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Building Lifecycle Report

RAT-XX-XX-DR-JFA-AR-P7004

Proposed Residential Development at

Ballybin Road, Ratoath, Co Meath

Marshall Yards Development Company Ltd.
June 2024

Contents

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.

0.0 Introduction

The *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities* (December 2023) 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 of structures in 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 6.12 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".**
- **"Demonstrating 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 6.12 of Apartment Guidelines 2023, 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.

0.1 Proposed Development

The proposed development is at a site with a total area of 5.48 hectares principally located at Main Street/R125 and Ballybin Road, Ratoath, Co. Meath. The total site contains a proposed residential development site with an area of 3.66 hectares (bisected by a proposed realigned Ballybin Road) and a proposed infrastructural development site with an area of 1.82 hectares (principally for road and related works, water services and open space amalgamation). The site is generally bound by: Fox Lodge Woods and Fox Lodge Manor to the west and north; existing agricultural lands and residential development to the north and east; existing Ballybin Road and Moulden Bridge to the east; and Main Street/R125 and Jamestown Road/L1016 to the south. The site also incorporates parts of: the existing Ballybin Road (north and west of Moulden Bridge), Main Street/R125, Jamestown Road/L1016 and green open space in Fox Lodge Manor.

The proposed development principally consists of the demolition of 2 No. dwellings (594 square metres gross floor area combined) and 1 No. agricultural shed (988.7 square metres gross floor area) and the construction of 141 No. residential dwellings with a gross floor area of 12,428 square metres in buildings of 2 No. and 3 No. storeys. The dwellings include 117 No. houses (57 No. 2-bed, 52 No. 3-bed, 7 No. 4-bed and 1 No. 5-bed) and 24 No. maisonette/duplex units (18 No. 1-bed and 6 No. 3-bed).

The development also proposes a reconfiguration of the road layout at the south (Main Street/R125 and Jamestown Road/L1016) and east (Ballybin Road) of the site. Specifically, it is proposed to demolish/remove the existing 5-arm roundabout and to replace same with a new 4-arm signalised junction and reconfigured access to the existing Ratoath Childcare site. The new junction arrangement will facilitate a proposed realignment of the southern section of the existing Ballybin Road (approximately 172 metres) as the northern arm of the new signalised junction and a revised entrance for the existing dwelling to the north-east of the site at Ballybin Road (known as 'Fox Lodge Farm', Eircode A84 KF97). The proposed road infrastructure works also include: road markings, traffic signals, traffic signage, footpaths and cycle infrastructure.

The development also proposes:

- 2 No. new multi-modal accesses onto the proposed realigned Ballybin Road to serve the bisected residential site;
- 2 No. pedestrian accesses onto Main Street/R125 and 1 No. pedestrian access onto the realigned Ballybin Road;
- Relocation of existing eastbound bus stop at Main Street/R125 approximately 130 metres to the west;
- Repurposing of the closed section of Ballybin Road as a pedestrian/cycle greenway;
- Internal roads and footpaths;
- 228 No. car parking spaces;
- Cycle parking spaces;
- Hard and soft landscaping, including public open space, communal amenity space and private amenity space (as rear gardens and terraces/balconies facing multiple directions);
- Demolition of the wall at the north-west corner of the site interfacing with Fox Lodge Manor and the amalgamation of existing public open in the estate and proposed public open space;
- Boundary treatments;
- Public lighting;
- Rooftop PV panels;
- 2 No. ESB sub-stations; and
- All other associated site and development 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 Long-Term Running Costs

From the outset of this project, care has been taken by Marshall Yards Development Company Ltd. to ensure that long-term running costs and maintenance costs for residents are reasonable. The residential units have been designed with no internal communal areas thereby reducing the long-term maintenance costs passed on to the resident. The aim of Marshall Yards Development Company Ltd is to minimise potential unnecessarily high running costs for expenditure on a per residential unit basis.

Marshall Yards Development Company 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 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 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.*

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 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 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 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 and 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 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.

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 have 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

All 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 dwellings units and the common parts of the commercial buildings and specific measures taken include:

Measure	Description	Benefit
No Internal Communal Areas	None of the units have internal communal spaces requiring maintenance by the OMC	Reduces the outlaw by the OMC on maintenance
External Lighting	The proposed lighting scheme within the development consists of 6 m pole mounted fittings as indicated on the drawings. The luminaire selected is the C U Phosco fitting, selected for the following reasons: • Low Level lighting • Minimal upward light spill • Low voltage LED lamps.	The site lighting has been designed to provide a safe environment for pedestrians, cyclists and moving vehicles, to deter anti-social behaviour and to limit the environmental impact of artificial lighting on existing fauna and flora in the area. Having PECU allows for the optimum operation of lighting which minimises costs.

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	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.	Plenty of room for cycles and pedestrians along with car spaces provide a good balance between pedestrians and car users. Appropriate planting palette and correctly installed planting will develop into well established and robust soft landscape, reducing future maintenance.

2.3 Energy & Carbon Emissions

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) Certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. A BER is calculated through energy use for space and hot water heating, ventilation, lighting and occupancy. It is proposed to target an A2/ A3 rating for the apartments, this will equate to the following emissions: A2- 25 to 30kwh/m² with CO2 emissions circa 10kgCO2/m²/ year A3- 51 to 75kwh/m² with CO2 emissions circa 12kgCO2/m²/ year.	A BER rating is a reduction in energy consumption and running costs
Fabric Energy Efficiency	The U Values being investigated will be in line with the requirements set out by the current regulatory requirements of Technical Guidance Document Part L, "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 air tightness is being considered to help minimise heat losses through the building fabric, lower energy consumption and thus minimise carbon emissions to the environment.

2.4 Low energy technologies considered:

Measure	Description	Benefit
Exhaust Air Heat Pump	An exhaust air heat pump system is under consideration for heating, hot water and ventilation of the apartment units.	Heat pumps operate with efficiencies >400%. Exhaust air heat pumps utilise extract air as the air source for the heat pump. This will re-cycle the heat from the dwelling's ventilation system. These machines are ideal for apartments and more compact air-tight low energy or passive homes. Air is drawn through ducts to the heat pump from the bathrooms, utility and kitchen areas. The cold waste air is discharged to outside through another duct, and condensation to a drain. Additional heat generated internally from lighting, people and domestic appliances is also utilised through heat recovery from outgoing exhaust air.
Low energy LED Lighting	Shall be designed and specified in accordance with 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.
E-car Charging Points	Charging shall be provided from a local landlord distribution board to designated E-car charging car parking spaces. A full re-charge can take from one to eight hours using a standard charge point.	Providing the option of E-car charging points will allow occupants to avail of the ever-improving efficient electric car technologies.
Renewable Energy	PV Solar Panels are proposed in order to meet the renewable energy contribution required by Part L of the Building Regulations. These panels convert sunlight into electricity which can be used within the building. The panels are typically placed south facing on the rooftop of the area of new construction to maximise the solar exposure.	PV Solar Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment. They also reduce the overall requirement to purchase electricity from the grid.

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 durable render finish, with high-performance double-glazed uPVC or 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	Brick has been specified to reflect the local built vernacular. Brick is robust and resistant to environmental degradation.	Requires minimal maintenance and does not require regular replacement
Durable Synthetic Render Finish	Synthetic Render limits the risk of traditional render including cracking, colour fading and algal growth	Requires minimal maintenance and does not require regular replacement
Glazing & Door Systems	Installation of factory finished double glazed uPVC or aluminium windows and doors	Requires minimal maintenance and does not require regular replacement
Balconies	Installation of lightweight steel balconies with aluminium infill.	Requires minimal maintenance and does not require regular replacement

2.6 Waste Management:

Measure	Description	Benefit
Construction Environmental Management Plan	This application is accompanied by a Construction Environmental Management Plan prepared by Donnacadh O'Brien & Associates Consulting Engineers	Demonstration of how the scheme has been designed to comply with best practice. Reduction in demolition and construction waste, with an emphasis on reuse materials where practicable.
Storage of non-recyclable waste and recyclable household Waste	The duplexes are provided with individualised bin storage areas which cater for general, composting and green recycling bins. The maisonettes will be provided with a shared bin store, housed in their private communal gardens.	This individualised approach encourages residents to reduce their own output and helps reduce the overall Waste Management Charges to the OMC A shared bin store will occupy less area than grouped individual bin stores, thus maximising open space in the communal gardens.
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.
Operational Waste Management	This application is accompanied by an Operational Waste Management Plan prepared by Donnacadh O'Brien & Associates Consulting Engineers	Demonstration of how the scheme has been designed to comply with best practice. Ultimately seeks to reduce waste generation, increase reuse, increase recycling. Details the principles to be employed with managing waste once the dwellings are occupied.

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.	Minimises the need for artificial light and heating, which require energy. Ingress of light can have positive health and well-being benefits.
Security	Passive surveillance is incorporated into the design, with dual and triple aspect residential units and ample overlooking of public open spaces.	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/ Part K	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 for recreation, socialising and well-being, and to create a connection to nature for residents .	Facilitates interaction with outdoors, increasing potential health benefits.

2.8 Transport & Accessibility

Transport considerations for increasing the update 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	Bus stop no. 101231 is located at the southern boundary of the site and stop no.101191 is located on the opposite side of the road. These stops are served by bus numbers 103, 105, 105X & 109A which connect routes between Blanchardstown to Drogheda and Dublin City Centre/Airport to Kells, including stops at Ashbourne, Dunshaughlin and Navan, etc.	Availability, proximity to bus stops reduces the reliance on the private motor.
Pedestrian Permeability	Cycle & pedestrian infrastructure is incorporated into the design of the overall site plan enabling active travel options. New connections to the north will link with the existing Fox Lodge Manor development.	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	Secure bicycle storage is accommodated within the communal open space areas of the maisonette and duplex apartment units, and private rear gardens of the houses. Visitor cycle parking is distributed throughout the scheme and segregated cycle lanes have been incorporated where appropriate.	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle.

Appendix A

Table 1	Maximum elemental U-value (W/m^2K)[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 - Insulation on slope Flat roof	 0.16 0.16 0.20	 0.3
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^2K.*
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 2022, Table 1

Appendix B

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 insulation		
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		

Figure 2 – Sample Building Investment Fund (BIF) report

Appendix C

Figure 4 Phases of the life cycle

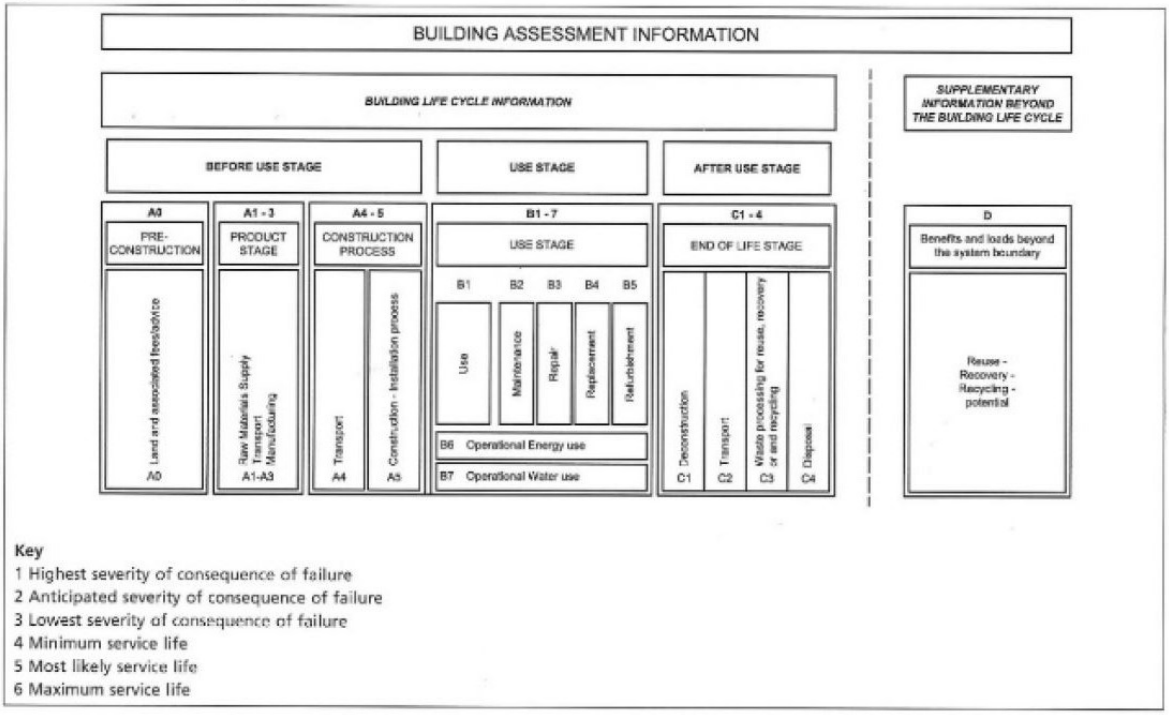

Figure 3 - BS 7543:2015 Figure 4