

**BUILDING LIFECYCLE
REPORT FOR THE
COOKSTOWN CASTLE
RESIDENTIAL
DEVELOPMENT IN THE
COOKSTOWN INDUSTRIAL
ESTATE**

Technical Report Prepared For

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EXECUTIVE SUMMARY

In order to ensure a more sustainable Urban Housing stock the Department for Housing, Planning and Local Government published Guidelines for Planning Authorities with Design Standards for New Apartments in 2018. The Guidelines include a requirement to consider the operation and management of apartment developments. Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

“6.13 Accordingly, planning applications for apartment development shall include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents. “

The measures are broken down into two long-term running costs: (1) due to the property management of shared spaces and (2) a service charges budget. Within the service charges, the budget cost associated with a Building Investment Fund will also be included. These costs relate to long term upkeep of the property and its structure.

This report also details the sustainability and lifecycle considerations for the Proposed Cookstown Castle residential development which have been made under the headings: Energy and Material Specification, Waste, Landscape, Health and Wellbeing and Transport.

A property management company will be engaged at an early stage of the development to ensure that all property management functions are dealt with for the development and that the running and maintenance costs of the common areas of the development are kept within the agreed annual operational budget.

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1.0 INTRODUCTION

In order to ensure a more sustainable Urban Housing stock the Department for Housing, Planning and Local Government published Guidelines for Planning Authorities with Design Standards for New Apartments in 2018 (DHPLG 2018). This report details the sustainability and lifecycle considerations which have been made with respect to the Cookstown Castle residential development.

These Guidelines include a requirement to consider the operation and management of apartment developments. Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

“6.13 Accordingly, planning applications for apartment development shall include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents. “

1.1 Proposed Development Description

The proposed development is as follows :

- (i) Demolition of the existing industrial buildings (15,989sq.m);
- (ii) Construction of a mixed-use development featuring: (a) 1104 no. 'build-to-rent' apartments in 4 no. blocks varying in height from four to eleven storeys; and (b) 4 no. commercial units at ground floor level of Blocks B and D (totalling 537sqm), 1,922sqm of office space across first to seventh floor levels of Block D and a 273sqm crèche at ground floor level of Block C;
- (iii) Road, junction and streetscape upgrade works along First Avenue, Cookstown Road and Old Belgard Road, including the installation a signalized junction at the intersection of First Avenue and Cookstown Road and Old Belgard Road and Cookstown Road; (iv) construction of 3 no. new roads and 1 no. pedestrian/cycle link to the Belgard Luas Stop; (v) construction of a public plaza in the south-western corner of the site; and (vi) associated site and infrastructural works are also proposed which include: foul and surface water drainage; attenuation tanks; lighting; landscaping; boundary fences; plant areas; ESB substations; internal hard landscaping, including footpaths and street furniture; and all associated site development works.

2.0 LONG TERM RUNNING AND MAINTENANCE COSTS

This section of the report details the measures put in place for the Proposed Development in order to comply with the second element of Section 6.13 of the Apartment Guidelines 2018 (DHPLG 2018) which requires that apartment applications shall:

“an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application”

The measures are broken down into two long-term running costs:

- (1) due to the property management of shared spaces and
- (2) a service charges budget.

Within the service charges budget cost associated with a Building Investment Fund will also be included. These costs relate to long term upkeep of the property and its structure.

2.1 Property Management of the Shared Spaces of the Development

A property management company will be engaged at an early stage of the development to ensure that all property management functions are dealt with and that the running and maintenance costs of the common areas of the development are kept within the agreed annual operational budget.

The property management company will enter into a contract directly with the Owners' Management Company (OMC) for the ongoing management of the built development. This contract will be for a maximum period of 3 years and in the form prescribed by the Property Services Regulatory Authority (PSRA).

The Property Management Company also has the following responsibilities for the apartment development once constructed:

- Timely formation of an Owners Management Company (OMC) – which will be a company limited by guarantee having no share capital. All future purchasers will be obliged to become members of this OMC;
- Preparation of annual service charge budget for the development common areas;
- Fair and equitable apportionment of the annual operational charges in line with the Multi-Unit Developments (“MUD”) Act 2011;
- Engagement of independent legal representation on behalf of the OMC in keeping with the MUD Act - including completion of Developer OMC Agreement and transfer of common areas;
- Transfer of documentation in line with Schedule 3 of the MUD Act;
- Estate Management;
- Third Party Contractors Procurement and management;
- OMC Reporting;
- Accounting Services;
- Corporate Services;
- Insurance Management;
- After Hours Services; and
- Staff Administration.

2.2 Service Charge Budget

The foremost responsibility of the property management company is compiling the service charge budget for the development for agreement with the OMC. The service charge budget covers items such as cleaning, landscaping, refuse management, utility bills, insurance, maintenance of mechanical / electrical lifts / life safety systems, security, property management fee, etc, to the development common areas in accordance with the Multi Unit Developments Act 2011 (“MUD” Act).

This service charge budget also includes an allowance for a Sinking Fund and this allowance is determined following the review of the Building Investment Fund (BIF) report prepared by for the OMC. The BIF report once adopted by the OMC, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year lifecycle period. The BIF report will identify

those works which are necessary to maintain, repair, and enhance the premises over the 30 year lifecycle period, as required by the Multi Unit Development Act 2011.

A sample format of the typical BIF report is set out in Appendix 1 and the phases of the lifecycle as per BS7543; 2015 are detailed in Appendix 2. The BIF specification will be finalised at detailed design stage as the specification and estimate of the costs to maintain / repair or replace, can only be determined after detailed design and the procurement / construction of the development and therefore has not been included in this document.

3.0 SITE SPECIFIC MEASURES TO EFFECTIVELY MANAGE AND REDUCE COSTS FOR RESIDENTS

This section of the report details the measures put in place for the Proposed Development in order to comply with the second element of Section 6.13 of the Apartment Guidelines 2018 (DHPLG 2018) which requires that apartment applications shall:

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

The measures are broken down into the areas of waste, energy and emissions, landscape, human health and design choices.

3.1 Energy and Material Specification

The following are the proposed measures to be put in place with respect to energy requirements for future occupants, Table 1 provides additional specific details for the proposed development. The measures are designed in order to comply with local and regional regulations, while reducing costs for the occupants of the Proposed Development.

U Values

The building fabric is the structural materials, cladding, insulation, finishes that enclose the building i.e. the roof, walls, doors etc. Building fabric for the Proposed Development will include insulation levels sufficient to meet the Part L 2019 U-values. All windows shall comply with BS EN ISO 10077-1: 2006 - *‘Thermal performance of windows, doors and shutters. Calculation of thermal transmittance’*.

Air permeability

Air permeability is a measure of the tightness of the building to air passing through it with all windows and doors closed. For the Proposed Development it shall be measured by means of pressure testing of a building prior to completion in accordance with BS EN ISO 9972:2015 *‘Thermal performance of buildings. Determination of air permeability of buildings. Fan pressurization method’*. Part L (2019) (DHPLG 2019a) specify $5 \text{ m}^3/\text{m}^2/\text{hr}$ @ 50Pa as upper limit for air permeability and is set to reduce heat loss by infiltration of cold outdoor air.

Thermal Bridging

Thermal bridges impact the amount of energy required to heat and cool a space. Building Regulations TGD L Appendix D (DHPLG 2019a) defines thermal bridges that occur at junctions between building elements, these junctions are potential zones of heat losses and therefore are included in the calculation of transmission heat losses.

A ψ value of $0.08 \text{ W/m}^2\text{K}$ is stipulated by SEAI (SEAI 2020) for new dwellings whose details conform with “*Limiting Thermal Bridging and Air Infiltration --- Acceptable Construction Details*” as referenced in Building Regulations 2008 and 2019 TGD L (DHPLG 2019a). Compliance of the ψ value within the relevant drawings must be signed off by the site engineer or architect.

Demand Controlled Ventilation

Part F of building regulations (DHPLG 2019b) requires adequate and effective means of ventilation shall be provided for people in buildings. This shall be achieved by:

- (a) limiting the moisture content of the air within the building so that it does not contribute to condensation and mould growth, and
- (b) limiting the concentration of harmful pollutants in the air within the building.

Ventilation systems will be installed, balanced and commissioned by competent installers e.g. Quality and Qualifications Ireland accredited or Education Training Board or equivalent. Systems when commissioned and balanced should then be validated to ensure that they achieve the design flow rates by an independent competent person e.g. NSAI certified or equivalent.

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. The BER calculation accounts for energy use through space heating, ventilation, water heating and lighting under standardised operating conditions.	The BER certificate will ensure future occupants are aware of the energy performance of the building. A good BER rating ensure reduced energy consumption and costs.
U- value targets for efficiency	Building Fabric Element Target U values Part L 2019. Target Elemental U-values: <ul style="list-style-type: none"> • Exposed & Ground floor: $0.18 \text{ W/m}^2\text{K}$ $0.18 \text{ W/m}^2\text{K}$, External Wall: $0.18 \text{ W/m}^2\text{K}$ $0.18 \text{ W/m}^2\text{K}$ • Flat Roof: $0.2 \text{ W/m}^2\text{K}$ $0.2 \text{ W/m}^2\text{K}$ • External Windows & Doors: $1.2 \text{ W/m}^2\text{K}$ $1.4 \text{ W/m}^2\text{K}$. 	Lower U-values and improved air tightness has the benefit of lower energy usage by reducing heat losses through the building fabric.
Maximum Permitted Carbon Performance Coefficient (MPCPC)	MPCPC demonstrate that an acceptable CO_2 emission rate has been achieved. MPCPC for a nearly zero energy dwelling will be 0.30	Ensures CO_2 emission rate is low. CO_2 is associated with the use of fossil fuels which have an associated cost to the building occupants.
Zero-Energy Building Standard	Nearly Zero-Energy Building (NZEB) means a building that has a very high energy performance as determined in accordance with Annex I of the EU Energy Performance of Buildings Directive Recast (EPBD Recast). The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.	NZEB ensure reduced energy consumption and running costs.

Measure	Description	Benefit
Design air permeability target	To reduce heat loss by infiltration the target air permeability will be 3.0 m ³ /m ² /hr @ 50Pa, this a improvement on the Part L (2019) specify 5 m ³ /m ² /hr @ 50Pa as upper limit for air permeability,	Reducing heat loss from the building due to a high air permeability reduces the costs associated with maintaining the building to a comfortable ambient temperature.
Thermal Bridging target	Target of $\gamma = 0.08$ W/m ² K which is the standard for new dwellings whose details conform with "Limiting Thermal Bridging and Air Infiltration – Acceptable Construction Details" as referenced in Building Regulations 2011 TGD L.	Reducing heat loss from the building due to poor thermal bridging reduces the costs associated with maintaining the building to a comfortable ambient temperature.
Internal and External Lighting	Indoor lighting shall be based on the installed fixed lighting, and on the contribution of daylight. The calculation will include low-energy lighting provided by fixed outlets based on lighting design details (e.g. lamp power and efficacy), lamp type, and number of lamps.	Lighting has been designed to provide a safe environment and utilise natural light to keep energy costs low.
Passive and Demand Controlled Ventilation	Specific Fan Power (SFP) of the fan should not be higher than 0.25 W/l/s. The design of dwellings shall provide required area of background ventilators via wall vents/trickle vents & undercut doors to wet rooms to provide fresh air in place of extracted air from the wet rooms.	Background ventilators reduce energy and maintenance demand. Setting a SFP for demand ventilated areas ensures air changes as required while minimising energy demand.
Renewable Energy Ratio (RER)	RER is the ratio of the primary energy from renewable energy sources to total primary energy. Minimum RER is 0.25 for apartment buildings to account for common areas	Ensures reduced reliance on fossil fuels and reduces carbon emissions to the environment.
Heat Interface Unit (HIU)	A ultrasonic heat meter will be fitted with MBUS communications which will be linked back to plantroom and provide a record of heat and hot water used by the occupier for purpose of billing.	A record of usage provides an ability of the Proposed Developments occupants to predict their future costs.
Building Management System (BMS)	A BMS controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems. Advanced Building Energy Management system will control the plant to ensure its operation to maximum efficiency.	The DMS will ensure that the elements to heat, light, ventilate the Proposed Development are running in a manner to balance occupants comfort with reduced cost.

Table 1 Proposed Measures for Energy and Material Specification

3.2 Waste

The following are the proposed measures to be put in place with respect waste collection. The measures are designed in order to comply with local and regional regulations, while reducing costs for the occupants of the Proposed Development.

Measure	Description	Benefit
Construction & Demolition Waste Management Plan	This application is accompanied by a Construction & Demolition Waste Management Plan prepared by AWN Consulting.	The Plan demonstrates how the scheme will comply with national, regional, and local waste legislation along with best practice.
Operational Waste Management Plan	This application is accompanied by an Operational Waste Management Plan prepared by AWN Consulting.	The Plan demonstrates how the scheme has been designed to comply with national regional, and local waste legislation, waste by-laws, along with best practice.
Storage of Non-Recyclable Waste and Recyclable Household Waste	Inclusion of centralised communal waste storage areas for apartments and individual waste storage areas for the duplexes, with enough space to accommodate weekly storage of bins for dry mixed recyclable, organic waste and mixed non-recyclable waste. Glass will also be provided for in shared WSAs.	Easily accessible by all residents, facilities management personnel and the waste contractor(s), minimises potential littering of the scheme, reduce potential waste charges and does not limit waste contractor selection.
	Domestic waste management strategy (Apartment Units): <ul style="list-style-type: none"> Dry mixed recyclable, glass, mixed non-recyclable waste and organic waste segregation. Domestic waste management strategy (Duplexes): <ul style="list-style-type: none"> Dry mixed recyclable, mixed non-recyclable waste and organic waste segregation. 	Helps reduce potential waste charges and does not limit waste contractor selection. Reduce potential for fly tipping by residents and non-residents. Help reduce potential cross contamination of waste and reduce waste charges.
	Well signed waste storage rooms and waste receptacles.	
Composting	Organic waste receptacles to be provided in the communal waste storage areas. Residents will provide their own organic waste receptacles.	Helps reduce potential waste charges and compliance with national policy and legislation regarding segregation of biodegradable waste.

Table 2 Proposed Measures for Waste

3.3 Landscape

The landscape design has utilised the principles of inclusivity for all age groups, universal accessibility and sustainable development to ensure an inclusive and environmentally responsible design solution. Within the open spaces there will be areas for informal play, casual recreation and passive leisure, enhanced by the inclusion of features and elements such as level play spaces for all ages, seating areas, paths, all of which add to the health and wellbeing of the residents. Low maintenance textural planting and landform will be installed using high quality and environmentally appropriate materials. Table 3 sets out the proposed measures to be put in place with respect landscape design and planting.

Measure	Description	Benefit
Drainage Details	<p>The proposed Storm Water Drainage System (SuDS) will be incorporated into the landscape through the incorporation of;</p> <ul style="list-style-type: none"> • Sedum roofs • Courtyards gardens with over 50% lawns, planting and trees • Planting beds integrated into the public realm • Rain gardens / planted swales • Permeable paved surfaces in courtyards and in some parts of the public realm • Stormwater tree pits • Underground attenuation systems. 	<p>The overriding aim is to maximise sustainable urban drainage solutions.</p> <p>Rain gardens and sedum roofs will provide habitat and pollination opportunities as well as improving the overall look, feel and quality of the development.</p>
Materials strategy	<p>All materials will be designed to a high standard, will be robust and withstand a long life, as well as meet the CE standard.</p> <p>All areas will be designed to facilitate universal access to all users and be in compliances with Part M of the building regulations, as well as meet the CE standard.</p> <p>List of materials proposed;</p> <ul style="list-style-type: none"> • PCC units • Hardwood deck • Rolled dust • Yellow coloured bound aggregate • Poured concrete • Gabion walls <p>Lighting will be designed to meet the required lux levels for the site and streets and comply with SDCC County Councils standards.</p> <p>Lights have been positioned so they are 6m from proposed trees within the street areas. Where different, either the lighting design has been adjusted or the tree species amended so as to not block the street lighting.</p>	<p>The high standards of materials proposed;</p> <ul style="list-style-type: none"> • Meet development plan standards • Reduce maintenance • Creates a high quality characterful place where people want to be.
Planting strategy	The planting strategy responds to	Proposes a connected network of

Measure	Description	Benefit
	<p>site pressures and placemaking principles for proposed users. Eight proposed types of landscape are proposed.</p> <ul style="list-style-type: none"> • Street Trees • Public realm and Courtyard trees • Linear Urban Woodland • A Birch grove • Structural shrubs and plants • Hedgerows • Perennial beds and drifts • Planted swales and rain gardens • Lawns and long grass • Replace the single lost hedgerow along the site's northern boundary • Proposes species that are good pollinators • Proposes robust species that tolerate extremes of sun and shade • Proposes species that are maintenance friendly. 	<p>trees for placemaking, habitat creation, CO₂ absorption, rainwater absorption and the filtering of light. The Landscape plan also proposes to use vegetation to screen and enhance views for residents.</p>
<p>Measures chosen for long-term robustness and sustainability</p>	<p>Use of bold colours and geometry with integrated features for active and passive recreation.</p> <p>Direct, wide, well-lit and easily legible links.</p> <p>Well-placed focal points made using art, architecture, landform and planting.</p> <p>Defensible space for all ground floor apartments. 9 no. semi-private communal gardens as we also have 4 no. roof terraces/gardens.</p>	<ul style="list-style-type: none"> • Delivers a high quality, attractive, vibrant, fun, energetic and usable landscape. • Creates a strong sense of place for people to identify with. • Forms a permeable and legible landscape and streetscape. • Creates a landscape that leads people through it by integrating landmarks and focal points.
<p>Green roof</p>	<p>1000m² intensive green roof gardens are proposed on Blocks A and B (Block A roof garden is 456m² and block B roof garden is 555m².) The remaining extent of the extensive green roof systems are to be confirmed.</p>	<p>To maximise the use of external space and SuDs opportunities present.</p>

Table 3 Proposed Measures for Landscape

3.4 Health and Wellbeing

The following are the proposed measures to be put in place with respect health and wellbeing of future building occupants. The measures are designed in order to comply with sustainability principles, creating desirable spaces in conjunction with reducing costs for the occupants of the Proposed Development.

Measure	Description	Benefit
Outdoor spaces and amenity spaces	<ul style="list-style-type: none"> • Create identifiable semi-private courtyards • Maintain visual connectivity with the Dublin Mountains. • The design will create a series of spaces which will be rich in detail and diverse in textural and spatial qualities. Within the open spaces there will be areas for informal play, casual recreation and passive leisure, enhanced by the inclusion of features and elements such as level play spaces for all ages, seating areas, paths, low maintenance textural planting and landform using high quality and environmentally appropriate materials. • Within the proposed development there is an equipped play area proposed within 'Geometricity Linear Park'. This development aims to provide a public realm that is a playful experience in itself with lawns to run on, structures to climb and exercise on, walls to balance on and lines and lights to follow. 	Use of high quality and environmentally appropriate materials to increase lifespan.
Natural lighting	Lighting has been designed to provide a safe environment and utilise natural light.	Use of natural lighting reduces lighting costs.
Accessibility	<p>Increased links to Belgard LUAS stop to the north via new pedestrian linkages.</p> <p>All units will comply with the requirements for accessibility. Disabled parking included for both residents and visitor parking.</p>	Ensures spaces are accessible for all residents and their guests.
Security on site	CCTV and Security will be provided on site.	Reduces risk of property damage/loss to residents and promotes a safer living environment.

Table 4 Proposed Measures for Health and Wellbeing

3.5 Transport

Table 5 details the proposed measures to be put in place with respect transportation options and facilities of future building occupants. The measures are designed in order to comply with sustainability principles in conjunction with reducing costs for the occupants of the Proposed Development.

Measure	Description	Benefit
Car Parking	<p>The following car parking spaces will be provided for residents:</p> <p>Block: A 72 (including 4 disabled spaces) Block B:57 Block C: 42 Block D: 30 Office:19 Surface off street: 120 + 11 disabled spaces Total: 351</p>	Active Management and Marketing of the Development from the outset as Reduced Car Dependency, with restricted parking numbers provided acting as a demand management measure, will assist in reducing reliance on the private car as a primary mode of travel.
EV proportion and future expansion potential	10% of the overall car parking spaces be allocated for charging points for battery operated cars. All of the car parking spaces will be wired and ready for future charge points.	Promotion of Environmentally friendly Green Technology, reducing carbon footprint.
Car sharing options	A total of 16 car parking spaces in each block will be allocated for the provision of car sharing clubs/companies such as 'GoCar' to serve the developments residents and visitors.	Provides a sustainable option to private car ownership, for journeys that are difficult by public transport
Bike Parking	<p>All bicycle parking for residents will be located within the buildings.</p> <p>The proposed bike spaces have been positioned as much as possible on the street or near building entrances so that they are easily accessible by visitors.</p> <p>Total of 1860 bike parking spaces will be provided for residents (1464) and visitors (396).</p>	Accommodates and promotes an uptake of cycling and reduces reliance on the use of private cars and unsustainable travel modes.
Public transport accessibility	Highly accessible by both LUAS and Bus (Refer to details within MMP)	Very high quality public transport options provide mode choice reducing reliance on the car as a mode of travel

Table 5 Proposed Measures for Transport

4 CONCLUSION

In order to ensure a more sustainable Urban Housing stock the Department for Housing, Planning and Local Government published Guidelines for Planning Authorities with Design Standards for New Apartments in 2018. This report detailed the sustainability and lifecycle considerations for the Proposed Cookstown Castle Development which have been made under the headings: Energy and Material Specification, Waste, Landscape, Health and Wellbeing and Transport.

A property management company will be engaged at an early stage of the development to ensure that all property management functions are dealt with for the development and that the running and maintenance costs of the common areas of the development are kept within the agreed Annual operational budget.

5 REFERENCES

Department of Housing, Planning and Local Government (DHPLG) (2018) Design Standards for New Apartments - Guidelines for Planning Authorities

Department of Housing, Planning and Local Government (DHPLG) (2019a) Technical Guidance Document L- Conservation of Fuel and Energy – Dwellings

Department of Housing, Planning and Local Government (DHPLG) (2019b) Technical Guidance Document F- Ventilation

SEAI (2020) Domestic BER Technical Bulletin

APPENDIX 1: ITEMS TO BE INCLUDED IN A TYPICAL BUILDING INVESTMENT FUND (SINKING FUND)

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund. The specification will be finalised at detailed design stage. It is based on a typical building within the proposed development however the detail associated with each element heading i.e. specification and estimate of the costs to maintain / repair or replace, can only be determined after detailed design and the procurement/ construction of the development and therefore has not been included in this document.

Ref	Element	Life Expectancy
1.00	Roofs	
1.01	Replacement felt roof covering incl. insulation to main roofs	18
1.02	Replacement parapet details	18
1.03	Replace roof access hatches	25
1.04	Specialist Roof Systems - Fall arrest	25
2.00	Elevations	
2.01	Decorate rendered panels to apartments	18
2.02	Minor repairs and preparation for decorations of rendered areas	18
2.03	Replace exit/ entrance doors	25
2.04	Replace Rainwater goods	25
2.05	Recoat powder coated Finishes to balconies	20
2.06	Periodic replacement and overhauling of external fixings	5
2.07	Replace Balcony floor finishes	25
3.00	Stair cores & lobbies	
3.01	Decorate Ceilings	7
3.02	Decorate Walls	7
3.03	Decorate Joinery	7
3.04	Replace fire doors	25
3.05	Replace carpets (stairwells & lobbies)	12
3.06	Replace entrance mats	10
3.07	Replace nosings	12
3.08	Replace ceramic floors tiles	20
3.09	Fixed Furniture & Equipment - Provisional Sum	18
4.00	Podium Level Car Park	
4.01	Remove/ Replace ceiling insulation	25
4.02	Repaint parking spaces & Numbering	7
5.00	M&E Services	
5.01	General - Internal relamping	7
5.02	Replace Internal light fittings	18
5.03	Replace External light fittings (lights at entrance lobbies)	18
5.04	Replace smoke detector heads	18
5.05	Replace manual break glass units	18
5.06	Replace Fire alarm panel	18
5.07	Replace lift car and controls	25
5.08	Replace AOV's	25
5.08	Replace security access control installation	15

Ref	Element	Life Expectancy
5.09	Sump pumps replacement	15
5.10	External Mains Water connection	20
5.12	Electrical Mains and Sub Mains distribution	20
5.13	Emergency Lighting	20
6.00	Exterior	
6.01	Entrance Gate - motor renewal	12
6.02	Entrance Gate & pedestrian gate - redecoration	60
6.03	External boundary treatments - Recoat powder coated Finishes to railings	60
6.04	Replace cobbleblock areas	18
6.05	15-year cutback & thinning of trees. Overhaul landscaping generally	20
6.06	Replace CCTV provision	12
6.07	External Handrails and balustrade	18

APPENDIX 2: PHASES OF THE LIFECYCLE OF BS7543; 2015

BRITISH STANDARD

BS 7543:2015

