



Building Lifecycle Report

Proposed Residential Development

Kilwoghan Woods Project (PHASE 2), Maynooth Road,
Celbridge, Co. Kildare

On Behalf of Seattle Construction Ltd

KWC-XX-XXX-RP-JFA-AR-PP7004

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Disclaimer

Without Prejudice to the generality of this Building Lifecycle report, provides information which is indicative and subject to change following a review when a more detailed specification of scope of works becomes available and it is intended that this study would form the basis of pre-application discussions with the planning department and other relevant authorities.

0.0 Introduction

The 2018 adopted *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities* (March 2018) provide policy guidance on the operation and management of apartment developments, to include a statement of the aim of certainty regarding their long-term management and maintenance structures. This certainty is to be provided via legal and financial arrangements supported by effective and appropriately resourced maintenance and operational regimes.

The Guidelines state that consideration is to be given matters of the long-term running costs and the manner of compliance of the proposal which should now be considered as part of any assessment of a proposed apartment development to achieve this policy objective, planning applications for apartment developments now need to include a *Building Lifecycle Report* with the Multi- Unit Developments Act, 2011; these are to include an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what specific measures have been considered to effectively manage and reduce costs for the benefit of residents.

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 Apartment Guidelines 2018, and is divided into 2 sections:

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

0.1 Proposed Development:

Seattle Construction Limited intend to apply to Kildare County Council for permission for development to amend a previously permitted Strategic Housing Development (SHD) (ABP Case Reference 307100-20) on a site of approx. 12.93 ha located on lands at Kilwoghan Woods in the townland of Crodaun, Celbridge, Co. Kildare. The proposed amendments relate to phase 2 (c.3.94ha) of the overall permitted development and, will include amendments to 239 no. residential units. (The overall total number of permitted 467 no. units in phase 1 and 2 remain unchanged).

The proposed development comprises a design of phase 2 to include:

- a) The construction of 2 no. 4-storey apartment blocks at the north of the site (81 no. units in total) to include a creche (351sqm – 94 children) with outdoor play area at ground floor;
 - i. Block A - 38 no. units consisting of 17 no. 1 bed and 22 no. 2 bed units
 - ii. Block B - 43 no. units consisting of 20 no. 1 bed and 23 no. 2 bed units
- b) 5 no. 3-storey apartment and duplex units to be located on the eastern boundary of the site;
 - i. Duplex C - 08 no. units consisting of 4 no. 2 beds and 4 no. 3 beds
 - ii. Duplex D - 18 no. units consisting of 4 no. 1 beds, 8 no. 2beds, and 6 no. 3 beds
 - iii. Duplex E – 18 no. units consisting of 4 no. 1 beds, 8 no. 2beds, and 6 no. 3 beds
 - iv. Duplex F – 20 no. units consisting of 10 no. 2beds, and 10 no. 3 beds
 - v. Duplex G – 18 no. units consisting of 4 no. 1 beds, 8 no. 2beds, and 6 no. 3 beds
- c) 76 no. terraced houses consisting of;
 - i. 48 no. 2 bed mid terrace units;
 - ii. 12 no. 3 bed end terrace units;
 - iii. 16 no. 3 bed end terrace dual frontage units
- d) 252 no. of car parking spaces which includes 2 no. car sharing spaces, 14 no. motorcycle spaces and 538 no. bicycle parking spaces will be provided for in phase 2.
- e) Amendments to the previously permitted open space in phase 2 to now provide 5,379sqm Public Open Space, 1,159 sqm Communal Open Space and 3,313 Amenity Space. Each of the units are afforded their own private open space in the form of private gardens, balconies or terraces.
- f) Amendments to internal residential access roads and cyclist/pedestrian paths to allow for the 4 arm entrance junction and a new shared pedestrian / cycle path through the site running north to south.
- g) All associated site development works, services provision, infrastructural and drainage works, internal access roads, home zones, cycle and pedestrian infrastructure, bin stores, car and bicycle parking, public lighting, communal open spaces, private open space in the form of gardens, terraces and /or balconies, landscaping and boundary treatment works.

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

Seattle Construction LTD, has considered the long-term running costs for residents and maintenance costs for the operators from the commencement of the design process, with the aim to manage and minimise potential unnecessarily high running costs for expenditure on a per residential unit basis. This exercise is a result of learning from previously undertaken residential projects and the application of changes in the standards arising from the new apartment guidelines.

6.14 The Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of apartment 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.

1.2 Property Management of the Common Areas of the Proposed Development

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 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.

The property management company will enter 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 apartment development once constructed:

- Formation of an OMC within a timely manner – this will be a company limited by guarantee having no share capital. All future purchasers of residential units 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 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 ("MUD" Act).

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 ' <i>Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities</i> (March 2018) "to have regard for quantitative performance approaches to daylight provisions" outlined in guides like the BRE guide ' <i>Site Layout Planning for Daylight and Sunlight</i> (2nd edition) or BS 8206-2: 2008 – <i>Lighting for Buildings – Part 2: Code of Practice for Daylight</i> in "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	Clear opening Sections are proposed at the ends of Corridors for Opening ventilation and day lighting	Reduces the requirement for continuous daylighting

2.2 Landscape

Measure	Description	Benefit
Paving and Decking materials	Use of robust high-quality materials and detailing to be durable for play, etc.	Ensure longevity of materials
Site Layout & landscaping design	Removal of poor-quality trees and phased monitored replacement of low-quality trees with high quality native trees. High quality landscaping, cycles and pedestrians prioritised over car. An increase in soft landscaping.	Natural attenuation and landscaping are preferable to the proposal.
Balconies & openable windows	Use of balconies & openable windows allow individuals to clean windows themselves	Reduces the cost of 3 rd party contractors

2.3 Energy & Carbon Emissions

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each unit in the proposed development. This will provide detail of the energy performance of the units. This is calculated through energy use for space and hot water heating, ventilation, and lighting and occupancy. It is proposed to target an A2/A3 rating for the apartments this will equate to the following emissions. A2 – 25-50 kwh/m2/yr. with CO2 emissions circa 10kgCO2/m2 year A3 – 51-75 kwh/m2/yr. with CO2 emissions circa 12kgCO2/m2 /year	A BER rating is a reduction in energy consumption and running costs
Fabric Energy Efficiency	Proposed U-Values will be in line with the requirements set out by the current & proposed Part L including Nearly Zero Energy Buildings targets. “Conservation of Fuel and Energy Buildings other than Dwellings”. 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).	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.
Energy Labelled White Goods	High standard white goods with high energy efficiency ratings will be supplied to all units. It is expected to install appliances of the following ratings: Oven – A+	High energy rated appliances reduce the amount of electricity required for occupants

	Fridge Freezer – A+ Dishwasher – AAA Washer / Dryer – B	
External Lighting	Low energy LED public lighting shall be designed and specified in accordance with CIBSE lighting guide and Dun Laoghaire Rathdown County Council public lighting standards and shall: • Low level lighting • Utilise low voltage LED lamps • Minimum upward light spill • Be pre-approved by / in accordance with the Fingal County Council 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.	Lighting will be designed to achieve required standards, provide a safe environment for pedestrians, cyclists, vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna

2.4 Low energy technologies considered:

Measure	Description	Benefit
Exhaust Air Heat Pump	An exhaust air heat pump can cover up to 100% of the heating requirements of a well-insulated apartment. Can also work in conjunction with underfloor heating.	Modern heat pumps will typically provide 4 to 5 times more heat energy to the dwelling than the electrical energy they consume. They have lower consumption of energy and therefore lower carbon emissions.
Low energy LED Lighting	Shall be designed and specified in accordance the BER requirements in each unit and in the landlord areas in accordance with Part L.	Lower consumption of energy and therefore lower carbon emissions.
Mechanical Demand Control Ventilation (DCV)	The ventilation for the apartments shall be provided by a mechanical system with central extract and operating on the principle of Demand Control Ventilation (DCV)	Improved air quality and reduced costs in providing alternative heating etc.
E-car Charging Points	Ducting to be provided on car spaces to designated E-car charging points	facilitating residents & visitors move to EV motoring.

2.5 Materials & Materials Specification:

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

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

To improve on building standards there has been an increase in the expected build cost. 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 includes 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	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and includes reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Requires minimal maintenance and does not require regular replacement
Installation of factory finished and alu-clad windows and doors	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and includes reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Requires minimal maintenance and does not require regular replacement
Installation of factory finished powder coated steel balconies	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and includes reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Requires minimal maintenance and does not require regular replacement

2.6 Waste Management:

Measure	Description	Benefit
Construction and Operational Waste Management Plan	The final application will be accompanied by a Construction Management plan by prepared by BMCE and the Operational Management Plan prepared by DNV.	Demonstration of how the scheme has been designed to comply with best practice
Storage of non-recyclable waste and recyclable household waste	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 risk of littering within the scheme and Reduces Potential waste charges
Composting	Addition of organic waste bins to be provided throughout the development	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 has 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 risk of littering within the scheme and Reduces Potential waste charges
Accessibility	All units, egress routes and stair cores to comply with the requirements of Technical Guidance Documents Part M/K	Helps to reduce waste charges and the amount of waste going to landfill
Amenity	Provision of public / communal amenity space	Facilitates socialising, community interaction

Private Open Space	Provision of private open space	Facilitates interaction with outdoors
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2.8 Transport & Accessibility

Transport considerations for increasing the uptake of 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 (BTR/Future Bus Connect)	Craudaun Forest park Bus Stop 500m	Availability, proximity to quality bus routes reduces the reliance on private motor
Pedestrian Permeability	Provision of dedicated pedestrian and cycle infrastructure within the site	Ensures long term attractiveness of walking, and cycling to a range of local retail, sports, education and office facilities
Bicycle Storage	446 no. bicycle parking spaces are provided within the scheme. This is in line with the new apartment guideline requirements and promotes sustainable transport modes.	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle
Bicycle Club Bikes	Club bike locations provided within the scheme	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle for those not owning bicycles
Motorcycle Parking	15 no. dedicated motorcycle parking spots	reduces the reliance on private motor
Car Sharing	2 no. dedicated Club Car (GoCar or similar) parking spaces allocated within the development.	reduces the reliance on private motor

Appendix A

Table 1 Maximum elemental U-value (W/m²K)^{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	0.21	0.6
Ground floors ³	0.21	0.6
Other exposed floors	0.21	0.6
External doors, windows and rooflights	1.6 ⁴	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 1.6 W/m ² K when their combined area is 25% of floor area. However areas and U-values may be varied as set out in Table 2.		

Figure 1- TGD Part L 2011, Table 1

Appendix B

BUILDING INVESTMENT FUND (BIF) SINKING FUND CALCULATIONS			
REF.	ELEMENT	LIFE EXPECTANCY	AMOUNT
1.00	Roof		
1.01	Replacement / Repairs Covering		
1.02	Replacement / Repairs Insulation		
1.03	Replacement / Repair Parapet Details		
1.04	Replacement / Repair fascia		
1.05	Replacement / Repair Fall Arrest		
1.06	Replacement / Repair waterproofing		
1.07	Replacement / Repair access hatches		
1.08	Replacement / Repair Parapet Details		
2.00	Elevations		
2.01	Replacement / Repair Render		
2.02	Replacement / Repair Cladding		
2.03	Replacement / Repair Rainwater Goods		
2.04	Replacement / Repair Entrance / Exit Doors		
2.05	Replacement / Repair Balconies		
2.06	Replacement / Repair Finishes		
2.07	Replacement / Repair External Fixings		
2.08	Replacement / Repair Balcony Floors		
2.09	Replacement / Repair Windows		
2.10	Replacement / Repair Curtain Walling		
3.00	Staircores & Lobbies		
3.01	Replacement / Repair Fire Doors		
3.02	Replacement / Handrails / Balustrades		
3.03	Replace Carpets / Floor Finishes		
3.04	Replace Entrance Mats		
3.05	Replace Nosings		
3.06	Decorate Walls		
3.07	Decorate Ceilings		
3.08	Decorate Joinery		
4.00	M&E Services		
4.01	General - Internal rewiring		
4.02	General - Replace Internal light fittings		
4.03	General - Replace External light fittings		
4.04	Replace Smoke Detector Heads		
4.05	Replace Fire Alarm Control Panel		
4.06	Replace lift Car & Controls		
4.07	Replace AOV's		
4.08	Replace Manual Break Glass Units		
4.09	Replace Disabled Refuge Call Points		
4.10	Replace Disabled Refuge Call Points		
4.11	Replace Security system		
4.12	Upgrades to external mains water connection		
4.13	Upgrades to internal mains water connection		
4.14	upgrades to electrical mains and sub mains distribution		
4.15	replace emergency lighting		
4.16	overhaul and / or replace waste pipes, stacks and vents		
5.00	Basement & Car Parking		
5.01	Remove / Replace ceiling insultaion		
5.02	Repaint parking spaces & numbering		
5.03	Replace store doors, ironmongery & digi-locks		
5.04	Replace basement access control at entrance & core entrances		
6.00	Exterior		
6.01	Updates to External boundary treatments		
6.02	Replace external signage		
6.03	Replace cobblelock areas		
6.04	overhaul of landscaping		
6.05	Replace CCTV provision		
6.06	External Handrails and balustrades		

Appendix C

Figure 4 Phases of the life cycle

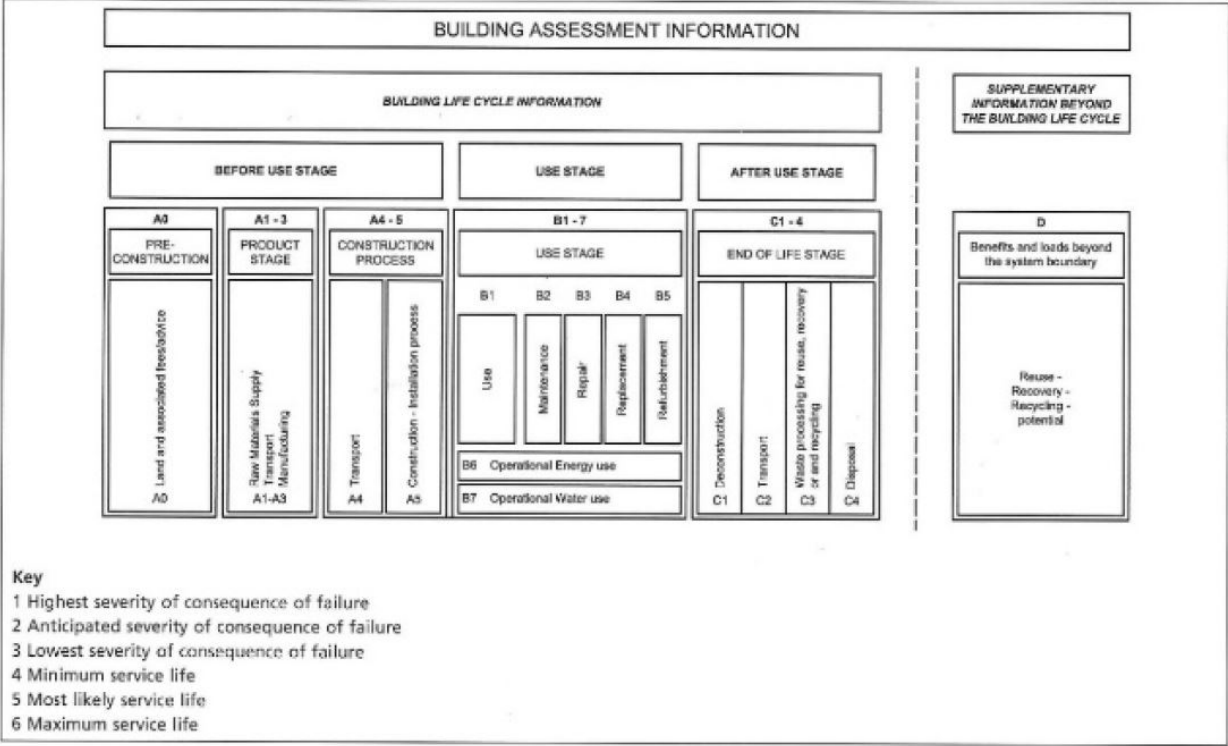


Figure 2 - BS 7543:2015 Figure 4