



Building Lifecycle Report

Student Residence at Former Victor Motors Site, Goatstown Road, Dublin 14

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Disclaimer

Without Prejudice to the generality of this Building Lifecycle Report, the information provided is indicative and subject to change following detailed design and construction. As far as possible information is correct at the time of submission to the relevant authority for Planning Approval.

1.1 Introduction

The *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (2020)* provide policy guidance on the operation and management of apartment developments and include the requirement for the submission of a Building Lifecycle Report with planning applications.

This report is required to provide certainty on the long-term management and maintenance structures of Multi- Unit Developments, demonstrating compliance with *Multi-Unit Developments Act* of 2011. It should outline legal and financial arrangements, effective and appropriately resourced maintenance and operational regimes and show consideration of the long-term running costs of any scheme as they would apply on a per residential unit basis at the time of application. The *Building Lifecycle Report* should also demonstrate what specific measures have been considered to effectively manage and reduce costs for the benefit of residents.

Section 6.13 of the *Sustainable Urban Housing* guidelines 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 Apartment Guidelines 2018, and is divided into 2 sections to reflect the above requirements:

Section 01

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

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

1.2 Proposed Development

Within the development, a range of open spaces and amenities such as a dedicated recycling area are provided. These will be available to all residents.

The proposed development will be comprised of

- 221 no. student bedspaces (including 10 no. studios), all within a part single storey, part 4 no. storey and part 6 no. storey 'U'-Shaped building;
- The building is single to 4 no. storeys along the southern boundary (with roof terraces at 4th floor level) and part 5 and 6 storeys along Goatstown Road (with set backs) and boundary to the north (with roof terrace at 5th floor level fronting onto Goatstown Road);
- Amenity space equating to c. 2,025 sqm is provided across the site consisting of c. 1,516 sqm of external amenity in the form of a central courtyard at ground level and roof terraces at 4th and 5th floor levels;
- Internal amenity space equating to c. 509 sqm is provided in the form of 2 no. ground floor lounge/study areas, kitchen/tearoom, laundry, and concierge/office space;
- Provision of 210 no. bicycle parking spaces distributed within the central courtyard (stacked parking with glass roof cover) and adjacent to the front boundary (north);
- Provision for 6 no. carparking spaces comprising 2 no. disabled parking spaces and 4 no. setdown parking spaces adjacent to the front entrance to the site;
- Vehicular access to the site is via Goatstown Road from 2 no. entrance points [reduction from 3 no. entrances currently];
- Ancillary single storey ESB substation and switch room and refuse store are provided at ground level;
- Provision of surface water and underground attenuation and all ancillary site development works including site wide landscaping works, lighting, planting and boundary treatments

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 Long-Term Running Costs

From the outset of this project, care has been taken by Orchid Residential Ltd to ensure that long-term running costs for residents and maintenance costs for the operators are reasonable. The aim of Orchid Residential Ltd is to manage and minimise potential unnecessarily high running costs for expenditure on a per residential unit basis. Orchid Residential Ltd and their design team have a proven track record in the delivery of high-quality homes. The design team have applied lessons of previous schemes in ensuring the provision of an excellent end product which will be well managed and easily maintained for the foreseeable future.

1.2 Property Management of the Common Areas of the Proposed Development

6.14 The Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of residential developments. In this regard, it is advised that when granting permission for such developments planning authorities attach appropriate planning conditions that require:

- *Compliance with the MUD Act,*
- *Establishment of an Owners Management Company (OMC) and:*
- *Establishment and ongoing maintenance of a sinking fund commensurate with the facilities in a development that require ongoing maintenance and renewal.*

A property management company will be engaged at an early stage of the development to ensure that all responsibilities within the remit of property management are dealt with and that the running and maintenance costs of the common areas of the development are kept within the agreed annual operational budget. The property management company will enter into a contract directly with the Owners Management Company (OMC) for the ongoing management of the built development. Note; This contract will be for a maximum period of 3 years and in the form prescribed by the PSRA.

The **Property Management Company** also has the following responsibilities for the development once constructed:

- Formation of an OMC within a timely manner – this will be a company limited by guarantee having no share capital.
- Preparation of annual service charge budget for the development of common areas
- Fair and equitable apportionment of the Annual operational charges in line with the 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
- Insurance Management
- After Hours Services
- Staff Administration
- Corporate Services

1.3 Service Charge Budget

The property management company (PMC) has a number of key responsibilities with first and foremost being the compiling of the service charge budget for the development for agreement with the OMC. The service charge budget covers items such as cleaning, refuse management, utility bills, insurance, landscaping, maintenance of mechanical/electrical lifts/ life safety systems, security, property management fee, etc, to the development common areas in accordance with the Multi-Unit Developments Act 2011.

This service charge budget will also include an allowance for a Sinking Fund – this is determined following the review of the Building Investment Fund (BIF) report prepared by for the OMC. Once adopted by the OMC, the BIF report should determine an adequate estimated annual cost requirement provision which would be based on the predicted needs of the development over a 30-year cycle period. The BIF report should identify any works which are expected to be necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as is required under the Multi-Unit Development Act 2011.

Under the MUD Act, it is required that 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.

A sample format of the typical BIF report is set out in Appendix B.

Note: *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.*

1.4 Sinking fund

It is expected that a sinking fund allowance will account for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Note: *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 & reduce costs for the benefit of residents.

The following is an indication of the energy saving measures that are planned for all units to assist in reducing day to day running costs for occupants:

2.1 Building Design

Measure	Description	Benefit
Daylighting to units	Where possible, as outlined in ‘Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (March 2020)’ to have regard for quantitative performance approaches to daylight provisions ‘outlined in guides like the BRE guide ‘Site Layout Planning for Daylight and Sunlight’ (2nd edition) or BS 8206-2: 2008 – ‘Lighting for Buildings – Part 2: Code of Practice for Daylighting’ when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision’.	Reduces the requirement for continuous daylighting, thus reducing the expense of artificial lighting
Daylighting to circulation areas	Natural lighting provided via tall windows at both the front and rear elevations.	Reduces the requirement for continuous daylighting
External Lighting	<p>External lighting will comply with the latest standards and achieve:</p> <ul style="list-style-type: none"> • Low-level lighting • Utilise low voltage LED lamps • Minimum upward light spill <p>Each light fitting is to be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.</p>	Lighting will be designed to achieve the required standards, provide a safe environment for pedestrians, cyclists, and vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna.

2.2 Landscape

Measure	Description	Benefit
Paving and Decking Materials	Use of robust high-quality materials and detailing to be durable for bikes, play, etc.	Ensures the longevity of materials.
Site Layout & Landscaping Design	<p>High quality landscaping both hard surface (for the cycle /car parking and pavements) and soft landscaping with planting and trees. The landscaping will be fully compliant with the requirements for Part M / K of the Technical Guidance Documents and will provide level access and crossings for wheelchair users and pedestrians with limited mobility.</p> <p>Designated car parking including accessible & visitor car parking reduces the travel distances for visitors with reduced mobility.</p>	<p>Plenty of room for cycles and pedestrians along with car spaces provide a good balance between pedestrians and car users.</p> <p>Wheelchair user-friendly.</p>

2.3 Energy & Carbon Emissions

Measure	Description	Benefit
NDBER Certificate	A Non-Domestic Building Energy Rating (NDBER) certificate will be provided for the development once complete. The building will be designed in accordance with TGD Part L 2021 for buildings other than dwellings, with design focused on achieving the best and most cost optimal EPC and CPC ratings for the building.	An NDBER certificate is an indication of the energy performance of the building, under Part L 2021 it will follow NZEB targets for Energy Performance and Carbon Performance Co-Efficient (EPC, CPC)
Fabric Energy Efficiency	<p>Proposed U-Values will be in line with the requirements set out by the current & proposed Part L including Nearly Zero Energy Buildings targets.</p> <p><i>“Conservation of Fuel and Energy Buildings other than Dwellings”.</i></p> <p>Thermal bridging at junctions between construction elements and at other locations to be minimised in accordance Paragraphs 1.2.4.2 and 1.2.4.3 within the Technical Guidance Documents Part L. See Table 1 of Part L, Building Regulations (Appendix C).</p>	Lower u-values and improved airtightness will be achieved to reduce the amount of heat loss throughout the building fabric, and lower the consumption of energy and therefore carbon emissions.

<p>External Lighting</p>	<p>Low energy LED public lighting shall be designed and specified in accordance with CIBSE lighting guide and Kildare County Council public lighting standards and shall:</p> <ul style="list-style-type: none"> • Provide Low-level lighting • Utilise low voltage LED lamps • Minimum upward light spill <p>Each light fitting is to be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.</p>	<p>Lighting will be designed to achieve the required standards, provide a safe environment for pedestrians, cyclists, and vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna.</p>
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2.4 Low energy technologies considered:

Measure	Description	Benefit
<p>Air Source Heat Pump</p>	<p>An air to water heat pump system will be used to cover 100% of the building space heating requirements.</p>	<p>Heat pump system offer significantly more efficient heating than that from fossil fuel boilers. Also, there is no requirement for mains gas connections or storage vessels for other sources of fuel.</p>
<p>Low energy LED Lighting</p>	<p>Lighting throughout the building will be designed using low energy LED lighting and an optimum control strategy to minimize waste energy.</p>	<p>Lower consumption of energy and therefore lower carbon emissions.</p>
<p>Natural Ventilation with Humidity Controlled Extract Ventilation</p>	<p>The ventilation for the apartments shall be provided in compliance with Part F 2019 of the Building regulations, it will consist of natural ventilation by means of background ventilation and purge ventilation in the habitable rooms, toilet facilities will have extract ventilation systems enhanced with humidity control and run on timer control.</p>	<p>Improved air quality and reduced costs in unnecessary running of extract systems.</p>
<p>E-car Charging Points</p>	<p>Ducting to be provided to designated car parking spaces for future provision of E-car charging points</p>	<p>Facilitating residents & visitors to move to EV motoring</p>
<p>Renewable Energy</p>	<p>In accordance with TGD Part L, the provision of renewable energy to meet the renewable energy requirement of the development shall be provided by the heat pump systems.</p>	<p>Commitment to operating to the latest prevailing standards and contribute to reduction in carbon emissions.</p>

2.5 Materials & Materials Specification:

Implementation of the Design and Material principles to the design of the building envelope, internal layouts, facades and detailing has informed the materiality of the proposed development.

The proposed envelope of the building is a mix of brick and curtain wall finish, with high-performance double-glazed aluminium windows. Based on comparison with similar schemes developed, the proposed materials are considered durable and would not require regular replacement or maintenance.

Materials have been selected with a view to longevity, durability and low maintenance. Consideration has been given to Building Regulations and includes reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'.

It is expected that a sinking fund allowance will account for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Measure	Description	Benefit
Implementation of the Design and Material principles to the design of the proposed development.	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and include reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Longevity, durability and low maintenance of materials
Brickwork to the building envelope		Requires minimal maintenance and does not require regular replacement
Installation of factory finished double glazed aluminium windows and doors		Requires minimal maintenance and does not require regular replacement

2.6 Waste Management:

Measure	Description	Benefit
Construction and Operational Waste Management Plan	This application is accompanied by a Construction Management Plan A Construction and Operational Waste Management Plan is submitted with the application	Demonstration of how the scheme has been designed to comply with best practice.
recyclable waste and recyclable household Waste	The inclusion of a centralised bin storage area. Domestic waste management strategy in place: 1) Grey, Brown and Green bin distinction 2) Regular tendering for waste management collection	Access to all residents to reduce the risk of littering within the scheme and reduces potential waste charges.
Additional Recycling Centre	Additional recycling centre to be provide	Helps to reduce waste charges and the amount of waste going to landfill.
Composting	Addition of organic waste bins to be provided	Helps to reduce waste charges and the amount of waste going to landfill.

2.7 Human Health & Well Being

How human health and well-being is been considered:

Measure	Description	Benefit
Natural daylight	Design of the layout of the building has been optimised to achieve a good quality of natural daylight to the units.	Demonstration of how the scheme has been designed to comply with best practice
Security	Passive surveillance is incorporated into the design	Access to all residents to reduce the risk of crime, littering within the scheme and reduction of potential waste charges.
Accessibility	All units, egress routes and stair cores to comply with the requirements of Technical Guidance Documents Part M/ PartK	Demonstration of how the scheme has been designed to comply with best practice in relation to accessibility, reachability

		and inclusivity.
Amenity	Provision or external communal amenity space	Facilitates socialising & community interaction.
Private Open Space	Provision of private open space	Facilitates interaction with outdoors, increasing potential health benefits.

2.8 Transport & Accessibility

Transport considerations for increasing the use of public transport, cycling and walking and reducing the ownership of private cars and reducing oil dependency:

Measure	Description	Benefit
Access to Public Transport	A number of buses pass through the site. The development is located within walking distance of the LUAS at Windy Arbour. Refer to Engineering Report for details on full public transport access.	Availability, proximity to bus and railway services reduces the reliance on the private motor.
Pedestrian Permeability	The entire site is accessible to pedestrians.	Ensures long-term attractiveness of walking and cycling to a range of local facilities. This strong infrastructure ensures that there will be a balance of transport modes used by future residents of the proposed development.
Bicycle Storage	210 bicycle parking spaces are provided within the scheme. 26 of these are Sheffield stands located on street and the other 184 being stacked for the residences. This is in line with the new apartment guidelines and promotes sustainable transport modes.	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle.

Appendix A

Table 1 Maximum elemental U-value (W/m ² K) ^{1, 2}		
Column 1 Fabric Elements	Column 2 Area-weighted Average Elemental U-value (Um)	Column 3 Average Elemental U-value – individual element or section of element
Roofs		
Pitched roof		
- Insulation at ceiling	0.16	0.3
- Insulation on slope	0.16	
Flat roof	0.20	
Walls	0.18	0.6
Ground floors ³	0.18	0.6
Other exposed floors	0.18	0.6
External doors, windows and rooflights	1.4 ^{4,5}	3.0
Notes:		
1. The U-value includes the effect of unheated voids or other spaces.		
2. For alternative method of showing compliance see paragraph 1.3.2.3.		
3. For insulation of ground floors and exposed floors incorporating underfloor heating, see paragraph 1.3.2.2.		
4. Windows, doors and rooflights should have a maximum U-value of 1.4 W/m ² K.		
5 The NSAI Window Energy Performance Scheme (WEPS) provides a rating for windows combining heat loss and solar transmittance. The solar transmittance value g_{perp} measures the solar energy through the window.		

Figure 1- TGD Part L 2021, Table 1

Appendix C

Figure 4 Phases of the life cycle

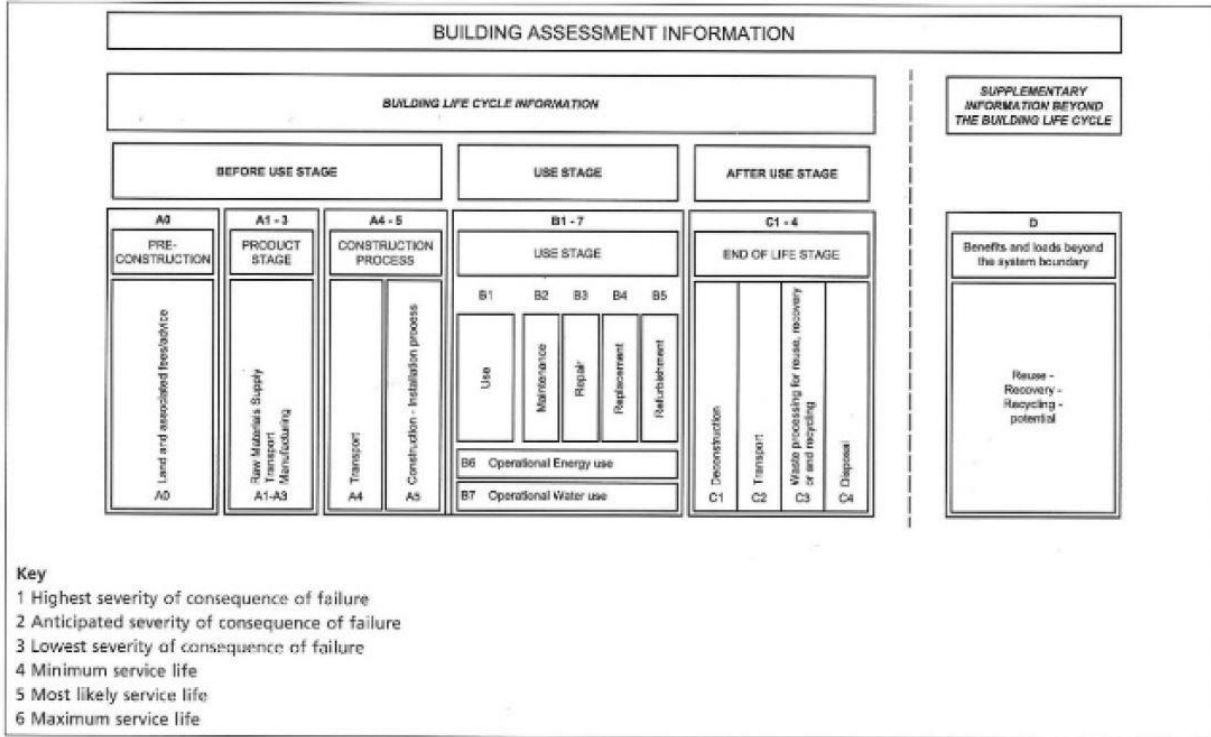


Figure 2 - BS 7543:2015 Figure 4