FORMER TEAGASC LANDS, KINSEALY

Building Life Cycle Report

Proposed Development on behalf of The Land Development Agency.

February 2025

LDA
An Ghníomhaireacht Forbartha Talún
The Land Development Agency

CONROY CROWE KELLY
ARCHITECTS & URBAN DESIGNERS

Document No. KI-CCK-S1b-XX-RP-A-0013

CONTENTS

EXECUTIVE SUMMARY

This Building Life Cycle Report addresses the requirements outlined in Section 14.7.10 of the Fingal Development Plan 2023-2029 and the *"Sustainable Urban Housing: Design Standards for New Apartments, July 2023 (Guidelines for Planning Authorities),"* as they apply to the proposed residential development for all multi-unit buildings. For completeness, this report includes an assessment of the houses.

The design of the scheme, together with the careful selection of building materials for the houses and duplex blocks, efficient management by the appointed Property Management Company, and active involvement of homeowners, will contribute to fostering a vibrant and sustainable community in the long term.

This report reviews the outline building specifications for the development and evaluates the long-term running and maintenance costs per unit. It also outlines proposed measures to manage and reduce these costs, ensuring benefits for future residents.

Durable materials and finishes, including brickwork, render, and powder-coated metal railings, are proposed for external elevations to minimise the need for frequent maintenance, aside from routine upkeep. This selection of high-quality, long-lasting materials aims to reduce future maintenance costs for residents. A similar approach is recommended for internal finishes, electrical and plumbing installations, as well as the landscaping of public and private open spaces.

As the design evolves and material selections are finalised, this report will be updated to provide the Property Management Company and individual homeowners with detailed information on anticipated running and maintenance costs. This will support accurate work scheduling and the preparation of service charge budgets.

Figure 1 – CGI of the duplex blocks overlooking the central open space and greenway

0.0 INTRODUCTION

This Building Life Cycle Report has been prepared by Conroy Crowe Kelly Architects on behalf of the Land Development Agency (LDA) to accompany a Large-Scale Residential Development (LRD) planning application to Fingal County Council.

The Land Development Agency proposes to develop a residential scheme comprising 193 dwellings for affordable sale and Part V social housing, along with a crèche of 283 sqm, on a site of approximately 8.2 hectares located at the former Teagasc Research Centre in Kinsealy, Co. Dublin. The development consists of a mix of houses, duplexes, apartments, and a crèche building and the proposed development will provide new and future pedestrian and cycle links to the surrounding neighbourhood, village, and open spaces.

This report has been prepared in accordance with (i) Section 14.7.10 of the Fingal Development Plan 20234-2029 Building Lifecycle Report and Management Companies which states:

"As required under the Guidelines, certainty regarding long-term management and maintenance structures to be put in place are critical. It is essential that robust legal and financial arrangements areprovided to ensure that an apartment development is properly managed, with effective and appropriately resourced maintenance and operational regime. Consideration of the long-term running costs and the eventual manner of compliance with the Multi-Unit Developments Act, 2011 are matters which should be considered as part of any assessment of a proposed apartment development."

(ii) the revised "Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities)," published in July 2023 (the 'Guidance'). Sections 6.10 to 6.14 of the guidelines, under "Operation & Management of Apartment Developments," require that:

"A building lifecycle report shall include an assessment of long-term running and maintenance costs on a per-residential unit basis at the time of application, as well as demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents."

This Building Life Cycle Report will address the requirements of Section 6.13 as they apply to all multi-unit buildings within the development.

0.1 DESCRIPTION OF PROPOSED DEVELOPMENT

Figure 2 – Proposed site plan

The proposed development comprise 193 dwellings:

Houses: 153 no. two-storey houses, comprising
30 no. two-bedroom (4-person) houses and
123 no. three-bedroom (5-person) houses.

Duplex Blocks: 40 three-storey duplex units comprising
20 no. two-bedroom (4-person) ground-floor apartments (Universal Design) and
20 no. three-bedroom (5-person) duplexes above,

Plus all other ancillary site development and landscape works, including vehicular access points, public and private open space, car parking and bicycle parking.

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

1. The proposed layout makes efficient use of the land, with building typologies designed to maximise own-door access. This strategy helps ensure that future service charges and maintenance costs for residents remain at reasonable levels.

2. The design of the houses and duplex blocks follows the principles outlined in the BRE Guide Site Layout Planning for Daylight and Sunlight. This ensures good levels of sunlight within both the units and the development's amenity areas. Following this guidance results in a site layout that provides ample daylight and sunlight and helping to reduce lighting costs.

3. Life cycle costs are influenced by the durability and maintenance requirements of materials. To minimise these costs, the Developer has proposed high quality finishes throughout the project. Low-maintenance cladding materials, such as brick and self-finished render are proposed to reduce the need for façade maintenance. The materials proposed for the houses and duplex blocks elevations and public spaces are durable, requiring minimal fabric replacement or maintenance beyond routine care. High-quality, long-lasting materials like brickwork, render, powder-coated steel, and hardscape elements in semi-public and private areas will contribute to lower maintenance costs for future residents and occupants.

4. Energy performance and carbon emissions, in accordance with the "European Performance of Buildings Directive 2010," have been incorporated into Irish legislation through TGD Part L (2021), mandating the achievement of a Nearly Zero Energy Building (NZEB) standard for new residential developments. The NZEB requirement applies to all new buildings occupied after December 31, 2020, including this development. A Building Energy Rating (BER) certificate will be issued, detailing the energy performance and carbon emissions of each dwelling. The target for this development is a BER rating of A2 or A3, placing the energy performance within the NZEB classification and ensuring compliance with the relevant legislation.The anticipated energy performance and emissions for each apartment are as follows:

   A2: 25-50 kWh/m²/year, with CO2 emissions of approximately 10 kgCO2/m²/year.
   A3: 51-75 kWh/m²/year, with CO2 emissions of approximately 12 kgCO2/m²/year.

Note: The specifications, maintenance requirements, and cost estimates for repair or replacement of each element can only be determined after the detailed design phase and the procurement/construction of the development. This document outlines the materials and systems typically used by Conroy Crowe Kelly Architects, along with their expected lifespans.All details are indicative and will be updated as the design progresses. A schedule of maintenance and replacement costs will bedeveloped and updated throughout the design process, helping the property management company track repair expenses and ensuring that the development's operating costs remain within the agreed annual budget.

2.0 HOUSES

2.1 Property Management

The management and maintenance of individual houses are the sole responsibility of the homeowners. This includes all necessary repairs, renovations, general upkeep, and the management of associated parking areas and private outdoor spaces, such as front and back gardens.

Insurance

Homeowners are responsible for arranging their own home insurance.

Life Safety System, Fire Prevention and Protection

Houses are designed and constructed to meet all regulatory fire safety requirements. Homeowners are responsible for maintaining their property, including the regular inspection and upkeep of fire alarms, CO2 detectors, ventilation systems, and other systems.

Waste Management

The strategy for domestic waste will align with the Operational Waste Management Plan, which is designed to promote waste segregation and recycling among residents. Individual homeowners are responsible for organising and maintaining their own waste management services, including covering any associated costs. Houses will have their own waste bins for general waste, dry waste, recycling, and composting, with weekly collection for general waste and recycling, and fortnightly collection for composting.

Car Parking

It is proposed that both on-curtilage and on-street residential car parking will be controlled by the Owner's Management Company, who will be responsible for the assignment of spaces to residents. These parking spaces include a number of EV enabled bays, and a number of accessible bays. All parking bays will be ducted for future EV enablement and implementation of these, as and when required, will be the responsibility of the same Management Company.

2.2 Building Design & Natural Daylight

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Daylighting to units	Where possible, as outlined in 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (July 2023)' to have regard to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings IS EN17037:2018, UK National Annex BS EN17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context, when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision.	Reduces the requirement for continuous artificial light, thus reducing the expense of artificial lighting
Daylighting to circulation areas	Natural lighting provided via fanlight windows over the front entrance door.	Reduces the requirement for continuous artificial light, thus reducing the expense of artificial lighting
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.

Figure 3 – CGI of the proposed development

2.3 External Building Fabric Material Selection.

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Brickwork facade	Primary facade 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.
Painted Render	Painted/pigmented render system with lifecycle of circa 30 years. Cleaning of algae and other staining is recommended annually by property maintenance team. To comply with BS 5262 1991	Finish does not typically require repainting every 5 years.
Painted Dashed Render	Primary facade used. Painted/pigmented render system with lifecycle of circa 30 years. Cleaning of algae and other staining is recommended annually by property maintenance team. To comply with BS 5262 1991	Finish does not typically require repainting every 5 years.
Pitched Roofs	Clay or concrete tiled roofing, solid and inert.	Durable and long-lasting material requires minimal maintenance and repair.
Windows and Doors	All units double glazed with thermally broken frames in uPVC, Aluminium or Alu-Wood.	Minimal ongoing maintenance

2.4 Internal Building Fabric Material Selection.

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Floors – Kitchen/bathroom	Selected tiled flooring with a typical lifespan of 10 years, requiring regular cleaning and maintenance by the homeowner.	Attractive aesthetic for residents and flexibility to change in the future.
Walls	Selected paint finish with primer. 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.
Windows and Doors	All units double glazed with thermally broken frames in uPVC or Aluminium. Double glazed.	Minimal ongoing maintenance.
Internal Doors and Frames	Selected primed and painted solid timber internal doors. Glass and selected door system to glazed entrances	Durable finish with regular inspection and maintenance.

2.5 Elements Life Expectancy

Ref.	Element	Life Expectancy	Amount
1.00	Roofs		
1.01	Replacement felt roof covering incl. insulation to main roofs	18	
2.00	Elevations		
2.01	Minor repairs and preparation for decoration of rendered areas	18	
2.02	Replace rainwater goods	25	
3.00	M&E Services		
3.01	Replace internal light fittings	18	
3.02	Replace smoke detector heads.	18	
3.03	External mains water connection	20	
3.04	Electrical mains and sub mains distribution	20	

Note: The specifications, maintenance requirements, and cost estimates for repair or replacement of each element can only be determined after the detailed design phase and the procurement/construction of the development. This document outlines the materials and systems typically used by Conroy Crowe Kelly Architects, along with their expected lifespans. All details are indicative and will be updated as the design progresses. A schedule of maintenance and replacement costs will bedeveloped and updated throughout the design process, helping the property management company track repair expenses and ensuring that the development's operating costs remain within the agreed annual budget.

3.0 DUPLEX BLOCKS & CRECHE

3.1 Owners Property Management Company

Section 14.7.10 of the Fingal Development Plan 2023-2029 and Section 6.14 of the apartment Guidance outlines the requirements for the establishment of an Owner's Management Company (OMC). The Multi-Unit Developments Act, 2011 (MUD Act), sets out the legal requirements regarding the management of apartment developments which include typologies such as the duplex units proposed for this development. In this regard, it is advised that when granting permission for such developments, authorities attach appropriate planning conditions that require:

- Compliance with the Multi-Unit Developments Act, 2011
- Establishment of an Owners' Management Company (OMC)
- Establishment and ongoing maintenance of a sinking fund, proportionate to the facilities in the development that require maintenance and renewal.

A property management company will be engaged in the development to oversee the management functions of the duplex blocks and ensure that the running and maintenance costs of the duplex blocks and car parking are kept within the agreed annual operational budget. The property management Agent will enter into a contract directly with the Owners' Management Company. This contract will be for a maximum period of three years and will adhere to the format prescribed by the Property Services Regulatory Authority.

The property management company will have the following responsibilities once the development is completed:

- Fair and equitable apportionment of annual operational charges in accordance with the Multi-Unit Developments Act, 2011, reflecting the different needs and services provided to various unit types.
- Engagement of independent legal representation on behalf of the OMC, in compliance with the MUD Act, including the completion of the developer-OMC agreement and the transfer of common areas.
- Transfer of documentation as required by Schedule 3 of the Multi-Unit Developments Act, 2011.
- Preparation of the annual service charge budget for the duplex blocks and their associated car parking areas.
- Estate Management.
- Appointment, procurement, and management of third-party contractors.
- Reporting to the OMC in accordance with the MUD Act, including reports to OMC directors and members.
- Keeping records of accounts in accordance with the Companies Act 2014 and the MUD Act 2011, and preparing files for audit by the OMC accountant at year-end.

- Corporate services, including convening general meetings of members and establishing and maintaining the register of OMC members.
- Insurance procurement and management to ensure that the interests of the OMC and its members are protected.
- After hours Emergency services.
- Staff Administration.
- Estate initiatives to address the future needs of unit owners and adopt technologies that enhance the living experience of owners and adapt to changes in the built environment.

Insurance

The OMC will oversee the management and maintenance of duplex blocks, along with their associated car parking areas, the communal open spaces, bin and bicycles stores. The OMC will secure public and employer's liability insurance, directors and officers insurance, engineering insurance for mechanical installations and, where applicable, contents insurance for common areas e.g. the bicycle stores and the two-tier gas-assisted racks.

Life Safety System, Fire Prevention and Protection

Each apartment and duplex building will be designed and constructed in strict adherence to regulatory requirements concerning fire safety. The OMC will be responsible for maintaining the buildings in accordance with their fire safety certificates and approved fire strategies. This will include regular maintenance and inspection of fire alarms, emergency lighting, and ventilation systems.

Energy Consumption and Management

As part of the sustainability strategy, the development will incorporate a high-efficiency heat pump system to provide heating and cooling for all dwellings. Energy consumption for each apartment, duplex, and creche will be fully electric, with a dedicated metered supply for every unit.

Waste Management

The strategy for domestic waste will align with the Operational Waste Management Plan, which promotes waste segregation and recycling among residents. For duplex blocks, contractors appointed by the management company will manage the waste storage areas, ensuring they remain clean, free from lingering odors, and vermin-free. Waste and recycling areas will be well-maintained, with clearly labeled bins to encourage segregation and prevent contamination.

Maintenance

The maintenance of all plant and equipment, in accordance with statutory requirements, best practices, and manufacturers' warranties and guidance, is essential for optimising the operation of the development and ensuring comfort for residents. Maintenance contracts will be established for all such facilities, including but not limited to, closed-circuit television systems (if required), access control to communal open space, bin stores and bikes stores. In addition to maintenance contracts, relevant consultants will be engaged to advise on best practices for maintenance and to conduct occasional reviews of contractor performance.

3.2 Service Charge Budget

The service charge budget covers items such as external cleaning, landscaping, refuse management, insurance, maintenance of mechanical and electrical systems, security, property management fee, etc. to the development's external common areas and associated car parking areas. In line with the requirements of the Multi-Unit Developments Act, the members of the Owners' Management Company, 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 Building Investment Fund (BIF) report produced.

A sample format of the typical Building Investment Fund report is set out in Appendix A.

Note: The specifications, maintenance requirements, and cost estimates for repair or replacement of each element can only be determined after the detailed design phase and the procurement/construction of the development. This document outlines the materials and systems typically used by Conroy Crowe Kelly Architects, along with their expected lifespans. All details are indicative and will be updated as the design progresses. A schedule of maintenance and replacement costs will be developed and updated throughout the design process, helping the property management company track repair expenses and ensuring that the development's operating costs remain within the agreed annual budget

3.3 Building Design

Figure 4 – CGI of the proposed duplex buildings

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Daylighting to units	Where possible, as outlined in 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (July 2023)' to have regard to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings IS EN17037:2018, UK National Annex BS EN17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context, when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision.	Reduces the requirement for continuous artificial light, thus reducing the expense of artificial lighting
Daylighting to circulation areas	Natural lighting provided via fan windows above the front entrance doors.	Reduces the requirement for continuous artificial light, thus reducing the expense of artificial lighting
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.

3.4 External Building Fabric Material Selection

Figure 7 – View of the duplex blocks overlooking the central open space.

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Brickwork facade	Primary facade used. Lifecycle of 100+ years. Mortar pointing has shorter lifecycle of 25-50 years.	Extremely durable, with low maintenance require-ments.Preventative main-tenance by monitoring mortar joint deterioration ensures longevity of material.
Painted Render	Painted/pigmented render system with lifecycle of circa 30 years. Cleaning of algae and other staining is recommended annually by property maintenance team. To comply with BS 5262 1991	Finish does not typically require repainting every 5 years.
Painted Dashed Render	Primary facade used. Painted/pigmented render system with lifecycle of circa 30 years. Cleaning of algae and other staining is recommended annually by property maintenance team. To comply with BS 5262 1991	Finish does not typically require repainting every 5 years.
Pitched Roofs	Clay or concrete tiled roofing, solid and inert.	Durable and long-lasting material requires minimal maintenance and repair.
Windows and Doors	All units double glazed with thermally broken frames in uPVC or Aluminium. Double glazed.	Minimal ongoing maintenance
Steel Balconies with metal infill balustrades.	Prefinished powder-coated guarding to be manufac-tured off site.	Minimal ongoing maintenance

3.5 Internal Building Fabric Material Selection

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Walls	Selected paint finish with primer. 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.
Windows and Doors	All units double glazed with thermally broken frames in uPVC or Aluminium. Double glazed.	Minimal ongoing maintenance
Internal Doors and Frames	Selected primed and painted solid internal doors. Glass and selected door system to glazed entrances	Durable finish with regular inspection and maintenance.

3.6 Management and Maintenance of Buildings and Associated Infrastructure

Individual house owners, will be responsible for repairs and the upkeep of their own individual house and associated infrastructure, while a dedicated maintenance team will be responsible for repairs and the upkeep of the parking bays, the duplex blocks and associated infrastructure, including their own communal grounds.

A planned preventative maintenance program will be implemented to ensure the regular upkeep of the duplex blocks and facilities. Residents and management company representatives will have access to a system—either online or on-site—to log all maintenance requests and reports. The maintenance manager will oversee the scheduling of necessary work, prioritising tasks based on urgency and importance.

Residents of the duplex blocks will be provided with information and updates regarding their requests and will be notified by post or electronically once the issue is resolved and closed out in the system. All repair and maintenance works repair, except in case of emergencies, will be conducted between 9 a.m. and 5 p.m. on weekdays

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Home User Guide	The management of the property will ultimately be the responsibility of the owners and operators of this scheme. A resident's pack prepared by the operational management company. This will ensure residents are appropriately informed, so any issues can be addressed in a timely and efficient manner and ensure the successful operation of this scheme.	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.

4.0 ENERGY AND BUILDING SERVICES

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Nearly Zero Energy Building specifications (NZEB)	NZEB and TGD Part L The NZEB "Nearly Zero Energy Buildings" directive in conjunction with the TGD Part L document sets out clearly that all new dwellings built in Ireland will comply with the following: • A Maximum Permitted Energy Performance Coefficient (MPEPC) of no greater than 0.3 • A Maximum Permitted Carbon Performance Coefficient (MPCPC) of no greater than 0.35 These changes apply to works, or buildings in which material alteration or change of use or major renovation takes place.	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 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	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.	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.

<table>
<tr><th>Measure</th><th>Description</th><th>Benefit</th></tr>
<tr><td>Target Building Fabric Efficiency</td><td>It is possible to exceed the requirements of the current building regulations. The current target U-Values are identified below:
<table><tr><th>Element</th><th>Required U-values for New Buildings (W/m²k)</th><th>Target U-values for this development (W/m²k)</th></tr><tr><td>Roof</td><td>0.20</td><td>0.15</td></tr><tr><td>External Walls</td><td>0.18</td><td>0.18</td></tr><tr><td>Ground Floors</td><td>0.18</td><td>0.15</td></tr><tr><td>Glazing</td><td>1.40</td><td>1.40</td></tr></table>In order to ensure that a sufficient level of air tightness is achieved, air permeability testing will be specified, with the responsibility being placed on the main contractor to carry out testing and achieve the targets identified in the tender documents.

A design air permeability target of 3 m³/m²/hr has been identified.

Air testing specification will require testing to be carried out by an independent third party (National Standards Authority of Ireland or equivalent certification body).</td><td>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.</td></tr>
<tr><td>BER targets</td><td>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</td><td>Higher BER ratings reduce energy consumption and running costs.</td></tr>
<tr><td>Lighting Efficiency</td><td>The proposed lighting within the development will be LED 100pc;

• Low level lighting
• Minimal upward light spill
• Low voltage LED lamps
• Pre-approved by Fingal County Council

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.</td><td>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.</td></tr>
</table>

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.

Measure	Description	Benefit
Natural Ventilation	Natural ventilation is being evaluated as a ventilation strategy to minimise energy usage and noise levels.	The main advantages of natural ventilation are: • 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.
Air Source Heat Pumps	An air-to-water heat pump system is being considered for each dwelling as the optimal balance of practicality, efficiency, and contribution of renewable energy. 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). The hot water storage will form part of the composite heat-pump systems, with certified loss factors. Space heat distribution will be via low-temperature radiators generally, and the space and hot water system will have full time and temperature controls.	Air source heat pumps use electrical energy from the grid to drive the refrigerant cycle but do so extremely efficiently. Modern heat pumps will typically provide 4 to 5 times more heat energy to the dwelling than the electrical energy they consume.
ECAR Charging Points	Provision for the installation of a fully functional electric vehicle charging points will be provided in accordance with the requirements of the Fingal Development Plan 2023-2029 and Technical Guidance Document Part L . The balance of parking bays will have ducting installed to enable their future implementation as and when required	Providing the option of E-car charging points will allow occupants to avail of the ever-improving efficient electric car technologies.

5.0 LANDSCAPE MATERIAL SELECTION

(Refer to Landscape Architect's Report)

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

Measure	Description	Benefit
Paving materials	Use of robust high-quality materials and detailing to be durable for bikes, play, etc.	Ensures the longevity of materials.
External fixtures	All external metal fittings galvanised, and powder coated to minimise painting requirements. Durable and robust furniture and equipment (e.g. play, fencing etc.) to be used throughout.	Required ongoing maintenance significantly reduced through use of robust materials installed to high standards and robust detailing.
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.	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.
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	The applicants are active business supporters of the All-Ireland Pollinator Plan. It is of great importance that all their developments embrace the Plan's objectives and implements these and other positive actions supporting biodiversity on the ground.	Enhanced sustainability of long-term estate management.

6.0 WASTE MANAGEMENT PLAN

An Operational Waste Management Plan (OWMP) has been prepared by environmental consultants TMS Environment Ltd. and is included as part of this planning applicaiton. The straegy for domestic waste will comply with the OWMP which is designed to promote waste segregation and recycling among residents. For duplex blocks, contractors appointed by the management company will manage the waste storage areas, ensuring they remain clean, free from lingering odors, and vermin-free. Waste and recycling areas will be well-maintained, with clearly labeled bins to encourage segregation and prevent contamination.

Houses will have their own waste bins for general waste, recycling and composting with weekly collection for general waste and recycling and for fortnightly collection for composting. Individual home owners, will be responsible for arranging and maintating their own waste management servives, including any associated cost.

Measures have been specifically considered to effectively manage and reduce costs for the benefit of residents as outlined in the table below:

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 complies with best practice
Storage of Non-Recyclable Waste and Recyclable Household Waste	Domestic waste management strategy: General waste, mixed recyclable, glass and organic bin distinction	Helps reduce potential waste charges
Composting	Organic waste bins to be provided throughout	Helps reduce potential waste charges

7.0 HUMAN HEALTH AND WELLBEING

Considerations for human health and well-being have been addressed through specific measures aimed at effectively managing and reducing costs for the benefit of residents, as outlined in the table below:

Measure	Description	Benefit
Natural / day light	The design, separation distances and layout of the duplex 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 (if required). • Secure bicycle stands. • Overlooked communal courtyard. • Controlled access between public realm and resident's provate communal open space. • Routine access fob audits. • Appropriately lit external spaces.	Helps to reduce potential security/ management cost.
Natural Amenity	• Playground and natural play for children. • Highly landscaped green spaces and biodiversity routes.	Facilitates community interaction, socialising and play resulting in improved wellbeing. Proximity and use of external green spaces promotes a healthy lifestyle.
Part M and Part K	• All residential units are designed to have level access for persons with disabilities as required under TDG. • All dwellings are designed to include part M complaint visitor toilets, minimum door and corridor widths and accessible light switches and sockets among other standards.	Reduces the requirements and associated costs for changes in design to accommodate resident's future changing circumstances.

8.0 TRANSPORT AND ACCESSIBILITY

Kinsealy is located on a transport corridor with direct connection to Dublin City, adjacent to existing primary schools, St. Olave's business park, Kinsealy garden centre and a service station with a convenience store. A new cycle and walking scheme has been proposed by Fingal County Council which will provide safe, off-road paths between the proposed development and Portmarnock DART station. The consultation period for this project closed on the 10.01.2025 and a the Council will proceed to the design stage of this project.

Measure	Description	Benefit
Access to Public Transport	The area is serviced by a number of bus routes (42, 43 and 102c), which have a regular service to Dublin City Centre, Malahide and Portmarnock.	Availability, proximity to bus and railway reduces the reliance on the private motor.
Bicycle Storage	The development provides high-quality, secure, and covered bicycle parking facilities, accommodating both short-term and long-term parking needs. The scheme complies with the standards outlined in the Sustainable Residential Development in Urban Areas and Compact Settlements Guidelines for Planning Authorities (January 2024) regarding bicycle parking for residents. All duplex and apartment units are served by external bike storage areas located in semi-private communal spaces, which will be managed and maintained by the management company. *Note: Provisions have been made for bicycle storage in the front and rear gardens of the houses, which will be managed by the residents.*	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle.
Connections, Pedestrian & Cyclist Permeability	A high degree of permeability throughout the site is achieved by creating pedestrian and bicycle connections, ensuring access for all users across the development. Pedestrian and cycle paths are prioritized to within the site through a series of interconnected pathways. The movement of pedestrians and cyclists is maximised by providing pathways aligned with natural desire lines. These pathways, along with shared-surface streets, facilitate easy movement between residential streets and destination areas throughout the development.	The provision of desire lines and amenity routes within the development site helps reduce reliance on private motor vehicles and encourages the use of public spaces, and enhances vibrancy and passive surveillance.
E-Car Facilities	Provision for the installation of a fully functional electric vehicle charging points will be provided in accordance with the requirements of the Fingal Development Plan 2023-2029 and Technical Guidance Document Part L . The balance of parking bays will have ducting installed to enable their future implementation as and when required.	To accommodate the growing demand for E-car vehicles which assist in de-carbonising society and reducing oil dependency.

APPENDIX A

Items Included in a Typical Building Investment Fund (BIF)

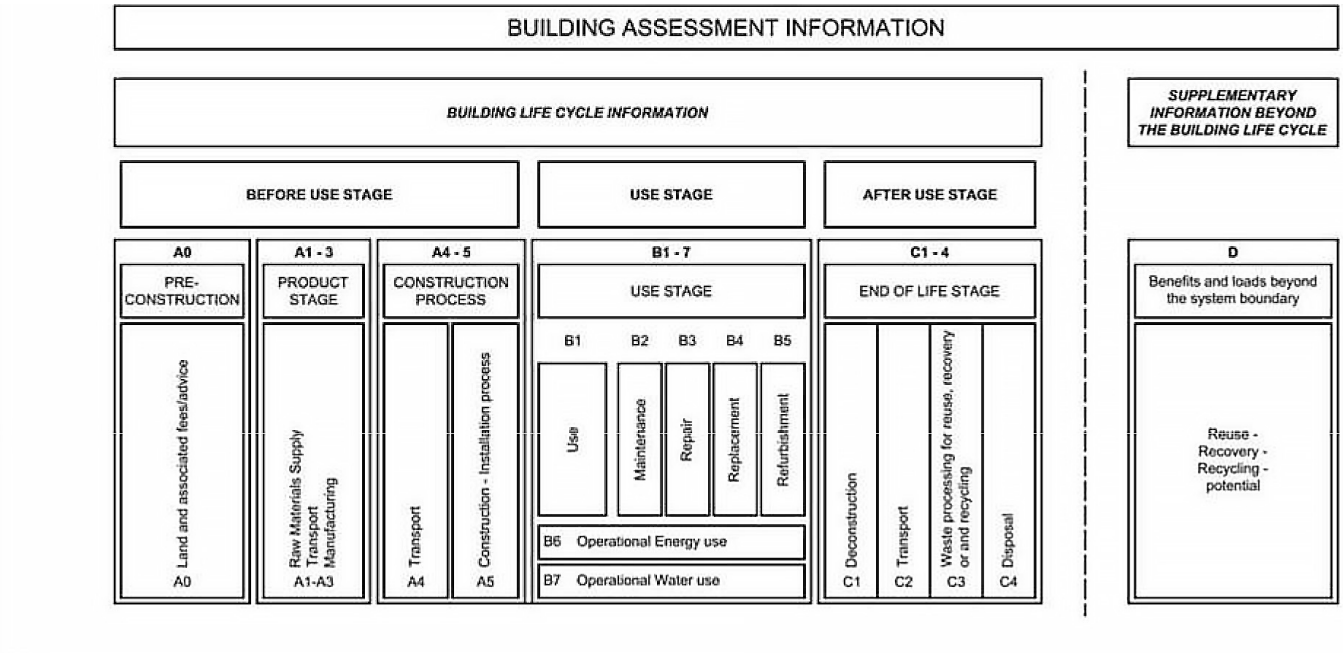
In accordance with the MUDs Act, the OMC(s) will allocate a certain portion of funds towards a sinking fund, to adequately resource long-term replacement of components. The Building Investment Fund table below illustrates what could be incorporated in the calculation of a Sinking Fund (amount TBC):

Ref.	Element	Life Expectancy	Amount
1.00	Roofs		
1.01	Replacement felt roof covering incl. insulation to main roofs	18	
1.02	Replace roof access hatches	18	
2.00	Elevations		
2.01	Minor repairs and preparation for decoration of rendered areas	18	
2.02	Replace rainwater goods	25	
2.03	Re-coat powder coated finishes to balconies and external stairs.	20	
3.00	M&E Services		
3.01	General internal re-lamping	7	
3.02	Replace internal light fittings	18	
3.03	Replace external light fittings (light at common areas, such as entrance lobbies, if applicable)	18	
3.04	Replace smoke detector heads	18	
3.05	Replace manual break glass units	18	
3.06	Replace fire alarm panel	18	
3.07	Replace Security access control installation	15	
3.08	Replace Sump pump replacement	15	
3.09	External mains water connection	20	
3.10	Electrical mains and sub mains distribution	20	
4.00	Landscaping		
4.01	15 year cutback & thinning of trees and general overhaul of the landscaping	15	
4.02	External handrails and balustrade	18	
4.03	Repaint parking space & numbering	5	
4.04	Replace bicycle stands	25	

Note: The specifications, maintenance requirements, and cost estimates for repair or replacement of each element can only be determined after the detailed design phase and the procurement/construction of the development. This document outlines the materials and systems typically used by Conroy Crowe Kelly Architects, along with their expected lifespans. All details are indicative and will be updated as the design progresses. A schedule of maintenance and replacement costs will be developed and updated throughout the design process, helping the property management company track repair expenses and ensuring that the development's operating costs remain within the agreed annual budget.

APPENDIX B

Phase of the life-cyle of BS7543: 2025



Key

1 Highest severity of consequence of failure
2 Anticipated severity of consequence of failure
3 Lowest severity of consequence of failure
4 Minimum service life
5 Most likely service life
6 Maximum service life