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Figure 1 – CGI of Apartment Block A

0.0 INTRODUCTION

This Building Life Cycle Report has been prepared for the proposed residential development on lands at Oldtown, Swords by Conroy Crowe Kelly Architects on behalf of Gerard Gannon Properties.

The purpose of this report is to provide an initial 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 measures have been specifically considered to effectively manage and reduce costs for the benefit of the residents.

This is achieved by producing a Building Lifecycle Report. This Building Lifecycle Report has been developed on foot of the revised guidelines for Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities issued under Section 28 of the Planning and Development Act 2000 (as amended) December 2020. Within the new guidelines, new guidance is being provided on residential schemes.

Section 6.13 of the Operation and Management of Apartment Development Guidelines (December 2020) requires that

"planning applications for apartment development 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, as well as 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 6.13 of the Apartment Guidelines.

The report is broken into two sections as follows:

Section 1: An assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application.

Section 2: Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

0.1 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development will comprise a residential neighbourhood of 377 dwellings comprising 173 houses, 35 duplex units, 169 apartments, and a 519 sqm childcare facility with capacity for up to 102 children.

The development includes all associated site works and infrastructure, including landscaped open space, internal roads, paths, public lighting and drainage.

The vision for the development is to create a permeable, accessible and pedestrian-friendly residential neighbourhood integrated with the existing village centre, and which uses its location on the edge of the Swords Regional Park to 'join the dots' between the emerging arc of green spaces and walks from the Broadmeadow River Park to the Ward River Valley.

The gross site area is 10.2233 hectares, of which the net developable area is c.7.80 hectares when Class 1 open space lands on the Open Space zoned lands are omitted, giving a net density of 48.30 units per hectare.

It is only the multi-unit buildings which are the subject of this report which are as follows:

- Apartment Block A 18nr 1 bed units, 30nr 2 bed units = Total 48units
- Apartment Block B1 17nr 1 bed units, 15nr 2 bed units = Total 32units
- Apartment Block B2 17nr 1 bed units, 15nr 2 bed units = Total 32units
- Apartment Block C 11nr 1 bed units, 11nr 2 bed units = Total 22units
- Duplex Block A 9nr 1 bed units, 8nr 2 bed units, 1nr 3 bed units = Total 18units
- Duplex Block B 4nr 1 bed units, 4nr 2 bed units = Total 8units
- Duplex Block C 4nr 1 bed units, 4nr 2 bed units = Total 8units
- Duplex Block D 10nr 1 bed units, 9nr 2 bed units, 1nr 3 bed units = Total 20units
- Duplex Block E 4nr 1 bed units, 4nr 2 bed units = Total 8units
- Duplex Block F 4nr 1 bed units, 4nr 2 bed units = Total 8units

Total of units, 98nr 1 bed units, 104nr 2 bed units, 2nr 3 bed units = 204 units

SECTION 1

1. ASSESSMENT OF LONG-TERM RUNNING AND MAINTENANCE COSTS

1.1 Management of the Owners' Management Company's assets

The applicant, Gerard Gannon Properties, have considered the long-term running and maintenance costs for future residents from the outset of the design process with a view to managing and minimising unreasonable expenditure on a per unit basis. This exercise was informed by previous residential projects in Oldtown together with a consideration of the changes in standards arising from the new apartment guidelines.

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.

1.2 Service Charge Budget

A service charge budget will be compiled to put in place funding requirements as costed in the Planned Preventative Maintenance programme and also in the Building Investment Fund (BIF) report. The budget will be apportioned to unit owners in a fair and equitable way in accordance with the MUDs Act, with the collection of fees into dedicated Owners' Management Company (OMC) bank accounts.

The OMC will promote competitive tendering of running and maintenance services to help minimise charges for residents. The service suppliers will be discharged the payment for their services from these bank accounts. Monthly reports of operational and financial matters will be provided to the OMC executives and annual to the members at the general meeting.

2.0 MEASURES TO MANAGE & REDUCE COSTS FOR THE BENEFIT OF RESIDENTS.

The proposed layouts make efficient use of the land. The buildings have been designed with a low number of stair and lift cores in order to increase efficiencies and ensuring that service charges and maintenance costs faced by residents into the future are kept at reasonable levels.

The apartment design has followed the principles of the BRE guide - "Site Layout Planning for Daylight and Sunlight". Good levels of sunlight will also be available in the development's amenity areas. When this guidance is followed the end result is generally a site which is positioned and laid out in such a way which will provide adequate levels of sun lighting and daylighting while creating an ambience that will appeal to any building occupant and reduce the lighting costs.

Lifecycle costs are also determined by the durability and maintenance requirements of materials. We have selected the very highest standard of finishes across the project. Low maintenance cladding materials such as brick and self-finished render are proposed to minimise the impact of façade maintenance. Balconies are designed to be capable of fabrication offsite, resulting in higher standard of finish, reducing damage during construction and improved durability. Building materials proposed for use on apartment block elevations and in the public realm achieve a durable standard of quality that will not need regular fabric replacement or maintenance outside general day-to-day care. The choice of high quality and long-lasting materials such as brickwork, render, steel and metal as well as hardscape in the semi-public and private realms will contribute to lower maintenance costs for future residents and occupiers.

This report reflects the outline material descriptions and examples of typical materials and systems used for schemes of this nature and their associated lifespans and maintenance requirements. All information is therefore indicative subject to detailed design development.

As the building design develops this document will be updated and a schedule will be generated from the items below detailing maintenance and replacement costs over the lifespan of the materials and development constituent parts. This will enable a robust schedule of building component repair and replacement costs which will be available to the property management company so that running and maintenance costs of the development are kept within the agreed annual operational budget. A general outline of the primary materials used in the scheme can be found below.

Measures are addressed under following headings:

- (2.1) Building Design
- (2.2) External Building Fabric Material Selection
- (2.3) Internal Building Fabric Material Selection
- (2.4) Energy and Building Services
- (2.5) Landscape Material Selection
- (2.6) Waste Management Plan
- (2.7) Human Health and Wellbeing
- (2.8) Transport and Accessibility

2.1 Building Design

Measure	Description	Benefit
Daylighting to units	Where possible, as outlined in 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (March 2018)' to have regard for quantitative performance approaches to daylight provisions 'outlined in guides like the BRE guide 'Site Layout Planning for Daylight and Sunlight' (2nd edition) or BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting' when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision'.	Reduces the requirement for continuous daylighting, thus reducing the expense of artificial lighting
Daylighting to circulation areas	Natural lighting provided via tall windows at both the front and rear elevations.	Reduces the requirement for continuous daylighting.
External Lighting	External lighting will comply with the latest standards and achieve: • Low-level lighting • Utilise low voltage LED lamps • Minimum upward light spill 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 the required standards, provide a safe environment for pedestrians, cyclists, and vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna.

2.2 External Building Fabric Material Selection

Measure	Description	Benefit
Brickwork facade	Primary facade cladding material used. Lifecycle of 100+ years. Mortar pointing has shorter lifecycle of 25-50 years.	Extremely durable, with low maintenance requirements. Preventative maintenance by monitoring mortar joint deterioration ensures longevity of material.
Metal Cladding	Metal facade panels on galvanised metal rainscreen support system with typical life expectancy of 25 years.	Aesthetic impact, durability and weathering. Annual inspection and cleaning every 5 years.
Render	Only to internal courtyards and selected areas of street elevations. Pigmented render system with lifecycle of circa 25 years. Cleaning of algae and other staining is recommended annually by property maintenance team.	Finish does not require repainting every few years.

Flat Roofs	TPO or similar roofing membrane with 22-30 year lifespan installed to manufacturer's proven details. Appropriate protection for access to ensure maintenance of any roof equipment will be carried out without any damage to the membrane. Regular maintenance checks by property maintenance team.	Proven roofing system with regular maintenance prevents needs for repairs and additional cost to residents.
Pitched Roofs	Fibre-cement slate roofing, solid and inert.	Durable and longlasting material requires minimal maintenance and repair.
Windows and Doors	All units double glazed with thermally broken frames in uPVC or Aluminium.	Minimal ongoing maintenance
Steel Balconies with glass infill	Prefinished powder-coatedand capability to be manufactured off site	Minimal ongoing maintenance.

2.3 Internal Building Fabric Material Selection

Measure	Description	Benefit
Floors – apartment stair cores and entrances	Selected anti-slip porcelain or ceramic floor tile with inset mat well at entrance doors as required. Life span of 20-25 years.	Low maintenance and easily cleaned.
Floors – lobbies/corridors	Selected carpet inlay on underlay. 13 years life span typically. Regular cleaning by property maintenance team.	Attractive aesthetic for residents and flexibility to change in the future.
Walls	Selected contract vinyl wall paper feature or selected paint finish with primer. Wall protection at heavy traffic areas with plasterboard substrate adjacent to lift cores where furniture moving will damage wall fabric. Finish lifespan of 2-10 years, regular maintenance required.	Attractive aesthetic for residents and flexibility to change appearance in the future.
Ceilings	Selected paint finish with primer to skimmed plasterboard ceiling.	Decorative and durable finish.
Internal balustrades and handrails	Painted metal balustrade or proprietary glazed panel system face fixed to stair stringer/landing edge with polished stainless steel brackets and clamps to manufacturers installation details.	Durable finish.
Internal Doors and Frames	Selected primed and painted solid internal doors. Glass and aluminium door system to glazed entrances.	Durable finish with regular inspection and maintenance.

2.4 Energy and Building Services

Measure	Description				Benefit
Nearly Zero Energy Building specification s (nZEB)	Buildings" directive in conjunction out clearly that all new owith the following: • A Maximum Permitted (MPEPC) of no greater • A Maximum Permitted (MPCPC) of no greater These changes apply to	in conjunction with the TGD Part L document sets ly that all new dwellings built in Ireland will comply following: mum Permitted Energy Performance Coefficient of no greater than 0.3 mum Permitted Carbon Performance Coefficient of no greater than 0.35			Reduce primary energy demand by 70% viz. 2005 standards. Increased use of renewable energy sources such as heat pumps and PV panels will reduce the CO2 emissions associated with fossil fuel combustion.
BER targets	A Building Energy Ratin each dwelling in the prodetail of the energy perf calculated through ener heating, ventilation, and proposed to target an A equate to the following a CO2 emissions circa 10	g (BER) certificate will be provided for posed development which will provide formance of the dwellings. A BER is gy use for space and hot water lighting and occupancy. It is 2/A3 rating for the apartments this will emissions. A2 – 25-50 kwh/m2/yr with kgCO2/m2 year A3 – 51-75 hissions circa 12kgCO2/m2 /year			reduce energy consumption and running costs
Fabric Energy Efficiency	U Values for the development will be in line with 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 will be minimised in accordance with 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	Roofs Pitched roof - Insulation at ceiling - Insulation on slope Flat roof Walls Ground floors Other exposed floors External doors, windows and rooflights Notes: 1. The U-value inc. spaces. 2. For alternative in paragraph 1.3.2 3. For insulation of incorporating un 4. Windows, doors U-value of 1.4 W 5. The NSAI Winder provides a rating solar transmittal	ground floors and ex derfloor heating, see and rooflights should	Column 3 Average Elemental U-value – individual element or section of element 0.3 0.6 0.6 0.6 0.6 3.0 heated voids or other mpliance see posed floors paragraph 1.3.2.2. if have a maximum ce Scheme (WEPS) ing heat loss and ittance value g pep	Lower U-values and improved air tightness will help minimise heat losses through the building fabric, lower energy consumption and 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 The proposed lighting scheme within the development will be The site lighting has Lighting selected for the following reasons: been designed to Low level lighting provide a safe Minimal upward light spill environment for Low voltage LED lamps pedestrians, cyclists Pre-approved by Fingal County Council and moving vehicles, to Each light fitting shall be controlled via an individual deter anti-social Photoelectric Control Unit (PECU). The behaviour and to limit operation of the lighting shall be on a dusk-dawn profile the environmental impact of artificial lighting on existing flora and fauna in the area. The following are Low energy technologies that are being considered for the development and 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/A3 BER Rating and NZEB compliance. Natural Natural ventilation is being evaluated as a ventilation strategy The main advantages of Ventilation natural ventilation are: to minimise energy usage and noise levels. · Low noise impact for occupants and adjacent units. Completely passive therefore no energy required with associated. Minimal maintenance required. Reduced environmental impact as minimal equipment disposal over life cycle. Space and An air-to-water heat pump system is proposed for each Air source heat pumps Water dwelling as the optimal balance of practicality, efficiency and use electrical energy Heating contribution of renewable energy. Each heat pump system from the grid to shall be listed on the HARP database or have IS EN14511-2, drive the refrigerant IS EN 255-2 or EN 15879 test certificates (or otherwise as cycle but do so required by changes to the Regulations). The hot water extremely efficiently. storage will form part of the composite heat-pump systems, Modern heat pumps will with certified loss factors. Space heat distribution will be typically provide 4 to 5 via low-temperature radiators generally, and the space and times more heat hot water system will have full time and temperature controls. energy to the dwelling than the electrical energy they consume. PV Solar PV Solar Panels are being considered which converts the PV Solar Panels offer **Panels** electricity produced by the PV system (which is DC) into AC the benefit of reducing electricity. The panels are typically placed on the South fossil fuel consumption facing side of the building for maximum heat gain and in and carbon emissions to some instances, can also be used to assist the environment.

ECAR Charging Points	Provision for the installation of a fully functional electric vehicle charging point will be provided in the apartment blocks as agreed with the management company	Providing the option of E-car charging points will allow occupants to avail of the ever-improving efficient electric car
		technologies.

2.5 Landscape Material Selection

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. Designated car parking including accessible & visitor car parking reduces the travel distances for visitors with reduced mobility. The landscape design approach is to provide a variety of high-quality durable communal recreation areas for residents within the blocks which feature a range of quality tree, shrub and herbaceous planting. Hard landscape paving and decking materials will be robust and durable and installed using proven details to minimise maintenance requirements.	Plenty of room for cycles and pedestrians along with car spaces provide a good balance between pedestrians and car users. Wheelchair user-friendly. A landscape maintenance company will be retained by the OMC(s) to ensure regular maintenance improves the quality of the living environment for all residents.
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.	Reduction in the frequency of required soft landscape maintenance
Sustainability & Biodiversity	Gerard Gannon Properties are active business supporters of the All-Ireland Pollinator Plan and were the first residential development company to sign up. It is of great importance to Gannons that Miller's Glen and the Oldtown SHD development embraces the Plan's objectives and implements these and other positive actions supporting bio-diversity on the ground.	Enhanced sustainability of long- term estate management

Waste Management 2.6

Measure	Description	Benefit
Construction and Operational Waste Management Plan	The application is accompanied by a Construction and Operational Waste Management Plan by the applicants.	The report demonstrates how the scheme complies with best practice
Storage of Non- Recyclable Waste and Recyclable Household Waste	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

2.7 Human Health and Wellbeing
How human health and well-being has been considered:

Measure	Description	Benefit
Natural / day light	The design, separation distances and layout of the apartment blocks have been designed to optimise 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 Building Regulations, Technical Guidance Documents Parts K and M	Reduces the level of adaptation, and associated costs potentially necessitated by residents' future circumstances.
Security	The scheme is designed to incorporate passive surveillance with the following security strategies likely to be adopted: CCTV monitoring details Secure bicycle stands Overlooked communal open space in the form of a courtyard	Helps to reduce potential security/ management cost
Natural	Parks and pocket park near access.	Facilitates community interaction, socialising and play- resulting in improved well being.

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	The proposed development is 3km from the centre of Swords, 12km from Ashbourne and just under 5km from the M1 motorway interchange. It is immediately accessible from the Rathbeale Road, from Miller's Avenue/WDLR (currently used as a construction haul road but ready to open in tandem with the proposed development), and from the new Meadowbank phase of Miller's Glen. Miller's Avenue/WDLR will ultimately link Lissenhall and the M1 in the northeast to Brackenstown Road and the Ward River Valley in the southwest, giving the proposed development excellent access to the wider environment and western Swords. Regular bus service connections are provided to the City Centre and Dart / Rail Services.	Availability, proximity to bus and railway services reduces the reliance on the private motor.
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.
Storage of Non- Recyclable Waste and Recyclable Household Waste	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. BUILDING INVESTMENT FUND

In accordance with the MUDs Act, the OMC(s) will allocate a certain portion of funds towards a sinking fund, in order to adequately resource long-term replacement of components. The Building Investment Fund table below illustrates what could be incorporated in the calculation of a Sinking Fund:

Element	Life Expectancy
Roofs	
Replacement felt roof covering incl. insulation to main roofs	18
Replacement parapet, fascia details	18
Replace roof access hatches	25
Specialist Roof Systems - Fall arrest	25
Waterproofing details to penthouse paved areas	12
Elevations	
Brick Re-pointing	80
Metal Panels - recoating	25
Minor repairs to render areas	18
Replace exit/entrance doors	25
Replace rainwater goods	25
Replace balcony floor finishes	25
External Areas/Car Parking	
External handrails and guarding	18
Surface finishes	18
Check drains for accumulation of debris and other sediments	6
Repaint parking spaces and numbering	7
Replace bike stands	25
Replace access control at entrances	12
M&E Services	
Internal re-lamping common areas	7
Replace internal light fittings	18
Replace external light fittings	18
Replace smoke detector heads	18
Replace manual break glass units	18
Replace fire alarm panel	18
Replace lift car and controls	25
Replace AOVs	25
Emergency lighting	20
External mains water connection	20
External mains water connection	20