

Building Lifecycle Report

Proposed Residential Development

Lands at Tinakilly,
Rathnew,
Co. Wicklow

On behalf of
Keldrum Limited

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1 Introduction

1.1 Planning Policy Context

The Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (Updated 24 March 2023) provide unprecedented policy guidance on the operation and management of apartment developments with the stated aim of introducing certainty regarding their long-term management and maintenance structures. This certainty is to be provided via robust legal and financial arrangements supported by effective and appropriately resourced maintenance and operational regimes.

The Guidelines state that consideration of the long-term running costs and the eventual manner of compliance of the proposal with the Multi-Unit Developments Act, 2011 are matters which should be considered as part of any assessment of a proposed apartment development to achieve this policy objective. In addition, planning applications for apartment developments need to 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.

Section 6.13 of the Apartment Guidelines 2020 requires that apartment applications shall:

“include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.”

As 132 no. units of the proposed total of 352 no. units are apartments, duplexes and maisonettes this Building Lifecycle Report document sets out to address the stated requirements of Section 6.13 as above.

2 Subject Site

The application site is generally bounded to the north by an existing stream and agricultural lands, to the east by Tinakilly County House Hotel (which is a protected structure RPS No. 25-15) to the immediate west by agricultural lands and residential development and to the south by Tinakilly Avenue and a site currently under development as granted by Wicklow County Council Reg Ref. 17/219 (ABP Ref.310261-18) and amended by WCC Reg Refs. 20/1000, 21/411 and 22/837.

The subject site is on the northern periphery of Wicklow Town, with Wicklow town main street approximately 2 km to the south. This location is suited for a large residential development, outside of the town centre but proximate to services and facilities. Wicklow Town offers nearby amenities such as local schools, large supermarkets, schools a library and restaurants.

Aside from availing of the many amenities that Wicklow Town has to offer, the development site is located adjacent to Rathnew, a small village, approximately 350 metres to the west of the subject site and features a small main street, providing local shops that are located a short walk from the development site.

While the site is within comfortable walking distance of Wicklow town centre it also benefits from a variety of nearby transport links. The site is well served by a variety of frequent bus services offering connections to the IFSC and Gardiner Street in Dublin and Glendalough and Bray in Wicklow. The closest bus stop to the development is located adjacent to the sites southwest corner, approximately 175 metres from the proposed site entrance. The site is located approximately a 20-minute walk to Wicklow Rail Station to the south which offers a frequent commuter train service to Dublin and Waterford.

The site itself is currently greenfield lands. It is noted that there have been no previous applications for No previous applications have been proposed for residential development on this greenfield site. The subject proposal will represent a continuation of the development to the immediate south of the site as permitted under WCC Reg Ref. Reg Ref. 17/219 (ABP Ref.310261-18) as amended by WCC Reg Refs. 20/1000, 21/411 and 22/837. The subject proposal includes for the continuation of the distributor road through the central portion of the lands, connecting to the section of the road granted to the south of the site.

The site is located approximately 46km south of Dublin City Centre and 71 km from Dublin International Airport. The lands are proximate to the M11, which link Dublin with Wexford and Rosslare Harbour.



Figure 1 - Aerial Photo with site outlined in Red

3 Proposed Development

Keldrum Limited intend to apply to Wicklow County Council for a for a Large-Scale Residential Development at this site of c. 16.8ha. The application site is bounded to the north by an existing stream and agricultural lands, to the east by Tinakilly County House Hotel (which is a protected structure RPS No. 25-15) to the immediate west by agricultural lands and residential development and to the south by Tinakilly Avenue and a site currently under development as granted by Wicklow County Council Reg Ref. 17/219 (ABP Ref.310261-18) as amended by WCC Reg Refs. 20/1000, 21/411 and 22/837.



Figure 2 - Proposed Site Layout

The proposed development offers a wide range of unit types across the site, with the residential scheme comprising 352 no. new dwelling units (220 no. houses, 28 no. duplex/apartment units and 104 no. apartment units). The unit mix will cater for a wide demographic, with 2, 3, 4 and 5 bed houses, 2 and 3 bed duplex/apartment units and 1 bed maisonette/apartment units provided throughout the site. The general unit mix is provided below:

Houses:

- 31 no. 2 bedroom houses
- 114 no. 3 bedroom houses
- 72 no. 4 bedroom houses
- 3 no. 5 bedroom houses

Apartments:

- 56no. 1 bed apartment units
- 48 no. 2 bed apartment units
- 14 no. 2 bed apartment (duplex ground floor)
- 14 no. 3 bed apartment (duplex upper floors)

4 Assessment of Long Term Running and Maintenance Costs

The applicant, Keldrum Limited 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 residential unit basis. This exercise was informed by previous residential projects together with a consideration of the changes in standards arising from the new apartment guidelines.

It is worth noting that this proposal is a standard residential scheme with a Part V Social Housing element. With the overall scheme being most likely being run by a property management company, it is intended that property and management costs will be absorbed into the rental value of each of the properties and an annual maintenance/management fee will not directly apply.

Notwithstanding the above circumstances, whereby it is most likely that a single commercial entity will own and operate the development, we have set out a number of measures below to reduce overall costs for the ongoing maintenance of the development.

4.1 Property Management Company and Owners Management Company

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 maintenance and running costs of the development's common areas are kept within agreed budgets. The Property Management Company will enter a contract directly with the Owner's Management Company for the ongoing management of the completed development (it is intended that this contract will be for a maximum period of c.3 years and in the form prescribed by the PSRA).

The Property Management Company will also have the following responsibilities for the apartment development once completed:

- Timely formation of an Owners Management Company, all residents who independently own their units will be obliged to join, potentially the Part V Social Housing units will be owned separately;
- Preparation of annual service charge budget for any common areas;
- Apportioning of the Annual operational charges in line with the Multi Unit Development (MUD) Act (equitable division);
- Engagement of independent legal representation on behalf of the OMC in keeping with the MUD Act;
- Estate Management / Third Party Contractors Procurement;
- OMC Reporting / Accounting Services /Corporate Services /Insurance Management;
- After Hours Services and Staff Administration.

4.2 Budget

The Property Management Company will have a number of key responsibilities most notably, the compiling of the service charge budget for the development for agreement with the Owners Management Company.

In accordance with the Multi Unit Developments Act 2011 ("MUD" Act), the service charge budget typically covers items such as cleaning, landscaping, refuse management, utility bills, insurance,

maintenance of mechanical/electrical lifts/ life safety systems, security, property management fee, within the development common areas.

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 Owners Management Company, 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 30 year life cycle period, as required by the Multi Unit Development Act 2011. In line with the requirements of the MUD Act, the members of the OMC will determine and agree each year at a General Meeting of the members, the contribution to be made to the Sinking Fund, having regard to the BIF report produced.

Notwithstanding the above, it should be noted that the detail associated with each element heading in the BIF report, can only be determined after detailed design and the procurement and construction of the development.

5 Cost Management and Reduction Measures

5.1 Building Treatments, Materials and Finishes

The practical implementation of the Design and Material principles has informed the design of building facades, internal layouts and detailing of the proposed apartment buildings. It is noted that the large increase in building costs that has been independently assessed by the Society of Chartered Surveyors, has been due to improvements required in building standards. Therefore, the apartment guidelines' cognisance of long term maintenance and running costs for future residents is very welcome – i.e. materials that require less maintenance and are easier to repair are not always considered acceptable to planning authorities – e.g. the use of PVC windows versus hard wood windows.

The applicant has reviewed the building materials proposed for use on the block elevations and in the public realm and based on our experience of comparative schemes, the proposed materials 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 the hardscape in the public realm that is proposed will contribute to lower maintenance costs for future residents and occupiers.

It is envisaged that there will also be a sinking fund allowance to account for any major works that may be required into the future. The level of this sinking fund will be guided by the 10 year PPM strategy.

5.2 Buildings

The proposed 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 scheme and specific measures taken include:

Proposed Measure	Benefit to Residents
Direct sunlight to public open space	Avoids artificial lighting requirements
Natural ventilation to circulation areas	Avoids need for mechanical ventilation systems and associated maintenance costs
External paved and landscaped areas	Low Maintenance Costs

Table 1: Proposed Measures and benefits to residents

5.3 Construction Methodology

The structural scheme for the proposed buildings consists of concrete frame construction with masonry outer leaf, finished in brick. Cantilevered or frame supported balcony systems with PPV coated metalwork for longevity. A flat roof system and associated sedum/ green roof are proposed on a tapered insulation designed to falls on the concrete slab.

5.4 Material Specification

Consideration is given to the requirements of Building Regulations in relation to durability and design life. The common parts of the building blocks are designed to incorporate the guidance best practice principles to ensure that the long-term durability and maintenance of materials is an integral part of the design and specifications of the proposed development.

The use of brickwork is proposed on the external of the buildings. These will require no on-going maintenance or associated costs. A sample of the type of brickwork is shown below.

Character Areas 1, 2 & 3 (East Site) : Grey Brick



Character Areas 4, 5 & 6 (West Site): Buff Brick



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Figure 3: Sample Materials in Proposed Scheme

The use of factory finished windows and doors and PPC Metalwork balconies will also reduce ongoing maintenance costs.

The performance levels specified for items (b) to (i) below are backstop minimum performance levels to ensure reasonable levels of performance for all factors affecting energy use, irrespective of the measures incorporated to achieve compliance with Regulation L3(a).

Meeting the performance levels specified for items (b) to (i) will not necessarily mean that the level specified for primary energy consumption and related CO₂ emissions [item (a)] will be met. One or more of the performance levels specified, for items (b) to (i), will need to be exceeded to achieve this.

- (b) Use of renewable energy sources: providing that the contribution of low or zero carbon energy sources to the calculated primary energy requirement meets the target for such contribution.
- (c) Fabric insulation: providing for fabric insulation, including the limitation of thermal bridging, which satisfies the guidance in this regard.
- (d) Air tightness: limiting air infiltration.
- (e) Boiler efficiency: providing an efficient boiler or other heat source.
- (f) Building Services Controls: controlling, as appropriate, the demand for, and output of, space heating and hot water services provided.
- (g) Insulation of pipes, ducts and vessels: limiting the heat loss from pipes, ducts and vessels used for the transport or storage of heated water or air.
- (h) Mechanical Ventilation Systems: providing that, where a mechanical ventilation system is installed, the system meets reasonable performance levels.
- (i) Performance of completed dwelling: ensure design and construction process are such that the completed building satisfies compliance targets and design intent.

5.5 Landscaping

Overall the site layout and design are put together to provide generous and high quality mature landscaping, with hard and soft landscaping proposed at ground floor level to provide for pedestrian

priority at this level. The natural attenuation provided by the proposed landscaping is the preferable maintenance arrangement for the development.

Use of robust high quality paving materials is intended to provide materials that reduce the need for ongoing maintenance costs. Other materials such as for play, seating, fencing etc are sustainable and robust material types that are designed to reduce the frequency and need for maintenance. A sample of the type of hard landscape details proposed are shown below.

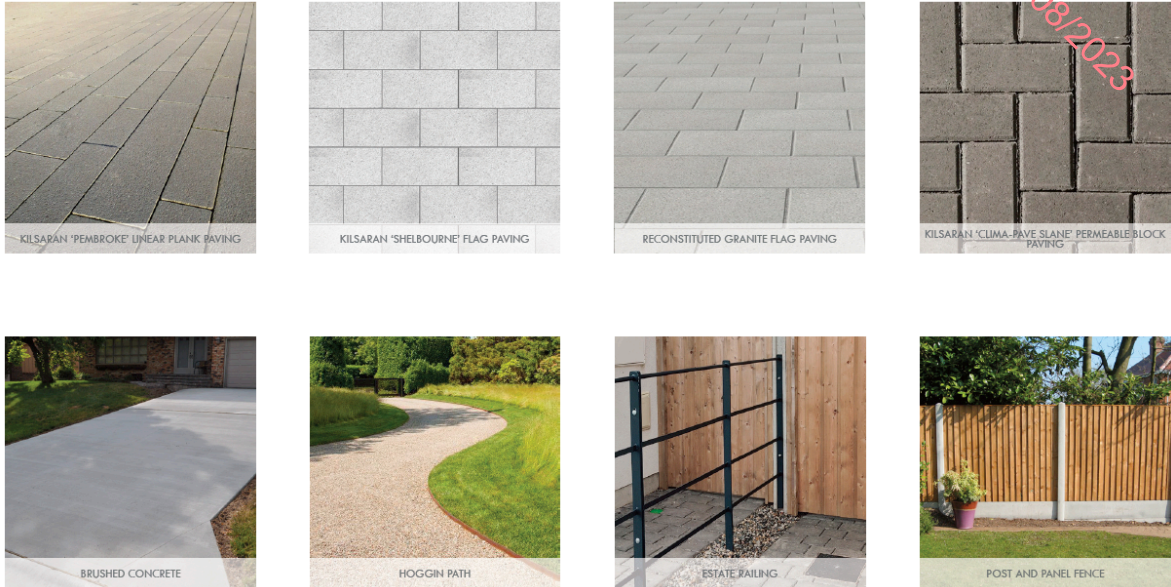


Figure 4: Sample of Landscaping Finishes Proposed

Please refer to the submitted landscape plan by Murphy & Sheanon Landscape Architects for full details in relation to the proposed landscape treatments at the subject site.

5.6 Waste Management

A number of private waste management contractors operate in the area and currently provide a comprehensive waste recycling and disposal service including a multi bin collection system including the collection of recyclable and non-recyclable waste. The typical Building Standards treatment of waste hierarchy will be adopted in the proposed scheme.

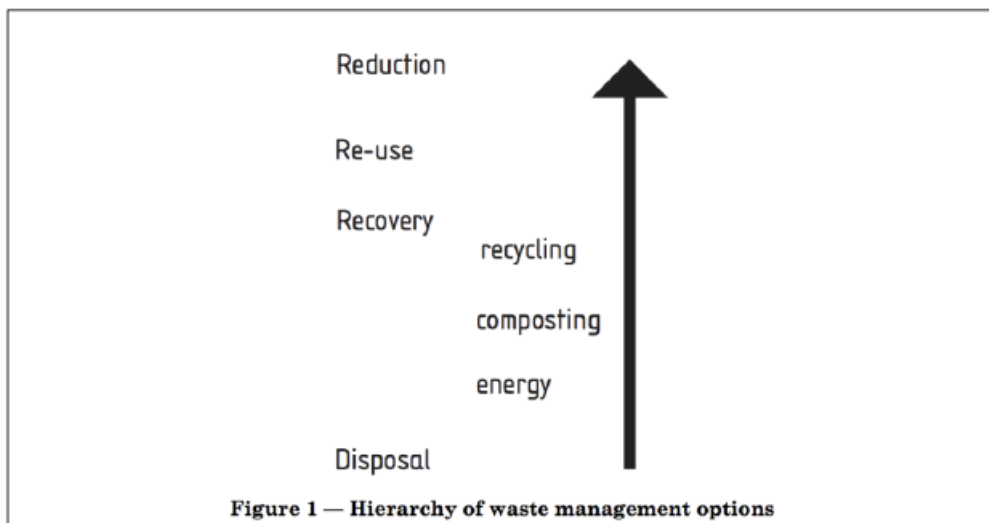


Figure 1 – Hierarchy of waste management options

Figure 5: BS5906 – Hierarchy of Waste Management Options

An appropriate number of waste receptacles will be provided in the proposed scheme based on the average expected weekly waste produced. Details of waste management quantities will be determined based on the final permitted scheme.

Storage of non-recyclable waste and recyclable household waste will form part of a domestic waste management strategy. This will include a distinction between grey, brown and green bins and a competitive tender for waste management collection that will help to reduce potential waste management charges. A detailed waste management plan will be agreed between the final operator of this build to let scheme and the Local authority. This can be done by way of planning condition as part of any grant of permission.

5.7 Human Health and Wellbeing

The following details provide an illustration of how the consideration of the health and well-being of future residents will lead to a reduction in costs to residents.

- The design, separation distances and layout of the apartment blocks are designed to optimize the ingress of natural daylight and sunlight to the proposed units reducing the reliance on artificial lighting and associated costs;
- The scheme is designed to incorporate passive surveillance to reduce potential security management costs;
- All units will comply with the accessibility requirements as included in the building regulations, which will reduce the costs associated with later adaptation, potentially necessitated by future residents’ circumstances;
- Good quality amenity space provided to promote health and wellbeing and provide opportunities to reduce health costs and travel to work through the provision of remote working facilities.

5.8 Residential Management

The management of the property will ultimately be the responsibility of the final owners and operators of this residential scheme. Consideration has been given to ensuring homeowners have a clear understanding of the property, which they will own, and the following will be provided at a minimum to ensure homeowners have a clear understanding of their property. Homeowner packs will be provided to new residents, which will include a homeowner’s manual to provide information to purchasers in relation to their new property. This pack will typically include details of the property such as information in relation to connection with utilities and communication providers, contact details for all relevant suppliers and instructions for the use of any appliances and devices in the property.

A resident’s pack prepared by the operational management company will also be provided and will include information on contact details for the managing agent, emergency contact details, transport links and a clear set of rules and regulations for tenants of the property. 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.

We refer to Table 2 below which outlines a typical building investment fund estimation for the apartments:

Ref Element Life Expectancy (Years)	Ref Element Life Expectancy (Years)	Ref Element Life Expectancy (Years)
Roof Replace roof/parapet details 20-25	Replace roof/parapet details	20-25
Elevations	Replace doors, finishes and floors to balconies, rainwater goods	20-25

	Repair rendered areas	15-25
Stair Cores and Lobbies	Replace floors and doors	20-25
	Decorate ceilings, walls, joinery, carpets	10
M&E Services	Replace light fittings, fire/smoke fittings, security access controls	15-20
Exterior	Replace tarmacadam, external boundary treatments	50
	Replace paved areas, handrails/balustrades	15-20
	Repaint car parking spaces, landscape maintenance including tree cutback	10-15

Table 2 – Proposed Measures and Benefits to Residents

6 Energy, Sustainability and Carbon Emissions

The following section provides an outline of the energy measures that are planned for the proposed units to assist in reducing costs for the occupants.

The following sections has been extracted from the Utilities & Energy Sustainability Report prepared by P MEP Consulting submitted to Wicklow County Council as part of this application pack, for the convenience of the Planning Authority.

6.1 Design

The options set out below are all viable and it is viewed that there is sufficient flexibility in the planning assessment to allow for one or more of these options to be implemented.

It is noted that the sustainable options being investigated assist in achieving reduced overall energy consumption and usage within the retail and residential components.

The development will meet the requirements for Conservation of Fuel and Energy in Dwellings (Part L Building Regulations 2011), and as such will meet the requirements for compliance with Nearly Zero Energy Building Standards.

Air Source Heat Pumps

In line with new regulations in Part L which came into effect in March 2019 and the Energy Performance in Buildings Directive (EPBD), all residential new buildings substantially completed by 31 December 2020 will have a requirement to be “Nearly Zero Energy Buildings”(NZEB).

The NZEB standard represents a 70% reduction in energy demand compared to the regulations from 2005 and as a result alternative sources of energy for dwellings are a requirement. In accordance with the EPB Directive the use of heat pumps for this development has been assessed.

Energy efficient heat pumps are being proposed to provide the heating and hot water requirement for each dwelling in the development, with Air Source Heat Pumps and Exhaust Air Heat Pumps being considered as the most suitable option.

Air Source Heat Pumps will be utilised to provide space heating and hot water within the dwellings. An External Unit will be located at the rear gardens and connected to a cylinder located within the dwelling to provide low grade heat to all internal occupied areas.

For all apartments, Exhaust Air Heat Pumps are proposed and being considered for heating and hot water requirements.

Photovoltaics

The use of photovoltaics (PV) as a means of providing a renewable source of energy for the homes, apartment blocks are being considered. With the design allowances of electric radiators, air-source and exhaust air heat pumps and subject to a BER assessment, the requirements for PV most probably will not be required to achieve Part L compliance for the apartments and dwellings but may be required for the landlord areas of the apartment blocks. Allowances will be made, within the dwellings for future installations of photovoltaic systems.

Lighting

The applicant and design team are considering the most appropriate choice of LED street lighting in addition to lighting controls to successfully deliver the site lighting requirements. The following light types are currently being investigated and proposed:

- **LED Fittings:** LEDs have extremely good colour rendering capability, long lifespans, and excellent energy performance. Where possible throughout the site, the use of LEDs shall take preference over other light sources as a means of providing controllable, suitable and energy efficient lighting.

The following lighting control methods will be applied, such as:

- **Time Control System:** These controls can be set up to switch on and off the lighting based on the expected occupancy levels within areas and have an override available using a light switch.
- **Daylight Linked Controls:** This type of control is based on photocell control, which detects the amount of light available. They can be used in corridors, reception areas and other open area to turn lights on and off as required.
- **Dimming Link Controls:** Similarly, to Daylight Linked Controls and using photocell control, the photocell is connected to the luminaires to maintain a pre-set lux level at the working plane areas throughout the day.

Smart Metering

Smart Metering will be considered for all residential consumer points of supply, with the function of interfacing and communicating to future PV embedded generation.

EV Charging Points

All residential houses will be future ready for Electric Vehicle charging points of supply in terms of consumer distribution board and containment allowances.

All of the above details will be confirmed prior to the commencement of development and are considered to be low energy technologies to ensure compliance with relevant BER ratings.

6.2 Transport and Accessibility

The subject site is on the northern periphery of Wicklow Town, with Wicklow town main street approximately 2 km to the south. This location is suited for a large residential development, outside of the town centre but proximate to services and facilities. Wicklow Town offers nearby amenities such as local schools, large supermarkets, schools a library and restaurants.

Aside from availing of the many amenities that Wicklow Town has to offer, the development site is located adjacent to Rathnew, a small village, approximately 500 metres to the north west of the subject site and features a small main street, providing local shops that are located a short walk from the development site.

While the site is within comfortable walking distance of Wicklow town centre, it also benefits from a variety of nearby transport links. The site is well served by a variety of frequent bus services offering connections to the IFSC and Gardiner Street in Dublin and Glendalough and Bray in Wicklow. The closest bus stop to the development is located adjacent to the sites northwest corner, approximately 400 metres from the proposed site entrance. The site is located approximately a 20-minute walk to Wicklow Rail Station to the south which offers a frequent commuter train service to Dublin and Waterford.

7 Conclusion

We ask that the Planning Authority to consider the above points in relation to the building lifecycle.

The building is to be constructed with durable and sustainable building materials that will enhance the resilience of the proposed development and reduce maintenance costs for residents over time. We refer the Planning Authority to the enclosed Sustainability Report prepared by PMEP for full details on the energy and sustainability specifications of the subject proposal that will be adopted to minimise ongoing costs for residents of the proposed development.

Having considered all of the above, we trust that the Planning Authority will take a positive view in relation to this lifecycle report in the context of section 6.13 of the 'Design Standards for New Apartments' and look forward to the decision of the Board in relation to this and associated reports submitted as part of this planning application.