

FORMER STEELWORKS SITE, JAMES STREET, DUBLIN 8 – BUILD-TO-RENT STRATEGIC HOUSING DEVELOPMENT

32A – 35 James Street, Dublin 8

BUILDING LIFE CYCLE REPORT



DOCUMENT HISTORY

| | | |
|---------------------|--|--|
| ISSUE NO: | 1 | 2 |
| STATUS: | DRAFT | FINAL |
| DATE: | 18/11/2020 | 02/12/2020 |
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1.0. INTRODUCTION

Aramark Property were instructed by Cherry Core Limited and Jasmine Perfection Limited to provide a Building Lifecycle Report for their proposed Build-To-Rent Strategic Housing Development at Former Steelworks Site, 32A – 35 James 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.

This Building Lifecycle Report has been developed on foot of the 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.”

2.0. DESCRIPTION OF DEVELOPMENT

The design proposes three build-to-rent apartment blocks (A, B & C) that are arranged around a central landscaped courtyard and range in height from 3 to 8 stories. Block A is the northernmost block and it addresses James Street. Block B is directly to the south of block A and block C, which is considerably smaller than the others, is to the west side of a central courtyard.

Each of the blocks are entered from the private shared courtyard while access to the courtyard itself is provided from two points. There is pedestrian and cyclist access directly from James Street via block A while vehicular (as well as pedestrian and cyclist) access is available from Basin Street lower.

It is anticipated that the majority of residents will approach the development from James Street and resident support facilities in the form of a concierge desk, management office and post and laundry collection area are provided in the entrance lobby. A residents' storage area is also provided for bulky delivery items.

Resident amenities are also provided off the main entrance and these include a resident's lounge and a multi-purpose space for organised group activities (yoga, pilates, etc), and private scheduled bookings etc. These amenity areas are addressed in greater detail on pg.22.

Communal amenity space is primarily provided in the form of roof terrace in block A, landscaped gardens to the rear of blocks A and B, with a smaller communal amenity landscaped area with seating within the central courtyard space.

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 Build-To-Rent Strategic Housing Development at Former Steelworks Site, 32A – 35 James Street, Dublin 8 and explores the practical implementation of the design and material principles which has informed design of building roofs, facades, 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, 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 fabric and services have not been provided at this stage. This report reflects the outline material descriptions contained within EML Architects' planning drawing pack received November 2020.

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 in a summary document. 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, this will take the form of a Planned Preventative Maintenance Schedule (PPM)* at operational commencement of the development.

**PPM under separate instruction*

4.0. EXTERNAL BUILDING FABRIC SCHEDULE

4.1. Roofing

4.1.1. Green Roof (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Selected Flat Roof Areas (maintenance access only) |
| <i>Description</i> | Extensive green roof system on roof slab to engineer's detail. |
| <i>Lifecycle</i> | Average lifecycle of 13-35 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 every year as detailed in the remedial works above. |
| <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 biodiversity. 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> | EML Architects' planning drawings & Outline Specification. |

4.1.2. Roof Terraces (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Communal Terrace (Block A) |
| <i>Description</i> | Composite decking complete with gravel edging to architects' and engineers' instructions. |
| <i>Lifecycle</i> | Composite decking average lifecycle of 20-30 years. Generally, tend to be a long-lasting material with robust proven detailing to adjoining roof elements, if well maintained and installed appropriately. |
| <i>Required maintenance</i> | Regular maintenance visits to include inspection of drainage outlets under decking and removal of any blockages. General repair works, watching out for displacement of decking and removal of organic matter. |
| <i>Year</i> | Annually |
| <i>Priority</i> | Medium |
| <i>Selection process</i> | Composite decking provides a robust and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces. |
| <i>Reference</i> | EML Architects' planning drawings & Outline Specification. |

4.1.3. Roof (Manufacturer / Supplier TBC)

| | |
|-----------------------------|---|
| <i>Location</i> | Selected Flat Roof Areas (maintenance access only) |
| <i>Description</i> | Soprema built up roof (Sopralene) to engineer's specification. |
| <i>Lifecycle</i> | Average lifecycle of 15-25 years on most membrane 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> | Half-yearly maintenance visits to include inspection of membrane material for puncture / cracks on sheeting; seams and flashing details; around drainage and ventilation outlets and removal of any vegetation/moss blockages to prevent ponding. |
| <i>Year</i> | Half-Yearly / Annual |
| <i>Priority</i> | Medium |
| <i>Selection process</i> | A membrane roof with appropriate built up system will provide durability, lacks water permeability and easily maintain without shutting down building operations during application. |
| <i>Reference</i> | EML Architects' planning drawings & Outline Specification. |

4.1.4. Fall Arrest System for Roof Maintenance Access (Manufacturer / Supplier TBC)

| | |
|-----------------------------|---|
| <i>Location</i> | Selected Flat Roof Areas (maintenance access only) |
| <i>Description</i> | <ul style="list-style-type: none"> • Fall Protection System 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> | Fall protection systems are a standard life safety system, provided for safe maintenance of roofs and balconies where there is not adequate parapet protection. A FPS must comply with relevant quality standards. |
| <i>Reference</i> | N/A |

4.1.5. Roof Cowls (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Selected Flat Roof Areas (maintenance access only) |
| <i>Description</i> | Roof Cowl System to be supplied with weather apron for flat roofs. |
| <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 |

4.1.6. Flashings (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <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 approximately 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 (63 years) and zinc (48 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 (Manufacturer / Supplier TBC)

| | |
|--------------------|---|
| <i>Location</i> | All Blocks |
| <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. • Perforated stainless steel porous grating at junction of paving slabs and entrance doors to allow surface water run-off. |
| <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 51 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. Brickwork (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Façades |
| <i>Description</i> | Contrasting light and dark tone clay brickwork. |
| <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 approximately 85 years or more. 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> | Bricks provide an attractive finish that bears well against other finishing products such as render to blockwork wall in terms of lifespan (86 vs 53 years). The brickwork does require re-pointing however at 25-50 years. |
| <i>Reference</i> | EML Architects' planning drawings & Outline Specification. |

4.3.2. Render (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Façades |
| <i>Description</i> | K Rend or Cerisit Render System at select locations. |
| <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. Cleaning of algae and other staining is recommended annually, particularly to shaded and north-facing façades. |
| <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 an attractive finish with the added benefit of this product being BBA certified against other render systems. Appropriate detailing will contribute to a long lifespan for this installation |
| <i>Reference</i> | N/A |

4.4. External Windows & Doors (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | All Blocks |
| <i>Description</i> | <ul style="list-style-type: none"> • Full height, clear glazed windows with Aluclad framework (James Street Elevation). • All other windows to be double glazed with thermally broken uPVC frames re-enforced to take account of the dynamic pressures in relation to the height of the installation within the building. • 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. • Entrance and balcony doors to be double glazed aluminium framework. |
| <i>Lifecycle</i> | Aluminium has a typical lifespan of 44 years in comparison to uPVC which has a typical lifespan of 37 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> | Powder coated aluminium is durable and low maintenance with an average lifespan of 44 years, exceeding uPVC (37 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 / Loggias

4.5.1. Structure (Manufacturer / Supplier TBC)

| | |
|--------------------|--|
| <i>Location</i> | Façades |
| <i>Description</i> | <ul style="list-style-type: none"> • Powder-coated steel frame balcony system to engineer's detail and • Cantilevered precast concrete balcony system to engineer's details complete with dark coloured pressed metal cladding. • Thermally broken 'farrat-plate connections' or 'concrete to concrete connectors' to main structure of building. |
| <i>Lifecycle</i> | Metal structure has a typical life expectancy of 70 years dependent on maintenance of components. Precast concrete structures have a high embodied energy; however, it is an extremely durable material. Concrete frame has a typical life expectancy of 80 years. |

| | |
|-----------------------------|--|
| <i>Required maintenance</i> | Regular visual inspections of slab junction at connections and general concrete slabs. Metal cladding requires little maintenance and is resistant to corrosion. Check balcony system as per manufacturer's specifications including all hardware components for signs of wear and/or weathering. Check for structural damage and 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 (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Facades |
| <i>Description</i> | <ul style="list-style-type: none"> • Sapphire Balconies system or • <i>Guarding</i>: Manufacturer's standard - Frameless translucent tempered glass (safety glass) and • Galvanised PPC Metal Railing • <i>Fixing</i>: In accordance with manufacturers 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 (Manufacturer / Supplier TBC)

5.1.1. Common Areas

| | |
|-----------------------------|---|
| <i>Location</i> | Entrances lobbies/Reception/Common corridors |
| <i>Description</i> | <ul style="list-style-type: none"> Selected anti-slip porcelain floor tile complete with inset matwell. Selected loop pile carpet tiles. |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also. 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. |
| <i>Required maintenance</i> | Visual inspection with regular cleaning, intermittent replacement of chipped / loose tiles. |
| <i>Year</i> | <ul style="list-style-type: none"> Annual for floor tiles. Quarterly inspection and cleaning of carpets as necessary |
| <i>Priority</i> | Low |
| <i>Selection process</i> | <ul style="list-style-type: none"> Slip rating required at entrance lobby, few materials provide this and are as hard wearing Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility |
| <i>Reference</i> | N/A |

| | |
|-----------------------------|---|
| <i>Location</i> | Staircores, landings / half landings |
| <i>Description</i> | Carpet and porcelain tiles to match adjacent corridors and lobbies with approved nosings. |
| <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> | Lift Lobbies |
| <i>Description</i> | Carpet/vinyl and porcelain tiles to match adjacent apartment and lobbies. |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> Lifespan expectation of 20-30 years in heavy wear areas, likely requirement to replace for modernisation within this period also. 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. |
| <i>Required maintenance</i> | Visual inspection with regular cleaning, 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 Rooms

| | |
|-----------------------------|---|
| <i>Location</i> | Management Office, Resident's Communal and Multifunctional Facilities |
| <i>Description</i> | <ul style="list-style-type: none"> • Timber laminate / parquet flooring, or • Carpet/Vinyl 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 / vinyl. • 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> | Deliveries Room |
| <i>Description</i> | Vinyl floor sheeting or equivalent. |
| <i>Lifecycle</i> | Vinyl has a lifespan expectancy of 15-25 years. |
| <i>Required maintenance</i> | Regular cleaning as necessary with recommended products as per manufacturer's instructions. Inspect annually for damage/wear. |
| <i>Year</i> | Annual |
| <i>Priority</i> | Low |
| <i>Selection process</i> | Durable, low maintenance floor finish. |
| <i>Reference</i> | N/A |

| | |
|-----------------------------|---|
| <i>Location</i> | All wet areas (Resident's Facilities WC) |
| <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, few materials provide this and are as hard wearing |
| <i>Reference</i> | N/A |

5.2. Walls (Manufacturer / Supplier TBC)

5.2.1. Common Areas

| | |
|-----------------------------|--|
| <i>Location</i> | Entrances lobbies/Reception/Staircores/Offices |
| <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> | Lift core and apartment lobbies |
| <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> | Resident facilities |
| <i>Description</i> | Selected painted finish with primer to skimmed plasterboard (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 (WC) |
| <i>Description</i> | Selected ceramic wall tile to plasterboard (moisture board to wet areas) |
| <i>Lifecycle</i> | Typical life expectancy of 35 years |
| <i>Required maintenance</i> | Bi-annual inspection to review damage, local repairs as necessary, in 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 (Manufacturer / Supplier TBC)

5.3.1. Common Areas & Tenant Amenity Areas

| | |
|-----------------------------|--|
| <i>Location</i> | Reception/Staircores/Lift/Lobbies/Resident Facilities /Offices/Corridors |
| <i>Description</i> | Selected paint finish with primer to skimmed plasterboard 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 (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | Staircores |
| <i>Description</i> | Mild Steel Painted handrail and balustrade. |
| <i>Lifecycle</i> | 25-30 years typical lifecycle |
| <i>Required maintenance</i> | Regular inspections of bolts and joints. General maintenance in relation to impact damage and general wear and tear. |
| <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 (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | All Blocks |
| <i>Description</i> | Selected hardwood and pre-finished veneer solid core doors. All fire rated doors and joinery items to be manufactured in accordance with B.S. 476. Timber saddle 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, unless fire door High |
| <i>Selection process</i> | Industry standard |
| <i>Reference</i> | N/A |

5.5.2. Skirtings & architraves (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | All Blocks |
| <i>Description</i> | Skirtings and architraves. Painted MDF. |
| <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 (Manufacturer / Supplier TBC)

| | |
|-----------------------------|--|
| <i>Location</i> | All Blocks |
| <i>Description</i> | Window boards. Painted MDF. |
| <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 |

6.0. BUILDING SERVICES

6.1. Mechanical systems

6.1.1. Mechanical Plant Rooms

| | |
|----------------------|---|
| Location | Plant |
| Description | Exhaust Air Source Heat Pumps / Gas Fried Boilers / CHP |
| Lifecycle | <ul style="list-style-type: none"> • Annual Maintenance / Inspection to Heating System • Annual Maintenance of Air Source Heat Pumps • Annual Maintenance / Inspection to Heating and Water Pumps. • Annual Maintenance / Inspection to Water Tanks. • Annual Maintenance / Inspection to Booster-sets. • Annual Maintenance / Inspection to DHS Tanks. • Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage. • Replacement of equipment at (End of Life) EOL to be determined at detailed design stage. |
| Required maintenance | Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme |
| Year | Annually |
| Priority | Medium |
| Selection process | 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. |
| Reference | N/A for this item. |

6.1.2. Soils and Wastes

| | |
|-----------------------------|---|
| <i>Location</i> | All Areas |
| <i>Description</i> | PVC / Cast iron Soils and Wastes Pipework |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 for this item. |

6.1.3. Water Services

| | |
|-----------------------------|---|
| <i>Location</i> | Apartments, Kitchens, etc |
| <i>Description</i> | Copper Water Services Pipework and associated fittings and accessories. |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 for this item. |

6.1.4. Domestic Hot Water Heating Services

| | |
|-----------------------------|---|
| <i>Location</i> | Apartment |
| <i>Description</i> | Air Source Heat Pump |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • Annual Inspection of Air Source Heat Pump 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 for this item. |

6.1.5. Ventilation Services

| | |
|-----------------------------|--|
| <i>Location</i> | Apartment |
| <i>Description</i> | Heat Recovery Units, Ducting & Grilles |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 for this item. |

6.2. Electrical Services

6.2.1. Electrical Infrastructure

| | |
|-----------------------------|--|
| <i>Location</i> | Switch rooms / Risers |
| <i>Description</i> | Maintenance of Electrical Switchgear |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • Annual Inspection of Electrical Switchgear and switchboards. • Thermographic imaging of switchgear 50% of 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, ETCI, CIBSE recommendations and be code compliant in all cases. |
| <i>Reference</i> | N/A for this item. |

6.2.2. Lighting Services Internal

| | |
|-----------------------------|---|
| <i>Location</i> | All Areas – Internal |
| <i>Description</i> | Lighting |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 |
| <i>Reference</i> | N/A for this item. |

6.2.3. Lighting Services External

| | |
|-----------------------------|---|
| <i>Location</i> | All Areas – Internal |
| <i>Description</i> | Lighting |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 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 for this item. |

6.2.4. Protective Services – Fire Alarm

| | |
|-----------------------------|---|
| <i>Location</i> | All areas – Internal |
| <i>Description</i> | Fire alarm |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 |
| <i>Reference</i> | N/A for this item. |

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> | |
| <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 for this item. |

6.2.6. Protective Services – Apartment Sprinkler System (Where Applicable by Fire Cert)

| | |
|-----------------------------|---|
| <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 for this item. |

6.2.7. Protective Services – Dry 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 for this item. |

6.2.8. Fire Fighting Lobby Ventilation (To Fire Consultants Design and Specification)

| | |
|-----------------------------|--|
| <i>Location</i> | Common Area Lobby's |
| <i>Description</i> | Smoke Extract / Exhaust Systems |
| <i>Lifecycle</i> | <ul style="list-style-type: none"> • 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 |