

Building Lifecycle Report

Lands at Broomhill Road,
Tallaght, Dublin 24,
D24 XA52 and Unit 51 Broomhill Road,
Tallaght, Dublin 24, D24E124

On behalf of
Garyaron Homes

May 2022



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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 December 2020) 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 now be considered as part of any assessment of a proposed apartment development to achieve this policy objective, planning applications for apartment developments now 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.”

This Building Lifecycle Report document sets out to address the stated requirements of Section 6.13 as above.



2 Subject Site

The subject site is located at on lands at Broomhill Road, Tallaght, Dublin 24, D24 XA52 and Unit 51, Broomhill Road, Tallaght, Dublin 24, D24E124 and is identified in Figure 1 below for the purposes of this report.



Figure 1 - Aerial Photo with site outlined in Red

The site comprises an industrial / warehouse facility, located on Broomhill Road, Dublin 24. The site comprises a stated area of 1.4ha. It is bounded to the north by Broomhill Terrace. Zoetis Pharmaceutical Group bounds the site to the south, while homeware and cycling based retail units lie to the west of the site. An industrial estate also bounds the site to the east.

Broomhill Road connects to Greenhills Road to the north and Airton Road to the south. TU Dublin - Tallaght campus is located 350m to the south of the site. The Square Shopping Centre lies approx. 850m to the south-west of the site. There are frequent bus services along Greenhills Road and Belgard Road. The LUAS Red Line and Belgard LUAS stop are located approx. 920m north-west of the subject site.

The site is currently occupied by two warehouse / distribution facilities, which are occupied by Traffic Management Installations. The warehouse structure on the site is a single storey building located on the southern end of the site. There is surface car parking to the front / north-west of the site which remains largely undeveloped.



3 Proposed Development

Garyaron Homes intend to apply for permission for a Strategic Housing Development at the lands at Broomhill Road, Tallaght, Dublin 24, D24 XA52 and Unit 51, Broomhill Road, Tallaght, Dublin 24, D24E124 on a site measuring 1.4ha. The current proposal seeks to provide the construction of a residential development comprising 242 apartments, a creche, a gym, a café, a public remote working hub and residential amenity facilities.

This level of development is one which, based on a review of strategic planning policy and following extensive consultation with South Dublin County Council, is appropriate for the subject site. We understand that there is a focus on the need to increase densities on brownfield sites and a number of measures need to be balanced in the context of the surrounding built context and industrial properties. A review of these sometimes competing factors is provided in the attached planning report and statement of consistency.

The extent of the layout of the proposal is provided in the figure below for the convenience of the Planning Authority.

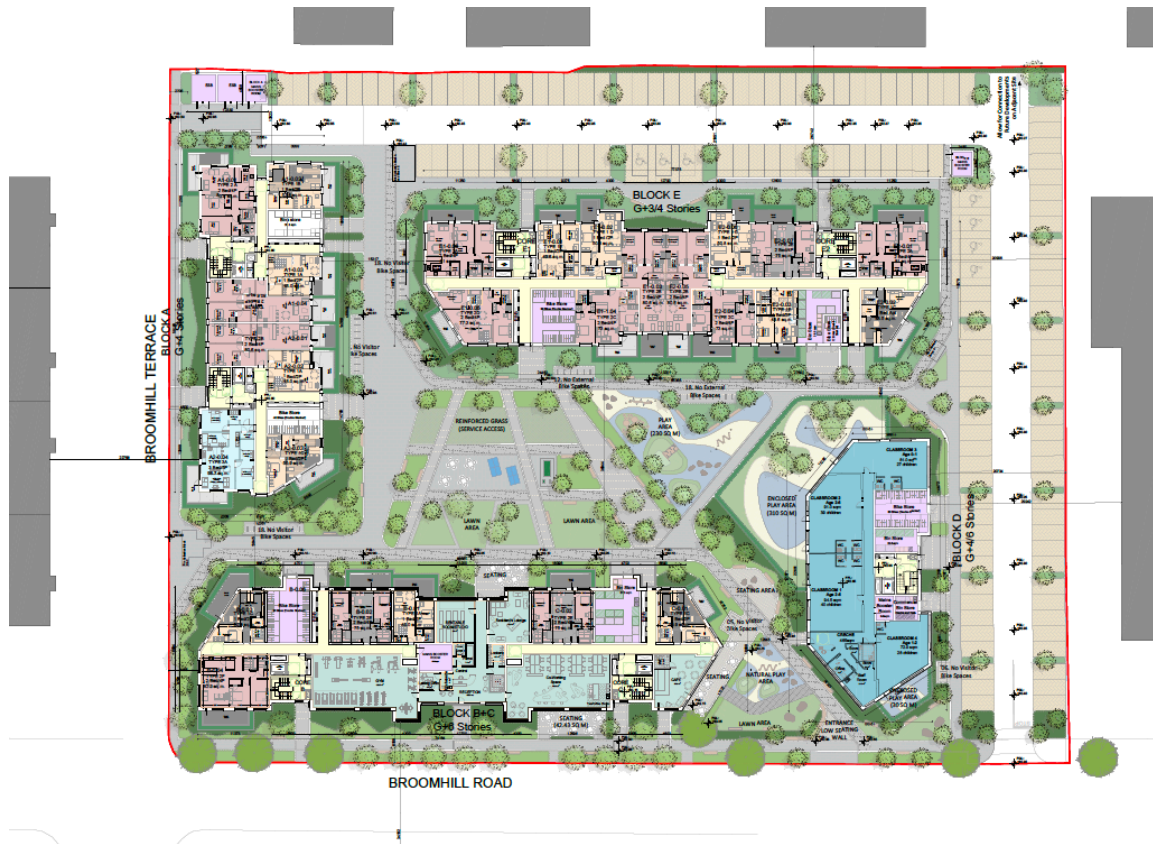


Figure 2 - Proposed Residential Layout – Ground Floor

The proposal generally provides for the following:

- The construction of 242 apartment units;
- These shall take the form of 96 x 1 bed units, 141 x 2 bed units and 5 x 3 bed units
- 136 car parking spaces including provision for disabled car parking
- Communal Open Space of 1797.4sqm
- A Public Open Space area of 1400sqm



- Private Open Space in the form of private balconies.
- Heights of 4-7 Storeys.
- A mix of public uses including:
 - Café of 50.9sqm
 - Gym of 128.5sqm
 - Multi purpose room of 39sqm
 - A crèche of 465sqm
 - Co-working space of 128.4sqm
- A range of communal facilities including:
 - Reception
 - Residents lounge
 - Letting office

We refer the Board to enclosed drawings and Architectural design Statement prepared by John Fleming Architects for further details on this scheme.



4 Assessment of Long Term Running and Maintenance Costs

The applicant, Garyaron Homes 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 mixed use element and 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. While it is noted that the proposal is for a build-to-sell development, it is the intention that the scheme will be purchased by a single entity where all apartments will be owned by the management company, with potentially the Part V, Social Housing units being owned separately. Any separate owners will be obliged to become part of the owners management company;
- 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 for the public owned and managed uses within the scheme including gym, café, creche and remote working hub;
- 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
Roof construction includes green roofs	Minimises ongoing maintenance costs and aids with SUDS provisions on site

5.3 Construction Methodology

The structural scheme for the proposed building 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

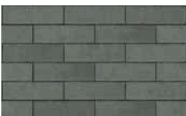
Consideration is given to the requirements of Building Regulations in relation to durability and design life. The common parts of the building blocks are designed to incorporate the guidance best practice principles to ensure that the long-term durability and maintenance of materials is an integral part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

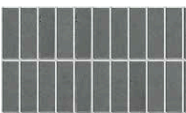




1 - White Brick with White Mortar; Wienerberger Platinum White or Similar Approved



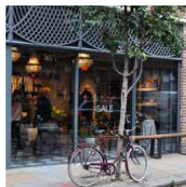
2 - Dark Grey Brick with White Mortar; Forterra Blue Smooth or similar approved



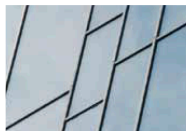
3 - Dark Grey Brick Slips in Vertical Stack Pattern with White Mortar; Forterra Blue Smooth or similar approved



4 - Aluminium Windows to Selected RAL Colour Generally



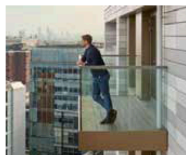
5 - Selected Aluminium Curtain Wall System to Amenity Areas



6 - Selected Aluminium Curtain Wall System to Core Entrances



7 - Selected Dark Cladding Panel to Form Base of Facade



8 - Glass Balustrade to Balconies Generally

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

The proposed development features generous open space provision at grade in the form of a central courtyard area, pedestrian walkways and active landscaping throughout the site, including play opportunities and outdoor seating and play area associated with the creche and the Café.

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.

Green roofs are provided that will aid in the SUDS strategy for the site and resulting in fewer elements that would require ongoing maintenance and/or repair.

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 landscape details proposed are shown below.



Landscape-Raised Planters and Trees



Landscape-Courtyard Bounded by Blocks

Sample of Landscaping Finishes Proposed

Please refer to the attached landscape plan by Parkhood 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.

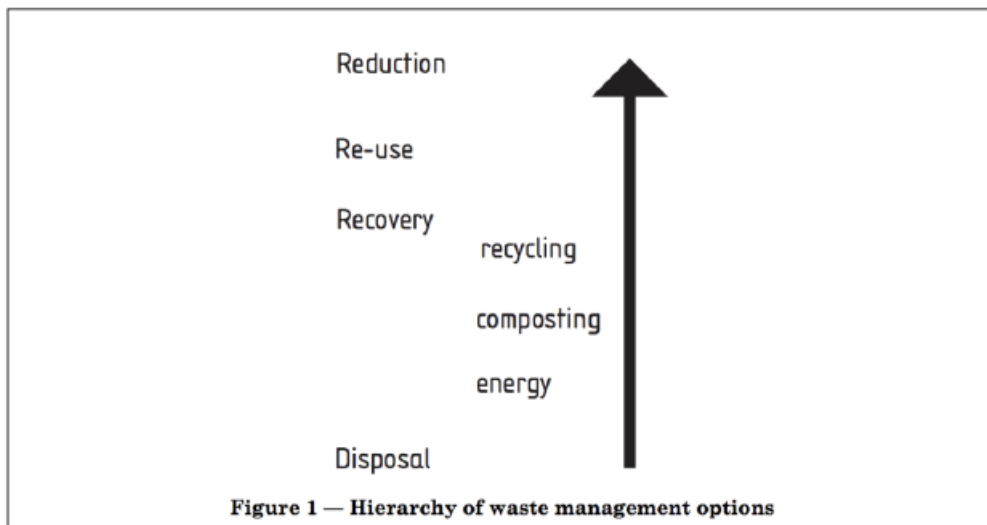


Figure 1 from BS5906 – Hierarchy of Waste Management Options

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 and mixed use 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 homeowners 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.



6 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.

6.1 Design

The heating and hot water strategy shall be used for the apartments in the development in accordance with current Part L of the building regulations and compliance demonstrated with the latest edition of the DEAP software. All building elements u-values, in order to limit the heat loss through the building fabric of the project the thermal insulation for each of the plane elements of the development will be equal or better than the area weighted average elemental U-Values (Um) as specified in Table 1 of section 1.3.2.5 of TGD Part L 2019 – Dwellings and as specified in Table 1 of section 1.3.2.5 of TGD Part L 2017 – Buildings other than Dwellings. We refer the planning authority to the attached sustainability report by EDP Mechanical and Electrical engineers for full details. A number of options are available for the servicing and heating of the subject development as follows.

Element 51 – Heating Centre

The proposed heating and hot water solution for the apartments can be designed as an exhaust air heat pump. An Exhaust Air Heat Pump (EAHP), is an energy recycling system. It extracts energy from the warm air as it leaves the home via the ventilation system and uses it to heat the radiators and Domestic Hot Water (DHW).

The installation of an EAHP is self-contained within each apartment and only requires an ESB connection and standard mains water connection.

An exhaust air heat pump can satisfy the heating requirements of a well-insulated apartment in some of the coldest conditions. When working efficiently, it can reduce energy consumption of heating by up to 50% when compared to conventional heating systems.

If there is an extended period of cold weather the heat pump will call on a suitably sized back up heater to assist in meeting the apartments heating requirement.

The extracted air from the wet rooms is passed through the ducting into the heat pump. At this point, if there is a heat or hot water demand, the air passes through the heat pumps evaporator, which transfers the heat into the heat pump's refrigerant circuit.

The cooled air is then discharged from the unit and exhausted outside. Meanwhile, the vapour compression cycle of the heat pump raises the temperature of the refrigerant and transfers the extracted heat into a water-based system that can either heat the domestic hot water via a coil in an indirect cylinder or heat the building via radiators.

The EAHP is controlled with a touchscreen wall controller in each apartment with a phone app function as standard.

A local 200 litre hot water storage cylinder shall be located in a hot press of each apartment and meets the demands of the resident's hot water. An electric immersion shall be installed for boost and fast recovery of the cylinder if required.

Internal Space Heating

The units could also be heated with steel, horizontal panel radiators in each room of the apartments and designed for the operating temperature of the central plant or exhaust air heat pump.

Each unit shall have two heating zones, the first zone will be the main open plan kitchen / living room and the second zone will be the bedrooms.



Heating control in the kitchen / living room will be with a 2-port valve and the room thermostat. Heating control in the master bedroom will be with a 2-port valve and thermostat. TRV's will control the space temperature in all other bedrooms.

Ventilation

The ventilation for the apartments shall be provided by the EAHP and be classed as mechanically ventilated. The central extract shall operate on the principle of mechanical extract ventilation (MEV).

MEV will be commissioned with two dedicated extract flow rates for the unit, one for background ventilation and one for boost ventilation.

- The background ventilation rate will be maintained 24/7 in order to ventilate the unit and maintain the heat pump operation volume flow rate.
- The boost ventilation will be activated by a drop-in air or water temperature and raise the volume flow rate to a maximum pre-set value.
- Passive wall inlet vents are required in all habitual rooms.

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 ideally located to maximise the use of public transport and sustainable transport modes and reduce the reliance on the private car. Car parking numbers have been reduced in line with strategic policy, which will assist in reducing carbon emissions and remove car operating costs for residents.

The site is in close proximity to a bus stop and approx. 920m from the Belgard LUAS stop. The availability, proximity and ease of access to high quality public transport services contributes to reducing the reliance on the private motor vehicle for all journey types. The proximity and frequency served by the local bus service and LUAS service enhance the accessibility levels of the proposed residential development in addition to providing a viable and practical sustainable alternative to journeys undertaken by the private car.

426 bicycle parking spaces are provided within the scheme at ground level for residents and visitors alike. This is in line with new apartment design guidelines and promotes sustainable transport modes. This level of bike parking will promote the uptake of cycling and reduce the reliance on the private car with knock on reductions in carbon emissions and use of fossil fuels.



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 attached Sustainability Energy Statement by Environmental Design Partnership Mechanical and Electrical Consulting Engineers 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.

