter 3 provides a detailed overview of the lifecycle of the project, including reference to the architectural and civil engineering, drawings, plans, reports, and other relevant document in order to define the proposed development.

13.4.1 Demolition Phase

The demolition stage will involve the demolition of existing buildings / structures on-site. The demolition areas are identified in the planning drawings provided with this application. The anticipated demolition waste and rates of reuse, recycling / recovery and disposal are shown in Table 6.42, below.



Waste Type	Tonnes	Reuse/Recycle		Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	16.8	0	0.0	85	14.3	15	2.5
Concrete, Bricks, Tiles, Ceramics	991.2	30	297.4	65	644.3	5	49.6
Plasterboard	67.2	30	20.2	60	40.3	10	6.7
Asphalts	16.8	0	0.0	75	12.6	25	4.2
Metals	537.6	5	26.9	80	430.1	15	80.6
Slate	16.8	0	0.0	85	14.3	15	2.5
Timber	33.6	10	3.4	60	20.2	30	10.1
Asbestos	0.5	0	0.0	0	0.0	100	0.5
Total	1680.5		347.8		1176.0		156.7

Table 13.1: Estimated off-site Reuse, Recycle and Disposal Rates for Demolition Waste

13.4.2 Construction Stage

During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The appointed Contractor will be contractually required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

There will be topsoil and subsoil excavated to facilitate construction of new foundations and underground services. The project engineers (Pinnacle) have estimated that 73,178m³ of material will need to be excavated to do so. It is currently envisaged that 57,894m³ of excavated will be able to be retained and reused on site while the remaining 15,284m³ of excavated material will be required to be removed off site reuse, recycling or disposal. There may be further opportunity for additional material to remain onsite to be reused in landscaping. Material moved offsite will be taken for offsite reuse, recovery and/or disposal. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers or the environment.

If any material that requires removal from the site is deemed to be a waste, removal and reuse / recycling / recovery / disposal of the material will be carried out in accordance with the Waste Management Act 1996 (as amended), the Waste Management (Collection Permit) Regulations 2007 (as amended) and the Waste Management (Facility Permit & Registration) Regulations 2007 (as amended). The volume of waste requiring recovery / disposal will dictate whether a Certificate of Registration (COR), permit or licence is required for the receiving facility. Alternatively, the material may be classed as by-product under Regulation 27 (By-products), as amended, of S.I. No. 323/2020 - European Union (Waste Directive) Regulations 2011-2020, (previously Article 27 of the European Communities (Waste Directive)). For more information in relation to the envisaged management of by-products, refer to the RWMP (Appendix 13.1).

In order to establish the appropriate reuse, recovery and / or disposal route for the soils and stones to be removed off-site, it will first need to be classified. Waste material will initially need to be classified as hazardous or non-hazardous in accordance with the EPA publication Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2018).

Waste will also be generated from construction phase workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and,



potentially, sewage sludge from temporary welfare facilities provided on-site during the Construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated in small volumes from site offices.

Further detail on the waste materials likely to be generated during the excavation and construction works are presented in the project-specific RWMP (Appendix 13.1). The RWMP provides an estimate (of the main waste types likely to be generated during the Construction phase of the proposed development. These are summarised in Table 13.2.

Waste Type	Tonnes	Reuse/Recycle		Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1030.6	10	103.1	80	824.5	10	103.1
Timber	874.5	40	349.8	55	481.0	5	43.7
Plasterboard	312.3	30	93.7	60	187.4	10	31.2
Metals	249.8	5	12.5	90	224.9	5	12.5
Concrete	187.4	30	56.2	65	121.8	5	9.4
Mixed Waste	468.5	20	93.7	60	281.1	20	93.7
Total	3123.1		708.9		2120.6		293.6

Table 13.2: Estimated off-site reuse, recycle and disposal rates for construction waste

13.4.3 Operational Stage

As noted in Section 13.1, an OWMP has been prepared for the development and is included as Appendix 13.2. The OWMP provides a strategy for segregation (at source), storage and collection of all wastes generated within the building during the operational phase including dry mixed recyclables, organic waste and mixed non-recyclable waste as well as providing a strategy for management of waste glass, batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil and furniture.

The total estimated waste generation for the development for the main waste types based on the AWN waste generation model is presented in Table 13.3 below and is based on the uses and areas as advised by the project architects (Davey + Smith Architects (DSA)). Further breakdowns can be found with in Appendix 13.2 OWMP.



Waste Type	m ³ per week	
	Residential Waste (Combined)	Commercial Waste (Childcare Facility)
Organic Waste	7.85	0.05
DMR	53.69	1.68
Glass	1.52	0.01
MNR	31.22	0.92
Total	94.28	2.65

Table 13.3 Estimated waste generation for the proposed development for the main waste types

The residents and commercial tenant (the childcare facility) will be required to provide and maintain appropriate waste receptacles within their units to facilitate segregation at source of these waste types. As required, the residents and tenants will need to bring these segregated wastes from their units to their allocated Waste Storage Areas (WSAs). All WSA's can be viewed on the plans submitted with the application and in the OWMP (Appendix 13.2).

The OWMP seeks to ensure the development contributes to the targets outlined in the NWMPCE and the SDCC waste Bye-laws.

13.5. Potential Impact of the Proposed Development

13.5.1 Construction Stage

The proposed development will generate a range of non-hazardous and hazardous waste materials during site excavation and construction (see appendix 13.1 for further detail). General housekeeping and packaging will also generate waste materials, as well as typical municipal wastes generated by construction employees, including food waste. Waste materials will be required to be temporarily stored in the construction site compound or adjacent to it, on-site pending collection by a waste contractor. If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the development site and in adjacent areas. The indirect effect of litter issues is the presence of vermin in areas affected. In the absence of mitigation, the effect on the local and regional environment is likely to be **indirect, short-term, significant and negative**.

The use of non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste, resulting in indirect negative environmental impacts, including pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. In the absence of mitigation, the effect on the local and regional environment is likely to be **indirect long-term, significant and negative**.

Wastes arising will need to be taken to suitably registered / permitted / licenced waste facilities for processing and segregation, reuse, recycling, recovery, and / or disposal, as appropriate. There are numerous licensed waste facilities in the EMR which can accept hazardous and non-hazardous waste materials, and acceptance of waste from the development site would be in line with daily activities at these facilities. At present, there is sufficient capacity for the acceptance of the likely C&D waste arisings at facilities in the region. The majority of construction materials are either recyclable or recoverable. However, in the absence of mitigation, the effect on the local and regional environment is likely to be **indirect short-term, significant and negative**.



There is a quantity of topsoil and subsoil will need to be excavated to facilitate the proposed Development. A detailed review of the existing ground conditions on a regional, local site-specific scale are presented in Chapter 6. Excavated material that cannot be reused onsite will need to be removed off-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site. However, in the absence of mitigation, the effect on the local and regional environment is likely to be **indirect short-term, significant and negative**.

13.5.2 Operational Stage

The potential impacts on the environment of improper, or a lack of, waste management during the operational phase would be a diversion from the priorities of the waste hierarchy which would lead to small volumes of waste being sent unnecessarily to landfill. In the absence of mitigation, the effect on the local and regional environment is likely to be **indirect, long-term, significant and negative**.

The nature of the development means the generation of waste materials during the operational phase is unavoidable. Networks of waste collection, treatment, recovery and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion in recycled products (e.g. paper mills and glass recycling).

If waste material is not managed and stored correctly, it is likely to lead to litter or pollution issues at the development site and in adjacent areas. The knock-on effect of litter issues is the presence of vermin in affected areas. However, in the absence of mitigation, the effect on the local and regional environment is likely to be **Indirect, long-term, significant and negative**.

It is anticipated that Waste contractors will be required to service the proposed development on a scheduled basis to remove waste. The use of non-permitted waste contractors or unauthorised facilities could give rise to inappropriate management of waste and result in negative environmental impacts or pollution. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices. However, in the absence of mitigation, the effect on the local and regional environment is likely to be **Indirect, long-term, significant and negative**.

13.5.3 Do-Nothing Impact

If the proposed development was not to go ahead (i.e. in the Do-Nothing scenario) there would be no excavation or construction at this site. There would continue to be no operational waste generated from the proposed site. There would, therefore, be a **neutral effect** on the environment in terms of waste.

The site is zoned for development, and it is likely that in the absence of this subject proposal that a development of a similar nature would be progressed on the site that accords with national and regional policies and therefore the likely significant effects would be similar to this proposal.



13.5.4 Cumulative

13.5.5 Construction Stage

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place in the area. Multiple developments in the area could potentially be developed concurrently or overlap in the construction phase.

Developments that potentially could overlap during the construction phase:

Reg. Ref.	Applicant	Status	Summary
SD14A/0180	Capami Ltd	The development is now completed, lies to the immediate north-east of the subject site, and is known as Dodderbrook (Phase 1).	A residential development comprising of 135 no. dwellings on a site area of 4.82 hectares, located south of Oldcourt Road, Oldcourt, Firhouse, Dublin 24. Access to the development was via a new vehicular entrance from Oldcourt Road. The development, as applied for, consisted of 138 no. dwellings comprised 4 no. 4 bed 2 storey detached houses, 101 no. 3 & 4 bed 2 storey semi-detached houses, 25 no. 3 bed 2 storey terraced houses and 8 no. apartments in 4 no. 2 storey end of terrace units and included all associated site development and infrastructural works, car parking, open spaces and landscaping.
SD15A/0150	HWBC Allsop	The development is now completed, lying to the east of the subject site, and is known as Ballycullen Green and the total number of permitted dwellings in Ballycullen Green is 78 no. dwellings.	A residential development comprising 79 no. two storey houses, a new vehicular access from Oldcourt Road, pedestrian access routes, internal roads and footpaths, open space including children's play area, boundary treatments, hard and soft landscaping, changes in levels, ancillary surface water attenuation areas and all site development works above and below ground at Oldcourt Road, Ballycullen, Dublin 24.
SD18A/0025	Capami Ltd	The development is now completed, lying to the east of the subject site,	Amendments to the aforementioned Ballycullen Green (Ref.

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		and is known as Ballycullen Green and the total number of permitted dwellings in Ballycullen Green is 78 no. dwellings.	SD15A/0150) resulting in a change of house type and increase in number of units.
SD16A/0059 (An Bord Pleanála Ref. PL06S.247693)	Capami Ltd	The development is located to the immediate south of the above mentioned Ballycullen Green (i.e., to the east of the subject site) and is now completed.	The development of a playing pitch, including associated site works, on a site area of 1.97 hectares, located at Gunny Hill, on Oldcourt Lane, south of Oldcourt Road.
SD17A/0121 PL06S.249294	& Capami Ltd	The development represented Phase 2 of the Dodderbrook estate and is now completed, lying to the immediate north of the subject site.	A residential development consisting of 133 no. dwellings and a crèche on a site area of 4.64 hectares (11.4ac), located south of Oldcourt Cottages and north of the ESB wires in the townland of Bohernabreena, Oldcourt, Ballycullen, Dublin 24. The development provided for a new access point via an adjoining residential development known as Dodderbrook (permitted under Reg. Ref. SD14A/0180) which is accessed from Oldcourt Road. The development comprised of 3 no. 4 bed 2 storey detached houses, 90 no. 3 & 4 bed 2 storey semi-detached houses, 27 no. 3 bed 2 storey terraced houses and 6 no. 3 bed duplexes with 3 no. 2/3 bed duplex apartments in a 3 storey building and 4 no. 2 bed apartments over two floors and a 2 storey crèche (423m²). The development also included for all associated site development and infrastructural works, surface water with attenuation, piped and wired services, car parking, open spaces and landscaping etc.
SD17A/0468	Capami Ltd	The development is currently under construction by the applicant, lying to the south-east of the subject	The development of 64 no. dwellings on a site area of 3.8 hectares located to the south of Oldcourt Road, Oldcourt, Firhouse, Dublin

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		site, and is known as Ballycullen Gate, and comprises 71 no. dwellings in total.	24. Access to the development is via a vehicular entrance from Oldcourt Road. The permitted development consisted of 24 no. 2 storey semi-detached houses, 10 no. 2 bed semi-detached dormer houses, 14 no. 2 and 3 bed detached houses and 16 no. 2 bed apartments in 3 no. 2 storey buildings. The development also included for all associated site development works, car parking, open spaces and landscaping.
SD22A/0356	Capami Ltd	The development is currently under construction by the applicant, lying to the south-east of the subject site, and is known as Ballycullen Gate, and comprises 71 no. dwellings in total.	Amendments to the aforementioned Ballycullen Gate (Ref. SD17A/0468) resulting in a change of house type and increase in number of units.
SD19A/0104 (An Bord Pleanála Ref. ABP-305800-19)	Capami Ltd	The development is currently under construction by the applicant, lying to the north-east of the subject site (fronting onto Oldcourt Road), and will ultimately form part of the existing Dodderbrook estate.	Residential Development comprising 21 no. houses on an infill site, located south of Oldcourt Road, to the northeast of and adjacent to Dodderbrook Phase 1.
SD23A/00083	Capami Ltd	Permission granted for 71 no. dwellings.	A residential development on a site measuring c. 2.56 hectares, located to the south / south-west of the Oldcourt Road (the R113), Oldcourt, Dublin 24, and within the lands designated for the Ballycullen-Oldcourt Local Area Plan 2014 (as extended). The proposed development, as initially applied for, consists of 71 no. dwellings comprised of 41 no. 3 & 4 bed, two and three storey, detached, semi-detached and terraced houses and 30 no. 2, 3 & 4 bed apartments & duplex units accommodated in 1 no. two/three storey block and 2 no. three storey blocks.

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			Access to the proposed development will be from Oldcourt Road via permitted roads infrastructure previously granted permission under Planning Ref.'s SD17A/0468 and SD17A/0041 & PL06S.249367. The proposed development also includes for car parking, bicycle parking, bin storage, communal open spaces, public open space, pedestrian & cyclist connections, landscaping & boundary treatments, drainage connections, road infrastructure etc. and all associated site development works on a site of c. 2.56 hectares.
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Table 13.4 Potential Overlapping Developments (Construction Phase)

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the effect will be **short-term, not significant and neutral**.

13.5.6 Operational Stage

There are existing residential and commercial developments close by, along with the multiple permissions remaining in the area. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative impacts associated with waste generation and waste management. As such the effect will be a **long-term, imperceptible and neutral**.

13.5.7 Do-Nothing Impact

The potential Do-Nothing Impacts are the same as 13.5.3

13.6. Mitigation Measures (Ameliorative, Remedial or Reductive Measures)

This section outlines the measures that will be employed in order to reduce the amount of waste produced, manage the wastes generated responsibly and handle the waste in such a manner as to minimise the effects on the environment.



The concept of the 'circular economy and 'waste hierarchy' are employed when considering all mitigation measures.

The CE is a sustainable alternative to the traditional linear (take-make-dispose) economic model, reducing waste to a minimum by reusing, repairing, refurbishing and recycling existing materials and products. While the waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal.

13.6.1 Construction Stage

The following mitigation measures will be implemented during the construction phase of the proposed development:

As previously stated, a project specific RWMP has been prepared in line with the requirements of the requirements of the EPA 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021) and is included as Appendix 13.1. The mitigation measures outlined in the RWMP will be implemented in full and form part of the mitigation strategy for the site. The mitigation measures presented in this RWMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the proposed development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the RWMP (Appendix 13.1) in agreement with SDCC and in compliance with any planning conditions, or submit an addendum to the RWMP to SDCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.
- The Contractor will implement the RWMP throughout the duration of the proposed excavation and construction phases.

A quantity of topsoil and sub soil will need to be excavated to facilitate the proposed development. The project engineers (Pinnacle) have estimated that the majority excavated material will need to be removed off-site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

- In addition, the following mitigation measures will be implemented:
- Building materials will be chosen to 'design out waste';
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:
 - Concrete rubble (including ceramics, tiles and bricks);
 - Plasterboard;
 - Metals;
 - Glass; and
 - Timber.
- Left over materials (e.g. timber off-cuts, broken concrete blocks / bricks) and any suitable construction materials shall be re-used on-site, where possible; (alternatively, the waste will be sorted for recycling, recovery or disposal);
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;



- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A Resource Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the excavation and construction works;
- All construction staff will be provided with training regarding the waste management procedures;
- All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;
- All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.

Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Regulation 27 (By-products), as amended, European Union (Waste Directive) Regulations 2011-2020. EPA approval will be obtained prior to moving material as a by-product.

These mitigation measures will ensure that the waste arising from the construction phase of the proposed development is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997 and the NWCP. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

13.6.2 Operational Stage

The following mitigation measures will be implemented during the operational phase of the proposed development:

All waste materials will be segregated into appropriate categories and will be temporarily stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site.

As previously stated, a project specific OWMP has been prepared and is included as Appendix 13.2. The mitigation measures outlined in the OWMP will be implemented in full and form part of the mitigation strategy for the site. 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 achieving the targets set out in the NWMPCE, Waste Action Plan for a Circular Economy – Waste Management Policy in Ireland and the SDCC waste bye-laws.

The Facilities Management Company / Residents and Tenants of the site during the operational phase will be responsible for ensuring – allocating personnel and resources, as needed – the ongoing implementation of this OWMP, ensuring a high level of recycling, reuse and recovery at the site of the proposed development.

In addition, the following mitigation measures will be implemented:

- On-site segregation of all waste materials into appropriate categories including (but not limited to):
 - Organic waste;
 - Dry Mixed Recyclables;
 - Mixed Non-Recyclable Waste;
 - Glass;



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- Waste electrical and electronic equipment (WEEE);
 - Batteries (non-hazardous and hazardous);
 - Cooking oil;
 - Light bulbs;
 - Cleaning chemicals (pesticides, paints, adhesives, resins, detergents, etc.);
 - Furniture (and from time to time other bulky waste); and
 - Abandoned bicycles.
- The Facilities Management Company / Residents and Tenants will ensure that all waste materials will be stored in colour coded bins or other suitable receptacles in designated, easily accessible locations. Bins will be clearly identified with the approved waste type to ensure there is no cross contamination of waste materials.
 - The Facilities Management Company / Residents and Tenants will ensure that all waste collected from the Site of the proposed development will be reused, recycled or recovered, where possible, with the exception of those waste streams where appropriate facilities are currently not available; and
 - The Facilities Management Company / Residents and Tenants will ensure that all waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.

These mitigation measures will ensure the waste arising from the development is dealt with in compliance with the provisions of the *Waste Management Act 1996*, as amended, associated Regulations, the *Litter Pollution Act 1997*, *The NWMPCE* and the SDCC waste bye-laws. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

13.7. Residual Impact of the Proposed Development

The implementation of the mitigation measures outlined in Section 13.6 will ensure that targeted rates of reuse, recovery and recycling are achieved at the site of the proposed development during the construction and operational phases. It will also ensure that European, National and Regional legislative waste requirements with regard to waste are met and that associated targets for the management of waste are achieved.

13.7.1 Construction Stage

A carefully planned approach to waste management as set out in Section 13.6.1 and adherence to the RWMP (which includes mitigation) (Appendix 13.1) during the construction phase will promote resource efficiency and waste minimisation. When the mitigation measures are implemented and a high rate of prevention reuse, recycling and recovery is achieved, the predicted impact of the construction phase on the environment will be **short-term, imperceptible** and **neutral**.

13.7.2 Operational Stage

During the operational phase, a structured approach to waste management as set out in Section 13.6.2 and adherence to the OWMP (which includes mitigation) (Appendix 13.2) will promote resource efficiency and waste minimisation. When the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be **long-term, imperceptible** and **neutral**.



13.7.3 Worst Case Impact

In a worst-case scenario, if no mitigation measures found in section 13.6 or in Appendixes 13.1 and 13.2 are followed, lack of waste prevention, poor onsite waste management, non-permitted waste contractors or unauthorised waste facilities could give rise to inappropriate management of waste offsite and result in negative environmental impacts or pollution as shown in section 13.5.

13.8. Monitoring

The management of waste during the construction phase will be monitored by the Contractor's appointed Resource Manager to ensure compliance with the above-listed mitigation measures, and relevant waste management legislation and local authority requirements, including maintenance of waste documentation.

The management of waste during the operational phase will be monitored by the Operator / Facilities Management to ensure effective implementation of the OWMP internally and by the nominated waste contractor(s).

Likely Significant Effect	Monitoring Proposals
Litter Pollution	The Contractor will review and maintain waste records and site audits
Unlicensed Waste Collection (Illegal Dumping)	A register will be maintained and reviewed. A copy of all waste collection permits will be maintained.
Insufficient Waste Facilities	A register will be maintained and reviewed. A copy of all waste collection permits will be maintained.
Lack of waste Classification	An appointed Resource Manager will monitor all on-site waste segregation and classification

Table 13.5: Monitoring Proposals for Construction Phase

Likely Significant Effect	Monitoring Proposals
Unlicensed Waste Collection (Illegal Dumping)	The operator/ facilities management company will maintain waste receipts on-site for a period of 7 years and make available to SDCC as requested.
Poor Waste Segregation	Waste generation volumes will be monitored by the operator / facilities management company
Litter Pollution	Waste storage areas will be monitored by the operator / facilities management company

Table 13.6: Monitoring Proposals for Operational Phase

13.8.1 Construction Stage

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the excavation and construction works, where there is a potential for waste management objectives to become secondary to other objectives, i.e. progress and meeting construction schedule targets. The mitigation measures in the RWMP specify the need for a Resource Manager to be appointed, who will have responsibility for monitoring the actual waste volumes being generated and ensuring that



contractors and sub-contractors are segregating waste as required. Where targets are not being met, the Resource Manager will identify the reasons for this and work to resolve any issues. Recording of waste generation during the construction phase of the proposed development will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future developments.

13.8.2 Operational Stage

During the operational phase, waste generation volumes will be monitored by the Facilities Management against the predicted waste volumes outlined in the OWMP. There may be opportunities to reduce the number of bins and equipment required in the shared WSAs, where estimates have been too conservative. Reductions in bin and equipment requirements will improve efficiency and reduce waste contractor costs.

13.9. Reinstatement

In the event that the proposed development is discontinued, there is not likely to be any significant impacts on waste management at the site.

The proposed development may be decommissioned at some stage in the future. At that time, a demolition or refurbishment plan will be formulated for the decommissioning phase of the proposed development to ensure no waste nuisance occurs at nearby sensitive receptors.

13.10. Difficulties Encountered

Until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

While it is possible to initially select a licensed waste facility for soil disposal, there is potential to encounter contaminated material or material with naturally occurring variations in minerals and chemicals that necessitates sending it to a different suitably licensed facility. The sampling and testing carried out in the Site Investigation (SI) process provides spot samples, and further testing may be required during the excavation process, as the true condition of all excavated materials cannot be ascertained with certainty until this is undertaken.

There is a number of licensed, permitted and registered waste facilities in the South Dublin County region, in the surrounding counties, the eastern midlands waste region and in Ireland and Northern Ireland. However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.

Licensed waste facilities have annual limitations on material that they can import as part of their license agreements. Because of this it would not make it possible to commit to a singular specific receiving facility as it is not available throughout the excavation phase. It would not be viable to cease a development and wait until a receiving facilities annual receiving quotas are reset. In a normal development waste facilities would switch between facilities with available capacity.

The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity, serviceability, and cost.



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Appendix 13.1
Resource & Waste Management Plan



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RESOURCE & WASTE MANAGEMENT PLAN FOR A PROPOSED LARGE SCALE RESIDENTIAL DEVELOPMENT AT OLDCOURT, DUBLIN 24.

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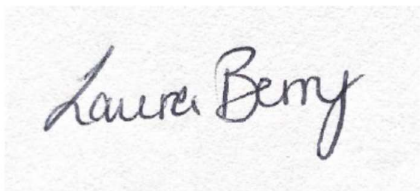


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Name	Laura Berry	Chonaill Bradley
Title	Environmental Consultant	Principal Environmental Consultant
Date	12 August 2024	12 August 2024

This report considers the specific instructions and requirements of our client. It is not intended for third-party use or reliance, and no responsibility is accepted for any third party. The provisions in this report apply solely to this project and should not be assumed applicable to other developments without review and modification.



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1.0 INTRODUCTION

AWN Consulting Ltd. (AWN) has prepared this Construction and Demolition (C&D) Resource & Waste Management Plan (RWMP) on behalf of Capami Ltd. The proposed development comprises a Large-scale Residential Development on a site measuring c.20.3Ha, located in the townlands of Bohernabreena, Oldcourt, and Killinenny, Dublin 24. The proposed development consists of 523 no. residential units, along with a 2 storey childcare facility of c. 457sq.m, and all associated ancillary

The proposed development site is located to the east of Bohernabreena Road, north and east of Bohernabreena cemetery, south and south-east of St. Anne's GAA club, south and south-west of the Dodderbrook residential estate, west of the Ballycullen Gate residential development (currently under construction) and west of Oldcourt Road (the R113).

This plan provides information necessary to ensure that the management of C&D waste at the site is undertaken in accordance with the current legal and industry standards including the *Waste Management Act 1996* as amended and associated Regulations ¹, *Environmental Protection Agency Act 1992* as amended ², *Litter Pollution Act 1997* as amended ³, the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024) ⁴. In particular, this plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also provides appropriate measures in relation to the collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This RWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and prescribes measures for the management of different waste streams. The RWMP should be viewed as a live document and will be regularly revisited throughout the project's lifecycle so that opportunities to maximise waste reduction / efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

2.0 C&D Resource WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998, *Changing Our Ways* ⁵, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2018).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*' ⁶ concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

In September 2020, the Irish Government published a 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*' ⁷ (WAPCE), replaces the previous national waste management plan, '*A Resource Opportunity*' (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

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) ⁸ 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 ⁹ 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 work to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The Environmental Protection Agency (EPA) of Ireland issued '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' in November 2021 ¹⁰. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006 ¹¹. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;
- Design teams roles and approach;
- Relevant EU, national and local waste policy, legislation and guidelines;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for Resource Waste Manager (RM) and site crew;
- Details of proposed record keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies i.e. waste recycling companies, Local Authority, etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a bespoke RWMP for developments. The new guidance classifies developments on a two-tiered system. Developments which do not exceed any of the following thresholds may be classed as Tier 1 development, which require a simplified RWMP:

- New residential development of less than 10 dwellings.
- Retrofit of 20 dwellings or less.
- New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².
- Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m²; and



- Demolition projects generating in total less than 100m³ in volume of C&D waste.

A development which exceeds one or more of these thresholds is classed as Tier-2 projects.

This proposed development requires a RWMP as a Tier 2 development as it is above following criterion:

- New residential development of less than 10 dwellings; and
- Demolition projects generating in total less than 100m³ in volume of C&D waste.

Other guidelines followed in the preparation of this report include 'Construction and Demolition Waste Management – a handbook for Contractors and Site Managers' ¹², published by FÁS and the Construction Industry Federation in 2002 and the previous guidelines, 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006).

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

The proposed development is located in the Local Authority area of South Dublin County Council (SDCC). The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the NWMPCE 2024 - 2030. The NWMPCE is the new national waste management plan that replaces the three regional waste management plans. The NWMPCE is the new national waste management plan for Ireland which replaces the previous 3 regional waste management plans.

The NWMPCE does not dissolve the three regional waste areas. 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:

National Targets

1B. (Construction Materials) 12% Reduction in Construction & Demolition Waste Generated by 2030.

3B. (Reuse Facilities) Provide for reuse at 10 Civic Amenity Sites, minimum.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140 - €160 per tonne of waste which includes an €85 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2015 (as amended)*.

The *South Dublin County Council Development Plan 2022– 2028* ¹³ sets out a number of objectives and policies for the South Dublin area in line with the objectives of the waste management plan.

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Policy and Objectives

Policy IE7: Waste Management

Implement European Union, National and Regional waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.

- **IE7 Objective 1** - To encourage a just transition from a waste management economy to a green circular economy to enhance employment and increase the value, recovery and recirculation of resources through compliance with the provisions of the Waste Action Plan for a Circular Economy 2020 – 2025 and to promote the use of, but not limited to, reverse vending machines and deposit return schemes or similar to ensure a wider and varying ways of recycling.
- **IE7 Objective 2** - To support the implementation of the Eastern Midlands Region Waste Management Plan 2015-2021 or as amended by adhering to overarching performance targets, policies and policy actions.
- **IE7 Objective 4** - To provide for and maintain the network of bring infrastructure (e.g. civic amenity facilities, bring banks) in the County to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.
- **IE7 Objective 7** - To require the appropriate provision for the sustainable management of waste within all developments, ensuring it is suitably designed into the development, including the provision of facilities for the storage, separation and collection of such waste.
- **IE7 Objective 8** - To adhere to the recommendations of the National Hazardous Waste Management Plan 2014-2020 and any subsequent plan, and to co-operate with other agencies including the EPA in the planning, organisation and supervision of the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.
- **IE7 Objective 9** - To support the development of indigenous capacity for the treatment of non-hazardous and hazardous wastes where technically, economically and environmentally practicable subject to the relevant environmental protection criteria for the planning and development of such activities being applied.

Legislative Requirements

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

- Waste Management Act 1996 as amended;
- Environmental Protection Agency Act 1992 as amended;
- Litter Pollution Act 1997 as amended;
- Planning and Development Act 2000 as amended ¹⁴;
- Circular Economy and Miscellaneous Provisions Act 2022.

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 recycling, recovery or 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 destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of “*Polluter Pays*” whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the Developer ensures that the waste contractors engaged by demolition and



construction contractors are legally compliant with respect to waste transportation, recycling, recovery and disposal. This includes the requirement that a contractor handle, transport and recycle/recover/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 and Amendments* or a Waste Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

3.0 DESIGN APPROACH

The client and the design team have integrated the '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' guidelines into the design workshops, to help review processes, identify and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post demolition and construction. Further details on these design principals can be found within the aforementioned guidance document.

The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continued to be analysed and investigated throughout the design process and when selecting material.

As noted in the EPA guidelines, the approaches presented are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention;
- Reuse;
- Recycling;
- Green Procurement Principles;
- Off-Site Construction;
- Materials Optimisation; and
- Flexibility and Deconstruction.

3.1 Designing For Prevention, Reuse and Recycling

Undertaken at the outset and during project feasibility and evaluation the Client and Design Team considered:

- Establishing the potential for any reusable site assets (buildings, structures, equipment, materials, soils, etc.);
- The potential for refurbishment and refit of existing structures or buildings rather than demolition and new build;
- Assessing any existing buildings on the site that can be refurbished either in part or wholly to meet the Client requirements; and
- Enabling the optimum recovery of assets on site.

3.2 Designing for Green Procurement

Waste prevention and minimisation pre-procurement have been discussed and will be further discussed in this section. The Design Team will discuss proposed design solutions, encourage innovation in tenders and incentivise competitions to recognise sustainable approaches. They will also discuss options for packaging reduction with the



main Contractor and subcontractors/suppliers using measures such as 'Just-in-Time' delivery and use ordering procedures that avoid excessive waste. The Green procurement extends from the planning stage into the detailed design and tender stage and will be an ongoing part of the long-term design and selection process for this development.

3.3 Designing for Off-Site Construction

Use of off-site manufacturing has been shown to reduce residual wastes by up to 90% (volumetric building versus traditional). The decision to use offsite construction is typically cost led but there are significant benefits for resource management. Some further considerations for procurement which are being investigated as part of the planning stage design process are listed as follows:

- Modular buildings as these can displace the use of concrete and the resource losses associated with concrete blocks such as broken blocks, mortars, etc.;
- Modular buildings are typically pre-fitted with fixed plasterboard and installed insulation, eliminating these residual streams from site.
- Use of pre-cast structural concrete panels which can reduce the residual volumes of concrete blocks, mortars, plasters, etc.;
- The use of prefabricated composite panels for walls and roofing to reduce residual volumes of insulation and plasterboards;
- Using pre-cast hollow-core flooring instead of in-situ ready mix flooring or timber flooring to reduce the residual volumes of concrete/formwork and wood/packaging, respectively; and
- Designing for the preferential use of offsite modular units.

3.4 Designing for Materials Optimisation During Construction

To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite as outlined in section 3.1, structures should be designed with the intent of designing out waste. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities. This includes investigating the use of standardised sizes for certain materials to help reduce the amount of offcuts produced on site, focusing on promotion and development of off-site manufacture.

3.5 Designing for Flexibility and Deconstruction

Design flexibility has and will be investigated throughout the design process to ensure that where possible products (including buildings) only contain materials that can be recycled and are designed to be easily disassembled. Material efficiency is being considered for the duration and end of life of a building project to produce; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

4.0 DESCRIPTION OF THE DEVELOPMENT

4.1 Location, Size and Scale of the Development

The proposed development comprises a Large-scale Residential Development on a site measuring c.20.3Ha, located in the townlands of Bohernabreena, Oldcourt, and Killinenny, Dublin 24. The proposed development site is located to the east of Bohernabreena Road, north and east of Bohernabreena cemetery, south and south-east of St. Anne's GAA club, south and south-west of the Dodderbrook residential estate, west of the Ballycullen Gate residential development (currently under construction) and west of Oldcourt Road (the R113).

The proposed development consists of 523 no. residential units comprised of 255 no. 2, 3 & 4 bed, 2 & 3 storey, detached, semi-detached and terraced houses, 206 no. 1, 2 & 3 bed duplex units in 20 no. 2 & 3 storey blocks, and 62 no. 1, 2 & 3 bed apartments in 4 no. 2-3 & 3-4 storey blocks, along with a 2 storey childcare facility of c. 457sq.m.

Private amenity space for the residential units is provided in the form of rear gardens for houses and ground floor terraces / upper floor balconies for apartments and duplex units. The proposed development provides for a total of c. 7.37Ha of public open space, and c. 5,545sq.m of communal open space associated with proposed residential units.

Vehicular access to the development will be via 4 no. access points, as follows: (i) from the west of the site via 2 no. accesses located off Bohernabreena Road, (ii) from the north of the site via 1 no. access at Dodderbrook Place, and (iii) from Oldcourt Road (the R113) to the east, via adjoining residential development at Ballycullen Gate. The proposed development includes for pedestrian and cyclist connections and accesses throughout the proposed development and to adjoining lands to the north at Dodderbrook Avenue and to the north-west into St. Anne's GAA club.

The proposed development includes the demolition of all existing structures on site, including 2 no. single storey dwellings and outbuildings/sheds (total demolition area: c. 4,152.06m²).

The proposed development provides for hard & soft landscaping, boundary treatments, SuDs features, drainage infrastructure, services infrastructure, bin stores, bicycle stores, car parking (including EV parking facilities), bicycle parking, public lighting etc. and all associated site development works.

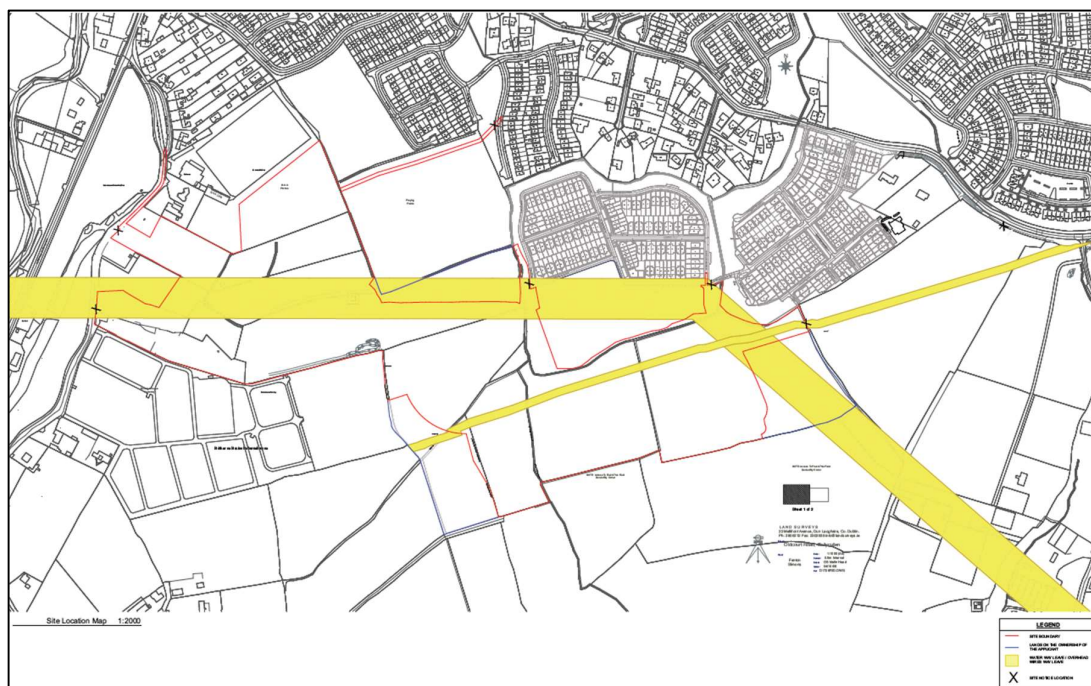
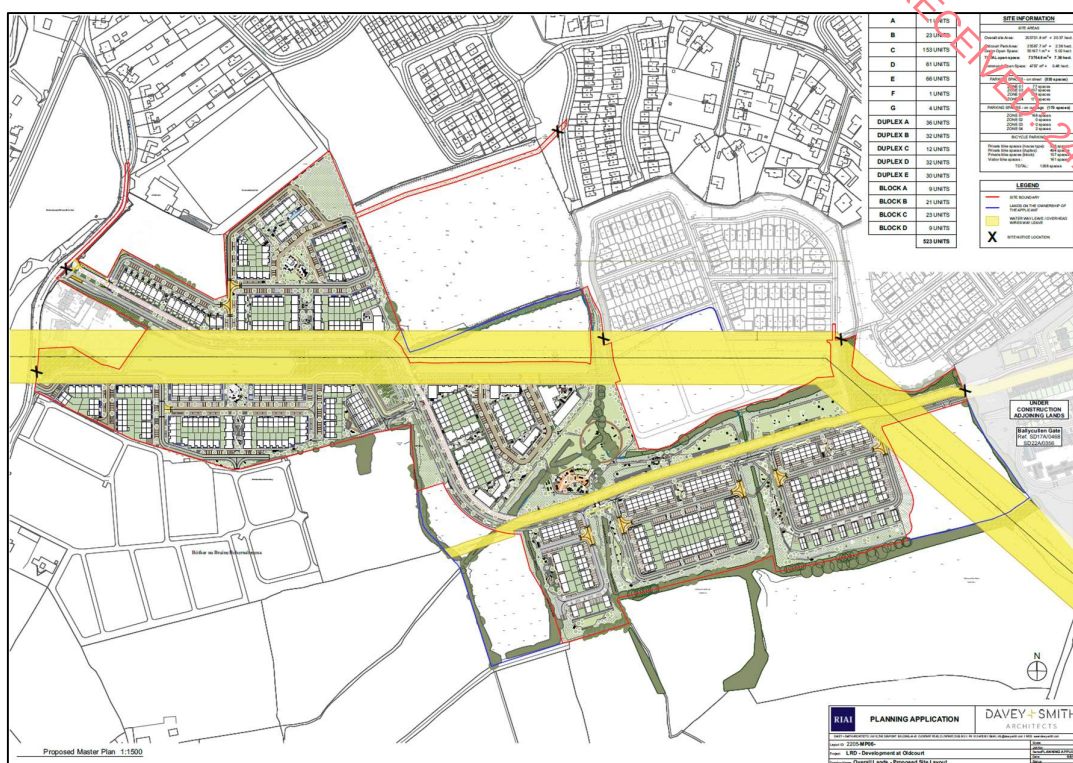


Figure 4.1 Site Location Map (Source: Davey + Smith Architects).



4.2 Details of the Non-Hazardous Wastes to be Produced

There will be waste materials generated from the demolition of a number of sheds / buildings, along with 2 houses, and hardstanding areas on site, as well as from the further excavation of the building foundations. The volume of waste generated from demolition will be more difficult to segregate than waste generated from the construction phase, as many of the building materials will be bonded together or integrated i.e. plasterboard on timber ceiling joists, steel embedded in concrete, etc.

There will be soil, stones, clay, and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basements. The project engineers (Pinnacle) have estimated that 73,178 m³ of material will need to be excavated to do so. It is currently envisaged that 57,894 m³ will be able to be retained and reused onsite for landscaping and fill, the remaining material, will need to be removed offsite due to the limited opportunities for reuse on site. This will be taken for appropriate offsite reuse, recovery, recycling and / or disposal.

During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated. The contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

Waste will also be generated from construction workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided on site during the construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated



infrequently from site offices.

4.3 Potential Hazardous Wastes Arising

4.3.1 Contaminated Soil

Site investigations were carried out by Causeway Geotech Ltd. between the 5th and 9th of October 2015. The investigation involved 12 no. light percussion boreholes, 41 no. machine dug trial pits, and indirect CBR tests adjacent to trial pit locations. Laboratory testing involved the shear strength, compaction, soil chemistry and, classification of soils, in regards to moisture content, Atterberg Limit tests and particle size distribution.

No environmental soil testing has been carried out, however, this will be done prior to any material being removed from the site.

If any potentially contaminated material is encountered, it will need to be segregated from clean / inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled '*Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous*'¹⁵ using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC*¹⁶, which establishes the criteria for the acceptance of waste at landfills.

In the event that Asbestos Containing Materials (ACMs) are found within the excavated material, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*. All asbestos will be taken to a suitably licensed or permitted facility.

In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify SDCC and provide a Hazardous / Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal / treatment, in addition to information on the authorised waste collector(s).

4.3.2 Fuel/Oils

Fuels and oils are classed as hazardous materials; any on-site storage of fuel / oil, and all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to and the site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel / oil waste generated at the site.

4.3.3 Invasive Plant Species

The project ecologists (Enviroguide) carried out a site walkover surveys of the entire site, and around part of the outside perimeter to search for any invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). Some Japanese Knotweed (*Fallopia japonica*) was found in one location along the northern edge of the Bohernabreena Cemetery during a site walkover survey.

An Invasive Species Management Plan will need to be prepared prior to the commencement of works on site.

4.3.4 Asbestos

An Asbestos Demolition Survey will be carried out prior to the commencement of demolition work on the proposed development site.

Removal of asbestos or ACMs will be carried out by a suitably qualified contractor and ACMs will only be removed from site by a suitably permitted / licenced waste contractor, in accordance with the *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*. All material will be taken to a suitably licensed or permitted facility.



4.3.5 Other Known Hazardous Substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

In addition, WEEE (containing hazardous components), printer toner / cartridges, batteries (Lead, Ni-Cd or Mercury) and / or fluorescent tubes and other mercury containing waste may be generated from during C&D activities or temporary site offices. These wastes, if generated, will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

5.0 ROLES AND RESPONSIBILITIES

The *Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects* promotes that a RM should be appointed. The RM may be performed by number of different individuals over the life-cycle of the Project, however it is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project RWMP are complied with. The RM is assigned the requisite authority to meet the objective and obligations of the RWMP. The role will include the important activities of conducting waste checks/audits and adopting construction and demolition methodology that is designed to facilitate maximum reuse and/or recycling of waste.

5.1 Role of the Client

The Client are the body establishing the aims and the performance targets for the project.

- The Client has commissioned the preparation and submission of this RWMP as part of the design and planning submission;
- The Client is to commission the preparation and submission of an updated RWMP as part of the construction tendering process;
- The Client will ensure that the RWMP is agreed on and submitted to the local authority and their agreement obtained prior to commencement of works on site;
- The Client will request the end-of-project RWMP from the Contractor.

5.2 Role of the Client Advisory Team

The Client Advisory Team or Design Team is formed of architects, consultants, quantity surveyors and engineers and is responsible for:

- Drafting and maintaining the RWMP through the design, planning and procurement phases of the project;
- Appointing a RM to track and document the design process, inform the Design Team and prepare the RWMP.
- Including details and estimated quantities of all projected waste streams with the support of environmental consultants/scientists. This will also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team;
- Managing and valuing the demolition work with the support of quantity surveyors;
- Handing over of the RWMP to the selected Contractor upon commencement of construction of the development, in a similar fashion to how the safety file is handed over to the Contractor;
- Working with the Contractor as required to meet the performance targets for the project.



5.3 Future Role of the Contractor

The future demolition and construction Contractors have not yet been decided upon for this RWMP. However, once select they will have major roles to fulfil. They will be responsible for:

- Preparing, implementing and reviewing the (including the Pre-Demolition) RWMP throughout the demolition and construction phases (including the management of all suppliers and sub-contractors) as per the requirements of the EPA guidelines;
- Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP;
- Identifying all hauliers to be engaged to transport each of the resources / wastes off-site;
- Implementing waste management policies whereby waste materials generated on site are to be segregated as far as practicable;
- Renting and operating a mobile-crusher to crush concrete for temporary reuse onsite during construction and reduce the amount of HGV loads required to remove material from site;
- Applying for the appropriate waste permit to crush concrete onsite;
- Identifying all destinations for resources taken off-site. As above, any resource that is legally classified as a 'waste' must only be transported to an authorised waste facility;
- End-of-waste and by-product notifications addressed with the EPA where required;
- Clarification of any other statutory waste management obligations, which could include on-site processing;
- Full records of all resources (both wastes and other resources) will be maintained for the duration of the project; and
- Preparing a RWMP Implementation Review Report at project handover.

6.0 KEY MATERIALS & QUANTITIES

6.1 Project Resource Targets

Project specific resource and waste management targets for the site have not yet been set and this information will be updated for these targets once these targets have been confirmed by the client. However, it is expected for projects of this nature that a minimum of 70% of waste is fully re-used, recycled or recovered. Target setting will inform the setting of project-specific benchmarks to track target progress. Typical Key Performance Indicators (KPIs) that will be used to set targets include (as per guidelines):

- Weight (tonnes) or Volume (m³) of waste generated per construction value;
- Weight (tonnes) or Volume (m³) of waste generated per construction floor area (m²);
- Fraction of resource reused on site;
- Fraction of resource notified as by-product;
- Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

6.2 Main Construction and Demolition Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction activities at a typical site are shown in Table 6.41 overleaf. The List of Waste (LoW) code (2018) for each waste stream is also shown.

Waste Material	LoW Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07



Waste Material	LoW Code
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

* Individual waste type may contain hazardous substances

Table 6.41 Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)

6.3 Demolition Waste Generation

The demolition stage will involve the demolition of existing buildings / structures on-site. The demolition areas are identified in the planning drawings provided with this application. The anticipated demolition waste and rates of reuse, recycling / recovery and disposal are shown in Table 6.42, overleaf.

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	16.8	0	0.0	85	14.3	15	2.5
Concrete, Bricks, Tiles, Ceramics	991.2	30	297.4	65	644.3	5	49.6
Plasterboard	67.2	30	20.2	60	40.3	10	6.7
Asphalts	16.8	0	0.0	75	12.6	25	4.2
Metals	537.6	5	26.9	80	430.1	15	80.6
Slate	16.8	0	0.0	85	14.3	15	2.5
Timber	33.6	10	3.4	60	20.2	30	10.1
Asbestos	0.5	0	0.0	0	0.0	100	0.5
Total	1680.5		347.8		1176.0		156.7

Table 6.42 Estimated off-site reuse, recycle and disposal rates for demolition waste

6.4 Construction Waste Generation

Table 6.2 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports*¹⁷ and the joint EPA & GMIT study¹⁸.

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	100

Table 6.2: Waste materials generated on a typical Irish construction site

Table 6.3, overleaf, shows the estimated construction waste generation for the proposed Project based on the gross floor area of construction and other information available to date, along with indicative targets for management of the waste streams. The estimated amounts for the main waste types (with the exception of soils and stones) are based on an average large-scale development waste generation rate per m², using the waste breakdown rates shown in Table 6.2. These have been calculated from the schedule of development areas provided by the architect.

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1030.6	10	103.1	80	824.5	10	103.1
Timber	874.5	40	349.8	55	481.0	5	43.7
Plasterboard	312.3	30	93.7	60	187.4	10	31.2
Metals	249.8	5	12.5	90	224.9	5	12.5
Concrete	187.4	30	56.2	65	121.8	5	9.4
Other	468.5	20	93.7	60	281.1	20	93.7
Total	3123.1		708.9		2120.6		293.6

Table 6.3: Predicted on and off-site reuse, recycle and disposal rates for construction waste

In addition to the waste streams in Table 4.3, there will be c. 73,178 m³ of soil, stones, clay, and made ground excavated to facilitate construction of new foundations, and underground services. Any suitable excavated material will be temporarily stockpiled for reuse as fill, where possible, c. 57,894 m³ is expected to be reused on site while c. 15,284 m³ is expected to be removed off-site for appropriate reuse, recovery and / or disposal.

It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

6.5 Proposed Resource and Waste Management Options

Waste materials generated will be segregated on-site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source, where feasible. All waste receptacles leaving the site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

National End-of-Waste Decision EoW-N001/2023 (Regulation 28) establishes criteria determining when recycled aggregate resulting from a recovery operation ceases to be waste. Material from this proposed development will be investigated to see if it can cease to be a waste under the requirements of the National End of Waste Criteria for Aggregates.

During construction, some of the sub-contractors on site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (per Article 30 (1) (b) of the Waste Collection Permit Regulations 2007, as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off-site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and



COR / permit / licence for the receiving waste facility for all waste removed off-site for appropriate reuse, recycling, recovery and / or disposal.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, chemicals, if required.

The anticipated management of the main waste streams is outlined as follows:

8.1.1.1.1. Soil, Stones, Clay, and Made Ground

The waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

It is anticipated that 79% excavated material will be reused on site. It is anticipated that 21% (c. 15,284 m³) of excavated material will need to be removed offsite for appropriate reuse, recovery and/or disposal. If material is removed off-site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Regulation 27 of the European Communities (Waste Directive) Regulations 2011, as amended, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received. The potential to reuse material as a by-product will be confirmed during the course of the excavation works, with the objective of eliminating any unnecessary disposal of material.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Regulation 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Regulation 27. Regulation 27 will be investigated to see if the material can be imported onto this site for beneficial reuse instead of using virgin materials.

If the material is deemed to be a waste, then removal and reuse / recovery / disposal of the material will be carried out in accordance with the *Waste Management Act 1996* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

8.1.1.1.2. Bedrock

While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off-site for appropriate reuse, recovery and / or



disposal. If bedrock is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from SDCC.

8.1.1.1.3. Silt & Sludge

During the construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off-site.

8.1.1.1.4. Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction works are expected to be clean, inert material and will be recycled, where possible. If concrete is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from SDCC.

8.1.1.1.5. Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues, etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated, where practical, and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the construction phases will be stored in a separate skip, pending collection for recycling. The site Manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical & Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off-site.



Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the waste team (see Section 0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

Any asbestos or ACM found on-site will be removed by a suitably competent contractor and disposed of as asbestos waste before the demolition works begin. All asbestos removal work or encapsulation work must be carried out in accordance with the *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and / or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on-site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from SDCC and the destination of the accepting waste facility or if an application under regulation 28 will be made using National End-of-Waste Decision EoW-N001/2023, will be supplied to the SDCC waste unit.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each construction waste stream. Prior to commencement of construction and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to SDCC by the project team.

6.6 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by a weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project RM (see Section 0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the *Waste Management Act 1996* as amended, *Waste Management (Collection Permit) Regulations 2007* as amended and *Waste Management (Facility Permit & Registration) Regulations 2007* and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project RM (see Section 0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR / permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager (see Section 0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the



relevant authority on behalf of all Local Authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences, etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on-site.

7.0 ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is outlined below. The total cost of C&D waste management will be measured and will take into account handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

7.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle / recovery / disposal costs associated with the requirement for a waste contractor to take the material off-site. Clean and inert soils, gravel, stones, etc., which cannot be reused on-site may be used as access roads or capping material for landfill sites, etc. This material is often taken free of charge or at a reduced fee for such purposes, reducing final waste disposal costs.

7.2 Recycling

Salvageable metals will earn a rebate, which can be offset against the costs of collection and transportation of the skips.

Clean, uncontaminated cardboard and certain hard plastics can also be recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste.

Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes, such as timber, from a site than mixed waste.

7.3 Disposal

Landfill charges are currently at around €140 - €160 per tonne which includes a €85 per tonne landfill levy specified in the *Waste Management (Landfill Levy) Regulations 2015* as amended. In addition to disposal costs, waste contractors will also charge a collection fee for skips.

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc., is also used as fill / capping material, wherever possible.

8.0 DEMOLITION PROCEDURES

The demolition stage will involve the demolition of a number of sheds / buildings, along with 2 houses, and hardstanding areas on site. The demolition areas are identified in the planning drawings submitted as part of this application. A formal demolition plan including safety procedures will be prepared by the demolition contractor. However, in general, the following sequence of works should be followed during the demolition stage:

Check for Hazards

Prior to commencing works, buildings and structures to be demolished will be checked for any likely hazards including asbestos, ACMs, electrical power lines or cables, gas reticulation systems, telecommunications, unsafe structures and fire / explosion hazards, e.g. combustible dust, chemical hazards, oil, fuels and contamination.



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Removal of Components

All hazardous materials will be removed first. All components from within the buildings that can be salvaged will be removed next. This will primarily be comprised of metal; however, may also include timbers, doors, windows, wiring and metal ducting, etc.

Removal of Roofing

Steel roof supports, beams, etc., will be dismantled and taken away for recycling / salvage.

Excavation of Services, Demolition of Walls and Concrete

Services will be removed from the ground and the breakdown of walls will be carried out once all salvageable or reusable materials have been taken from the buildings. Finally, any existing foundations and hard standing areas will be excavated.

9.0 TRAINING PROVISIONS

A member of the construction team will be appointed as the RM to ensure commitment, operational efficiency and accountability in relation to waste management during the C&D phases of the proposed development.

9.1 Resource Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site.

The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the Waste Manager to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this RWMP.

9.2 Site Crew Training

Training of site crew in relation to waste is the responsibility of the RM and, as such, a waste training program will be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.



10.0 TRACKING AND TRACING / RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the waste arisings on Site.

A waste tracking log will be used to track each waste movement from the site. On exit from the site, the waste collection vehicle driver will stop at the site office and sign out as a visitor and provide the security personnel or RM with a waste docket (or Waste Transfer Form (WTF) for hazardous waste) for the waste load collected. At this time, the security personnel will complete and sign the Waste Tracking Register with the following information:

- Date
- Time
- Waste Contractor
- Company waste contractor appointed by, e.g. Contractor or subcontractor name
- Collection Permit No.
- Vehicle Reg.
- Driver Name
- Docket No.
- Waste Type
- EWC / LoW
- Weight/Quantity

The waste vehicle will be checked by security personal or the RM to ensure it has the waste collection permit no. displayed and a copy of the waste collection permit in the vehicle before they are allowed to remove the waste from the site.

The waste transfer dockets will be transferred to the RM on a weekly basis and can be placed in the Waste Tracking Log file. This information will be forwarded onto the SDCC Waste Regulation Unit when requested.

Each subcontractor that has engaged their own waste contractor will be required to maintain a similar waste tracking log with the waste dockets / WTF maintained on file and available for inspection on site by the main contractor as required. These subcontractor logs will be merged with the main waste log.

Waste receipts from the receiving waste facility will also be obtained by the site contractor(s) and retained. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times and will be periodically reviewed by the RM. Subcontractors who have engaged their own waste contractors, will provide the main contractor with a copy of the waste collection permits and COR / permit / licence for the receiving waste facilities and maintain a copy on file, available for inspection on site as required.

11.0 OUTLINE WASTE AUDIT PROCEDURE

11.1 Responsibility for Waste Audit

The appointed RM will be responsible for conducting a waste audit at the site during the C&D phase of the proposed Project. Contact details for the nominated RM will be provided to the SDCC Waste Regulation Unit after the main contractor is appointed and prior to any material being removed from site.

11.2 Review of Records and Identification of Corrective Actions

A review of all waste management costs and the records for the waste generated and transported off-site will be undertaken mid-way through the demolition and construction phase of the proposed Project.

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery / reuse / recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed



in order to highlight how the targets can be achieved.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

12.0 CONSULTATION WITH RELEVANT BODIES

12.1 Local Authority

Once construction contractors have been appointed and have appointed waste contractors, and prior to removal of any C&D waste materials off-site, details of the proposed destination of each waste stream will be provided to the SDCC Waste Regulation Unit.

SDCC will also be consulted, as required, throughout the demolition, excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

12.2 Recycling / Salvage Companies

The appointed waste contractor for the main waste streams managed by the demolition and construction contractors will be audited in order to ensure that relevant and up-to-date waste collection permits and facility registrations / permits / licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling / reclamation, the means by which the wastes will be collected and transported off-site, and the recycling / reclamation process each material will undergo off-site.

13.0 CONCLUSION

Adherence to this plan will also ensure that waste management during the construction phase at the proposed development is carried out in accordance with the requirements in the EPA's Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects and the SDCC Waste Bye-Laws and the NWMPCE.

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Appendix 13.2
Operational Waste Management Plan



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OPERATIONAL WASTE MANAGEMENT PLAN FOR A PROPOSED LARGE SCALE RESIDENTIAL DEVELOPMENT AT OLDCOURT, DUBLIN 24.

Report Prepared For

Capami Ltd.

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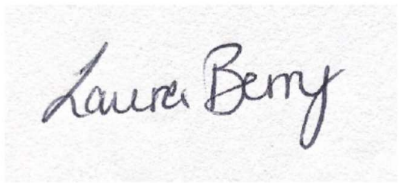
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Title	Environmental Consultant	Principal Environmental Consultant
Date	12 August 2024	12 August 2024

This report considers the specific instructions and requirements of our client. It is not intended for third-party use or reliance, and no responsibility is accepted for any third party. The provisions in this report apply solely to this project and should not be assumed applicable to other developments without review and modification.



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1.0 Introduction

AWN Consulting Ltd. (AWN) has prepared this Operational Waste Management Plan (OWMP) on behalf of Capami Ltd. The proposed development comprises a Large-scale Residential Development on a site measuring c.20.3Ha, located in the townlands of Bohernabreena, Oldcourt, and Killininny, Dublin 24. The proposed development consists of 523 no. residential units, along with a 2 storey childcare facility of c. 457sq.m, and all associated ancillary.

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 Regulations¹, Environmental Protection Agency Act 1992 as amended², Litter Pollution Act 1997 as amended³, the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPC) (2024)⁴ and County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws, 2018⁵. In particular, this OWMP aims to provide a robust strategy for the storage, handling, collection and transport of the wastes generated at Site.

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

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

2.0 OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998 entitled '*Changing Our Ways*'⁶, 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 2002⁷. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled '*Making Ireland's Development Sustainable – Review, Assessment and Future Action*'⁸. This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document *Changing Our Ways*, a review document was published in April 2004 entitled '*Taking Stock and Moving Forward*'⁹. 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' ¹⁰ (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 acknowledged 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) ¹¹ 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 ¹² 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* ¹³ 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 2021 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (November 2023) reported the following key statistics for 2020:

- **Generated** – Ireland produced 3,170,000 t of municipal waste in 2021. This is a 1% decrease since 2020. This means that the average person living in Ireland generated 630 kg of municipal waste in 2021.
- **Managed** – Waste collected and treated by the waste industry. In 2020, a total of 3,137,000 t of municipal waste was managed and treated.
- **Unmanaged** – An estimated 33,000 tonnes of this was unmanaged waste i.e., not disposed of in the correct manner in 2021.



- **Recovered** – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In Ireland 42% of Municipal waste was treated by energy recovery through incineration in 2021.
- **Recycled** – Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2021, resulting in a recycling rate of 41 per cent. The recycling rate remains unchanged from 2020 and indicates that we face significant challenges to meet the upcoming EU recycling targets of 55% by 2025 and 65% by 2035.
- **Disposed** – The proportion of municipal waste sent to landfill also remains unchanged at 16% the same as 2020.
- **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.

2.2 Regional Level

The proposed development is located in the Local Authority administrative area of South Dublin County Council (SDCC).

The Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the NWMPCE 2024 - 2030. The NWMPCE is the new national waste management plan for Ireland which replace the previous 3 regional waste management plans. The NWMPCE does not dissolve the three regional waste areas.

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:

National Targets

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

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

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

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

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015.

The *South Dublin County Council Development Plan 2022– 2028*¹⁴ sets out a number of objectives and policies for the South Dublin area in line with the objectives of the waste management plan.

Policy and Objectives



Policy IE7: Waste Management

Implement European Union, National and Regional waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.

- **IE7 Objective 1** – To encourage a just transition from a waste management economy to a green circular economy to enhance employment and increase the value, recovery and recirculation of resources through compliance with the provisions of the Waste Action Plan for a Circular Economy 2020-2025 and to promote the use of, but not limited to, reverse vending machines and deposit return schemes or similar to ensure a wider and varying ways of recycling.
- **IE7 Objective 2** – To support the implementation of the Eastern Midlands Region Waste Management Plan 2015-2021 or as amended by adhering to overarching performance targets, policies and policy actions.
- **IE7 Objective 4** – To provide for and maintain the network of bring infrastructure (for example, civic amenity facilities, bring banks) in the County to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.
- **IE7 Objective 7** – To require the appropriate provision for the sustainable management of waste within all developments, ensuring it is suitably designed into the development, including the provision of facilities for the storage, separation and collection of such waste.
- **IE7 Objective 8** – To adhere to the recommendations of the National Hazardous Waste Management Plan 2014-2020 and any subsequent plan, and to co-operate with other agencies including the EPA in the planning, organisation and supervision of the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.

2.3 Legislative Requirements

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

- Waste Management Act 1996 as amended;
- Environmental Protection Agency Act 1992 as amended;
- Litter Pollution Act 1997 as amended;
- Planning and Development Act 2000 as amended ¹⁵;
- Circular Economy and Miscellaneous Provisions Act 2022.

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

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

It is, therefore, imperative that the residents, childcare facility tenants and the proposed facilities management company undertake on-site management of waste in accordance with all legal requirements and that the facilities management company employ suitably permitted / licenced contractors to undertake off-site management of their waste in



accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

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

2.3.1 South Dublin County Council Waste Management Bye-Laws

2.3.2

The SDCC “County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2018)” came into use on the 3rd of December 2018. The bye-laws set a number of enforceable requirements on waste holders with regard to segregation, storage and presentation of waste within the SDCC administrative area. Key requirements under these bye-laws of relevance to the operational phase of the proposed development include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 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 8:00am on the day following the designated waste collection day.
- Documentation, including receipts, are 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.
- Containers used for the presentation of kerbside waste shall be maintained in such condition and state of repair that the waste placed therein will not be a source of nuisance or litter.

The full text of the Waste Bye-Laws is available from the SDCC website.

2.4 Regional Waste Management Service Providers and Facilities

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

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

There is a Recycling Centre at Ballymount Waste Recycling Centre, Ballymount avenue, Greenhills, Dublin, D12RF44, located c. 5.6 km to the north-east of the development site, which can be utilised by the residents of the proposed development for other household waste streams while a bring bank can be found c. 550 m to the south at the Bus Terminal, Bohernabreena, Dublin, D24RX38.



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

3.0 DESCRIPTION OF THE Development

3.1 Location, Size and Scale of the Development

The proposed development comprises a Large-scale Residential Development on a site measuring c.20.3Ha, located in the townlands of Bohernabreena, Oldcourt, and Killinenny, Dublin 24. The proposed development site is located to the east of Bohernabreena Road, north and east of Bohernabreena cemetery, south and south-east of St. Anne's GAA club, south and south-west of the Dodderbrook residential estate, west of the Ballycullen Gate residential development (currently under construction) and west of Oldcourt Road (the R113).

The proposed development consists of 523 no. residential units comprised of 255 no. 2, 3 & 4 bed, 2 & 3 storey, detached, semi-detached and terraced houses, 206 no. 1, 2 & 3 bed duplex units in 20 no. 2 & 3 storey blocks, and 62 no. 1, 2 & 3 bed apartments in 4 no. 2-3 & 3-4 storey blocks, along with a 2 storey childcare facility of c. 457sq.m.

Private amenity space for the residential units is provided in the form of rear gardens for houses and ground floor terraces / upper floor balconies for apartments and duplex units. The proposed development provides for a total of c. 7.37Ha of public open space, and c. 5,545sq.m of communal open space associated with proposed residential units.

Vehicular access to the development will be via 4 no. access points, as follows: (i) from the west of the site via 2 no. accesses located off Bohernabreena Road, (ii) from the north of the site via 1 no. access at Dodderbrook Place, and (iii) from Oldcourt Road (the R113) to the east, via adjoining residential development at Ballycullen Gate. The proposed development includes for pedestrian and cyclist connections and accesses throughout the proposed development and to adjoining lands to the north at Dodderbrook Avenue and to the north-west into St. Anne's GAA club.

The proposed development includes the demolition of all existing structures on site, including 2 no. single storey dwellings and outbuildings/sheds (total demolition area: c. 4,152.06m²), hard & soft landscaping, boundary treatments, SuDs features, drainage infrastructure, services infrastructure, bin stores, bicycle stores, car parking (including EV parking facilities), bicycle parking, public lighting etc. and all associated site development works.

3.2 Typical Waste Categories

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

- Dry Mixed Recyclables (DMR) - includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), 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 less frequently / in smaller quantities which will need to be managed separately including:

- Cans and Bottles (Deposit Return Scheme)



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

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

3.3 List of Waste Codes

In 1994, the *European Waste Catalogue* ¹⁶ and *Hazardous Waste List* ¹⁷ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List* ¹⁸, 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' ¹⁹ 2018. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3.1 below.

Table 3.1 Typical Waste Types Generated and LoW Codes

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



Bulky Wastes	20 03 07
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* Individual waste type may contain hazardous materials

4.0 ESTIMATED WASTE ARISING

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

The estimated quantum / volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units. While the floor area usage (m²) has been used to estimate the waste arising from the childcare facility.

The estimated waste generation for the proposed development for the main waste types is presented in Tables 4.1 – 4.4.

Table 4.43 Estimated Waste Generation for Residential Duplex Blocks A1 & A2, A3, B1 & B2, and C1

Waste Type	Waste Volume (m ³ / week)			
	Duplex Block A1 & A2 (Shared)	Duplex Block A3 (Shared)	Duplex Block B1 & B2 (Shared)	Duplex Block C (Shared)
Organic Waste	0.43	0.22	0.57	0.22
DMR	2.94	1.47	3.92	1.47
Glass	0.08	0.04	0.11	0.04
MNR	1.71	0.85	2.28	0.85
Total	5.16	2.58	6.88	2.58

Table 4.2 Estimated Waste Generation for Residential Duplex Blocks D1 & D2, Apartment Blocks A1, B1.1 & B1.2

Waste Type	Waste Volume (m ³ / week)			
	Duplex Block D1 & D2 (Shared)	Apartment Block A (Shared)	Apartment Block B1.1 (Shared)	Apartment Block B1.2 (Shared)
Organic Waste	0.57	0.13	0.11	0.11
DMR	3.92	0.91	0.79	0.79
Glass	0.11	0.03	0.02	0.02
MNR	2.28	0.50	0.42	0.42
Total	6.88	1.57	1.35	1.35

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Table 4.3 Estimated Waste Generation for Residential Apartment Blocks B2, C, D, Childcare Facility

Waste Type	Waste Volume (m ³ / week)			
	Apartment Block B2 (Shared)	Apartment Block C (Shared)	Apartment Block D (Shared)	Childcare Facility
Organic Waste	0.11	0.22	0.29	0.05
DMR	0.73	1.47	1.96	1.68
Glass	0.02	0.04	0.06	0.01
MNR	0.40	0.85	1.14	0.92
Total	1.26	2.58	3.44	2.65

Table 4.4 Estimated Waste Generation for individual houses and Block E Duplex Units (2, 3, and 4 bed units)

Waste Type	Waste Volume (m ³ / week)		
	2-bed House and Duplex Units (Individual)	3-bed House and Duplex Units (Individual)	4-bed House (Individual)
Organic Waste	0.02	0.02	0.02
DMR	0.11	0.13	0.18
Glass	<0.01	<0.01	<0.01
MNR	0.07	0.08	0.09
Total	0.20	0.23	0.29

BS5906:2005 *Waste Management in Buildings – Code of Practice* ²⁰ has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data and data from numerous other similar developments in Ireland and is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the proposed development.

5.0 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 SDCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 *Waste Management in Buildings – Code of Practice*,
- The NWMPCE (2024);
- South Dublin County Council Development Plan 2022– 2028 (2021);
- SDCC "County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2018); and
- DoHLGH, *Sustainable Urban Housing: Design Standards for New Apartments*, Guidelines for Planning Authorities (2023) ²¹.



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Waste Storage Areas

Locations of all Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application under separate cover and in Appendix 1 of this plan.

Residential Duplex Block Type A (A1, A2)

Two (2 no.) shared WSAs have been allocated within the development design for Duplex Block A1 and A2. Each WSA is located externally close to the entrances of the duplex blocks.

Residential Duplex Block Type A (A3)

One (1 no.) shared WSA has been allocated within the development design for Duplex Block A3. This WSA is located externally close to the entrances of the duplex block.

Residential Duplex Block Type B (B1 & B2)

Two (2 no.) shared WSAs have been allocated within the development design for Duplex Block B1 and B2. Each WSA is located externally close to the entrances of the duplex blocks.

Residential Duplex Block Type C

One (1 no.) shared WSA has been allocated within the development design for Duplex Block C. This has been strategically located externally close to the entrances of the duplex block.

Residential Duplex Block Type D (D1 & D2)

Two (2 no.) shared WSAs per building have been allocated within the development design for Duplex Block D1 and D2. These have been strategically located externally close to the entrances of the duplex blocks.

Residential Duplex Type E (E1 & E2)

The units in Duplex Block E1 and E2 will have their own individual WSAs allocated at the rear of their home where external access to the rear yard is possible. When external access to the rear of the property is unavailable, bins will be stored at the front of the unit, shielded from view of the road.

Residential Apartment Block A

One (1 no.) shared WSA has been allocated within the development design for this residential apartment block. This has been strategically located externally at ground floor level, in close proximity to the building. There are two (2 no.) units within this block which have individual WSA located at ground floor level, next to the entrances to these units.

Residential Apartment Block B1 (B1.1 and B1.2)

One (1 no.) shared WSA per building has been allocated within the development design for residential apartment blocks B1.1 and B1.2. These have been strategically located externally close to the entrances of the apartment blocks.

Residential Apartment Block B2



One (1 no.) shared WSA has been allocated within the development design for residential apartment block B2. This has been strategically located externally close to the entrances of the apartment block.

Residential Apartment Block C

One (1 no.) shared WSA has been allocated within the development design for this residential apartment block C. This has been strategically located internally at lower ground floor level, in close proximity to the stair and lift cores.

Residential Apartment Block D

One (1 no.) shared WSA has been allocated within the development design for this residential apartment block D. This has been strategically located internally at ground floor level, in close proximity to the stair and lift cores.

Residential Houses (2-bed, 3-bed & 4-bed units)

The 2-bed, 3-bed & 4-bed houses will have their own individual WSAs allocated at the rear of their home where external access to the rear yard is possible. When external access to the rear of the property is unavailable, bins will be stored at the front of the unit, shielded from view of the road.

Childcare Facility Unit

One (1 no.) WSA has been allocated within the development design for the childcare facility. These have been strategically located on the basement floor level, in close proximity to stair and lift cores.

Using the estimated waste generation volumes in Tables 4.1 – 4.4 above, the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSAs. It is envisaged that all waste will be collected on a weekly basis.

Waste Storage Requirements

Estimated waste storage requirements for the operational phase of the proposed development are detailed in Table 5.1, below.

Table 0.44 Waste storage requirements for the proposed development

Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Duplex Block A1 & A2 (Shared)	2 no. 1100 L	3 no. 1100 L	1 no. 240 L	2 no. 240 L
Duplex Block A3 (Shared)	1 no. 1100 L	2 no. 1100 L	1 no. 240 L	1 no. 240 L
Duplex Block B1 & B2 (Shared)	2 no. 1100 L 1 no. 240L	4 no. 1100 L	1 no. 240 L	3 no. 240 L
Duplex Block C (Shared)	1 no. 1100 L	2 no. 1100 L	1 no. 240 L	1 no. 240 L



Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Duplex Block D1 (Shared)	2 no. 1100 L	4 no. 1100 L	1 no. 240 L	3 no. 240 L
Duplex Block D2 (Shared)	2 no. 1100 L	4 no. 1100 L	1 no. 240 L	3 no. 240 L
Duplex Block E1 and E2 (Individual)	1 no. 240 L	1 no. 240 L	Bottle Bank	1 no. 240 L
Apartment Block A (Shared)	1 no. 1100 L	1 no. 1100 L	1 no. 240 L	1 no. 120 L
Apartment Block A (Individual Units)	1 no. 240L	1 no. 240L	Bottle Bank	1 no. 240L
Apartment Block B1.1 (Shared)	2 no. 240 L	1 no. 1100 L	1 no. 240 L	1 no. 240 L
Apartment Block B1.2 (Shared)	2 no. 240 L	1 no. 1100 L	1 no. 240 L	1 no. 240 L
Apartment Block B2 (Shared)	2 no. 240 L	1 no. 1100 L	1 no. 240 L	1 no. 240 L
Apartment Block C (Shared)	1 no. 1100 L 1 no. 240 L	2 no. 1100 L 1 no. 240 L	1 no. 240 L	2 no. 240 L
Apartment Block D (Shared)	1 no. 240 L	1 no. 1100 L	1 no. 240 L	1 no. 240 L
2-bed, 3-bed & 4-bed Houses (Individual)	1 no. 240 L	1 no. 240 L	Bottle Bank	1 no. 240 L
Childcare Facility Unit	1 no. 1100 L	2 no. 1100 L	1 no. 120L	1 no. 120L

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

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

Waste storage receptacles as per Table 5.1 above (or similar appropriate approved containers) will be provided by the facilities management company in the WSAs.

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 WSAs are shown in Figure 5.1. All waste receptacles used will comply with the SIST EN 840-1:2020 and SIST EN 840-2:2020 as the standards for performance requirements of mobile waste containers, where appropriate.



Figure 0.1 Typical waste receptacles of varying size (240L and 1100L)

Receptacles for organic, DMR, glass and MNR will be provided in the WSAs prior to first occupation of the proposed development i.e. prior to the first residential unit being occupied or prior to the childcare facility becoming operational.

This Plan will be provided to each resident and to the childcare facility operator from first occupation of the proposed development i.e. once the first residential unit is occupied or once the childcare facility becomes operational. This Plan will be supplemented, as required, by the facilities management company and the childcare facility operator with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

5.1 Waste Storage – Duplex Units and Houses (Individual WSAs)

- Residents in the duplex units and houses will be required to segregate their waste into the following waste categories within their own units:
 - DMR;
 - MNR;
 - Organic waste; and
 - Glass.

It is anticipated that residents with external access to the rear of their property will store waste in bins at the back of the units. For units with no external access to the rear, a dedicated shielded area for storage of 3 no. 240L wheelie bins have been allocated at the front or side of the property.

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in Figure 5.2 overleaf.



Figure 0.2 Example three bin storage system to be provided within the unit design

It is anticipated that DMR, MNR and organic waste will be collected on a weekly basis. Glass waste will be required to be brought to the nearest bottle bank for disposal.

Other waste materials such as textiles, batteries, printer toner/cartridges and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.2 Waste Storage – Duplex Units and Apartment Units (Shared WSA)

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

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

Residents will be required to take their segregated waste materials to their designated WSAs and deposit their segregated waste into the appropriate bins. The location of the WSAs are illustrated in the drawings submitted with the planning application under separate cover and in Appendix 1 of this plan.

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in Figure 5.2 above.

Each bin / container in the WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin.

Access to the apartment block WSAs will be restricted to authorised residents, facilities management and waste contractors by means of a key or electronic fob access.

Other waste materials such as textiles, batteries, printer toner / cartridges, light bulbs and WEEE may be generated



infrequently by the residents. Residents will be required to identify suitable temporary storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.3 Waste Storage – Childcare Facility

Staff at the childcare facility will be required to segregate their waste into the following waste categories within their own units:

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

As required, the staff will need to take segregated DMR, MNR, glass and organic waste to their allocated WSA.

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.

Other waste materials such as textiles, batteries, WEEE, lightbulbs, cooking oil and printer toner / cartridges may be generated infrequently by the tenants. Tenants will be required to identify suitable temporary storage areas for these waste items within the childcare facility and dispose of them appropriately. Further details on additional waste types can be found in Section 5.5.

5.4 Waste Collection

There are numerous private contractors that provide waste collection services in the SDCC 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 childcare facility WSA, and shared duplex and apartment block WSAs will be brought to staging areas by the waste contractor or facilities management, depending on agreement, immediately prior to collection.

Residents in duplex units and houses with their own individual WSAs will be responsible for moving their waste receptacles to and from the curb before and after collection.

Locations for the childcare facility WSA and all residential WSAs (shared and individual WSAs), can be viewed on the drawings submitted with the planning application under separate cover and in Appendix 1 of this plan. The locations of the staging areas can also be viewed on drawings submitted with the planning application under separate cover in Appendix 2 of this plan.

The residential and childcare facility staging areas are such that they will not obstruct traffic or pedestrians (allowing a footway path of at least 1.8m, the space needed for two wheelchairs to pass each other) as is recommended in the Design Manual for Urban Roads and Streets (2019) ²².

Suitable access and egress has been provided to enable the bins to be moved easily from the staging area to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors. The auto track analysis for a waste truck can be viewed on the drawings submitted with the planning



application under separate cover and in Appendix 3 of this plan.

All waste receptacles should be clearly identified as required by waste legislation and the requirements of the SDCC *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 Additional Waste Materials

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

Deposit Return Scheme

Most drinks containers can be recycled via the deposit return scheme, such as bottles, cans and tins made from plastic, aluminium or steel can be returned once they are between 150ml and 3 litres in size and have the Re-turn logo on them. Staff from the childcare facility will be responsible for collecting drinks containers within the childcare facility unit, where appropriate. Residents will be responsible for collecting drinks containers within their own units.

At the shops you can either return the containers:

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

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

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

Green Waste

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

Batteries

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

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



Waste Electrical and Electronic Equipment (WEEE)

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

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

Printer Cartridge / Toners

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

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

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, etc) are largely generated from building maintenance works. Such works are 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 the childcare facility unit that is classed as hazardous (if they arise) will be appropriately stored within the operator's own space. Facilities management may arrange collection, depending on the agreement.

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

Light Bulbs

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

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

Textiles

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



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Waste Cooking Oil

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

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

Furniture & Other Bulky Waste Items

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

Abandoned Bicycles

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

5.6 Waste Storage Area Design

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

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

The facilities management company, childcare facility operator and residents will be required to maintain the resident bins and storage areas in good condition as required by the SDCC Waste Bye-Laws.

5.7 Facility Management Responsibilities

It shall be the responsibility of the facilities management company to ensure that all waste generated by residents using shared WSAs and childcare facility operator using the commercial WSA is managed to ensure correct storage prior to collection by an appropriately permitted waste management company.

Facilities management will provide the following items:



- Provision of a Waste Management Plan document, prepared by the facilities management company to all residential units and the childcare facility, 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 and childcare facility staff of their obligation to reduce waste, segregate waste and in the correct bin;
- Preparation of an annual waste management report for all residential units and the childcare facility operator;
- Designation of access routes to common waste storage areas to ensure safe access from the apartment units and the childcare facility unit by mobility impaired persons;
- Provision of an appropriately qualified and experienced staff member, who will be responsible for all aspects of waste management at the development;
- 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.

5.8 Facility Management Responsibilities

It shall be the responsibility of the Facilities Management Company to ensure that all waste generated by residents (except for units with individual WSAs) and the childcare facility operator is managed to ensure correct storage prior to collection by an appropriately permitted waste management company.

Facilities Management will provide the following items:

- Provision of a Waste Management Plan document, prepared by the Facilities Management Company to all 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 and childcare facility operators of their obligation to reduce waste, segregate waste and in the correct bin;
- Preparation of an annual waste management report for all units;
- Designation of access routes to common waste storage areas to ensure safe access from the apartment 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;
- Frequent inspection of waste storage areas and signing of a check list, which shall be displayed within the area; and
- Maintenance of a register, detailing the quantities and breakdown of wastes collected from the development and provision of supporting documentation by the waste collector to allow tracking of waste recycling rates.

5.9 Pest Management

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

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



6.0 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 NWMPCE*.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *SDCC 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.



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7.0 REFERENCES

1. Waste Management Act 1996 as amended.
2. Environmental Protection Agency Act 1992 as amended
3. Litter Pollution Act 1997 as amended
4. Regional Waste Management Planning Offices, *The National Waste Management Plan for a Circular Economy 2024 - 2030* (2024).
5. South Dublin County Council "County of South Dublin (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-laws (2018)
6. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement* (1998)
7. Department of Environment, Heritage and Local Government (DoEHLG) *Preventing and Recycling Waste - Delivering Change* (2002)
8. DoELG, *Making Ireland's Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development)* (2002)
9. DoEHLG, *Taking Stock and Moving Forward* (2004)
10. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025* (2020).
11. DCCAE, *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less'* (2021).
12. Circular Economy and Miscellaneous Provisions Act 2022
13. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2020 and the Circular Economy and National Waste Database Report 2021*
14. South Dublin County Council Development Plan 2022– 2028 (2021).
15. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended
16. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
17. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
18. EPA, *European Waste Catalogue and Hazardous Waste List* (2002)
19. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* (2018)
20. BS 5906:2005 Waste Management in Buildings – Code of Practice.
21. Department of Housing Local Government and Heritage (DoHLGH), *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2023).
22. DoHLGH, *Design Manual for Urban Roads and Streets* (2019)



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14.0. Archaeology and Cultural Heritage

14.1. Introduction

The EIA Directive and Regulations require that the Material Assets section of an EIS Document address architectural and archaeological heritage, and the cultural heritage. However, such is the importance of this issue in Ireland, EIA best practice has established that it is important to address this issue separately and not as an adjunct to the Material Assets chapter in the EIS Document (Section 5.8).

This chapter assesses the potential significance and likely impact of the proposed residential development, and of the cumulative development, on cultural heritage, including archaeological and architectural heritage.

Field walking and archaeological testing was undertaken by Antoine Giacometti, BA, MIAI of Archaeology Plan Heritage Solutions who has worked as an archaeologist since 1999. Two programmes of geophysical survey have been conducted within the site by JML Surveys. The first survey programme under licence 17R0112 in 2017 and the second under licence 24R0030 in 2024.

14.2. Assessment Methodology

This chapter of the EIAR document has been prepared with reference to the specific criteria set out in the Guidelines check 2017 EIAR legislation. For the purposes of the chapter on Cultural Heritage, the Proposed Development and the Cumulative Development are collectively referred to as the Study Area.

Archaeology

Archaeology is defined as the study of the past through the examination and analysis of material cultural remains. These include buildings, structures, features, artefacts and the landscape itself.

Thus, for developments which involve earth-moving or disturbance in areas of known archaeological remains or in areas of high archaeological potential, mitigation of impacts and of possible impacts will be required.

All archaeological sites and monuments are protected under the National Monuments Act 1930 and subsequent Amendment Acts, 1954, 1987, 1994, 2004 and the Heritage Act, 1995 and 'The Valletta Convention'.

The European Convention on the Protection of the Archaeological Heritage (revised), dated 16/1/1992, (commonly referred to as the 'The Valletta Convention'), European Treaty Series no. 143 entered into force for Ireland on 19/09/97.

The study is based on an examination of Ordnance Survey maps, records and publications of the Archaeological Survey of Ireland, documentation and archive material from various institutions including:

- National Monuments Service, Customs House, Dublin 1.
- Map Library, University of Dublin, Trinity College, Dublin 2
- National Museum of Ireland, Kildare Street, Dublin 2.
- National Library of Ireland, Kildare Street, Dublin 2.
- Ordnance Survey of Ireland, Phoenix Park, Dublin 8.

The standard publications that relate to the area under consideration have been consulted.

In addition, the results of archaeological investigations in the Study Area (including geophysical survey, archaeological testing and excavation) and in the wider vicinity of the Study Area have been incorporated into this chapter.



Record of Monuments and Places (RMP)

The Archaeological Constraint Maps, in conjunction with the County Record of Monuments and Places, provide an initial database for Planning Authorities, State Agencies and other bodies involved in environmental change.

The Record of Monuments and Places (RMP) comprise the following elements: (i) Letter or Letters indicating County (KD = Kildare, ME=Meath); (ii) A three digit number indicating the relevant Ordnance Survey Sheet Number (e.g. 049); (iii) A three, four or five digit number indicating the dedicated number of the individual site or monument.

The proximity of the development area to known and identifiable archaeological monuments has also been considered.

The Topographic Files

The files held in the National Museum of Ireland have been consulted. Collectively known as the Topographic Files, they provide information on artefacts, their find spots, and any field monuments that have been notified to the National Museum.

Field Inspection

In addition to documentary and archival research and analysis, a detailed surface-based inspection of the area of the Proposed Development was undertaken by a qualified archaeologist.

Aerial Photographic Analysis

A series of aerial photographs from Google Earth were analysed for this study.

Abbreviations Used:

- DCHG – Department of Culture, Heritage and the Gaeltacht
- NIAH - National Inventory of Architectural Heritage
- NMI - National Museum of Ireland
- OS - Ordnance Survey
- RMP - Record of Monuments and Places
- RPS – Record of Protected Structures

14.3. The Receiving Environment

The EIA Directive requires:

“A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge” (EPA 2017, 43).

In describing the receiving environment, the context, character, significance and sensitivity of the baseline receiving environment, into which the proposed development will fit, is assessed. This takes account of any other proposed developments that are also likely to proceed.

14.3.1 The Study Area

For the purposes of the description of the receiving environment in relation to cultural heritage, including archaeological and architectural heritage, the area of the Proposed Development will be referred to as ‘the study area’.

14.3.2. Site Location

The study area is located within Bohernabreena and Oldcourt townlands in South Dublin County Council's Tallaght Electoral division and is centred on ITM 710439, 725419. The site is bordered at the west by the Bohernabreena Road (L7114), at the southwest by the Bohernabreena Cemetery, and at the northwest it follows the Bohernabreena/Killinenny townland boundary eastwards towards the Dodderbrook and Ballycullen Gate developments. The southern border of the study area follows existing field boundaries for much of its course. The Bohernabreena/Oldcourt townland boundary traverses the centre of the site.

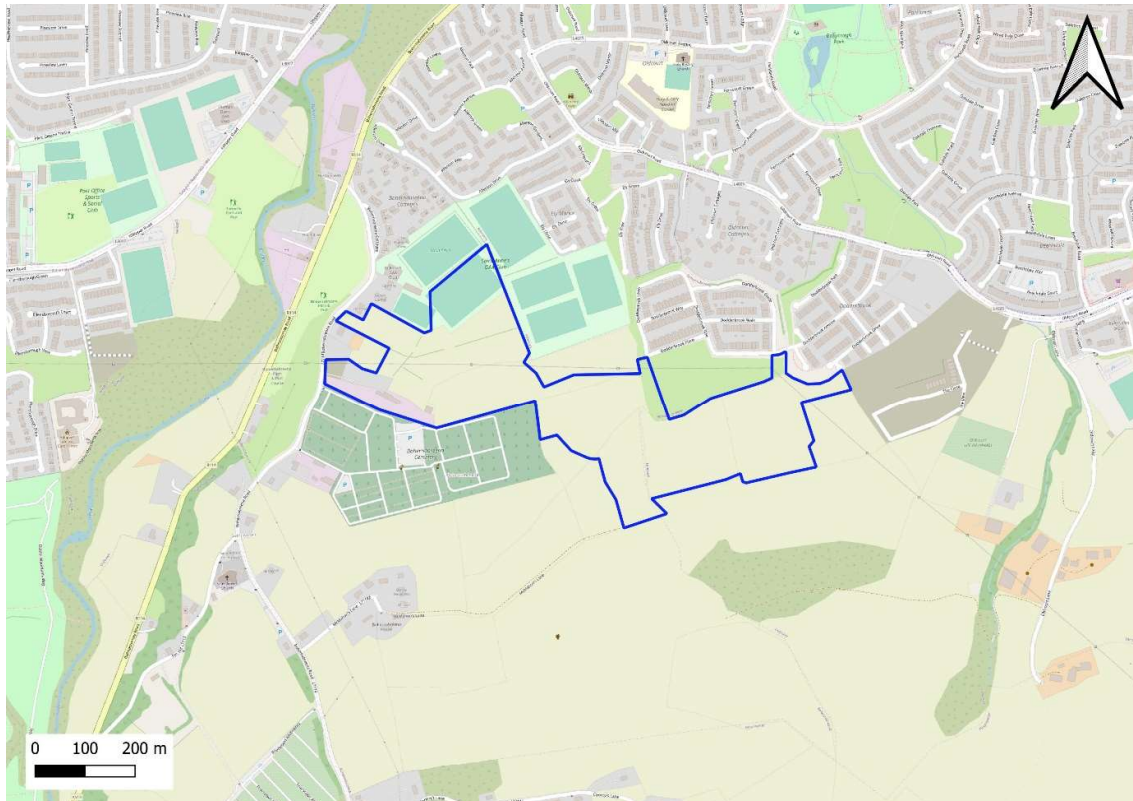


Fig. 14.1: Map of the Ballycullen-Oldcourt-Bohernabreena area with study area outlined in blue

14.3.3 Planning Context in Relation to Cultural Heritage

As proposed, the site area will be developed for residential purposes by Capami Ltd, with the construction of 523 housing units on a site of circa 20.4 hectares.

14.3.4. Archaeological provisions within the South Dublin County Development Plan 2022-2028

The Natural, Cultural, and Built Heritage (NCBH) chapter of the County Development Plan articulates five objectives regarding archaeological heritage under policy NCBH13. NCBH13 being to "Manage development in a manner that protects and conserves the Archaeological Heritage of the County and avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest." (Chp. 3, 107).



NCBH13 Objective 1: To favour the preservation in-situ of all sites, monuments and features of significant historical or archaeological interest in accordance with the recommendations of the Framework and Principles for the Protection of Archaeological Heritage, DAHGI (1999), or any superseding national policy document.

NCBH13 Objective 2: To ensure that development is designed to avoid impacting on archaeological heritage including previously unknown sites, features and objects.

NCBH13 Objective 3: To protect and enhance sites listed in the Record of Monuments and Places and ensure that development in the vicinity of a Recorded Monument or Area of Archaeological Potential does not detract from the setting of the site, monument, feature or object and is sited and designed appropriately.

NCBH13 Objective 4: To protect and preserve the archaeological value of underwater archaeological sites including associated features and any discovered battlefield sites of significant archaeological potential within the County.

NCBH13 Objective 5: To protect historical burial grounds within South Dublin County and encourage their maintenance in accordance with conservation principles.

14.3.5 Architectural Conservation Areas (ACA)

The proposed development site does not lie within an existing or proposed Architectural Conservation Area as outlined in the current South Dublin County Development Plan 2022 –2028 (Chp. 3, 121-122).

14.3.6. Local Area Plans

The study area is within the area covered by the Ballycullen – Oldcourt Local Area Plan 2014-2022 (extended by resolution on the 7th of May 2019 until 2024). The objective of the LAP is “...to provide a development framework with residential densities appropriate to the unique location of the lands on the suburban edge of the Dublin Mountain foothills...” (2023). The study area falls within the western extent of the area covered by this LAP.

14.3.7. Archaeology in the Ballycullen – Oldcourt Local Area Plan (2014)

Objective 5.3.2 of the LAP is of direct relevance to the archaeological and cultural heritage of the study area, that is, “Archaeological and historic features should be preserved in-situ and sensitively incorporated into development including newly discovered and upstanding features. Views of Montpellier Hill and historic structures including the Hellfire Club, Woodtown Manor, Carthy’s Castle and Orlagh House shall also be preserved and enhanced.” (2014, 44).

14.4. Historical and Cartographical Context

14.4.1. Historical Context

14.4.1.1. Prehistoric period

The archaeological background below demonstrates that the landscape surrounding the study area (a c.1km radius) was occupied in prehistoric times. This includes evidence from the Middle Bronze Age (pit and urn burials and fulachta fia), the Late Bronze Age (gold dress fastener), the Iron Age (roundhouse). These findings illustrate continuous habitation of the area over the final two millennia BC.