



RESIDENTIAL DEVELOPMENT AT
ANNACOTTY

FOR REGAL PARK DEVELOPMENTS LTD.

BUILDING LIFECYCLE REPORT
MARCH 2021

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1. Introduction

1.1 The Sustainable Urban Housing: Design Standards for New Apartments (2018) – Guidelines for Planning Authorities were (March 2018) – ‘The Apartment Guidelines’. The Apartment Guidelines introduced a requirement to include details on the management and maintenance of apartment schemes. This is outlined in Section 6.11 to 6.14 - “*Operation & Management of Apartment Developments*”, specifically Section 6.13.

1.2 Section 6.13 of the Apartment 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.”

1.3 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 1: An Assessment of Long-Term Running and Maintenance Costs
- SECTION 2: Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of the residents.

2. The Proposed Development

The proposed development consists of 137 residential units comprising of 61 Apartments in two apartment blocks, 51 Duplex Apartments and 25 Semi-Detached and Terraced Houses. The 4 and 5 storey apartment buildings accommodate ancillary services for residents such as communal lounge area, co-dining space, kids club area, rooftop garden and game room. The Duplex, Semi-Detached and Terrace units range from 2-3 storeys.

The site in which the dwellings are arranged has an area of 2.5 Hectares and is zoned in the Castletroy Local Area Plan as Residential Development.

3. SECTION 1

This section relates to an assessment of long-term running and maintenance costs as they would apply on a per residential unit basis at the time of application.

3.1 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. The property management company will enter into a contract directly with the 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 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 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

Communal spaces will be available to all apartment residents with access included in their annual maintenance fee. Annual service charge budget needs to be prepared for development and maintenance of common areas. Access to both internal and external communal areas will be restricted to the hours 8.am to 10pm to minimize any noise impact on neighbours.

3.2 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, management of communal areas, 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 also includes 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 produced¹.

4. SECTION 2:

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

- 4.1 The following measures were specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents and can be read in conjunction with the Moloney Fox Energy Statement, included with the SHD application:

Energy and Carbon Emissions

Table 4.1 – Energy and 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, 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	Higher BER ratings reduce energy consumption and running costs.																													
Fabric Energy Efficiency	<p>The U-values being investigated will be in line with the requirements set out by the current regulatory requirements of the Technical Guidance Documents Part L, titled “Conservation of Fuel and Energy Buildings other than Dwellings”.</p> <p>Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance Paragraphs 1.2.4.2 and 1.2.4.3 within the Technical Guidance Documents Part L. See below Table 1 of Part L, Building Regulations.</p> <table border="1"> <caption>Table 1 Maximum elemental U-value (W/m²K)^{1,2}</caption> <thead> <tr> <th>Column 1 Fabric Elements</th> <th>Column 2 Area-weighted Average Elemental U-value (Um)</th> <th>Column 3 Average Elemental U-value – individual element or section of element</th> </tr> </thead> <tbody> <tr> <td colspan="3">Roofs</td> </tr> <tr> <td>Pitched roof</td> <td></td> <td></td> </tr> <tr> <td>- Insulation at ceiling</td> <td>0.16</td> <td rowspan="2">0.3</td> </tr> <tr> <td>- Insulation on slope</td> <td>0.16</td> </tr> <tr> <td>Flat roof</td> <td>0.20</td> <td></td> </tr> <tr> <td>Walls</td> <td>0.18</td> <td>0.6</td> </tr> <tr> <td>Ground floors³</td> <td>0.18</td> <td>0.6</td> </tr> <tr> <td>Other exposed floors</td> <td>0.18</td> <td>0.6</td> </tr> <tr> <td>External doors, windows and rooflights</td> <td>1.4^{4,5}</td> <td>3.0</td> </tr> </tbody> </table>	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	Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, lower of energy consumption and thus minimise carbon emissions to the environment
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¹ 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.

	In order to achieve the NZEB standards, in most cases the above standards will be exceeded in the proposed development.	
Energy Labelled White Goods	<p>The white good package planned for provision in the apartments will be of a very high standard and have a high energy efficiency rating. It is expected that the below appliance ratings will be provided:</p> <ul style="list-style-type: none"> • Oven - A plus • Fridge Freezer - A plus • Dishwasher - AAA • Washer/Dryer - B 	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.
External Lighting	<p>The proposed lighting scheme within the development consists of 8m and 6m pole mounted fittings as indicated on the drawings. The luminaire selected is the 3291 Sella 1, this fitting was selected for the following reasons.</p> <ul style="list-style-type: none"> • Low level lighting • Minimal rear light spill • Eliminates upward light spill • Low voltage LED lamps <p>Each light fitting shall be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.</p>	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 flora and fauna in the area. The site lighting could be also be dimmed to 50% of its standard brightness during a 5-hour period late at night in order to further reduce the impact of the site lighting on bats

Low Energy Technologies

4.2 The following are Low energy technologies that are being considered for the development and during the design stage of the development in order to meet the requirements of Part L of the Building Regulations and to meet the upcoming Near Zero Energy Building standard if required. The specific combination from the list below will be decided on and then implemented to achieve the A2/A3 BER Rating.

Table 4.2 – Low Energy Technologies

Measure	Description	Benefit
Air to Water Heat Pumps	<p>The Houses and Duplexes will be heated by means of an air to water heat pump heating system. It is proposed to utilize a mono-block unit to heat each individual house which uses the latest R32 refrigerant gas. The unit will provide heat energy for heating and hot water generation.</p> <p>It is estimated the houses will require either 5-8kw units depending on the house type and size.</p>	<p>The installation of air to water heat pumps reduces the amount of electricity required for occupants.</p> <p>Very low noise emissions and reduced heating time.</p> <p>Minimal maintenance due to efficient design.</p> <p>Each heat pump system shall be listed on the HARP database or have IS EN14511-2, IS EN 255-2 or EN15879 test certificates (or otherwise as required by changes to the Regulations).</p>
Aluminium Radiators	<p>Aluminium radiators will be provided in each space complete with thermostatic radiator valves where required.</p>	<p>These radiators are specifically designed to work with low temperature heating systems and have quicker heat up periods and transfer rates than standard steel panel radiators.</p>
Exhaust Air Heat Pumps	<p>The apartments will be heated by means of exhaust air heat pump systems. It is proposed to utilize an exhaust air heat pump. The unit is complete with an integral 210 litre hot water calorifier and will provide both domestic heat and hot water generation.</p> <p>It is estimated the apartments will require a 3.5kw unit.</p>	<p>Modern heat pumps will typically provide 4 to 5 times more heat energy to the dwelling than the electrical energy they consume.</p> <p>Each heat pump system shall be listed on the HARP database or have IS EN14511-2, IS EN 255-2 or EN 15879 test certificates (or otherwise as required by changes to the Regulations).</p>

<p>PV Solar Panels</p>	<p>PV Panels will be considered 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 dwelling.</p> <p>The panels are typically placed on the South facing side of the building in order to maximise the solar exposure</p>	<p>PV Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment.</p> <p>They also reduce the overall requirement to purchase electricity from the grid.</p>
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Materials

- 4.3** The practical implementation of the Design and Material principles has informed the design of internal layouts, detailing of the proposed apartment buildings, and building facades. The façade materials will consist of brick, glazing and metal panels.

Buildings

- 4.4** 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:

Description of Measure	Benefit
Daylighting to circulation areas	Avoids the requirement for continuous artificial lighting
Natural ventilation to common areas	Avoids costly mechanical ventilation systems and associated maintenance and future replacement
External paved and landscaped areas	All of these require low/minimal maintenance
Roof construction of duplexes and semi-detached units consists of traditional pitched or mono-pitched roofs with slate coverings.	Minimises ongoing maintenance

Table 4.3 – Material Specification

Description of Measure	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 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:</p> <ul style="list-style-type: none"> • 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 	<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 factory finished and alu clad windows & doors and powder coated steel balconies</p>	<p>Requires no on-going maintenance.</p>
<p>Use of brickwork and metal cladding to envelope</p>	<p>Requires no on-going maintenance.</p>

Table 4.4 – Landscape

Measure	Description	Benefit
Hard Landscape Materials	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 on-going maintenance inputs
Soft Landscape Materials	Planting proposals have been formulated to complement the local setting as well as being fit for purpose in respect of private and public realm uses and spatial constraints imposed by garden sizes and the width of planting strips. Native tree species have been selected in significant numbers for planting along boundaries	Reduction in the frequency of required soft landscape maintenance
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
Maintenance & Management	Maintenance and management requirements have been considered through the design process. Complex planting arrangements have been omitted thus avoiding onerous maintenance and management requirements	Estate maintenance costs reduced
Sustainability & Biodiversity	Sustainability aspects of the proposed development include the retention of trees and hedgerows along the northern site boundaries and the use of native trees where possible across the site. Other species have been carefully selected for compatibility	Enhanced sustainability of long-term estate management

	<p>with the size of available spaces which is an important factor in long term management of the housing estate. The overall objective is to enhance the biodiversity potential of the site in addition to providing seasonal interest and variety.</p> <p>Judiciously placed flowering shrub and groundcover planting have been included to further promote biodiversity (pollinator species attracting insects and birdlife).</p>	
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Waste Management

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

Table 4.5 – Waste Management

Measure	Description	Benefit
Construction and Operational Waste Management Plan	The application is accompanied by a Construction and Operational Waste Management Plan	The report demonstrates how the scheme has been designed to comply with best practice.
Storage of Non-Recyclable Waste and Recyclable Household Waste	Domestic waste management strategy: <ul style="list-style-type: none"> • Grey, Brown and Green bin distinction. • Competitive tender for waste management collection. 	Easily accessible by all residents and minimises potential littering of the scheme Helps reduce potential waste charges
Composting	Organic waste bins to be provided throughout.	Helps reduce potential waste charges

Table 4.6 – Health and Well Being

Measure	Description	Benefit
Natural / Day Light	The buildings have been favourably orientated. 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 residents' future circumstances
Natural Amenity	Public open space at the centre of the scheme, also located near the Castletroy Park and the Newtown Shopping Centre.	Facilitates community interaction, socialising and play – resulting in improved wellbeing Proximity and use of parks promote a healthy lifestyle

Table 4.7 – Management

Measure	Description	Benefit
Home User Guide	<p>Once a purchaser completes their sale, a homeowner box will be provided which will include:</p> <ul style="list-style-type: none"> • Homeowner manual – 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 utility connections/communication providers, contact details for all relevant suppliers, and user instructions for appliances and devices in the property. • A Residents Pack prepared by the OMC which will typically provide 	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.

	information on contact details for the managing agent, emergency contact information, transport links in the area, and a clear set of rules and regulations.	
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Transport

Table 4.8 – Public Transport

Measure	Description	Benefit
Access to Public Transport (Bus Services)	There are a number of bus routes located on Gorey Plassey Park Rd. which connect to Limerick City Centre. The M7 Express Service to Dublin and Kildare stops approx. 900m from the site.	These bus services provide access locally and also to Dublin City providing a viable and practical sustainable alternative to journeys undertaken by the private motor car.
Permeable Connections	The proposal includes for permeability to the north, south and west, which will facilitate and encourage walking and cycling to the University (approx. 2.4km away), Newtown Shopping Centre to the south (approx. .450m) and promote cycling to the city centre, approx. 6km to the west, where there is a wide range of shopping, and amenities.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle Storage	The provision of high-quality secure & covered bicycle parking facilities, for both short term and long-term parking requirements.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle.

Appendix 1 ITEMS INCLUDED IN A TYPICAL BIF

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund.

Ref	Item	Typical Life Expectancy
1.00	Roofs	
1.01	Replacement felt roof covering incl. insulation to small sections of flat roof	18
1.02	Replacement parapet details	18
1.03	Replacement/ repairs to fascias	18
1.04	Replace roof access hatches	25
1.05	Specialist Roof Systems - Fall arrest	25
1.06	Overhaul waterproofing details to paved areas	12
2.00	Elevations	
2.01	Recoat metal panels to penthouse apartments	25
2.02	Minor repairs and preparation for decorations of rendered areas	18
2.03	Replace exit/ entrance doors	25
2.04	Replace rainwater goods	25
2.05	Recoat powder coated finishes to balconies	20
2.06	Periodic replacement and overhauling of external fixings	5
2.07	Replace balcony floor finishes	25

Ref	Item	Typical Life Expectancy
3.00	Stair cores & lobbies	
3.01	Decorate Ceilings	7
3.02	Decorate Walls	7
3.03	Decorate Joinery	7
3.04	Replace fire doors	25
3.05	Replace carpets (stairwells & lobbies)	12
3.06	Replace entrance mats	10
3.07	Replace nosings	12
3.08	Replace ceramic floors tiles Entrance lobbies	20
3.09	Fixed Furniture & Equipment - Provisional Sum	18
4.00	M&E Services	
4.01	General - Internal relamping	7
4.02	Replace Internal light fittings	18
4.03	Replace External light fittings (lights at entrance lobbies)	18
4.04	Replace smoke detector heads	18
4.05	Replace manual break glass units/ disabled refuge call points	18
4.06	Replace Fire alarm panel	18
4.07	Replace lift car and controls	25
4.08	Replace AOV's	25

Ref	Item	Typical Life Expectancy
4.08	Replace security access control installation	15
4.09	Sump pumps replacement	15
4.10	External Mains Water connection	20
4.12	Electrical Mains and Sub Mains distribution	20
4.13	Emergency Lighting	20
4.14	Overhaul and/or replace Waste Pipes, Stacks & Vents	20
5.00	Exterior	
5.01	External boundary treatments - Recoat powder coated Finishes to railings	60
5.02	Replace external signage	18
5.03	Replace PAVED areas	18
5.04	15-year cutback & thinning of trees. Overhaul landscaping generally	20
5.05	Replace CCTV provision	12
5.06	External Handrails and balustrade	18