ST. PAUL'S RESIDENTIAL DEVELOPMENT

RAHENY, CO. DUBLIN

BUILDING LIFE CYCLE REPORT

DOCUMENT HISTORY

ISSUE NO:	1	2	3
STATUS:	DRAFT 1	DRAFT 2	DRAFT 3
DATE:	17/04/19	03/09/19	26/09/19
PREPARED BY:	BEN DELOUGHRY DAVID FEIGHERY	BEN DELOUGHRY DAVID FEIGHERY	BEN DELOUGHRY DAVID FEIGHERY
CHECKED BY:	AODHÁN KING	AODHÁN KING	AODHÁN KING
APPROVED BY:	AODHÁN KING BARRY FINNEGAN	AODHÁN KING DARREN DAVIDSON	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 5
4.0. EXTERNAL BUILDING FABRIC SCHEDULE 6
4.1. Roofing 6
4.2. Rainwater drainage 8
4.3. External walls 9
4.4. External windows & doors 10
4.5. Balconies 10
5.0. INTERNAL BUILDING FABRIC SCHEDULE 12
5.1. Floors 12
5.2. Walls 15
5.3. Ceilings 17
5.4. Internal handrails & balustrades 17
5.5. Carpentry & joinery 18
6.0. BUILDING SERVICES 19
6.1. Mechanical systems 19
6.2. Electrical services 23

1.0. INTRODUCTION

Aramark Property were instructed by Crekav Trading GP Limited to provide a Building Lifecycle Report for their proposed residential scheme at Sybil Hill Road, Raheny, Co. Dublin.

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). These guidelines supersede the previous 2015 document.

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

Crekav Trading GP Limited intend to apply for Planning Permission for a proposed residential development on a 6.4ha site at Sybil Hill Road, Raheny, Co. Dublin.

The development will comprise of:

- 657 apartment units accommodated in 9 no. blocks ranging in height from 5 to 9 storeys (over basement).
- The development will also provide residential tenant amenity rooms at ground and basement level of Block 1 and a residential gym facility at ground floor in Block 6. A large crèche is proposed in the ground floor of block 7.
- Public open space is provided in one large area adjacent to Saint Anne's Park to the south of the apartment blocks. Communal open space is provided around the apartment blocks providing a parkland setting to the scheme.
- A basement car park will provide 465 car parking spaces, secure bicycle parking spaces, refuse storage and plant. In addition, 34 surface parking spaces are proposed with a mix of visitor, disabled, crèche, electric and go car spaces. Visitor bicycle parking will be provided at ground level.

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 St. Paul's proposed residential development 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 block 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, metal cladding and glass as well as hardscape in the public, semi-public and private realm will contribute to lower maintenance costs for future residents and occupiers.

Please note that this report reflects the limited information available to Aramark Property at the date of this issue. 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

Location	Apartment Blocks
Description	Extensive green roof system
Lifecycle	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.
Required maintenance	Quarterly maintenance visits, no irrigation necessary with Sedum blankets.
Year	Quarterly every year
Priority	Medium
Selection process	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.
Reference	OMP roof plan drawings dated September 2019

4.1.2. Glazed roof

Location	Apartment Blocks
Description	• Glazed roof over external weather-protected street with openings to side for ventilation. • Glazing to manufacturer's specification (i.e. double glazed/laminated panels, solar control properties, fixing details etc.)
Lifecycle	Lifecycle of 20-30 years for glazed roofing which can be extended further if correctly maintained.
Required maintenance	Cleaning twice yearly and annual inspection internally and externally for cracks and defective seals and fixings. Carry out localised repairs as required. Use of 'self-cleaning' glass may reduce frequency of cleaning requirements.
Year	Twice per year/annual
Priority	Medium
Selection process	Chosen for safety, durability and solar control properties.
Reference	OMP roof plan drawings dated September 2019

4.1.3. **Paved roof decks / terraces**

Location	Apartment blocks
Description	• Paving with light weight slabs on; • Patent pads on; • Cushion layer on; • Roof deck build up to architects' and engineers' instructions.
Lifecycle	Average lifecycle of 30 years. Generally tends to be a long-lasting material if well maintained and installed appropriately.
Required maintenance	General repair works, watching out for displacement of slabs, mortar decay and removal of organic matter.
Year	Annually
Priority	Medium
Selection process	Paving slabs provide a robust and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces.
Reference	N/A

4.1.4. **Fall arrest system for roof maintenance access**

Location	Roofs *(locations TBC)*
Description	• 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.
Lifecycle	25-30 years dependent on quality of materials. Generally steel finishes to skyward facing elements can be expected to maintain this life expectancy.
Required maintenance	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.
Year	Annually
Priority	High
Selection process	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.
Reference	N/A

4.1.5. **Roof cowls**

Location	Roofs *(locations TBC)*
Description	Roof Cowl System to be supplied with weather apron for flat roofs.
Lifecycle	25-35 years
Required maintenance	Check fixings annually, inspect for onset of leading edge corrosion if epoxy powder coat finish and treat.
Year	Annually
Priority	Low
Selection process	Standard fitting for roof termination of mechanical ventilation system
Reference	N/A

4.1.6. **Flashings**

Location	All flashing locations
Description	Lead to be used for all flashing and counter flashings.
Lifecycle	Typical life expectancy of over 70 years recorded for lead flashings. Recessed joint sealing will require regular inspections.
Required maintenance	Check joint fixings for lead flashing, ground survey annually and close up inspection every 5 years. Re-secure as necessary.
Year	Ground level inspection annually and close up inspection every 5 years
Priority	Medium
Selection process	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.
Reference	N/A

4.2. **Rainwater drainage**

Location	Apartment blocks
Description	• *Rainwater outlets:* Suitable for specified roof membranes. • *Pipework:* Cast Aluminium downpipes/uPVC downpipes. • *Below ground drainage:* To M&E/ Structural Engineers design and specification. • *Disposal:* To surface water drainage to Structural Engineers design. • *Controls:* To M&E/ Structural Engineers design and specification. • *Accessories:* allow for outlet gradings, spigots, downspout nozzle, hopper heads, balcony and main roof outlets.
Lifecycle	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.
Required maintenance	As with roofing systems routine inspection is key to prolonging the life expectancy of rainwater systems. Regular cleaning of rainwater heads and

	gutters, checking joints and fixings and regularly cleaning polyester coated surfaces (no caustic or abrasive materials).
Year	Annually, cleaning bi-annually
Priority	High
Selection process	As above, aluminium fittings compare well against cast iron (in terms of cost) and plastic (in terms of lifespan and aesthetic)
Reference	N/A

4.3. External walls

4.3.1. Brickwork

Location	Apartment blocks
Description	Selected brick finish
Lifecycle	While bricks have a high embodied energy, they are an extremely durable material. Brickwork in this application is expected to have a lifespan of 80 years or more. The mortar pointing however has a shorter lifespan of 25-50 years.
Required maintenance	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.
Year	Annual
Priority	Low
Selection process	Brick is an attractive finish 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.
Reference	OMP elevation drawings dated September 2019

4.3.2. Metal cladding

Location	Apartment blocks
Description	• Metal cladding panels to part façades and canopies of apartment blocks. • Metal-clad surrounds to apartment block box windows.
Lifecycle	Metal cladding has a typical life expectancy of over 35 years.
Required maintenance	Metal cladding requires little maintenance and is specified to resist corrosion. It can contribute to lower ongoing maintenance costs in comparison to exposed porous materials which may be liable to faster deterioration. Long term cleaning requirements should be taken into consideration.
Year	Inspection annually; cleaning 5 yearly.
Priority	Low

Selection process	Metal cladding protects the building's structure from rainwater and weathering. Metal cladding systems are also chosen for their aesthetic impact, durability and weathering properties.
Reference	OMP elevation drawings dated September 2019

4.4. **External windows & doors**

Location	Apartment blocks
Description	• Selected/alu-clad windows, curtain walling and spandrel panels to apartment blocks. • All units to be double/triple-glazed with thermally broken frames. • Privacy glazing to WCs. • 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.
Lifecycle	Aluminium windows have a typical lifespan of approximately 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.
Required maintenance	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 frames and ensure adequate ventilation.
Year	Annual
Priority	Medium
Selection process	Aluminium is a durable and low maintenance material 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.
Reference	OMP elevation drawings dated September 2019

4.5. **Balconies**

4.5.1. **Structure**

Location	Apartment blocks
Description	• Powder-coated steel frame balcony system to engineer's detail OR precast concrete structure *(to be confirmed at detail design stage).* • Thermally-broken farrat plate connections to main structure of building. • Aluminium face and soffit with colour matched to windows and surrounds.

Lifecycle	• 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.
Required maintenance	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.
Year	Annual
Priority	High
Selection process	Engineered detail; designed for strength and safety.
Reference	N/A

4.5.2. **Balustrades and handrails**

Location	Apartment blocks
Description	• Glass balustrades with mild steel uprights and handrails. • Approved tempered safety glass and steel including fixings in accordance with manufacturer's details.
Lifecycle	General glass and metal items have a lifespan of 25-45 years.
Required maintenance	Annual visual inspection of connection pieces for impact damage or alterations.
Year	Annual
Priority	High
Selection process	Steel and glass options will have a longer lifespan and require less maintenance than timber options (10-20 years).
Reference	OMP elevation drawings dated September 2019

5.0. INTERNAL BUILDING FABRIC SCHEDULE

5.1. Floors

5.1.1. Common areas

Location	Entrance lobbies / Reception areas
Description	• Selected anti-slip porcelain or ceramic floor tile. • Provide for inset matwell.
Lifecycle	Lifespan expectation of 20-30 years in heavy wear areas, likely requirement to replace for modernisation within this period also
Required maintenance	Visual inspection, intermittent replacement of chipped / loose tiles.
Year	Annual
Priority	Low
Selection process	Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
Reference	N/A

Location	Lobbies / corridors
Description	Selected carpet inlay on underlay.
Lifecycle	Lifespan expectation of 10-15 years for carpet. Likely requirement to replace for modernisation within this period also.
Required maintenance	Visual inspection with regular cleaning.
Year	Quarterly inspection and cleaning as necessary.
Priority	Low
Selection process	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility.
Reference	N/A

Location	Stairs / landings
Description	Selected carpet covering. Approved anodised aluminium nosings to stairs.
Lifecycle	• 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. • 20 year lifespan for aluminium nosings.
Required maintenance	Visual inspection with regular cleaning
Year	Quarterly inspection and cleaning as necessary
Priority	Low
Selection process	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility
Reference	N/A

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

5.1.2. **Tenant amenities**

Location	Tenant communal lounge, meeting rooms, hot desk areas, cinema room, games room, offices.
Description	• Selected anti-slip porcelain or ceramic floor tile, or • Timber laminate / parquet flooring, or • Carpet covering. • Provide for inset matwell.
Lifecycle	• Life expectancy of 20-30 years for tiling in heavy wear areas • 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.
Required maintenance	Quarterly visual inspection, intermittent replacement of chipped / loose tiles. Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
Year	Quarterly
Priority	Low
Selection process	Materials chosen for aesthetics, durability and low maintenance.
Reference	N/A

Location	Gym
Description	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.
Lifecycle	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.
Required maintenance	Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.

Year	Quarterly
Priority	Medium
Selection process	Appropriate use of timber floors, specifically in gym areas controls acoustic impact.
Reference	N/A

Location	Crèche
Description	Linoleum floor sheeting. Provide for inset matwell.
Lifecycle	Linoleum has a lifespan expectancy of 15-25 years. Matwell to be replaced every 10 years.
Required maintenance	Regular cleaning as necessary with recommended products as per manufacturer's instructions. Inspect annually for damage/wear.
Year	Annual
Priority	Low
Selection process	Durable, low maintenance floor finish. Slip rating required at entrance lobby.
Reference	N/A

Location	All wet areas (i.e. kitchens, changing rooms, WCs)
Description	Selected anti-slip ceramic floor tile.
Lifecycle	Lifespan expectation of 20-30 years in heavy wear areas, likely requirement to replace for modernisation within this period also.
Required maintenance	Visual inspection, intermittent replacement of chipped / loose tiles.
Year	Annual
Priority	Low
Selection process	Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
Reference	N/A

5.2. Walls

5.2.1. Common areas

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

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

5.2.2. Tenant amenities

Location	Tenant communal lounge, meeting rooms, hot desk areas, offices, crèche, games room.
Description	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

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

Location	Cinema room
Description	Selected wallpaper and acoustic panels.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish with sound insulation properties.
Reference	N/A

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

5.3. **Ceilings**

Location	Common areas & tenant amenity rooms.
Description	Selected paint finish with primer to skimmed plasterboard ceiling. Acoustic panels to cinema room ceiling.
Lifecycle	2-10 years for finishes; 40 years for plasterboard.
Required maintenance	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Year	Bi-annually
Priority	Low
Selection process	Decorative and durable finish.
Reference	N/A

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

5.4. **Internal handrails & balustrades**

Location	Apartment blocks
Description	• Proprietary glazed panel system face fixed to stairs stringer / landing slab edge via stainless-steel brackets and clamps fixed to concrete slab to manufacturer's details & specifications OR metal balustrade option. • Timber or stainless steel handrails bolted to masonry wall or fixed to metal uprights.
Lifecycle	25-30 years typical life expectancy.
Required maintenance	Regular inspections of holding down bolts and joints.
Year	Annually
Priority	High
Selection process	Hard wearing long life materials against timber options.
Reference	N/A

5.5. Carpentry & joinery

5.5.1. Internal doors and frames

Location	Apartment blocks
Description	• 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.
Lifecycle	30 years average expected lifespan.
Required maintenance	General maintenance in relation to impact damage and general wear and tear.
Year	Annual
Priority	Low, unless fire door High
Selection process	Industry standard
Reference	N/A

5.5.2. Skirtings & architraves

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

5.5.3. Window boards

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

6.0. BUILDING SERVICES

6.1. Mechanical systems

6.1.1. Mechanical plant

Location	Plant Rooms
Description	Centralised Heating Plant with High Efficiency Condensing Boilers and Combined Heat and Power Units for apartments Specification to be further detailed by the Design Team at detailed design stage.
Lifecycle	Annual Maintenance / Inspection to Heating System / CHP Units. 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. Annual Maintenance / Inspection of district heating system pipework, valves, accessories and insulation. 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

6.1.2. **Soils and Wastes**

Location	All Areas
Description	PVC / Cast iron Soils and Wastes Pipework
Lifecycle	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.
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

6.1.3. **Water Services**

Location	Apartments, Kitchens, Common Area Water where required.
Description	Copper Water Services Pipework and associated fittings and accessories.
Lifecycle	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.
Required maintenance	Annual Inspections, including legionella testing to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	High
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

6.1.4. **Gas Services**

Location	Plant Room
Description	Gas Detection Systems.
Lifecycle	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.
Required maintenance	Annual Service Inspections, testing and certification to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	High
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

6.1.5. **Heating Services**

Location	Apartments
Description	Heat interface Units (HIU) / Boiler Specification proposed and to be confirmed by design team at detailed design stage.
Lifecycle	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.
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

6.1.6. **Ventilation Services**

Location	Apartments
Description	Heat Recovery Units, Ducting & Grilles – details to be confirmed by design team at detailed design stage.
Lifecycle	Annual inspection of extract fan and grilles. Cost for replacement equipment to be updated on completion of design matrix of equipment 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

6.2. Electrical services

6.2.1. Electrical Infrastructure

Location	Switch rooms / Risers
Description	Maintenance of Electrical Switchgear – details to be confirmed by design team at detailed design stage.
Lifecycle	Annual Inspection of Electrical Switchgear and switchboards. Thermographic imagining 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.
Required maintenance	Annual / Every three years to be included as part of Development Planned Preventative Maintenance Programme
Year	Annually
Priority	High
Selection process	All equipment to meet and exceed ESB, ETCI, CIBSE recommendations and be code compliant in all cases.
Reference	N/A

6.2.2. Lighting services internal

Location	All Areas – Internal
Description	Lighting – details to be confirmed by design team at detailed design stage.
Lifecycle	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.
Required maintenance	Annual / Quarterly Inspections certification as required per above remedial works.
Year	Annually / Quarterly
Priority	High
Selection process	All equipment to meet requirements and be in accordance with the current IS3217
Reference	N/A

6.2.3. **Lighting Services External**

Location	All Areas – Internal
Description	Lighting – details to be confirmed by design team at detailed design stage.
Lifecycle	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.
Required maintenance	Annual / Quarterly Inspections certification as required as per the PPM schedule.
Year	Annually / Quarterly
Priority	High
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

6.2.4. **Protective Services – Fire Alarm**

Location	All areas – Internal
Description	Fire alarm – details to be confirmed by design team at detailed design stage.
Lifecycle	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.
Required maintenance	Annual / Quarterly Inspections certification as required as per the PPM schedule.
Year	Annually / Quarterly
Priority	High
Selection process	All equipment to meet requirements and be in accordance with the current IS3218
Reference	N/A

6.2.5. **Protective services – Fire Extinguishers**

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

6.2.6. **Renewable Services**

Location	Boiler-house
Description	PV Array on roof Supporting the Part L requirements in conjunction with the CHP installation in the plantroom – details to be confirmed by design team at detailed design stage.
Lifecycle	Quarterly Clean Annual Inspection of CHP / PV Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
Required maintenance	Quarterly / Annual
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