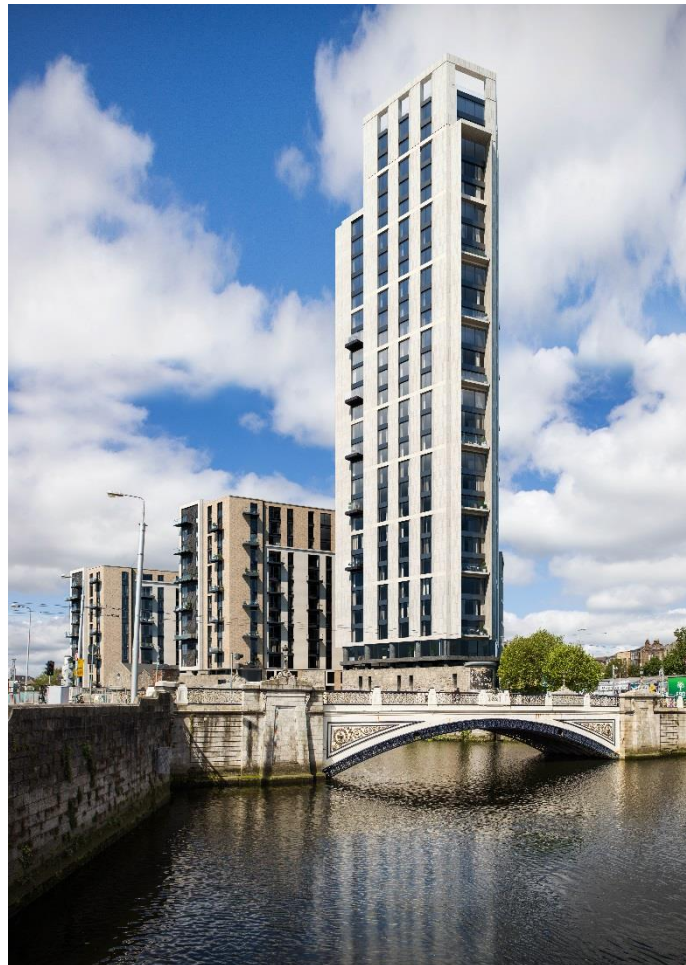


PARKGATE STREET RESIDENTIAL DEVELOPMENT

42A Parkgate Street

Dublin 8

BUILDING LIFE CYCLE REPORT



DOCUMENT HISTORY

ISSUE NO:	1	2	3
STATUS:	DRAFT 1	DRAFT 2	DRAFT 3
DATE:09	29/10/19	13/11/19	20/11/19
PREPARED BY:	BEN DELOUGHRY DAVID FEIGHERY	CONOR FAHEY DAVID FEIGHERY	CONOR FAHEY DAVID FEIGHERY
CHECKED BY:	DAVID FEIGHERY	DAVID FEIGHERY	DAVID FEIGHERY
APPROVED BY:	AODHÁN KING DARREN DAVIDSON	AODHÁN KING DARREN DAVIDSON	AODHÁN KING DARREN DAVIDSON

ISSUE NO:	4		
STATUS:	DRAFT 4		
DATE:09	03/12/19		
PREPARED BY:	CONOR FAHEY DAVID FEIGHERY		
CHECKED BY:	DAVID FEIGHERY		
APPROVED BY:	AODHÁN KING DARREN DAVIDSON		

TABLE OF CONTENTS

1.0.	INTRODUCTION.....	3
2.0.	DESCRIPTION OF DEVELOPMENT	4
3.0.	EXECUTIVE SUMMARY – Building Life Cycle Report	8
4.0.	EXTERNAL BUILDING FABRIC SCHEDULE	9
4.1.	Roofing.....	9
4.2.	Rainwater drainage.....	11
4.3.	External walls.....	12
4.4.	External windows & doors.....	13
4.5.	Balconies.....	13
5.0.	INTERNAL BUILDING FABRIC SCHEDULE	15
5.1.	Floors.....	15
5.2.	Walls.....	17
5.3.	Ceilings.....	18
5.4.	Internal handrails & balustrades.....	19
5.5.	Carpentry & joinery.....	19
5.6.	Mechanical Systems.....	20
6.2	Electrical / Protective Services.....	25
6.3	Renewable Energy.....	29

1.0. INTRODUCTION

Aramark Property were instructed by Ruirside Developments Ltd to provide a Building Lifecycle Report for their proposed mixed use scheme at Parkgate Street, Dublin 8.

The purpose of this report is to provide an initial assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered to effectively manage and reduce costs for the benefit of the residents. This is achieved by producing a Building Lifecycle Report.

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

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 the residents.”

This report also addresses An Bord Pleanála’s reference to the above requirement in Pre-Application Consultation Opinion Item 7 (dated 2 October 2019), requesting the submission of:

“A Building Lifecycle Report that includes an assessment of the long term running and maintenance costs associated with the development in accordance with Section 6.13 of the 2018 Guidelines on Design Standards for New Apartments.”

2.0. DESCRIPTION OF DEVELOPMENT

The development is a mixed use residential and commercial scheme comprising build to rent residential units with associated residential amenities and facilities, commercial office and café/ restaurant floor space. A new public square is provided, along with a public riverside walk and private amenity courtyard.

481 no. residential units with 3698 sqm commercial office space, 214 sqm retail and 444 sqm café/ restaurant space is proposed. The residential units are served by amenity and management areas including a reception area, a post room, a quiet room, gym, business suites, lounge and TV rooms and other bookable rooms. In addition to the above amenity facilities are miscellaneous support facilities including sub/switch room, refuse and waste management areas, electric meters, administrative areas and cycle parking areas. At basement level further bicycle parking is provided, as well as car parking. At ground floor level the proposed development will largely consist of retail, café/ restaurant and resident's amenity/ancillary facilities which will serve to activate the street level and new open spaces.

The development will be characterised by a landmark 29 storey tower on the eastern corner of the site. The Site Coverage of the proposed development is approximately 42% (based upon entire site area), and the Plot Ratio of the proposed development is 5.8.

The new development elements will range in height from 8 to 29 storeys, with each block in the development broken down as follows:

Block A: 29 storeys. Comprising café/restaurant, retail and resident's amenity at ground floor and mezzanine level, 160 No. residential units from first floor to 27th floor inclusive, including:

- 24 No. Studio apartments
- 109 No. 1-Bed apartments
- 27 No. 2-Bed apartments
- Ancillary residential amenities
- Roof terrace

Block B1: 8 – 13 storeys. Comprising café/ restaurant at ground floor level, resident's amenity areas and 141 No. residential units, from mezzanine level to 11th storey inclusive, including:

- 14 No. Studio apartments
- 96 No. 1-Bed apartments
- 27 No. 2-Bed apartments
- 4 No. 2-Bed (3 person) apartments
- Roof terraces

Block C1 / C2 and C3: 8-11 storeys. 180 No. residential units, from mezzanine level to 9th storey inclusive, including:

- 28 No. Studio apartments
- 93 No. 1-Bed apartments
- 51 No. 2-Bed apartments
- 8 No 2-Bed (3 person) apartments
- Ancillary residential amenities
- Roof terraces

To facilitate the proposed development, a number of structures on site will be demolished, including Parkgate House. All structures contained within the Record of Protected structures will be retained, restored and adapted. This includes the riverside stone wall, the turret at the eastern end of the site, the square tower on the riverfront and the entrance stone arch on the Parkgate Street frontage.

In addition to retaining the Protected Structures, It is also proposed to retain the larger of the two gabled industrial buildings on the river front for use as the residents gym and part of the smaller gabled building. All other structures are proposed for demolition, it is proposed to retain some of the large cast iron structural elements from the warehouse for use in the new development.

The development proposal will include works to the river wall (a Protected Structure). This is to provide opes to allow light into the newly formed open spaces and create new river walk.

External works comprise minor works along the south footpath on Parkgate Street, including:

- creating dished kerb at proposed vehicular entrances;
- relocation of recycling bins;
- creating of loading bay;
- removal of Dublin Bikes Station No. 92, and

- creating dropped kerbs for emergency access to the development, all subject to relevant permits and agreements.

Surface water improvement works along the south kerb on Parkgate Street, subject to Local Authority agreement, comprising:

- new manholes constructed in Parkgate Street pavement;
- new sections of surface water concrete pipework installed to network new manholes and gullies;
- connection into existing surface water outfall;
- diversion of existing road gullies into new surface water sewer; and
- construction of new trapped blockwork road gullies and connection into new surface water sewer.

As highlighted previously in this report, the residential component of the proposed development is Built to Rent. Below is a breakdown of the units proposed:

Build to Rent		
Unit Type	No. of Units	As a %
BTR Studio	66	14%
BTR 1-Bed	298	62%
BTR 2-Bed	105	22%
BTR 2-Bed (3 Person)	12	2%
Total BTR	481	100%

Figure 3: Breakdown of Proposed Units

The signature architectural element of the proposed development will be the 29 storey residential tower, which is sited at the east end of the site near Heuston Bridge where the site naturally angles. The tower will be generally triangular and slender in form. The building is accessed off Parkgate Street with a central core serving 29 floors of accommodation. All the apartments will benefit from panoramic views over the city.

The proposal will contain significant areas of public open space with the aim to bring vitality to the public realm. The plan orientates the primary open space on a north-south axis centered on the protected 'Gateway' arch off Parkgate Street with a scale, quality and sense of place providing a high quality urban space. A second public open space is formed between Block B and the residential tower that sits on the prominent corner at Heuston bridge and provides a further public connection from Parkgate Street to the river. The rejuvenation of the public realm at street level is further reinforced with a mix of active uses of residential amenity, office and café/ restaurant with a viewing terrace

giving a new dynamic perspective and interface with the city and a view across the river to Heuston station.

These two spaces connect to the proposed river walk and benefit from light and views across the river resulting from the proposed opes in the river wall. It is envisaged that the creation of these high quality spaces, with a mix of uses and active street frontage will provide a catalyst for the further regeneration of the area by increasing footfall and enhancing the sense of community on Parkgate Street.

The public open space will also benefit from passive surveillance from the residential blocks, providing security and safety to the public below.

Some residential units will have access to private open space in the form of balconies, although not all units will come with balconies. In the absence of balconies a series of external roof gardens and terrace with associated amenity spaces are located around the development. The total communal open space including courtyard, rooftop amenities etc is 2727sqm. The total amenity space provided by balconies will be 650sqm and this will be further complimented with 1,839sqm of internal amenity space.

The car parking provision for the development is accommodated in a combination of surface level and undercroft basement level car park directly below the development. An appropriate level of car parking is provided on site as detailed in the Transport and Traffic report. The intention is that the majority of residents and others using the development would access the site by public transport, walking or cycling. The parking will be served by lift and stair access. Disabled car parking spaces are also provided at surface level (located beside a lift core and direct access to the private courtyard) Electrical power points are also provided on certain parking spaces.

Car parking spaces are proposed as follows: 11 spaces at basement level, 1 of which is accessible with 15 spaces at surface level, 2 of which are accessible. Electrical power points are also proposed on certain parking spaces.

Cycle parking is accessed via safe dedicated stairwells with dedicated storage for bicycles at ground level, basement and in the gateway entrance spaces. As required by the Dublin City Development Plan and in accordance with the sustainability objectives of the project, bicycle parking spaces for the office accommodation with appropriate changing shower and drying room facilities are also provided in the basement. A total of 551 bicycle parking spaces will be provided.

The proposed development will be provided with 3 ESB substations.

3.0. EXECUTIVE SUMMARY – BUILDING LIFE CYCLE REPORT

Measures to effectively manage and reduce costs for the benefit of residents

The following document reviews the outline specification set out for the proposed residential development at Parkgate Street, Dublin 8 and explores the practical implementation of the design and material principles which has informed design of building roofs, façades, internal layouts and detailing of the proposed development.

Building materials proposed for use on elevations and in the public realm achieve a durable standard of quality that will not need regular fabric replacement or maintenance outside general day to day care. The choice of high quality and long-lasting materials such as brickwork, render and stone cladding, as well as both soft and hardscape in the public, semi-public and private realm will contribute to lower maintenance costs for future residents and occupiers.

Please note that detailed specifications of building services have not been provided at this stage. This report reflects the outline material descriptions contained within Reddy Architecture + Urbanism’s drawing pack.

For any elements where information was not available, typical examples have been provided of building materials and services used for schemes of this nature and their associated lifespans and maintenance requirements. All information is therefore indicative subject to further information at detailed design stage.

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

4.0. EXTERNAL BUILDING FABRIC SCHEDULE

4.1. Roofing

4.1.1. Green roofs

<i>Location</i>	Flat roof areas
<i>Description</i>	Green roof system to engineer's specification
<i>Lifecycle</i>	Average lifecycle of 15-35 years on most green roofs. Lifecycle will be extended with robust proven detailing to adjoining roof elements and appropriate and regular maintenance of the roof materials.
<i>Required maintenance</i>	Quarterly maintenance visits to include inspection of drainage layer and outlets and removal of any blockages to prevent ponding. Inspection of vegetation layer for fungus and decay. Carry out weeding as necessary. No irrigation necessary with sedum blankets.
<i>Year</i>	Quarterly
<i>Priority</i>	Medium
<i>Selection process</i>	A green roof will add to the character of the overall scheme, as well as providing attenuation to storm water run-off and less burden on rainwater goods, increased thermal and sound insulation to the building and increased bio-diversity. Natural soft finishes can provide visual amenity for residents where roof areas are visible or accessible from within areas of the scheme. Sedum roofs are a popular and varied choice for green roofs requiring minimal maintenance.
<i>Reference</i>	N/A

4.1.2. Roof terraces

<i>Location</i>	Roof terraces
<i>Description</i>	<ul style="list-style-type: none"> • Light weight precast concrete / stone paving slabs on support system, or • Timber decking, or • Resin bound gravel surfacing. • Roof deck build up to architects' and engineers' instructions.
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Average lifecycle of 30 years for paving slabs. • Average lifecycle of 10-20 years for timber. • Average lifecycle of 10-20 years for gravel surfacing.
<i>Required maintenance</i>	<p>Quarterly maintenance visits to include:</p> <ul style="list-style-type: none"> • Inspection of drainage layer and outlets and removal of any blockages to prevent water build up. • Inspection of all metalwork and fixings for loosening or degradation including railings, planters, flashings, decking, drainage channels and repair/replace as necessary. • Check for displacement of slabs and mortar decay and remove organic matter. • Power-washing of hard surfaces.

	<ul style="list-style-type: none"> Timber decking requires cleaning, sanding and recoating with proprietary wood stain on an annual basis to ensure safety, longevity and maintained aesthetic value.
<i>Year</i>	Quarterly / annual
<i>Priority</i>	Medium
<i>Selection process</i>	Paving slabs provide a robust and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces.
<i>Reference</i>	N/A

4.1.3. Fall arrest system for roof maintenance access

<i>Location</i>	Roofs
<i>Description</i>	<ul style="list-style-type: none"> Fall Protection System (FPS) on approved anchorage device Installation in accordance with BS 7883 by the system manufacturer or a contractor approved by the system manufacturer
<i>Lifecycle</i>	25-30 years dependent on quality of materials. Generally steel finishes to skyward facing elements can be expected to maintain this life expectancy.
<i>Required maintenance</i>	Check and reset tension on the line as per manufacturer's specifications. Check all hardware components for wear (shackles, eye bolts, turn buckles). Check elements for signs of wear and/or weathering. Lubricate all moving parts. Check for structural damage or modifications.
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	FPS are a standard life safety system, provided for safe maintenance of roofs and balconies where there is not adequate parapet protection. An FPS must comply with relevant quality standards.
<i>Reference</i>	N/A

4.1.4. Roof cowls

<i>Location</i>	Roofs
<i>Description</i>	<ul style="list-style-type: none"> Roof Cowl System to be supplied with weather apron for flat roofs. Stainless Steel goose neck tube to facilitate power supply to external roof level bolted to roof and weathered using proprietary weather apron.
<i>Lifecycle</i>	25-35 years
<i>Required maintenance</i>	Check fixings annually, inspect for onset of leading-edge corrosion if epoxy powder coat finish and treat.
<i>Year</i>	Annually
<i>Priority</i>	Low
<i>Selection process</i>	Standard fitting for roof termination of mechanical ventilation system
<i>Reference</i>	N/A

4.1.5. Flashings

<i>Location</i>	All flashing locations
<i>Description</i>	Lead to be used for all flashing and counter flashings
<i>Lifecycle</i>	Typical life expectancy of 70 years recorded for lead flashings. Recessed joint sealing will require regular inspections.
<i>Required maintenance</i>	Check joint fixings for lead flashing, ground survey annually and close up inspection every 5 years. Re-secure as necessary.
<i>Year</i>	Ground level inspection annually and close up inspection every 5 years
<i>Priority</i>	Medium
<i>Selection process</i>	Lead has longest life expectancy of comparable materials such as copper (60 years) and zinc (50 years). Lead is easily formed into the required shapes for effective weathering of building junctions according to Lead Sheet Association details.
<i>Reference</i>	N/A

4.2. Rainwater drainage

<i>Location</i>	All buildings
<i>Description</i>	<ul style="list-style-type: none"> • <i>Rainwater outlets:</i> Suitable for specified roof membranes • <i>Pipework:</i> Cast aluminium downpipes/uPVC downpipes • <i>Below ground drainage:</i> To M&E/ Structural Engineers design and specification • <i>Disposal:</i> To surface water drainage to Structural Engineers design • <i>Controls:</i> To M&E/ Structural Engineers design and specification • <i>Accessories:</i> allow for outlet gradings, spigots, downspout nozzle, hopper heads, balcony and main roof outlets
<i>Lifecycle</i>	Aluminium gutters and downpipes have an expected life expectancy of 40 years in rural and suburban conditions (25 years in industrial and marine conditions), this is comparable to cast iron of 50 years and plastic, less so at 30 years.
<i>Required maintenance</i>	As with roofing systems routine inspection is key to preserving the lifecycle of rainwater systems. Regular cleaning and rainwater heads and gutters, checking joints and fixings and regularly cleaning polyester coated surfaces (no caustic or abrasive materials).
<i>Year</i>	Annually, cleaning bi-annually
<i>Priority</i>	High
<i>Selection process</i>	As above, aluminium fittings compare well against cast iron (in terms of cost) and plastic (in terms of lifespan and aesthetic)
<i>Reference</i>	N/A

4.3. External walls

4.3.1. Brick

<i>Location</i>	Façades
<i>Description</i>	Selected bricks
<i>Lifecycle</i>	While bricks have a high embodied energy, they are an extremely durable material. Brickwork in this application is expected to have a lifespan of 50-80 years. The mortar pointing however has a shorter lifespan of 25-50 years.
<i>Required maintenance</i>	In general, given their durability, brickwork finishes require little maintenance. Most maintenance is preventative: checking for hairline cracks, deterioration of mortar, plant growth on walls, or other factors that could signal problems or lead to eventual damage.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Brickwork is an attractive material that bears well against other finishing products such as render to blockwork wall in terms of lifespan (80 vs 50 years). The brickwork does require re-pointing however at 25-50 years.
<i>Reference</i>	Reddy Architecture + Urbanism proposed elevation drawings.

4.3.2. Render

<i>Location</i>	Façades
<i>Description</i>	Selected white and dark render
<i>Lifecycle</i>	Renders in general are expected to have a lifecycle of circa 25 years
<i>Required maintenance</i>	Regular inspections to check for cracking and de-bonding. Most maintenance is preventative. Coloured render requires less maintenance than traditional renders.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Appropriate detailing will contribute to a long lifespan for this installation. Acrylic render is a durable and low-maintenance finish with the added benefit of this product being BBA certified against other render systems.
<i>Reference</i>	Reddy Architecture + Urbanism proposed elevation drawings.

4.3.3. Stone cladding

<i>Location</i>	Façades
<i>Description</i>	Selected honed limestone cladding on support system.
<i>Lifecycle</i>	Stone cladding is expected to have a lifespan in the region of 40-60 years.
<i>Required maintenance</i>	In general, given its durability, stone requires little maintenance and weathers well. Most maintenance is preventative; checking for hairline cracks, deterioration of mortar, plant growth on walls, or other factors that could signal problems or lead to eventual damage.
<i>Year</i>	Annual

<i>Priority</i>	Low
<i>Selection process</i>	Stone is a natural and highly durable material offering a robust aesthetic. Options for stone cladding include reconstituted stone which is a cost-effective and adaptable cladding option when compared to natural stone cladding. It has the high durability associated with natural stone, with similar mechanical properties to precast concrete.
<i>Reference</i>	Reddy Architecture + Urbanism proposed elevation drawings.

4.4. External windows & doors

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> • Powder-coated aluminium/uPVC/timber framed windows, doors and curtain wall system to selected colour. • All units to be double / triple glazed with thermally broken frames. • All opening sections in windows to be fitted with suitable restrictors. Include for all necessary ironmongery; include for all pointing and mastic sealant as necessary; fixed using stainless steel metal straps screwed to masonry reveals; include for all bends, drips, flashings, thermal breaks etc.
<i>Lifecycle</i>	Aluminium has a typical lifespan of 45-60 years in comparison to uPVC which has a typical lifespan of 30-40 years. Timber windows have a typical lifespan of 35-50 years, aluminium cladding can extend this lifespan by 10-15 years.
<i>Required maintenance</i>	Check surface of windows and doors regularly so that damage can be detected. Vertical mouldings can become worn and require more maintenance than other surface areas. Lubricate at least once a year. Ensure regular cleaning regime. Check for condensation on frame from window and ensure ventilation.
<i>Year</i>	Annual
<i>Priority</i>	Medium
<i>Selection process</i>	Aluminium is durable and low maintenance with an average lifespan of 45-60 years, exceeding uPVC (30-40 years). Alu-clad timber windows compare favourably when compared to the above, extending timber windows typical lifespan of 35-50 years by 10-15 years.
<i>Reference</i>	N/A

4.5. Balconies

4.5.1. Structure

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> • Concrete balcony system to engineer's detail, or • Powder-coated steel frame balcony system to engineer's detail • Thermally-broken farrat plate connections to main structure of building.

<i>Lifecycle</i>	<ul style="list-style-type: none"> • Metal structure has a typical life expectancy of 70 years dependent on maintenance of components. • Concrete structures have a high embodied energy, however it is an extremely durable material. Concrete frame has a typical life expectancy of over 80 years.
<i>Required maintenance</i>	Relatively low maintenance required. Check balcony system as per manufacturer's specifications. Check all hardware components for wear. Check elements for signs of wear and/or weathering. Check for structural damage or modifications.
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Engineered detail; designed for strength and safety.
<i>Reference</i>	N/A

4.5.2. Balustrades and handrails

<i>Location</i>	Balconies
<i>Description</i>	<ul style="list-style-type: none"> • Clear glass / metal balustrades • Fixing in accordance with manufacturer's details
<i>Lifecycle</i>	General glass and metal items with a 25-45 year lifespan
<i>Required maintenance</i>	Regular visual inspection of connection pieces for impact damage or alterations
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Long lifespan versus timber options
<i>Reference</i>	N/A

5.0. INTERNAL BUILDING FABRIC SCHEDULE

5.1. Floors

5.1.1. Common areas

<i>Location</i>	Entrance lobbies / reception areas / corridors
<i>Description</i>	<ul style="list-style-type: none"> Selected anti-slip porcelain or ceramic floor tile Provide for inset matwell
<i>Lifecycle</i>	Lifespan expectation of 20-30 years in heavy wear areas, likely requirement to replace for modernisation within this period also
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Durable, low maintenance floor finish. Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

<i>Location</i>	Stairwells, landings / half landings
<i>Description</i>	Selected carpet covering. Approved anodised aluminium nosings to stairs.
<i>Lifecycle</i>	<ul style="list-style-type: none"> 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. 20 year lifespan for aluminium nosings.
<i>Required maintenance</i>	Visual inspection with regular cleaning.
<i>Year</i>	Quarterly inspection and cleaning as necessary.
<i>Priority</i>	Low
<i>Selection process</i>	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility.
<i>Reference</i>	N/A

<i>Location</i>	Lifts
<i>Description</i>	Tiles to match adjacent apartment lobbies.
<i>Lifecycle</i>	Lifespan expectation of 20-25 years in heavy wear areas for the tiling.
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Slip rating required for lifts, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

5.1.2. Tenant amenity areas

<i>Location</i>	Gym
<i>Description</i>	Selected timber flooring with selected underlay, weights area to receive selected raised designated zone, where the flooring can be built-up locally to accommodate this use and reduce potential impact sound with selected rubber matting or similar approved.
<i>Lifecycle</i>	Timber flooring with selected underlay has an expected life expectancy of 10-15 years dependent on use. A gym would be a high-use area which can significantly shorten timber floor lifespan.
<i>Required maintenance</i>	Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
<i>Year</i>	Quarterly
<i>Priority</i>	Medium
<i>Selection process</i>	Appropriate use of timber floors, specifically in gym areas controls acoustic impact.
<i>Reference</i>	N/A

<i>Location</i>	Amenity rooms
<i>Description</i>	<ul style="list-style-type: none"> • Timber laminate / parquet flooring, or • Carpet covering • Provide for inset matwell
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Laminated / parquet timber flooring has an expected life expectancy of 25-35 years dependent on use • 10-15 year lifespan for carpet • Likely requirement to replace for modernisation within this period also
<i>Required maintenance</i>	Visual inspection. Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Materials chosen for aesthetics, durability and low maintenance.
<i>Reference</i>	N/A

<i>Location</i>	All wet areas (e.g. changing areas, WCs)
<i>Description</i>	Selected anti-slip ceramic floor tile.
<i>Lifecycle</i>	Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also.
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

5.2. Walls

5.2.1. Common areas

<i>Location</i>	Entrance lobbies / reception areas
<i>Description</i>	Selected contract vinyl wall paper feature, or; Selected paint finish with primer to skimmed plasterboard
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Lobbies / corridors / stairs
<i>Description</i>	Selected contract vinyl wallpaper, class O rated, or Selected paint finish with primer to skimmed plasterboard
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

5.2.2. Tenant amenity areas

<i>Location</i>	Gym
<i>Description</i>	Selected paint finish with primer to skimmed plasterboard.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Amenity rooms
<i>Description</i>	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.

<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Wet areas (e.g. changing areas, WCs)
<i>Description</i>	Selected ceramic wall tile to plasterboard (moisture board to wet areas).
<i>Lifecycle</i>	Typical life expectancy of 35-40 years, less in wet room areas to 20-25 years.
<i>Required maintenance</i>	Bi-annual inspection to review damage, local repairs as necessary, particular detailed inspection in wet room areas.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Wet room application requires moisture board and tiling.
<i>Reference</i>	N/A

5.3. Ceilings

<i>Location</i>	Common areas & tenant amenity areas
<i>Description</i>	Selected paint finish with primer to skimmed plasterboard ceiling on M/F frame. Acoustic ceiling to lift core and apartment lobbies. Moisture board to wet areas.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish
<i>Reference</i>	N/A

<i>Location</i>	Tenant amenity wet areas (e.g. gym changing areas & WCs)
<i>Description</i>	Selected paint finish with primer to skimmed moisture board ceiling.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

5.4. Internal handrails & balustrades

<i>Location</i>	Stairs & landings
<i>Description</i>	<ul style="list-style-type: none"> Proprietary glazed panel system face fixed to stairs stringer / landing slab to manufacturer's details and specifications, or Metal balustrade option
<i>Lifecycle</i>	25-30 years typical lifecycle
<i>Required maintenance</i>	Regular inspections of holding down bolts and joints
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	Hard wearing long life materials against timber options
<i>Reference</i>	N/A

5.5. Carpentry & joinery

5.5.1. Internal doors and frames

<i>Location</i>	All buildings
<i>Description</i>	<ul style="list-style-type: none"> Selected white primed and painted/varnished solid internal doors, or hardwood veneered internal doors All fire rated doors and joinery items to be manufactured in accordance with B.S. 476. Timber saddle boards. Brushed aluminium door ironmongery or similar
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low, unless fire door High
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.5.2. Skirtings & architraves

<i>Location</i>	All buildings
<i>Description</i>	Painted timber/MDF skirtings and architraves
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.5.3. Window boards

<i>Location</i>	Residential blocks
<i>Description</i>	Painted timber/MDF window boards
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.6. Mechanical Systems

5.6.1. Mechanical Plant -

<i>Location</i>	Plant Rooms
<i>Description</i>	<p>Centralised Heating Plant– Specification to be further details to be provided by the M&E Consultant at detailed design stage.</p> <p>Heating plant is proposed to consist of consisting of Gas fired boilers combined with/or CHP/ Air Source Heat Pumps /Exhaust Air HeatPumps</p>
<i>Lifecycle</i>	<p>Annual Maintenance / Inspection to Heating System</p> <p>Annual Maintenance of Air Source Heat Pumps / CHP / Exhaust Air Heatpumps</p> <p>Annual Maintenance / Inspection to Heating and Water Pumps.</p> <p>Annual Maintenance / Inspection to Water Tanks.</p> <p>Annual Maintenance / Inspection to Booster - sets.</p> <p>Annual Maintenance / Inspection to DHS Tanks.</p> <p>Annual Maintenance / Inspection of heating system pipework, valves, accessories and insulation.</p> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p> <p>Replacement of equipment at (End of Life) EOL to be determined at detailed design stage.</p>
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.2 Soils and Wastes

<i>Location</i>	All Areas / kitchens Pods etc
<i>Description</i>	PVC Soils and Wastes Pipework
<i>Lifecycle</i>	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

5.6.3. Water Services

<i>Location</i>	Apartments, Kitchens, Pods etc
<i>Description</i>	Copper Water Services Pipework and associated fittings and accessories.
<i>Lifecycle</i>	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Inspections, including legionella testing to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.3 Gas Services

<i>Location</i>	Apartment Blocks Plant Rooms – Where Gas Appliances Present
<i>Description</i>	Gas Detection Systems.
<i>Lifecycle</i>	Annual Maintenance / Inspection Gas detection systems within landlord plant rooms. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections, testing and certification to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.4 Heating Services

<i>Location</i>	Apartment
<i>Description</i>	Heat interface Units (HIU) proposed to be installed at each unit.
<i>Lifecycle</i>	Annual Inspection of Heat Interface Unit in each unit. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.5 Ventilation Services

<i>Location</i>	Apartments / Houses
<i>Description</i>	Heat Recovery Units, Ducting & Grilles (MVHR)
<i>Lifecycle</i>	Annual inspection of extract fan and grilles. Annual Inspection of operation of fan and boost / setback facility. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.2 Electrical / Protective Services

6.2.1 Electrical Infrastructure

<i>Location</i>	Switch rooms / Risers
<i>Description</i>	Maintenance of Electrical Switchgear
<i>Lifecycle</i>	Annual Inspection of Electrical Switchgear and switchboards. Thermographic imaging of switchgear 50% of MV Switchgear Annually and LV switchgear every 3 years. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Every three years to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet and exceed ESB, ETCl , CIBSE recommendations and be code compliant in all cases.
<i>Reference</i>	N/A

6.2.2 Lighting Services internal

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – LED throughout with Presence detection in circulation areas and locally controlled in apartments.
<i>Lifecycle</i>	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required per above remedial works.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3217, Part M and DAC Requirements.
<i>Reference</i>	N/A

6.2.3 Lighting Services External

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – All LED with Vandal Resistant Diffusers where exposed.
<i>Lifecycle</i>	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3217, Part M and DAC Requirements.
<i>Reference</i>	N/A

6.2.4 Protective Services – Fire Alarm

<i>Location</i>	All areas – Internal
<i>Description</i>	Fire alarm
<i>Lifecycle</i>	Quarterly Inspection of panels and 25% testing of devices as per IS3218 requirements. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3218 and the Fire Cert
<i>Reference</i>	N/A

6.2.5 Protective services – Fire Extinguishers

<i>Location</i>	All Areas – Internal
<i>Description</i>	Fire Extinguishers and Fire Blankets
<i>Lifecycle</i>	Annual Inspection
<i>Required maintenance</i>	Annual with Replacement of all extinguishers at year 10
<i>Year</i>	Annually
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	All fire extinguishers must meet the requirements of I.S 291:2015 Selection, commissioning, installation, inspection and maintenance of portable fire extinguishers.
<i>Reference</i>	N/A

6.2.6 Protective Services – Apartment Sprinkler System (If Applicable)

<i>Location</i>	Apartment
<i>Description</i>	Apartment Sprinkler System
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Weekly Check of Sprinkler Pumps and plant and annual testing and certification of plant by specialist.
<i>Year</i>	All
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	The Apartment sprinkler system shall be installed in accordance with BS 9251:2005 – Sprinkler Systems for Residential and Domestic Occupancies – Code of Practice
<i>Reference</i>	N/A

6.2.7 Protective Services – Dry Risers / Wet Risers

<i>Location</i>	Common Area Cores
<i>Description</i>	Dry Risers
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Visual Weekly Checks of Pipework and Landing Valves with Annual testing and certification by specialist.
<i>Year</i>	
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	The system shall be installed in accordance with BS 5041 & BS 9999
<i>Reference</i>	N/A

6.2.8 Fire Fighting Lobby Ventilation (If Applicable)

<i>Location</i>	Common Area Lobby's
<i>Description</i>	Flakt or Colt Type Smoke Extract / Exhaust Systems
<i>Lifecycle</i>	Regular Tests of the system Annual inspection of Fans Annual inspection of automatic doors and AVOs All systems to be backed up by life safety systems.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Weekly / Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.3 Renewable Energy

6.3.1 Sources of Renewable Energy

<i>Location</i>	Roof / Boiler House
<i>Description</i>	PV / Solar Thermal Array on roof Supporting the Part L / NZEB requirements in conjunction with Centralised Boiler house and Air Source Heat Pumps / CHP. Full Details to be provided at detailed stage.
<i>Lifecycle</i>	Quarterly Clean Annual Inspection Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Quarterly / Annual
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A