Building Lifecycle Report

Proposed Strategic Housing Development

Fosterstown North,

Dublin Road / R132,

Swords,

Co. Dublin

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1 Introduction

1.1 *Requirement for a Building Lifecycle Report*

This Building Lifecycle Report is prepared in relation to a proposed development on lands at Fosterstown North, Dublin Road / R132, Swords, Co. Dublin.

The Sustainable Urban Housing: Design Standards for New Apartments - Guidelines for Planning Authorities updated in 2020 and provide policy guidelines on the operation and management of apartment developments. These guidelines introduced a requirement to include details on the long-term management and maintenance of apartment developments.
Section 6.13 of the Apartment Guidelines 2020 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"
and
"demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents."

These Apartment Guidelines should be considered in conjunction with the Multi – Unit Developments Act 2011 when assessing a proposed apartment development and a Building Lifecyle Report must be completed.

1.2 Proposed Development

J. Murphy (Developments) Limited are applying for permission for a strategic housing development at Fosterstown North, Dublin Road / R132, Swords, Co. Dublin. The application has an area of c. 4.635 hectares.

The proposed development comprises a Strategic Housing Development of 645 no. residential units (comprising of 208 no. 1 bedroom units, 410 no. 2 bedroom units, and 27 no. 3 bedroom units), in 10 no. apartment buildings, with heights ranging from 4 no. storeys to 10 no. storeys, including undercroft / basement levels (for 6 no. buildings). The proposals include 1 no. community facility in Block 1, 1 no. childcare facility in Block 3, and 5 no. commercial units (for Class 1-Shop, or Class 2- Office / Professional Services or Class 11- Gym or Restaurant / Café use, including ancillary takeaway use) in Blocks 4 and 8. The proposal includes all associated and ancillary development.

2 An Assessment of the Long Term Running and Maintenance Costs

2.1 Property Management of the Common Areas of the Development

J. Murphy (Developments) Limited will engage a property management company 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.

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:

- Timely formation of an 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 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 and Corporate Services
- Insurance Management
- After Hours Services
- Staff Administration
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2.2 Service Charge Budget

The property management company will have a number of fundamental responsibilities including the compiling of the service charge budget for the development, for agreement with the OMC. 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 Multi Unit Developments Act 2011 (“MUD” Act).

This service charge budget will also include an allowance for a Sinking Fund and this allowance is determined following the review of the Building Investment Fund (BIF) report prepared by for the OMC. The BIF report once adopted by the OMC, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year cycle period.

The BIF report will identify those works which are necessary to maintain, repair, and enhance the premises over the 30year 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.

However, the detail associated with each element heading in the BIF report can only be determined after detailed design and the procurement/ construction of the development and therefore has not been included in this document.

3 Measurements to Manage and Reduce Costs for the Benefit of Residents

3.1 Energy and Carbon Emissions

The following table illustrates the energy measures that are planned for the units to assist in reducing the costs for the occupants.

Measure Proposed	Description	Benefit
BER Certification	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 heating, hot water, pumps and fans and lighting. It is proposed to target an A2 rating for the apartments which will equate to the following emissions in line with the NZEB. A2 – 25-50 kwh/m2/year with CO2 emissions circa 10kg CO2/m2/year	Higher BER ratings reduce 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 the	Lower U-values and improved air tightness is being considered to help minimise

	Technical Guidance Documents Part L, titled "Conservation of Fuel and Energy Buildings other than Dwellings". Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance Paragraphs 1.3.3 within the Technical Guidance Documents Part L.	heat losses through the building fabric and lead to lower energy consumption, thus minimise carbon emissions to the environment.
Energy Labelled White Goods	The white good package planned for provision in the apartments will be of a very high standard and have a high energy efficiency rating.	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.
External Lighting	The proposed lighting scheme will comply with the most up to date standards and technologies including: - Low level lighting - Minimal upward light spill - Low voltage LED lamps The fittings will be controlled by a Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.	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 light on flora and fauna in the area. Having a PECU allows for the optimum operation of lighting which minimizes costs.

The next table details the Low energy technologies that are being considered for the development. During the design stage of the development the specific combination from the list below will be decided on and then implemented to achieve the A2 BER Rating.

Measure Proposed	Description	Benefit
Exhaust Air Heat Pump	It is proposed to utilise an exhaust air heat pump type system 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 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.
Mechanical Ventilation & Heat Recovery	Mechanical heat recovery ventilation will be considered to provide ventilation with low energy usage	Mechanical Heat Recovery Ventilation provides ventilation with low energy usage. The MVHR reduces overall energy and ensures a continuous fresh clean air supply
Combined Heat & Power	Combined Heat and Power, (CHP), is a technology being evaluated. This technology generates electricity and captures the waste heat from the generation unit that can be used within the development.	CHP can achieve energy efficiencies by reusing waste heat from the unit to generate heat required for space heating and domestic hot water services in the apartment developments. As electricity from CHP is both generated and consumed onsite, this also eliminates energy losses from transmission of the electricity.
ECAR Charging Points	Ducting shall be provided from a local landlord distribution board to designated E-car charging car park spaces. This will enable the management company to install a number of E-car charging points within the basement carpark to cater for the E-car demand of the residents. This system operates on a single charge point access card. 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.

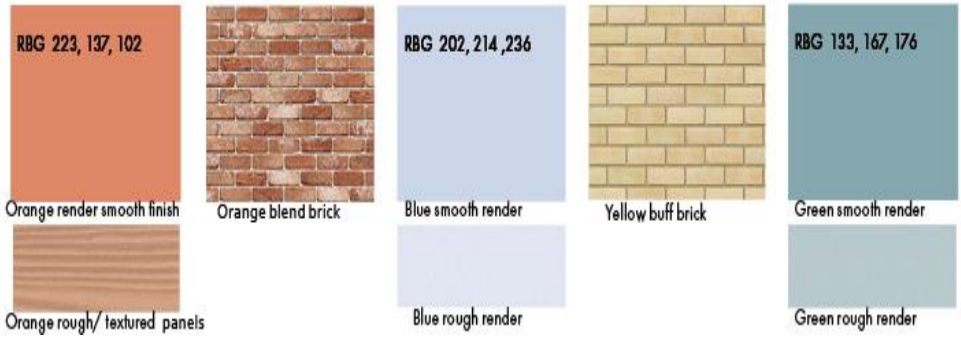
3.2 Buildings

The Apartment 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 and the common parts of the building and specific measures taken include:

Natural/Passive ventilation system to circulation/carpark areas	Avoids costly mechanical ventilation systems and associated maintenance and future replacement

External paved and landscaped areas	All of these require low/minimal maintenance
Daylighting to circulation areas	Avoids the requirement for continuous artificial lighting
Secure cycle and refuse storage areas	Avoids access lifts and any handling/moving equipment

3.3 Materials Specification

Description	Benefit
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. 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 B for this figure). The common parts are designed to incorporate the guidance, best practice principles and mitigations of Annexes of BS 7543: 2015 including: Annex A Climatic Agents affecting Durability Annex B Guidance on materials and durability Annex C Examples of UK material or component failures Annex D Design Life Data sheets	Ensures that the long-term durability and maintenance of Materials is an integral part of the Design and Specification of the proposed development .
A high-quality palette of materials will be used throughout this development. Yellow, red, grey brick, natural stone, cladding and render finishes will be incorporated throughout the scheme.  	Requires no on-going maintenance. The choice of materials are those which are common in the suburban area and so creates a development

	rooted to its context.
Use of factory finished uPVC/aluclad windows and doors, and powder coated steel balconies	Requires no on-going maintenance

3.4 Landscape

Measure	Description	Benefit
Site Layout and Design	Pedestrian and cyclist friendly hierarchy of streets and open spaces are complemented by generous and high-quality landscape treatments providing long term high quality residential environments.	Safe, high quality residential environments reduce vandalism and antisocial behaviour issues
Paving and timber finishes	Sustainable, robust materials, with high slip resistance to be used for paving. Durable and robust finishes to be selected for all fencing, furniture, bin and bicycle storage units	Materials selected to minimise ongoing maintenance
Tree Planting	Tree planting has been coordinated with the proposed lighting locations. No trees are proposed within 7m of public lighting columns.	Reduction in maintenance costs
Planting Strategy	The planting pallet has been selected with regard to the 'Councils Actions to Help Pollinators: All Ireland Pollinator Plan 2021-2025'. 75% pollinator friendly species within the shrubs and groundcover mix and inclusion of pollinator friendly street trees. The selected planting mix includes shade friendly species as well as hardy plants.	The palette of plant species used is based on a range of hardy species which will reduce maintenance over-time.
Green Roofs	Use of green roofs and traditional roof coverings with robust and proved detailing to roof elements	Attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement and repair

3.5 Waste Management

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

Measure	Description	Benefit
Resource and Operational Waste Management Plan	The application is accompanied by a Resource and Operational Waste Management Plan prepared by AWN	The report demonstrates how the scheme has been designed to comply with best practice.
Storage of Non Recyclable and Recyclable Household Waste	Inclusion of a centralised, covered & locked bin storage building	Easily accessible by all residents and minimises potential littering of the scheme
Waste Collection	Domestic waste management strategy: Grey, Brown and Green bin distinction. Competitive tender for waste management collection	Helps reduce potential waste charges
Composting	Organic waste bins to be provided throughout.	Helps reduce potential waste charges.

3.6 Human Health & Wellbeing

The following are illustrations of how the health and well-being of future residents are considered.

Measure	Description	Benefit
Natural / Day Light	The design, separation distances and layout of the apartment blocks have been designed to optimize the ingress of natural daylight/ sunlight to the proposed dwellings to provide good levels of natural light.	Reduces reliance on artificial lighting thereby reducing costs.
Accessibility	All units will comply with the requirements of Part M/K	Reduces the level of adaptation, and associated costs, potentially necessitated by the residents future circumstances
Security	The scheme is designed to incorporate passive surveillance and include CCTV monitoring	Help to reduce potential security/management costs.

Natural Amenity	Large open green spaces and paved areas with seating proposed throughout the scheme	Facilitates community interaction, socialising and play – resulting in improved wellbeing

3.7 Management

Consideration has been given to ensuring the homeowners have a clear understanding of their property. The measures proposed are listed in the table below.

Measure	Description	Benefit
Home User Guide	Once a purchaser completes their sale, a homeowner pack will be provided which will include: Homeowner manual – providing important information for the purchaser on details of their new property. It typically includes details of the property such as MPRN and GPRN and contact information for utilities and communication providers and all relevant suppliers. It will also include User Instructions for appliances and devices in the property. A Residents Pack 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.	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.

3.8 Transport

Measure	Description	Benefit
Access to Public Transport	The site is bounded by the R132 and bus stops within 400-500m of the site provide the Swords Express coach service which links Swords to Dublin City Centre, in addition to other Bus Connects services. The site will also benefit from future Bus connects Proposals, in addition, to the Metro Link North route which includes a	The availability, proximity and ease of access to high quality public transport services contributes to reducing the reliance on the private motor vehicle for all journey types.

	Fosterstown stop that will be easily accessed from the development	
Pedestrian Permeability	Provision and subsequent maintenance of dedicated pedestrian infrastructure on-site, and their connectivity with the off-site networks.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle Parking	The provision of high-quality secure bicycle parking facilities, for both short term and long term parking requirements (1,519 no. cycle spaces in total)	Reduces the reliance on the private motor vehicle.
Charged Vehicle Points	The provision of electrical charging points in the undercroft / basement level.	Reduces reliance on oil dependency by providing electrical charging points.