MILL BUILDING
BALLINACURRA MILL LRD
BUILDING LIFECYCLE ASSESSMENT REPORT

2025

Fourem

consulting architects urban design conservation

Contents

1. Introduction

Fourem Architects are appointed to produce a Building Lifecycle Report for the proposed development at Ballinacurra Mill, Ballinacurra, Midleton, Co. Cork. The purpose of this report is to provide an assessment of long- term running and maintenance costs as they would apply to a residential unit (these costs are based on costs at the time of making the application) within the existing Mill Building. Measures to manage and reduce costs for the residents of the apartment buildings are demonstrated.

The report considers the provisions of:

- Sustainable Residential Development and Compact Settlements: Guidelines for Planning Authorities (2022)
- Sustainable Urban Housing: Design Standards for New Apartments. Guidelines for Planning Authorities (2022)
- Quality Housing for Sustainable Communities, Department of the Environment, Heritage and Local Government (2007)
- Cork County Development Plan 2022
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Direction is stated in the Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) as set out in section 6.10 to section 6.13 as follows:

6.10 Certainty regarding the long-term management and maintenance structures that are put in place for an apartment scheme is a critical aspect of this form of residential development. It is essential that
robust legal and financial arrangements are provided to ensure that an apartment development is properly managed, with effective and appropriately resourced maintenance and operational regimes.

6.11 In this regard, consideration of the long-term running costs and the eventual manner of compliance of the proposal with the Multi- Unit Developments Act, 2011 are matters which should be considered as part
of any assessment of a proposed apartment development.

6.12 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.

6.13 The Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of apartment developments. In this regard it is advised that when granting permission for such developments planning authorities attach appropriate planning conditions that require:

• Compliance with the MUD Act,
• Establishment of an Owners Management Company (OMC) and:
• Establishment and ongoing maintenance of a sinking fund commensurate with the facilities in a development that require ongoing maintenance and renewal.

1.1 Proposed Development

This Building Lifecycle Report considers the proposed development on lands measuring 3.63 hectares at the former Ballinacurra Mill Buildings (Protected Structure Ref.523), Rosehill House (Protected Structure Ref. 520), and Eastville House NIAH Ref. (NIAH), Ref.20907636), Ballinacurra, Midleton, Co. Cork

The proposed development consists of:

The demolition of 1,165sq.m of structures associated with the former Mill and 2 no. vacant dwellings.

The construction of:

- 103 dwelling houses and 25 apartments (total of 128 residential units) as follows:
- 92 no. new dwelling houses ranging from 2 to 3 storeys in height (comprising of 39 no. 2 bedroom houses, 36 no. 3 bedroom houses and 17 no. 4 bedroom houses),
- 11 no. dwelling houses in existing structures (including 1 no. 4 bedroom dwelling in Rosehill House, 1 no. 3 bedroom dwelling in Rosehill outbuildings, 1 no. 2 bedroom dwelling and 1 no. 3 bedroom dwelling in Eastville House, and 3 no. 2 bedroom dwellings and 4 no. 3 bedroom dwellings in the Mill Buildings),
- 25 no. apartments in existing structures (**comprising of 1 no. ground floor Studio and 10 no. 1 bedroom apartments and 14 no. 2 bedroom apartments in existing Mill Buildings from first to third floor)***
- 1 no. single storey creche
- 1 no. single storey café
- **2 no. ground floor retail units***
- **1 no. ground floor commercial office unit***
- **1 no. ground floor medical centre unit***
- 1 no. ESB substation
- ***** bold text accommodation listed is within the Mill Buildings**

Ancillary works including provision of roads, footpaths, public open space, communal open space, private open spaces, 214 car park spaces, 114 cycle spaces, EV charging spaces, drainage infrastructure, 2 no. access points (one off Rose Lane and one off Cloyne Road, R629) and all associated site works including landscaping and boundary treatments.

It is also proposed to carry out new car parking arrangements along part of Rose Lane to the north of the site measuring 0.057 hectares. This brings the gross site area to 3.687 ha.

Figure 1 – Proposed Site Plan

2. Building Lifecycle Report - Section 01

This Building Lifecycle Report relates to the 25 proposed apartments which are located within the existing Malt House, The Smarts Store, The Malt Store and the Kiln Building and sit within buildings that have retail and commercial uses to the ground floors.

This comprises of the following:

The Malt House

10 apartments are proposed from first to third floor in the Malt House.

- 2 X 1 bed Apartments
- 8 X 2 bed Apartments

The Smarts Store

5 apartments are proposed at ground to second floor level of the Smarts Store.

- 1 X Studio Apartment
- 2 X 1 bed Apartments
- 2 X 2 bed Apartments

The Malt Store

6 apartments are proposed at first to third floor level of the Malt Store.

- 4 X 1 bed Apartments
- 2 X 2 bed Apartments

The Kiln Building

4 apartments are proposed at first to second floor level of the Kiln Building.

- 2 X 1 bed Apartment
- 2 X 2 bed Apartment

Total Apartments

A total of 25 apartments are proposed for the site

- 1 X Studio Apartment
- 10 X 1 bed Apartments
- 14 X 2 bed Apartments

The existing Mill building is centrally located within the site adjacent to Rose Lane. The site is zoned as Town Centre in the Cork County Development Plan. The Mill building is closely connected to the retail, offices and café functions within the proposed development. Car parking is provided to each apartment other than the ground floor studio apartment, the upper apartments are allocated 1 space per apartment, which is in line with Cork County Council Development Plan 2022-2028. A total 24 parking spaces are proposed for the apartments. All resident bicycle parking and bin storage is accommodated within and adjacent to the existing Mill Structures. 21 apartments are provided with balconies. 14 apartments have balconies that are a minimum 1m deep and 3m long. 7 apartments have a number of smaller balconies directly off doors and 4 apartments have no balconies. In addition to this, there is a 260m^2 communal open space proposed for the residents of the apartments to the east of the Malt House & Kiln Building.

Figure 2 – Commercial & Residential Diagram

Diagram Key:

Nett site area: 3.63 ha

Commercial

ESB Substation: 30m²

Crèche: 223m²
Crèche provided to accommodate up to 34 children.

Medical Centre: 69 m²

Retail: 414m²

Café: 69m²

Office: 56m²

Residential
Apartments: 25 Apartments (1 no. ground floor studio, 24 no. 1-2 bed apartments to upper floors)

New Dwelling Houses in town centre / neighbourhood centre

New Dwelling Houses in existing residential / mixed residential / heritage setting

Dwelling Houses in existing buildings

Existing Buildings

2.1 Longterm Running Costs

The apartment design considers how long-term running costs and maintenance costs can be kept reasonable for residents. The units in the Smarts Store, Malt Store & Kiln building are designed with no internal communal areas which reduces long-term maintenance costs passed on to the resident. The Malt House has no internal communal area proposed. The external central atrium proposed in the Malt House is an external communal space accessed from the internal circulation area on the first floor.

2.2 Property Management of Common Areas of the Proposed Developed Mill Buildings

A property management company must be set up to ensure that all responsibilities within the scope of property management are addressed and that the running and maintenance costs of the common areas of the development are kept within an agreed annual operation budget. The Property Management Company is to enter a contract directly with the Owners Management Company (OMC) for ongoing management of the built development which would include associated and attached commercial or retail space within the developed Mill Buildings.

Note: This contract will be for a maximum period of 3 years and in the form prescribed by the PSRA.

The following responsibilities for the apartment development after construction fall with the Property Management Company:

- A prompt formation of an OMC. – This is to be a company limited by guarantee having no share capital. All future purchasers of residential units will be obliged to become members of this OMC.
- Preparation of an annual service charge budget for development of the common areas.
- Fair and equitable appointment of the Annual operational charges in line with the MUD Act.
- Engagement of independent legal representation on behalf of the OMC in line with the MUD Act.
- Transfer of documentation in line with Schedule 3 of the MUD Act
- Estate Management
- Insurance Management
- Third Party Contractors Procurement and management
- OMC Reporting
- Accounting Services
- After Hours Services
- Corporate Services
- Staff Administration

2.3 Service Charge Budget

The property management company has several key responsibilities, mainly the compiling of the service charge budget for the development for agreement with the Owners Management Company The service charge budget covers items including cleaning, refuse management, utility bills, insurance, landscaping, maintenance of mechanical services, maintenance of electrical services and life safety systems, security, property management fee, and additional defined and agreed services, to the development common areas in accordance with the Multi-Unit Developments Act 2011.

An allowance for a Sinking Fund is also included in the Service Charge Budget which is determined following review of the Building Investment Fund (BIF) report prepared for the OMC. When the BIF is adopted by the OMC, it determines an adequate estimated annual cost provision requirement based

on the needs of the development over a 30-year cycle period. The BIF report should highlight works that are necessary to maintain, repair, and enhance the premises over the 30 year life cycle period, as required by the Multi Unit Development Act 2011.

Members of the OMC to meet annually at a general meeting to determine and agree the contribution to be made to the sinking fund, having regard to the BIF report, as is a requirement under the MUD Act.

2.4 Sinking Fund

It is an expectation that a sinking fund allowance will provide for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Members of the OMC to meet annually at a general meeting to determine and agree the contribution to be made to the sinking fund, having regard to the BIF report, as is a requirement under the MUD Act.

3. Building Lifecycle Report Section 02

A number of considerations were made within the design to assist the building management and reduce management costs for the benefit of residents.

3.1 Building Design

The proposed apartments are all designed within the existing Mill Buildings and are designed to be in accordance with building regulations and design guidance. The following measures are considered.

Measure	Description	Benefit
Limit Internal Communal Areas	The apartments are designed to not have internal communal spaces.	Reduces maintenance requirement by the OMC.
Internal Layout & Shared Circulation	Internal circulation areas are reduced within the confines of TGD Part M.	Reduction in area required to be cleaned and maintained, providing cost efficiency.
Daylight and sunlight to Apartments	Daylight and orientation of living spaces is carefully considered within the scheme to optimise natural daylight and sunlight. 13 out of the 18 apartments have living spaces with windows on two or more elevations.	Reduces the requirement for artificial lighting and reduces lighting expenses.
Natural/ Passive ventilation to apartments	16 of 18 apartments are designed to have windows facing in two or more directions. Only two of the apartments proposed have single aspect.	Reduces the requirement for mechanical ventilation and reduces running and maintenance costs. Dual aspect apartments increase levels of natural light and passive heat gain reducing heating and lighting costs.

3.2 Landscape

Measure	Description	Benefit
Hard landscaping surfaces & materials	High quality, durable and easy to maintain materials to be used.	Ensures the longevity of materials. Minimal ongoing maintenance of external surfaces. High quality visual appearance.
Site Layout and Design	High-quality landscaped areas with Pedestrian and cyclist connectivity linking a series of public open spaces to the apartments. High quality landscaping both hard surface (for the cycle /car parking and pavements) and soft landscaping with planting and trees. The landscaping will be fully compliant with the requirements for Part M / K of the Technical Guidance Documents and will provide level access and crossings for wheelchair users and pedestrians with limited mobility. Designated car parking including accessible & visitor car parking reduces the travel distances for visitors with reduced mobility.	Encourages improved wellbeing through social interaction, exercise and play. Management Plan to be implemented. Wheelchair user friendly.
Soft Landscaping	Native trees and hedgerows to be planted throughout the proposal. Shrubs and ground cover planting proposed throughout to provide visual interest and a sense of seasonality and diversity and to encourage wildlife. Existing trees in the grounds of Rosehill House are maintained.	Reduced frequency of maintenance. Some wildlife areas are proposed throughout the site which will require little maintenance. Enhanced biodiversity within the site. Minimize maintenance, weeding, etc. Encourages improved wellbeing through social interaction and provides diversity and identity.

3.3 Energy & Carbon Emissions

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. A BER is calculated through energy use for space and hot water heating, ventilation, lighting and occupancy. It is proposed to target an A3 rating for the apartments, this will equate to the following emissions: A3- 51 to 75kwh/m²	A higher BER rating reduces energy consumption and running costs

	with CO2 emissions circa 12kgCO2/m²/ year.	
Fabric Energy Efficiency	The U Values being investigated will be in line with the requirements set out by the current regulatory requirements of Technical Guidance Document Part L, "Conservation of Fuel and Energy Buildings other than dwellings". Thermal bridging at junctions between construction elements and at other locations to be minimised in accordance Paragraphs 1.2.4.2 and 1.2.4.3 within the Technical Guidance Documents Part L. See Table 1 of Part L, Building Regulations (Appendix C).	Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, lower energy consumption and thus minimise carbon emissions to the environment.

3.4 Low Energy Technologies

Measure	Description	Benefit
Air to water Heat Pump	An exhaust air heat pump system is under consideration for heating, hot water and ventilation of the apartment units.	Heat pumps operate with efficiencies >400%. Exhaust air heat pumps utilise extract air as the air source for the heat pump. This re cycles the heat from the dwelling's ventilation system. These systems are ideal for apartments and more compact air-tight low energy or passive homes. Air is drawn through ducts to the heat pump from the bathrooms, utility and kitchen areas. The cold waste air is discharged to outside through another duct, and condensation to a drain. Additional heat generated internally from lighting, people and domestic appliances is also utilised through heat recovery from outgoing exhaust air. Mechanical installations are minimised.
Low energy LED Lighting	Shall be designed and specified in accordance with the BER requirements in each unit and in the landlord areas in accordance with Part L.	Lower consumption of energy and therefore lower carbon emissions.
E-car Charging Points	Charging shall be provided from a local landlord distribution board to designated E-car charging car parking spaces. A full re-charge can take from one to eight hours using a standard charge point.	Providing the option of E-car charging points will allow occupants to avail of the ever improving efficient electric car technologies.
Renewable Energy	PV Solar Panels will be considered in order to meet the renewable energy contribution required by Part L of the Building Regulations. These panels convert sunlight into electricity which can be used within the building. The	PV Solar Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment. They also reduce the overall requirement to purchase electricity from the grid.

	panels are typically placed south facing on the rooftop of the area of new construction to maximise the solar exposure.	

3.5 Materials & Material Specification

Implementation of the Design and Material principles to the design of the building envelope, internal layouts, facades and detailing has informed the materiality of the proposed development. The Mill at Ballinacurra is a protected structure and existing materials to be retained where possible. Modern materials are proposed with the intention of improving the buildings quality. External walls are proposed to be plastered externally with insulating lime plaster and internally cork board insulation or insulating plaster to be used to line the external walls to improve the thermal performance of the buildings. High performance double or triple glazed aluminium clad windows and doors are proposed throughout the external facades of the Mill buildings. Materials selected are considered durable, low maintenance and long wearing and would not require regular replacement or maintenance.

It is expected that a sinking fund allowance will account for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Measure	Description	Benefit
Implementation of the Design and Material principles to the design of the proposed development.	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and include reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Longevity, durability and low maintenance of materials
Retaining existing masonry building envelope.	Stone is robust and resistant to environmental degradation. Insulating lime plaster to be applied to existing masonry walls internally to greatly improve thermal performance.	Requires minimal maintenance and does not require regular replacement. Insulating lime plaster applied to the existing masonry walls will improve thermal performance and improve durability against the elements.
Glazing & Door Systems	Installation of factory finished double glazed or triple glazed aluminium clad windows and doors.	Requires minimal maintenance and does not require regular replacement
Balconies	Installation of factory finished powder coated steel balconies	Requires minimal maintenance and high-quality visual appearance. Can be built with little impact to the existing building façade.
Standing metal seam cladding	Standing metal seam cladding is proposed to the upper levels of The Malt Store.	Requires minimum ongoing maintenance and ensures the longterm durability of maintenance of materials.
Roofing	The roof of the Smarts Store is proposed to have a slate hung roof as the existing roof trusses remain in place. The roofs of the Malt House, Malt Store and Kiln Building are	Requires minimum ongoing maintenance and ensures the longterm durability of maintenance of materials.

	proposed as re finished metal roofing.	

3.6 Health & Well Being

Measure	Description	Benefit
Natural / Day light	Apartment design, orientation and living spaces have been assessed to maximise day light hours to the primary living spaces within individual apartments and to optimise the ingress of natural daylight. Most Apartments are dual aspect. 13 of the 18 apartments are designed with living spaces having dual aspect. Only two of the 18 apartments have windows in living spaces only facing north.	Orientation, layout and dual aspect apartments have increased levels of natural light and passive heat gain leading to increased resident comfort and a reduction in running costs.
Security	The scheme maximises passive surveillance with plenty of windows placed facing the open spaces below. Additional security controls such as CCTV management is proposed to bicycle stores and communal car parking spaces.	Passive surveillance helps with the reduction of potential security requirements / costs. It also enhances safety for residents and visitors.
Public Open / Amenity Space	Pedestrianised access is provided throughout the site connecting different public open spaces and the proposed neighbourhood play area. External terraces to apartment block are provided and a communal open space for the apartments is also proposed. Connectivity to zoned recreation / amenity lands and to nearby café, creche and retail/office spaces is provided.	Encourages improved wellbeing through social interaction, exercise and play. Facilitates community interaction and wellbeing.
Accessibility	All residential units are designed to have level access for persons with disabilities as required under TGD Part M. Internally lifts/ ambulant disabled stairs are provided to reach the apartments on the higher levels. All residential units are designed to include Part M compliant visitable toilets, minimum door & corridor widths and accessible light switches and sockets.	Reduces the requirements and associated costs for changes in design to accommodate resident's future changing circumstances.

3.7 Waste Management

Measure	Description	Benefit
Construction & Environmental Management Plan.	This application is accompanied by a Construction & Environmental Management Plan prepared by MHL Engineers.	The plan demonstrates how the scheme has been designed to comply with best practice.
Storage of non-recyclable waste and Recyclable household waste	Bin stores with access control are provided within the Smarts Store, the Malt Store and adjacent to the Kiln Building/ Malt House. Domestic waste management strategy: All centralised collection points to consist of mixed non-recyclable waste, Dry mixed recyclables, glass and organic waste segregation.	Easily accessible to residents and waste management contractors. Access control to deter fly tipping. Helps reduce potential waste charges.
Composting	Organic waste bins to be provided in the communal waste stores. A composting external area is proposed within an open space to the Southwest of the site, which is within close proximity to the proposed apartments.	Helps reduce potential waste charges and ensures compliance regarding segregation of bio-degradable waste.

3.8 Transport & Accessibility

Measure	Description	Benefit
Access to Public Transport	The site is located within a 5-minute walk from the 241 Cork-Midleton- Whitegate- Trabolgan bus service. The 240 Cork- Cloyne- Ballycotton and the 261 Cork- Midleton-Ballinacurra bus routes are within a 10-minute walking distance from the site.	Availability, proximity to bus services reduces the reliance on private cars.
Pedestrian Permeability	Cycle & pedestrian infrastructure is incorporated into the design of the overall site plan enabling active travel options and walking routes. A possible pedestrian connection to the adjacent old dairy is also considered for future further connectivity.	Ensures long-term attractiveness of walking and cycling to a range of local facilities. This ensures that there will be a balance of transport modes used by future residents of the proposed development.
Bicycle Storage	Secure bicycle storage is provided within the proposed development in accordance with the criteria set out under Sustainable Urban Housing: Design Standards for New Apartments- Guidelines for Planning Authorities. In addition, visitor bicycle parking is proposed throughout the site.	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle.

3.9 Management

Measure	Description	Benefit
Homeowner User Guide	Once a purchaser completes their sale, a homeowner box will be provided which will include: - Homeowner manual – this provides important information for the purchaser on details of their new property. It typically includes details of the property such as MPRN and GPRN, information in relation to utility connections/communication providers, contact details for all relevant suppliers, and user instructions for appliances and devices in the property. - A Residents Pack prepared by the OMC which will typically provide information on contact details for the managing agent, emergency contact information, transport links in the area, and a clear set of rules and regulations.	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.

4. Appendix A - Items included in a typical BIF

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund.

Ref	Element	Life Expectancy
1.00	**Roofs**	
1.01	Replacement of flat roofing membrane, warm roof build-up including insulation.	18
1.02	Replacement of parapet capping and upstand.	18
1.03	Replacement of rainwater gutters and downpipes	40
1.04	Specialist roof Systems / fall arrest	25
1.05	Replacement of roof access hatches and doors	25
2.00	**Elevations**	
2.01	Minor repairs, preparation for decoration, decoration of rendered areas.	20
2.02	Replace entrance and exit doors	25
2.03	Replace rainwater goods	25
2.04	Recoat powder coated finish to balcony structure and balustrade	20
2.05	Periodic replacement and maintenance of external fixings	5
2.06	Replace balcony floor finishes	25
2.07	Replace louvre frames	20
2.08	Replacement of vertical raised seam cladding, on vapour barrier, on plywood sarking and ventilated double batten.	40
2.09	Decorate timber panels.	18
2.10	Re-powder coat finishes.	20
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 & corridors)	12
3.06	Replace entrance mats.	10
3.07	Replace ceramic floor tiles and nosing's to stairs and landings.	15
4.00	**M&E Services**	
4.01	General – internal re-lamping.	10
4.02	Replace internal light fittings.	20
4.03	Replace external light fittings.	18
4.04	Replace smoke detector heads.	18
4.05	Replace manual break glass units.	18
4.06	Replace fire alarm panel.	15
4.07	Replace lift car controls.	25
4.08	Replace AOV`s.	25
4.09	Replace Security Access control system	15
4.10	External mains water connection.	20
4.11	External mains and sub mains distribution board.	20
4.12	Emergency lighting.	20
5.00	**Exterior / Landscaping.**	
5.01	Repaint car parking.	12
5.02	Replace tarmacadam.	60
5.03	External boundary treatments to landscaped area.	20
5.04	Replace paved areas.	18
5.05	10 years cut back and thinning of trees. Renewal of landscaping generally.	10
5.06	Replace CCTV provision.	12
5.07	Replace external signage.	18

5. Appendix B

Fabric Requirements (Building Regulations Part L)

Table 1	Maximum elemental U-value (W/m^2K)[1, 2]	
Column 1 Fabric Elements	Column 2 Area-weighted Average Elemental U-value (Um)	Column 3 Average Elemental U-value – individual element or section of element
Roofs Pitched roof - Insulation at ceiling - Insulation on slope Flat roof	 0.16 0.16 0.20	0.3
Walls	0.18	0.6
Ground floors[3]	0.18	0.6
Other exposed floors	0.18	0.6
External doors, windows and rooflights	1.4[4,5]	3.0

Notes:
1. *The U-value includes the effect of unheated voids or other spaces.*
2. *For alternative method of showing compliance see paragraph 1.3.2.3.*
3. *For insulation of ground floors and exposed floors incorporating underfloor heating, see paragraph 1.3.2.2.*
4. *Windows, doors and rooflights should have a maximum U-value of 1.4 W/m²K.*
5. *The NSAI Window Energy Performance Scheme (WEPS) provides a rating for windows combining heat loss and solar transmittance. The solar transmittance value g_{perp} measures the solar energy through the window.*

Figure 3 - TGD Part L, 2022, Table 1

6. Appendix C

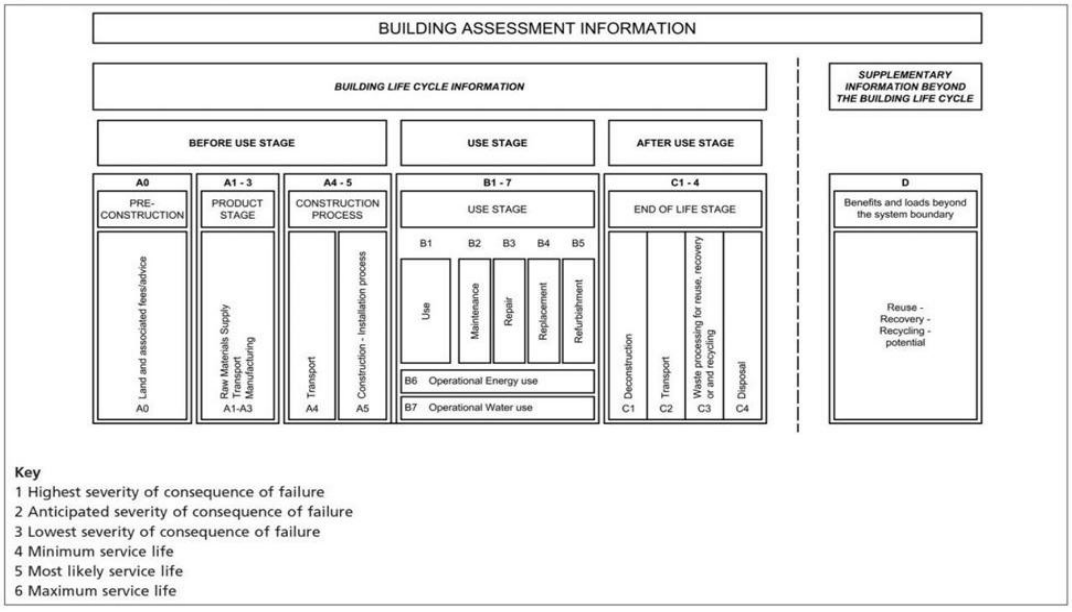

Figure 4 - BS 7543: 2015 Figure 4