



# Dundrum Central

## Strategic Housing Development

---

**Dundrum Central,  
Dundrum Road, Dublin 14**

An Bord Pleanála submission –  
Building Lifecycle Report  
March 2022

## Contents

INTRODUCTION.....	3
PROPOSED DEVELOPMENT.....	3
SECTION 01 .....	5
1.1.    Property Management of the Common Areas of the Development .....	5
1.2.    Services Charge Budget.....	5
SECTION 02 .....	7
2.1.    Energy and Carbon Emissions .....	7
2.2.    Materials .....	9
2.2.1.    Buildings .....	9
2.2.2.    Material Specification .....	10
2.3.    Landscape .....	11
2.4.    Waste Management .....	12
2.5.    Health and Wellbeing .....	14
2.6.    Management.....	15
2.7.    Transport .....	15

## APPENDIX A

### Project Team:

Applicant	Land Development Agency
Architect	Reddy Architecture + Urbanism
Masterplan Lead	Tyréns UK
Project Manager	KSN Project Management
Planning Consultant	Tom Phillips + Associates
Engineer (Civil and Structural)	Barrett Mahony Consulting Engineers
Engineer (Mechanical and Electrical)	EDC – Engineering Design Consultants
Engineer (Transport and Traffic)	ILTP Consulting
Landscape Architects	AECOM
Landscape and Visual Impact Assessment (LVIA)	Macroworks
Daylighting and Sunlight	GIA
Waste Consultant	AWN
Quantity Surveyor and Cost Consultant	AECOM
Arboricultural Consultant	Arborist Associates
Microclimate	B-Fluid
Fire Safety Consultant	Jensen Hughes
Ecological Consultant	Altemar Limited
Archaeologist	Irish Archaeological Consultancy (IAC)
Acoustic Consultant	AWN Consulting

## INTRODUCTION

The Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities were published in March 2018 (hereafter referred to as the Apartment Guidelines). The Apartment Guidelines introduced a requirement to include details on the management and maintenance of apartment schemes. This is set out in Section 6.11 to 6.14 – “Operation & Management of Apartment Developments”, Specifically Section 6.13.

Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

*“Include a building lifecycle report, which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application”*

*“Demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.”*

This Building Life Cycle Report document sets out to address the requirements of Section 6.13 of the Apartment Guidelines. The report is broken into two sections as follows:

### Section 01:

An assessment of long-term running and maintenance costs as they would apply on a “per residential unit” basis at the time of application.

### Section 02:

Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of the residents.

## PROPOSED DEVELOPMENT

The Land Development Agency intend to apply to An Bord Pleanála (the Board) for a 10 year permission for a Strategic Housing Development with a total application site area of c.9.6 ha, on lands at the Central Mental Hospital, Dundrum Road, Dundrum, Dublin 14. The subject site is in the immediate setting and curtilage of a number of proposed protected structures, namely the ‘Asylum’ (RPS No. 2072), the ‘Catholic Chapel’ (RPS No. 2071) and the ‘Hospital Building’ (RPS No. 2073).

The development will consist of the demolition of existing structures associated with the existing use (3,736 sq m), including:

- Single storey former swimming pool / sports hall and admissions unit (2,750 sq m);
- Two storey redbrick building (305 sq m);
- Single storey ancillary and temporary structures including portacabins (677 sq m);
- Removal of existing internal sub-divisions/ fencing, including removal of security fence at Dundrum Road entrance;
- Demolition of section of porch and glazed screens at Gate Lodge building (4 sq m);
- Removal of walls adjacent to Main Hospital Building;
- Alterations and removal of section of wall to Walled Garden.

The development will also consist of alterations and partial demolition of the perimeter wall, including:

- Alterations and removal of section of perimeter wall adjacent to Rosemount Green (south);
- Formation of a new opening in perimeter wall at Annville Grove to provide a pedestrian and cyclist access;
- Alterations and removal of sections of wall adjacent to Dundrum Road (including removal of existing gates and entrance canopy), including reduction in height of section, widening of existing vehicular access, provision of a new vehicular, cyclist and pedestrian access;

- Alterations and removal of section of perimeter wall adjacent to Mulvey Park to provide a pedestrian and cyclist access.

The development with a total gross floor area of c. 106,770 sq m (c. 106,692 sq m excluding retained existing buildings), will consist of 977 no. residential units comprising:

- 940 no. apartments (consisting of 53 no. studio units; 423 no. one bedroom units; 37 no. two bedroom (3 person) units; 317 no. two bedroom (4 person) units; and 110 no. 3 bedroom units) arranged in 9 blocks (Blocks 02-10) ranging between 2 and 6 storeys in height (with a lower ground floor to Block 03 and Block 10, resulting in part 7 storey), together with private (balconies and private terraces) and communal amenity open space provision (including courtyards and roof gardens) and ancillary residential facilities;
- 17 no. duplex apartments (consisting of 3 no. 2 bedroom units and 14 no. 3 bedrooms units located at Blocks 02, 08 and 09), together with private balconies and terraces.
- 20 no. two and three storey houses (consisting of 7 no. three bedroom units and 13 no. 4 bedrooms units) and private rear gardens located at Blocks 02, 08 and 09).

The development will also consist of 3,889 sq m of non-residential uses, comprising:

- Change of use and renovation of existing single storey Gate Lodge building (reception/staff area) to provide a café unit (78 sq m);
- 1 no restaurant unit (307 sq m) located at ground floor level at Block 03;
- 6 no. retail units (1,112 sq m) located at ground floor level at Blocks 03, 06 and 07;
- 1 no. medical unit (245 sq m) located at ground floor level at Block 02;
- A new childcare facility (463 sq m) and associated outdoor play area located at ground floor level at Block 10; and
- A new community centre facility, including a multi-purpose hall, changing rooms, meeting rooms, storage and associated facilities (1,684 sq m) located at ground and first floor level at Block 06.

Vehicular access to the site will be from the existing access off Dundrum Road, as revised, and from a new access also off Dundrum Road to the south of the existing access.

The development will also consist of the provision of public open space and related play areas; hard and soft landscaping including internal roads, cycle and pedestrian routes, pathways and boundary treatments, street furniture, wetland feature, part-basement, car parking (547 no. spaces in total, including car sharing and accessible spaces); motorcycle parking; electric vehicle charging points; bicycle parking (long and short stay spaces including stands); ESB substations, piped infrastructural services and connections (including connection into existing surface water sewer in St. Columbanus Road); ducting; plant (including external plant for district heating and pumping station); waste management provision; SuDS measures (including green roofs); attenuation tanks; sustainability measures (including solar panels); signage; public lighting; any making good works to perimeter wall and all site development and excavation works above and below ground.

## SECTION 01

*An assessment of long-term running and maintenance costs as they would apply on a “per residential unit” basis at the time of application*

### 1.1. Property Management of the Common Areas of the development

A property management company will be engaged at an early stage of the development to ensure that all property management functions are dealt with for the development and that the running and maintenance costs of the common areas of the development are kept within the agreed Annual operational budget. Should it be proposed to sell residential units, the client will comply with the relevant legislation and will establish an Owners’ Management Company (OMC) where necessary.

The property management company will enter a contract directly with the Owners’ Management Company (OMC) for the ongoing management of the built development. This contract will be for a maximum period of 15 years and in the form prescribed by the Property Services Regulatory Authority (PSRA). For leased units, a third-party Property Management Company may be engaged. The Property Management Company has the following responsibilities for the apartment development once constructed:

Timely formation of an Owners’ Management Company (OMC) – which will be a company limited by guarantee having no share capital. All future purchasers will be obliged to become members of this OMC.

- Preparation of annual service charge budget for the development common areas.
- Fair and equitable apportionment of the Annual operational charges in line with the Multi Units Development Act 2011 (MUD Act).
- Engagement of independent legal representation on behalf of the OMC in keeping with the MUD Act - including completion of Developer OMC Agreement and transfer of common areas.
- Transfer of documentation in line with Schedule 3 of the MUD Act.
- Estate Management.
- Third Party Contractors Procurement and management.
- OMC Reporting.
- Accounting Services.
- Corporate Services.
- Insurance Management.
- After Hours Services.
- Staff Administration.

### 1.2. Service Charge Budget

The service charge budget covers items such as cleaning, landscaping, refuse management, utility bills, insurance, maintenance of mechanical/electrical lifts/life safety systems, security, property management fee, etc., to the development common areas in accordance with the provisions of the Multi Unit Developments Act 2011 (“MUD” Act), where applicable to the development. This may vary based on the chosen tenure and split between units to be sold or leased.

The service charge budget also includes an allowance for a Sinking Fund and this allowance is determined following the review of the Building Investment Fund (BIF) report prepared for the OMC. The BIF report will identify those works which are necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as required by the Multi Unit Development Act 2011. In line with the requirements of the MUD Act, the members of the OMC will determine and agree each year at a General Meeting of the members, the contribution to be made to the Sinking Fund, having regard to the BIF report produced.

The detail associated with each element heading i.e., specification and estimate of the costs to maintain / repair or replace, can only be determined after detailed design and the procurement/ construction of the development and therefore has not been included in this document.

## SECTION 02

*Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents*

### 2.1. Energy Performance and Carbon Emissions

A Building Energy Rating (BER) certificate will be provided for each apartment which will provide detail of the energy performance and carbon emissions associated with each of the dwellings. It is proposed to target a BER Rating for each apartment of A2/A3. This will equate to the following emissions:

A2 – 25-50 kWh/m<sup>2</sup>/yr. with CO<sub>2</sub> emissions approx. 10 kgCO<sub>2</sub>/m<sup>2</sup>/yr.

A3 – 51-75 kWh/m<sup>2</sup>/yr. with CO<sub>2</sub> emissions approx. 10 kgCO<sub>2</sub>/m<sup>2</sup>/yr.

The following table outlines the proposed passive and active, energy and carbon emission reduction measures which will directly benefit occupants in terms of reducing operational costs.

Measure	Description	Benefit																				
Building Fabric Efficiency	The U-Value of a building element is a measure of the amount of heat energy that will pass through the constituent element of the building envelope. Increasing the insulation levels in each element will reduce the heat lost during the heating season. It is possible to exceed the requirements of the current building regulations. The current target U-Values are identified below:	Reduction in the consumption of fuel and the associated carbon emissions and operating costs.																				
	<table border="1"> <thead> <tr> <th rowspan="2">Element</th> <th colspan="2">U value (W/m<sup>2</sup>.K)</th> </tr> <tr> <th>Part L 2021 (NZEB)</th> <th>Targeted</th> </tr> </thead> <tbody> <tr> <td>Flat Roof</td> <td>0.20</td> <td>0.18</td> </tr> <tr> <td>Walls</td> <td>0.18</td> <td>0.18</td> </tr> <tr> <td>Ground Floors</td> <td>0.18</td> <td>0.18</td> </tr> <tr> <td>Exposed floors</td> <td>0.18</td> <td>0.18</td> </tr> <tr> <td>External doors, windows and roof lights</td> <td>1.40</td> <td>1.40</td> </tr> </tbody> </table>		Element	U value (W/m <sup>2</sup> .K)		Part L 2021 (NZEB)	Targeted	Flat Roof	0.20	0.18	Walls	0.18	0.18	Ground Floors	0.18	0.18	Exposed floors	0.18	0.18	External doors, windows and roof lights	1.40	1.40
	Element			U value (W/m <sup>2</sup> .K)																		
			Part L 2021 (NZEB)	Targeted																		
	Flat Roof		0.20	0.18																		
	Walls		0.18	0.18																		
	Ground Floors		0.18	0.18																		
	Exposed floors		0.18	0.18																		
External doors, windows and roof lights	1.40	1.40																				
To avoid excessive heat losses and local condensation problems, consideration will be given to ensure continuity of insulation and to limit local thermal bridging, e.g., around windows, doors and other wall openings, at junctions between elements and other locations. Heat loss associated with thermal can heavily impact the calculated energy use and CO <sub>2</sub> emissions. The proposed design is targeting a thermal bridging $\Psi$ value of at least 0.08 to reduce the heat loss due to thermal bridging.																						
Another major consideration in reducing the heat losses in a building is the air infiltration. This essentially relates to the ingress of cold outdoor air into the building and the corresponding displacement of the heated internal air. This incoming cold air must be heated if comfort conditions are to be maintained. In a traditionally constructed building, infiltration can account for 30 to 40 percent of the total heat loss; however, construction standards continue to improve in this area.																						
The proposed development is being assessed against the Home Performance Index (HPI) outlined by the Irish Green Building Council (IGBC). These assessments will include on-site testing of materials to ensure the durability and resilience of the building fabric. With good design and strict on-site control of building techniques, infiltration losses can be significantly reduced.																						
To ensure that a sufficient level of air tightness is achieved, air permeability testing will be specified, with the responsibility being placed on the main																						

	<p>contractor to carry out testing and achieve the targets identified in the tender documents.</p> <p>A design air permeability target of 3 m<sup>3</sup>/m<sup>2</sup>/hr has been identified</p> <p>Air testing specification will require testing to be carried out in accordance with: BS EN 13829:2001 'Determination of air permeability of buildings, fan pressurisation method' CIBSE TM23: 2000 'Testing buildings for air leakage'</p>	
Lighting Efficiency	It is proposed to provide 100% of lighting outlets to be low energy (CFL/LED)	Reduction in the consumption of electricity and the associated carbon emissions and operating costs.
Sanitary ware	Showers are proposed with a max flow rate at 3 Bar to be no greater than 6 litres per minute. Bath volume to be no greater than 150 litres	Reduction in the consumption of potable water and energy associated with domestic hot water heating

The following Low Energy / Carbon & Renewable Energy Solutions that are being considered for the development.

Measure	Description	Benefit
Heat Pumps	<p>The general principal of heat pump technology is the use of electrical energy to drive a refrigerant cycle capable of extracting heat energy from one medium at one temperature and delivering this heat energy to a second medium at the desired temperature.</p> <p>The efficiency of any heat pump system is measured by its coefficient of performance (CoP). This is a comparison between the electrical energy required to run the heat pump and the useful heat output of the heat pump, e.g., a heat pump requiring 1kW of electrical power to deliver 3kW of heat energy has a CoP of 3.0.</p> <p>This operating principle can be applied to different situations, making use of the most readily available renewable heat source on any given site. The most common types are.</p> <ul style="list-style-type: none"> <li>• Ground Source</li> <li>• Water Source</li> <li>• Air Source</li> </ul> <p>Air source heat pumps are being considered.</p>	Reduction in the consumption of fuel and the associated carbon emissions and operating costs.
Photovoltaic (PV) Panels	<p>PV Panels can generate direct current electricity from the sun's energy, which can then be converted to alternating current and used within the building. They are generally a "maintenance free" technology as there are no moving parts. They also typically have a 20-year manufacturer's guarantee on electrical output and can be expected to operate effectively for 30 years or more.</p> <p>Capital costs have also reduced significantly in recent years due to worldwide increase in production levels. They are adaptable and scalable in that the amount installed can be selected to suit the budget available.</p> <p>PV Panels are being considered.</p>	Reduction in the consumption of electricity and the associated carbon emissions and operating costs.
Mechanical Ventilation Heat Recovery	<p>Mechanical heat recovery ventilation (MVHR) will provide ventilation to each apartment.</p> <p>MVHR provides tempered external fresh air to occupied spaces and extract ventilation from rooms with "Bad Air" such as Bathrooms, utility stores etc.</p>	Reduction in the consumption of fuel and the associated carbon emissions and operating costs. Increases comfort conditions for occupants

	Heat is recovered from exhaust air streams and transferred to the fresh air stream negating the requirements to use heating energy to heat incoming cold external fresh air.	Prevents mould growth.
ECAR Charging Points	10% of all car parking spaces will be provided with E-Car Charging points. Ducting shall be provided from local distribution boards to additional car park spaces. This will enable the management company the option to install several E-Car charging points to cater future E-Car demand of residents	Providing the option for E-Car charging points will futureproof the development.

### 2.1.1. CIBSE Life Expectancy Analysis

MECHANICAL		
	EQUIPMENT ITEM	INDICATIVE LIFE (YEARS)
	Condensing Boilers (MTHW/LTHW)	20
	Dosing Pots	15
	Flue (stainless steel)	30
	Gas Burners (atmospheric)	20
	Base Mounted Pumps	20
	Expansion Vessel (unvented hot water)	15
	Heating Pressurisation Unit	20
	Mains Cold Water Booster	15
	Sprinkler Booster	20
	Condensate Pipework System	12
	Steel Pipework (closed)	25
	Copper Pipework (open)	30
	Water Treatment Plant	15
	Steel Radiators	20
	Computer Rooms Air Conditioning	15
	Axial Fans	15
	Galvanised Ductwork (rectangular and circular)	40
	Plastic Ductwork	15
	Ductwork Ancillaries: External Louvres (steel painted)	20
	BMS : Head End (Supervisor)	5
	BMS : Outstations	10
	BMS : Plant Controller	10
	BMS : Operating System	5
	BMS : Remote Display Panels	10
	BMS : Communications Network (hardwiring)	25
	Leak Detection: Gas	10
	Above Ground Drainage (plastic)	25
	Sanitary Ware	25
	Gas Meter	20
	Water Meter	20
	Dry Risers	25
	Sprinklers : Wet	25
	Sprinkler Heads	30
	Heat Pumps	15

ELECTRICAL		
	Mains Cables	35
	Switchgear	30
	Transformer	30
	Protective Installation: Earth Bonding (major)	30
	Protective Installation: Earth Bonding (domestic)	25
	Consumer Units	25
	Distribution Boards	20
	Feeder Pillar	20
	Final Circuits and Outlets	20
	Inverter	20
	Lighting Installations (external)	15
	Lighting Installations (internal)	20
	Miniature Circuit Breakers (MCB)	20
	Moulded Case Circuit Breaker (MCCB)	25
	Power Distribution Unit (PDU)	20
	Residual Current Breaker (RCB)	20
	Switched Socket Outler (SSO)	15
	Emergency Lighting	25
	Switches	10
	Electricity Meters	20
	Access Control	15
	Call Points (BGU's)	15
	CCTV : Internal	20
	CCTV : External	15
	Fire Alarms (battery support & electrical)	20
	Heat Detectors	20
	Smoke Ventilation Systems	30
	Clock Systems	15
	CCTV & Video System	10
	Communication System (voice & data)	20
	Electric Heaters	12
	Lighting Control and Management Systems	15
	Lightning Protection	15
	Television and Satellite Systems	15
	Escalators	30
	Uninterruptable Power Supply Systems (UPS)	20

## 2.2. Materials

The practical implementation of the Design and Material principles has informed design of building facades, internal layouts and detailing of the proposed apartment buildings.

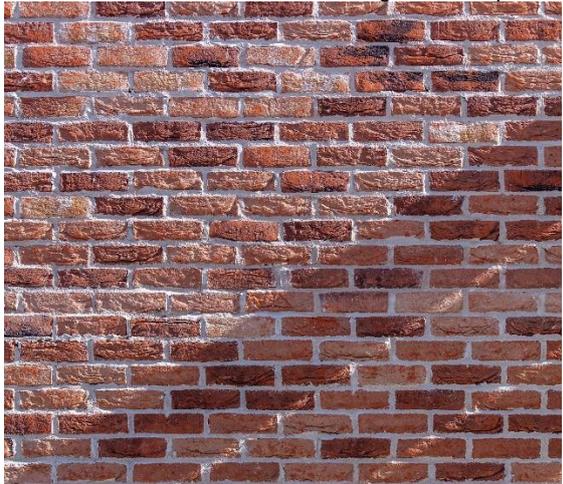
### 2.2.1. Buildings

The buildings are designed in accordance with the Building Regulations, in particular Part D ‘Materials and Workmanship’, which includes all elements of the construction. The Design Principles and Specification are applied to both the apartment units, commercial spaces and the common parts of the building and specific measures taken include:

Measure Description	Benefit
Daylighting to circulation areas where possible	Avoids the requirement for continuous artificial lighting
Natural/Passive ventilation system to circulation areas where possible	Avoids costly mechanical ventilation systems and associated maintenance and future replacement.
Assisted Natural Ventilation system to upper basement car park with limited extent of induction fans. The lower level carpark will be mechanically ventilated	Avoids provision of fully mechanically ventilating the whole basement.
External paved and landscaped areas	All of these require low/minimal maintenance

### 2.2.2. Material Specification

Measure Description	Benefit
<p>Consideration is given to the requirements of the Building Regulations and includes reference to BS 7543:2015, ‘Guide to Durability of Buildings and Building elements, Products and Components’, which provides guidance on the durability, design life and predicted service life of buildings and their parts.</p> <p>All common parts of the proposed Apartment buildings and, the durability and performance of these are designed and specified in accordance with Figure 4; Phases of the Life Cycle of BS7543; 2015. (Please see Appendix A for this figure). The common parts are designed to incorporate the guidance, best practice principles and mitigations of Annexes of BS 7543: 2015 including:</p> <ul style="list-style-type: none"> <li>• Annex A Climatic Agents affecting Durability</li> <li>• Annex B Guidance on materials and durability</li> <li>• Annex C Examples of UK material or component failures</li> <li>• Annex D Design Life Data sheets</li> </ul>	<p>Ensures that the long-term durability and maintenance of Materials is an integral part of the Design and Specification of the proposed development.</p>

<p>Use of brickwork and metal cladding to envelope</p> 	<p>Requires minimal on-going maintenance.</p>
<p>Use of factory finished alu-clad/aluminium windows and external doors.</p> 	<p>Requires minimal on-going maintenance.</p>
<p>Use of Galvanised Steel balconies and handrails with PPC finish on exposed visual surfaces. Composite self-finished board for deck of the balcony.</p> 	<p>Requires minimal on-going maintenance.</p>

### 2.3 Landscape

Measure	Description	Benefit
Site Layout & Landscape design	<p>Generous and high-quality landscaping that responds to the existing heritage of the site.</p> <p>The proposed landscape design aims to retain the mature existing tree planting whilst creating a strong green framework through the proposed development providing high quality, historic core of public open space that is linked for pedestrians and cyclists alike. Proposed tree, shrub and groundcover planting is found throughout the streetscape, historic core, communal courtyards and public civic spaces. Planting is chosen for its robust nature and yearlong interest.</p> <p>The overriding design intention is to create an inclusive and coherent new community based on best practice urban planning principles, giving residents a sense of place, ownership and identity.</p>	Natural attenuation, reduced surface water runoff from site and increased biodiversity.
Green Roofs	<p>Use of green roofs and traditional roof coverings with robust and proven detailing to landscape roof elements.</p> 	Attenuation reduces the need to construct large attenuation systems on site.
Paving and Decking materials	Use of robust, high-quality and high slip-resistance materials throughout the development.	Required ongoing maintenance significantly reduced through use of robust materials installed with proven details.
Materials	Sustainable, robust materials with high slip-resistance to be used for paving. Durable and robust street furniture and play equipment to be used throughout	Robust materials and elements installed with proven details reduces the frequency of required repair and maintenance.
Sustainable drainage systems	<ol style="list-style-type: none"> <li>1. Use of green roofs across the development. Interception trays incorporated into the build-ups.</li> <li>2. Additional use of a combined drainage/reservoir board across some roof areas (blue roofs).</li> <li>3. Use of bio-retention areas and filter drains across the development to treat and intercept rainwater at source.</li> </ol>	SuDS measures treat and reduce rainwater runoff from the site protecting surrounding watercourses. They have additional amenity and biodiversity benefits.
Planting details	<p>Planting and landscape works will be carried out in accordance with BS4428. Trees will be advanced/semi-mature rootballed stock, in accordance with BS 8545. Low level, low maintenance shrub and groundcover planting will be used in planting beds containerised with a minimum size of 2 litre pots, with a 75mm well composted fine bark mulch. Proposed meadows will follow the guidelines set out by the All-Ireland Pollinator Plan with the aim to increase Biodiversity on site. Please refer to the outline landscape specification that will be submitted as part of the landscape planning application.</p>	Correctly installed planting will develop into well established and robust soft landscaping, reducing future maintenance and replacement of failures.

## 2.4 Waste Management

The following measures describe the intentions for the management of Waste.

Measure	Description	Benefit	Discipline
Operational Waste Management Plan	This application will be accompanied by an Operational Waste Management Plan prepared by AWN Consulting	The report demonstrates how the scheme has been designed to comply with local, regional, and national waste legislation along with best practice	AWN
Storage of Non-Recyclable Waste and Recyclable Household Waste	Inclusion of centralised waste storage areas, with enough space to accommodate a weekly/bi-weekly collection of bins	Easily accessible by all residents, minimises potential littering of the scheme, reduce potential waste charges and not limit waste contractor selection	AWN
	Domestic waste management strategy: General waste, mixed recyclable, and organic bin distinction	Helps reduce potential waste charges and not limit waste contractor selection	
	Security restricted waste storage rooms	Reduce potential for fly tipping by residents and non-residents	
	Well signed waste storage rooms and bins	Help reduce potential cross contamination of waste and reduce waste charges.	
Composting	Organic waste bins to be provided in waste storage areas	Helps reduce potential waste charges	AWN

## 2.5. Health and Wellbeing

The following are illustrations of how the health and wellbeing of future residents are considered.

Measure	Description	Benefit
Natural / Day Light	The design, layout and separation distances of the building blocks have been designed to optimize the ingress of natural daylight/sunlight to the proposed dwellings to provide good levels of natural light. Please see daylight and sunlight report prepared by GIA submitted with this planning application.	Reduces reliance on artificial lighting thereby reducing running costs.
Accessibility	All units will comply with the requirements of Building regulations Parts M and K.	Reduces the level of adaptation, and associated costs, potentially necessitated by residents' future circumstances.
Security	The scheme is designed to incorporate passive surveillance with the following security strategies available for adaptation into the design: <ul style="list-style-type: none"> <li>• CCTV monitoring details</li> <li>• Secure bicycle stands – covered by CCTV</li> <li>• Controlled Access to individual circulation cores</li> </ul>	Aids in reducing potential security/management costs. Enhances safety for residents and visitors.

	<ul style="list-style-type: none"> <li>• Controlled access between Public Spaces and Residents Communal Spaces</li> <li>• Routine access fob audits</li> <li>• Appropriately lit external spaces.</li> </ul>	
Natural Amenity	<p>Multiple podium garden spaces with varying themes to provide active and passive use of the spaces.</p> <p>Additionally, the proposed scheme has a generous civic space with raised planters and high-quality surface materials and passive recreation areas away from traffic on Dundrum Road.</p>	<p>Facilitates community interaction, socialising and play – resulting in improved wellbeing.</p> <p>Proximity and use of external green spaces promote a healthy lifestyle. External spaces being provided separately for residents (communal podium spaces &amp; private balconies) and public (Quality Public open Space).</p>

## 2.6 Management

Consideration has been given to ensuring the residents have a clear understanding of the subject property.

Measure	Description	Benefit
Home User Guide	<p>Once a purchaser completes their sale, a homeowner box will be provided which will include:</p> <p><b>Homeowner manual</b> – this will provide important information for the purchaser on details of their new property. It typically includes details of the property such as MPRN and GPRN, Information in relation to connect with utilities and communication providers, Contact details for all relevant suppliers and User Instructions for appliances and devices in the property.</p> <p><b>A Residents Pack</b> prepared by the OMC which will typically provide information on contact details for the Managing agent, emergency contact information, transport links in the area and a clear set of rules and regulations.</p> <p><b>Tenant manual</b> – this will provide important information for the tenant on details of their rental property. It typically includes details of the property such as MPRN and GPRN, Information in relation to connect with utilities and communication providers, Contact details for all relevant suppliers and User Instructions for appliances and devices in the property.</p>	<p>Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.</p>

## 2.7 Transport

Measure	Description	Benefit
<p>Access to Public Transport (Bus Services)</p>	<p>Dublin Bus Route No.11 has a 15-30 minute frequency and operates along the Drummartin Road between Wadelai Park through Dublin City Centre and the Sandyford Business District. Dublin Bus Route 175 from Kingswood Avenue to UCD passes along Dundrum Road every 30 minutes. Bus facilities are adjacent from the site.</p> <p>As part of the BusConnects programme, it is proposed to further enhance the number of bus services in the area, and the existing services will be replaced by:</p> <ul style="list-style-type: none"> <li>No. 10 Route with 30 minute frequency along R825 between Ticknock and the City Centre; and</li> <li>No. S6 Route with 10-15 minute frequency between Mount Merrion and Firhouse along R112. [This will also provide access to the Luas Green line via the Dundrum Transport Interchange for those unwilling or unable to walk.]</li> </ul> 	<p>These bus services provide access to a range of destinations in the city centre including light and heavy rail and other transport hubs such as Busáras. The proximity, frequency and range of destinations served by these local bus services enhance the accessibility levels of the proposed residential development in addition to providing a viable and practical sustainable alternative to journeys undertaken by the private motor car.</p>
<p>Access to Public Transport (LUAS / Light Rail)</p>	<p>Luas green line stations are located within a 5 minute walk of the site at Dundrum Windy Arbour. The Luas provides a high capacity high frequency connection to the city centre and Broombridge to the north, and to Sandyford and Cherrywood to the south.</p>	<p>The availability, proximity and ease of access to high quality public transport services contribute to reducing the reliance on the private motor vehicle for all journey types.</p>
<p>Permeable Connections</p>	<p>The site’s redevelopment presents significant opportunities for enhanced local permeability and connectivity, for the integration of neighbouring and wider community. The successful integration of the site with surrounding development will rely on the creation of new access points and the site’s interfaces with Rosemount Green to the south, Mulvey Park, Dundrum Road and Annville are each recognised as presenting opportunities to enhance local connectivity and permeability.</p>	<p>Ensure the long-term attractiveness of walking and cycling to neighbourhood centres.</p>
<p>Bicycle Storage</p>	<p>Secure bicycle parking has been designed throughout the site as follows:</p> <ul style="list-style-type: none"> <li>1,712 no. long stay and 601 no. short stay residential cycle spaces are proposed.</li> <li>50% of short stay residential visitor cycle parking is covered (short stay).</li> <li>Long stay (residents’) cycle parking within podiums is located within 50m of residential core entrances.</li> </ul>	<p>Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle for both residences and guests.</p>

	<ul style="list-style-type: none"> <li>• Short stay (visitor) parking is provided externally, convenient to entrances at ground or podium level rather than for convenience to lift cores under the podium.</li> <li>• A mixture of Sheffield stands and stacking bike stands will be provided at resident long term secure storage areas.</li> <li>• Sheffield stands will be provided for all short stay locations.</li> <li>• For non-residential uses a total of 77 no. long term secure cycle spaces are provided to locations within podium.</li> <li>• For non-residential uses a total of 110 no. short stay bike spaces are provided within the public realm at street level.</li> </ul>	
<p>ECAR Facilities</p>	<p>10% of all car parking spaces will be provided with E-Car Charging points. Ducting shall be provided from local distribution boards to additional car park spaces. This will enable the management company the option to install several E-Car charging points to cater future E-Car demand of residents.</p>	<p>To accommodate the growing demand for ECARS which assist in decarbonising society and reducing oil dependency.</p>

APPENDIX A

BS 7543:2015



BSI Standards Publication

# Guide to durability of buildings and building elements, products and components

Figure 4 Phases of the life cycle

