

BUILDING LIFE CYCLE REPORT

# Residential Development at Flemington Lane, Balbriggan, Co.Dublin

Prepared by:  
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On behalf of: Client

Kinvara Properties Limited



Date of Report August 2022

Ref.: 17305-P1-X-X-XXX-RP-RAU-AR-7010

# **1.0 INTRODUCTION AND OVERVIEW**

## **1.1 Planning Policy Context**

The Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities were published in March 2018. These Guidelines introduced a requirement to include details on the management and maintenance of apartment schemes. This is set out in Section 6.11 to 6.14 – “Operation & Management of Apartment Developments”, specifically Section 6.13. This Building Lifecycle Report sets out to address the requirements of Section 6.13 of the Apartment Guidelines 2018.

Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall: “include a Building Lifecycle Report, which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application.”

“demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.”

## **1.2 Site Location**

The proposed site is located on the outskirts of Balbriggan which is situated approximately 30 km north of Dublin City Centre and 1 km east of the M1 Motorway. The strategic location of the town in terms of the Dublin to Belfast train line and proximity to the M1, allows convenient access to Dublin City and Swords to the south and Drogheda and Dundalk to the north. It is also noted that the Government has recently announced an extension of the DART line to Balbriggan by 2022.

The town of Balbriggan is designated as a large growth town in the Fingal Development Plan 2017-2023 and has an excellent range of local, commercial and sporting amenities. Housing growth in Balbriggan over the last 10 years has been directed to the west and northwest of the town. The town is on the important Dublin to Belfast corridor with excellent transport links including a regular train service to Dublin City Centre via the Dublin to Belfast Line. The surrounding area is characterised by the established residential estates on the northern fringe of Balbriggan.

## **1.3 Existing Site Condition**

The subject property is located at the junction of Flemington Lane and Flemington Road approximately 4km North West of Balbriggan Town Centre.

The subject property comprises an irregular shaped site extending to approximately 7.09 hectares (17.53 acres) with extensive dual road frontage to both Flemington Lane and Flemington Road. The southern portion of the lands are elevated and slope gently down towards Flemington Lane. There are coastal views from the elevated portion of the site. There is a dilapidated bungalow which extends to approx. 1,600 sq.ft situated in the corner of the north western site. A large portion of the bungalow located in the north western corner forms part of the subject site.

## 1.4 Proposed Development

### Proposed Project

This project proposed to accommodate 127no. residential units consisting of the following:

- 14 no. two-bedroom two-storey houses;
- 47 no. three bedroom two-storey houses;
- 4 no. four-bedroom two storey houses;
- 31 no. two bedroom single storey own-door duplex units over
- 31 no. three bedroom two storey own-door duplex units
- Total Units = 127 no.
- Units per Hectare = 37.4

The design and scale of the development has been fully cognisant of the context. A nett density of 39 dwellings per hectare has balanced the requirements of sustainable development, taking account of the receiving environment, and the sustainability of both the new residential neighbourhood and developments in Balbriggan There is a strong design emphasis on street engagement and passive surveillance of the quality open spaces, topography and views. Materials selected are appropriately traditional in aesthetic; brick, smooth sand-cement render and slate coloured roof tiles.

Perimeter Blocks create a complete and coherent neighbourhood. The design of the Blocks are formed to make coherent streetscapes, engage with the hillside and landscaping and creates views to the surrounding landscape and to the sea beyond. The streetscape provides a clarity of organisation, softening the streets as they move down the hill. By ensuring perimeter blocks are surrounded on all sides maximum passive surveillance shall be maintained of all streets and open spaces. Given the development will be seen from the public space on the hill top the roofscape will be really important so interesting roof profiles are provided as interesting townscape.

## 1.5 Development Description

Kinvara Properties Limited intend to apply for permission for a strategic housing development with a total planning application site area of c. 44,365m<sup>2</sup> (4.4Ha) with a developable Area of 34,135m<sup>2</sup> (3.4Ha) with a substantive residential site development area of c.7.2 ha. The subject property is located off Flemington Lane, approximately 150m East of the junction with Flemington Road and approximately 4km North-west of Balbriggan Town Centre. The proposed development consists of the removal of an existing derelict structure of 134sqm and the construction of 127 no. residential units (14 no. 2-bed dwelling units of 93sqm, 47 no. 3-bed dwelling units of 109sqm, 4 no. 4-bed dwelling units of 145sqm and 31 no. 2-bed ground floor duplex units with 31 no. 3-bed duplex units over, of 204sqm), surface car parking (211 no. spaces in total, including accessible spaces); car sharing provision; electric vehicle charging points; bicycle parking (62 no. long and short stay spaces for duplex); internal roads and pathways; hard and soft landscaping and boundary treatments; temporary pumping station; plant; revised entrances and tie-in arrangements to Flemington Lane including new cycle lane and footpath; solar panels; attenuation tank and related SUDS measures; signage; public lighting; and all site development and excavation works above and below ground. The development

also includes a two storey creche of 550sqm with dedicated car parking and secure open play space, public open space of 4130m<sup>2</sup> and communal open space of 681sqm, provision of public open space in Zoned OS "Open Space" of 10,230sqm including children's play area and public artwork, provision of a new access roadway from Flemington Lane and all associated site works, landscaping and boundary treatments to facilitate the development. The total gross area of the development is 13,869sqm with a unit density of 37.4 units per hectare.

## 2 Assessment of Long Term Running & Maintenance Costs

### 2.1 Owners Management Company and Property Management Company

The Owners Management Company will engage a suitably qualified Property Management Company at an early stage of the development to ensure that all property management functions are dealt with for the development and that the maintenance and running costs of the development's common areas are kept within agreed budgets. The Property Management Company will enter into a contract directly within the Owners Management Company (OMC) for the ongoing management of the completed development.

The Property Management Company will use best practice policies and procedures to oversee the management of the entire development. It is envisaged that the proposed development will be managed under a structure between Kinvara and a specialist management team appointed by Kinvara.

The operation of a highly visible management regime is one of the key objectives of the development and is in line with good estate management practices. The Estate Director will be responsible for the overall management of the development and their key responsibilities will be; team management, health and safety, risk management, mobility management, implementation of estate policies and procedures, tenant management, security, cleaning and maintenance.

### 2.2 Property Management of Common Areas

The proposed development has been designed and configured to provide the occupants, residents and neighbours with generous communal facilities and social spaces within the development.

The following is proposed:

The scheme will also deliver over 10,000sqm of open space in OS zoned land (Class 2) and also over 3,197 sqm of open space (over 10% open space)

Planning Site Area	= 44,365m <sup>2</sup> (4.4Ha) includes zoned "Open Space"
Developable Area	= 34,135m <sup>2</sup> (3.4Ha) includes creche
Number of Units	= 127
Units/Hectare	= 37.4
Open Space required	= 3,414m <sup>2</sup> (10%) within "Res" zoned lands
Open Space provided	= 4,130m <sup>2</sup>
Communal Open Space (Dulex units)	= 62 duplex @ 7m <sup>2</sup> /2 bed + 9m <sup>2</sup> /2 3 bed = (31 x 7) + (31 x 9) = 496m <sup>2</sup> required
	= 681m <sup>2</sup> provided
Zoned "Open Space"	= 10,230m <sup>2</sup>

Public Park

Landscaped communal open spaces

Secure Bin and bike stores for the duplex accommodation

Shared car parking areas

Other ancillary Spaces

The creche shall have its own management of the open space and curtilage managed by the Creche provider.

It is proposed to take all roads in charge

### **2.3 Placemaking**

A key component of the Property Management companies' remit will be fostering, encouraging and ensuring a sense of place is developed and maintained within the development and its surrounds. Place making is essentially creating a community through events, classes, food markets and a high level of engagement with residents and the surrounding community that encourages them to interact with each other and make use of the surrounding environment.

### **2.4 Maintenance Management**

It is proposed that the maintenance of the development will be managed by a suitably qualified Maintenance Manager who will ensure that all maintenance works is undertaken in accordance with servicing requirements. It will be the responsibility of the Property Management company to ensure all maintenance works are undertaken when required and to the required standard. This is for the areas not taken in charge by the Local Authority

### **2.5 Management of Car and Bicycle Parking**

Car parking will be provided either on curtilage (managed by house owners) or in shared court parking areas for the duplex units.

It is proposed to accommodate the majority of new car parking in as curtilage parking in front of the houses. Further parking will be provided along the road and green space as well as guest parking and in line with the requirements of the Fingal Development Plan.

The design ensures parked cars are overlooked by houses, pedestrians and traffic, or stored securely, with a choice of parking appropriate to the situation.

Cycle spaces will be provided adjacent to the duplex housing and adjacent to the open space. Cycle parking shall be for the house provided either to the rear or in dedicated storage containers in front gardens. Equally bins shall be treated in private enclosures along the street or to the rear where side passages are available.

The shared carparking will be managed by the maintenance manager who is responsible for mobility management. The Manager will regulate the allocation of parking spaces either through an agreed allocation or through the Management Company and will ensure any on-site illegal or inconsiderate parking is appropriately dealt with.

For further information please refer to the Traffic and Transport Plan. The car-park is intended for resident parking only with a minimum number of visitor parking located to the front.

## **2.6 Bicycle Parking**

Bicycle parking will be provided on the basis of

Terraced & Semi-D Housing: Cycle parking provided within the house or in the rear yard

Ground floor Duplex: Cycle parking (2 per unit) provided within the rear yard, under stairs (1 per bed)

1st/2nd floor Duplex: Cycle parking (3 per unit) provided within shared covered bike stores (1 per bed)

Visitor/public: Cycle parking provided by un-covered "Sheffield" bike stands located in & around Green Spaces Two dedicated secure cycle parking rooms are located at ground level with secure access through the podium carpark. Visitor bicycle facilities are provided at various locations on site at grade.

## **2.7 Service Charge 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 OMC. In accordance with the MUD Act 2011, the service charge budget typically covers items such as cleaning, landscaping, external lighting, CHP management, 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 the OMC.

The BIF report once adopted by the OMC, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year cycle period, as required by the Multi-Unit Developments (MUD) Act, 2011. In line with the requirements of the MUD Act 2011, 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.

## **3 Measures to Manage & Reduce Costs**

### **3.1 Treatments, Materials & Finishes**

The materials proposed for the external façades will be easy to maintain and have excellent life-cycle qualities. The choice of external materials has been driven by our Client's requirement for a fully sustainable, green and robust design solution. The high-quality façade materials are designed to look as good over their design life with brick, high quality render finishes and high quality glazing all designed to ensure minimal staining.

A choice of contextual materials such as brick of various colours and textures to identify different blocks and self coloured render will provide different treatments giving modulation to facades.

### **3.2 Buildings**

The proposed duplex 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 housing and public areas

The scheme provides for a total of This project proposed to accommodate 127no. residential units consisting of the following:

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### **3.3 Construction Methodology**

The primary structure will be either timber frame or concrete block. The construction methodology proposed includes high quality detailing and materials will maximise efficiency and indoor environment quality. The structural scheme provides support for masonry outer leaf, finished in brick or rendered blockwork. Polyester powder coated aluminium framed composite windows and doors and glass balustrades to balconies are the secondary building elements that will help reduce construction and maintenance costs.

### **3.4 Material Specification**

Consideration is given to the requirements of Building Regulations in relation to durability and design life. The development is 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.

High quality brickwork and render finish is proposed on the external facade. These will require minimal ongoing maintenance or associated costs. The use of highly specified, robust factory finished windows and doors will also reduce ongoing maintenance costs. A preliminary specification has been drafted so as to ensure quality from the outset.

### **3.5 Performance**

We have reviewed the designs with our energy consultants and come up with design solutions that will enhance the performance of the dwellings and will be easy to maintain. The design solution will exceed the performance requirements of Part L of the Building Regulations by being A2 rated and NZEB compliant. Design solutions will be fully sustainable by optimising efficient lighting, heating, cooling and ventilation technologies. We are exploring high performance windows to given enhanced 'u' values for the facades that deliver 'u' values well in excess of Part L standards and insulated pre-fabricated foundations that ensure minimal thermal conductivity at the perimeter.

### **3.6 Whole Life Design**

The principle is the creation of homes that are universally accessible and adaptable over time and meet the changing needs throughout the lifetime of a family, or to meet the varying needs of changing residents. We have considered how the residences can be adapted for their life time that are universally accessible and adaptable over time. We have placed a premium on rationalising levels to ensure where possible level access is provided. Internal duplex apartments are rationalised to improve accessibility. Bathrooms are optimised so that they can be adapted in the future.



### **3.7 Durability**

Durability often goes hand-in-hand with low maintenance. The demands for innovative building techniques and the inclusion of materials and components with lower life-cycle costs test the knowledge and skills of building designers. Robustness of the design and construction is paramount to ensuring materials selected will be lasting and look well throughout their life. Brickwork and rendered blockwork will be robust and good detailing shall ensure minimal staining on facades. Hard-wearing internal lobby and stairwell features including porcelain tiles, vinyl slip-resistant floor finish and tile wall finishes in varying colours will ensure the buildings remain robust.

### **3.8 Landscaping**

The landscaped space between and around buildings and the site edges provides public amenity and biodiversity. It is also an integral part of the architectural design of the site. Design extends to both soft and hard landscape and supports an accessible, safe and high-quality approach to building approach and site permeability. Play grounds will also be provided and a range of play and sitting spaces for all ages.

### **3.9 Waste Management**

An Operational Waste Management Plan (OWMP) has been prepared by our Environmental Consultant for this development which details the estimated quantity of waste arising and the strategy for the management of waste during the operation of the development. This document will be implemented and further developed as the development is operated.

The OWMP aims to ensure waste management prescriptions that adhere to a waste management hierarchy are implemented at this site thus ensuring re-use, recycling and recovery of waste opportunities are maximised and that disposal of waste to landfill will be considered as the last resort. The OWMP sets out the proposal for waste collection at the site to ensure that waste collections are completed in the required intervals so as to prevent any potential impact on the surrounding environment.

### **3.10 levels of privacy and security**

The houses and duplex apartments have been designed with the health and wellbeing of the user in mind. Duplex units have been designed to comply with current apartment design guidelines with floor areas in excess of minimum area criteria. Houses meet the standards of the Design Standards for Sustainable Communities guidance. Access to daylight, sunlight and view over landscaped spaces has driven the unit planning. The scheme has been designed to incorporate passive surveillance of communal areas for security and to promote positive use of external space for all. Another factor in the health and wellbeing proposal of the scheme. These landscaped spaces will provide spaces for residents to gather, to relax, to work, to exercise which will foster a sense of community.

### **3.11 Residential Management**

The Property Management Company will have the following responsibilities once the development is completed:

Timely formation of an Owners Management Company. All future purchasers will be typically obliged to become members;

Preparation of annual service charge budget for the development's 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 – including completion of Developer OMC Agreement and transfer of the common areas; Estate Management / Third Party Contractors Procurement and Management; OMC Reporting / Accounting Services /Corporate Services /Insurance Management; After Hours Services and Staff Administration.

The management of the property will be ultimately be the responsibility of the final owners. 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.

## **4 Energy & Carbon Emissions**

### **4.1 Nearly Zero Energy Building Standard (NZEB)**

The development will be designed and constructed so as to ensure that the energy performance of the building is such as to limit the amount of energy required for the operation of the building and the amount of CO<sub>2</sub> emissions associated with this energy use insofar as is reasonably practicable. The key issues have been outlined within this section and the proposed design solutions to demonstrate compliance with regulations.

### **4.2 Thermal Insulation**

The proposed thermal insulation standards shall be in line with current Part L 2017 (nZEB) regulations, the development shall meet the minimum requirements set by the building regulations.

The U Values shall be designed in the context of the balance of heat loss and heat gain, overheating, Building Regulations, Building Energy Rating and comfort conditions. These shall be improved upon where possible limiting the heat loss and, where appropriate, maximizing the heat gains through the fabric of the buildings.

### **4.3 Passive energy measures**

The design shall endeavour to employ passive energy measures to minimise energy consumption. Passive design strategies will use ambient energy sources instead of purchased energies - electricity and natural gas - these shall include where applicable daylighting, natural ventilation, solar energy and heat pump technology. Renewable energy will be provided in compliance with Part L 2017 (nZEB) i.e. the nearly zero or very low amount of energy required shall be covered to a significant extent by energy from renewable sources, including energy from renewable sources produced onsite or nearby. With regard to the most suitable renewable building technologies, this site shall employ a combination of air source heat pump technology and photovoltaics.

#### **4.4 Energy 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.

Design Two no. design options for heating of the subject proposal are put forward to comply with building regulations in relation to conservation of fuel and energy and to reduce costs for residents. The two options put forward are:

A. Air to Water Heat Pump

B. Gas Condensing Boiler The preferred option will be decided at detailed design stage. Internal Space Heating

The proposed duplex units will be heated with an air- to- water heat pump. Individual temperature control measures will aid with residents reducing costs associated with running the duplex apartment. Ventilation The ventilation for the duplex shall be provided by Natural Ventilation or Demand Control Ventilation system

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

#### **5 Conclusion**

5.1 In summary, this Building Lifecycle Report addresses the requirements of Section 6.13 of the Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities. Section 6.13 of the Apartment Guidelines 2018 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.”

This applies to the Duplex apartment units

5.2 This Building Lifecycle Report provides an assessment of the long term running & maintenance costs, the measures to manage and reduce costs and the energy strategy for the proposed development. The report outlines how the development will be designed and constructed so as to ensure that the energy performance of the development is such as to limit the amount of energy required for its overall operation.

Therefore, it is submitted that this Building Lifecycle Report outlines how the proposed development accords fully with the proper planning and sustainable development of the area, the Sustainable Urban Housing: Design Standards for New Apartments while providing an attractive, high quality, contemporary development which enhances the development in Balbriggan.