

Greyfriars Church

BREEAM Status Summary: Planning Application Reference 191848

Summary

The project – which is Phase 2 of our site re-development – is intended to provide a large hall and associated meeting rooms and facilities, together with a relatively small office area (less than 10% of the floor area), for the use of Greyfriars church and for the community. We are committed to delivering a sustainable and environmentally excellent building, and we have reviewed the proposals against the latest BREEAM criteria with the help of our BREEAM assessor.

Our review has confirmed that the building design, which has been life-cycle costed, will deliver a high proportion of the outputs that BREEAM requires in terms of:

- the health, well-being, and safety of the building users – of whom we form a major part;
- energy and water consumption, with design for low consumption and monitoring of performance;
- environmentally responsible sourcing of construction materials wherever realistically possible;
- keeping waste in the construction phase, and pollution in the operational phase, to the minimum feasible.

That said, our review has also concluded that for a number of reasons, including the location of the church site and its very limited size, and the relatively late stage at which the specific BREEAM requirement became apparent to us, we are unable to amass enough points under the BREEAM methodology to achieve an 'Excellent' rating.

Section 1 below sets out in more detail where BREEAM points are inaccessible as a consequence of matters over which we have little or no influence or control, or which are intrinsic to the building's purpose.

Section 2 below indicates areas where the building will excel in terms of the various BREEAM assessment sections and objectives. They reflect a well-thought-out proposal (including the provision of renewable energy) which will achieve a BREEAM score at or above 'Very Good'.

Greyfriars is keen to be able to implement the building we get consent for, and to be able to proceed to detailed design and procurement without uncertainty over BREEAM. We believe Section 2 below demonstrates how our proposals will be sustainable and environmentally excellent and based upon this analysis and the more detailed BREEAM assessment attached (prepared by the Ridge Partnership), we request that the condition be modified to require the delivery of BREEAM Very Good in lieu of Excellent.

Section 1. Factors leading to shortfall

Because the site location is determined by the location of the church itself

- We cannot gain BREEAM points for consideration of use of alternative sites and/or remediation of contaminated land;
- The building lies in an area of poor air quality and high ambient noise levels. Carefully designed ventilation and cooling will avoid the need for opening windows, but the need for active ventilation and comfort cooling militates against our ability to secure BREEAM points for passive design solutions or free cooling. We also cannot avoid some refrigerant gas emissions;
- We cannot improve the site's already high accessibility index nor can we gain BREEAM points for stimulating or providing enhanced cycle or bus routes.

The very limited area of the site means that

- We cannot gain BREEAM points by recycling material on site;
- We do not have the space for grey water recycling: space beneath the car park is being used for significant flood holding tanks.

The function of the building has major implications for its structure

- The large ground-floor reception area and hall, with rooms and office space above requires a heavy reinforced concrete frame. We could “buy” more points by undertaking a purely academic study to examine the relative merits of other forms of construction but are advised that this would be very unlikely to alter the outcome.
- The principal building components are reinforced concrete and brick, for which we will not be able to secure EPD certification and therefore BREEAM points;
- Because a building of this type and use has to have a reinforced concrete structure, we cannot gain points for a design that allows easy disassembly and adaptation.

The final factor is that in the earlier stages of the project we had understood that the BREEAM requirement would be between ‘Very Good’ and ‘Excellent’, and as a consequence did not undertake some specific pre-planning application studies that would have gained extra points. (The current version of BREEAM New Construction 2018 has 17 individual BREEAM issues that require action prior to the submission of the planning application.)

Section 2. BREEAM Objectives and Greyfriars’ Response.

(Positives in Blue; limitations in Red)

Management 01 Project - brief and design

Encouraging an integrated design process and considering BREEAM performance targets early to influence decision-making and optimise building performance, while avoiding unnecessary costs.

- BREEAM Assessor appointed early.

Management 02 - Life cycle cost and service life planning

Promoting the business case for sustainable buildings through the enhanced understanding of capital cost. Improving design, specification, maintenance and operation, by encouraging the use of life cycle costing.

- Life cycle cost plan completed and update required during detailed design phase.

Management 03 - Responsible construction practices

Encouraging construction sites to be managed in an environmentally and socially considerate and responsible manner.

Monitoring to encourage continuous improvements and utility consumption reduction.

- BREEAM Advisory Professional to be appointed to monitor BREEAM throughout including construction, handover and close out
- Construction site impacts to be monitored (Water and energy)
- Subject to Considerate Constructors Scheme.

Management 04 - Commissioning and handover

Encouraging a well-managed handover and commissioning process, which will ensure building services and fabric defects are identified and rectified.

Ensuring that the building responds to the needs of the occupants.

- Formulate commissioning and testing schedule
- Building user guides and appropriate testing to be provided prior to PC.

Management 05 - Aftercare

Encouraging aftercare support during the first year of the building operation, to ensure the building operates in accordance with the design intent and in response to the building occupants’ needs.

- Aftercare support arrangements to be put in place and seasonal commissioning activities to be completed over a 12-month period.

Health & Wellbeing 01 - Visual comfort

Providing occupants with the conditions that facilitate good visual comfort by designing out the potential for glare, achieving good practice daylight factors and having an adequate view out.

Designing internal and external lighting systems to provide appropriate illuminance (lux) levels, thereby giving a more comfortable environment for occupants Internal lighting is zoned to allow for occupant control.

- Clear measured plans for all rooms/floors.

- [Control of glare from sunlight](#)
- [Internal and external lighting levels to be zoned and controlled.](#)

Health & Wellbeing 02 - Indoor air quality

Facilitating good indoor air quality by considering indoor air pollution early in the design process so that a mitigation strategy can be put in place.

Managing harmful emissions from construction products by specifying finishes and products that have been tested in accordance with the appropriate standards.

Specifying an appropriate ventilation strategy that maintains good indoor air quality.

- [Indoor air quality plan to be prepared.](#)

Health & Wellbeing - 04 Thermal comfort

Thermal modelling informs the building design to provide a comfortable thermal environment that considers current climatic conditions, and projected climate change scenario conditions.

Giving occupants control over their environment through appropriate temperature control strategies and thermal zoning.

- [Thermal modelling to be completed](#)
- [Thermal zoning and controls to be provided.](#)

Health & Wellbeing 05 - Acoustic performance

Enabling occupants to experience best practice acoustic performance levels appropriate to the functional activities in occupied spaces.

- [Building to meet indoor acoustic performance standards and testing for indoor ambient noise levels.](#)

Health & Wellbeing - 06 Security

Designing the building to consider and take into account security needs to ensure occupants safety and wellbeing.

- [Security needs assessment to be commissioned from suitable security consultant.](#)

Health & Wellbeing - 07 Safe and healthy surroundings

Providing external site areas that are safe for occupant use.

Enhancing the wellbeing of building users by giving access to an outdoor space

- [Suitable marked-up plans and space to be provided.](#)

Energy 01 - Reduction of energy use and carbon emissions

Encouraging the design of energy efficient buildings with energy performance above national building regulations.

Encouraging the accurate modelling of operational energy consumption.

- [Energy performance to be modelled on BREEAM approved software with the aim to improve on Building Regs requirements](#)
- [Operational energy performance to be reviewed to cut running costs.](#)

Energy 02 - Energy monitoring

Helping to identify and reduce high energy demands where possible by accurate measurement of the energy consumption of the building by end use.

- [Appropriate metering and sub-metering of the building energy supplies.](#)
- [Sub-metering of high energy load and tenancy areas \(if applicable\).](#)

Energy 03 - External lighting

Reducing the building's energy consumption through the specification of energy efficient external lighting.

- [Low energy external light/controls.](#)

Energy 04 - Low carbon design

Reducing the building's energy consumption through the adoption of passive design solutions, free cooling and low or zero carbon (LZC) energy sources.

- [Passive design analysis undertaken to minimise energy demand of building through a fabric first approach initially.](#)

- Low carbon feasibility study completed.

Energy 06 - Energy efficient transportation systems

Reducing the building's energy consumption by specifying the optimum number and size of energy efficient transportation systems.

- Transport demand study to be completed
- Energy efficient lift to be specified and installed.

Energy 08 - Energy efficient equipment

Demonstrating a meaningful reduction in the total unregulated energy demand of the building by using energy efficient equipment.

- Unregulated energy consumption levels to be assessed and reduced where practicable.

Transport 01 - Transport assessment and travel plan

Recognising developments in proximity to good public transport networks, thereby helping to reduce transport-related pollution and congestion.

- Travel plan to be prepared with map of public transport nodes which serve the church.

Transport 02 - Sustainable transport measures

Recognising developments in close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants.

- Electronic real time public transport information to be displayed in all foyers.
- Provision of 2 electric car charging points
- Car share to be encouraged and documented
- Compliant level of cycle storage to be provided.
- Proximity to amenities and transport very high
- Enhanced community facility being delivered as an integral part of the scheme.

Water 01 - Water consumption

Reducing the demand for potable water through the provision of efficient sanitary fittings, rainwater collection and water recycling systems.

- Water calculator to be completed
- Sanitary fittings and taps/showers to have low flow rates.

Water 02 - Water monitoring

Specification of water meters to allow for management and monitoring of water use in the building. This encourages reductions in water use by identifying areas of high usage and investigating potential causes.

- Water supplies to be metered and where applicable sub-metered.

Water 03 - Water leak detection

Reducing the unintended water consumption due to leaks by installing leak detection systems and flow control devices.

- Water leak detection to be provided.

Water 04 - Water efficient equipment

Reducing water consumption for non-domestic scale, non-sanitary water uses by specifying efficient systems and improving the design efficiency of any water-using processes.

- All unregulated water uses to be minimised.

Materials 01 - Environmental impacts from construction products - Building life cycle assessment (LCA)

Reducing buildings' environmental life cycle impacts through conducting Life Cycle Assessment and integrating its outcomes in the design decision-making process.

- Comparative Life Cycle assessment of alternative frame solutions not proposed due to structural configuration of the building.

Materials 02 - Environmental impacts from construction products - Environmental Product Declarations (EPD)

To encourage availability of robust and comparable data on the impacts of construction products by rewarding the specification of products with environmental products declarations.

- Concrete frame and brick cladding do not have EPDs.

Materials 03 - Responsible sourcing of construction products

Recognising and encouraging responsible sourcing of construction products. This includes the source of products and the intermediary companies processing and transporting the product to site.

- Responsible sourcing certificates to be secured for all timber.

Materials 05 - Designing for durability and resilience

Increasing the lifespan of the building through designing for durability and protection from degradation and specifying appropriate construction products.

- Vulnerable parts of the building to be protected from damage
- Exposed parts to be protected from material degradation.

Materials 06 - Material efficiency

Encouraging the reduction of environmental impacts through optimising the use of materials during all stages of the project.

- Points lost as RIBA Stage 2 requirement.

Waste 01 - Construction waste management

Improving resource efficiency through developing a pre-demolition audit and a Resource Management Plan, maximising the recovery of material during demolition and diverting non-hazardous waste from landfill.

- Pre-demolition audit to be undertaken
- Resource management plan to be prepared
- Confirm amount of waste diverted from landfill.

Waste 02 - Use of recycled and sustainably sourced aggregates

Encouraging the use of recycled or secondary aggregate or aggregate types with lower environmental impact to reduce waste and optimise material efficiency.

Waste 03 - Operational waste

Encouraging the diversion of operational waste from landfill through the provision of space and facilities allowing the segregation and storage of recyclable waste.

- Assessment of types of waste to be produced by the building
- Plan demonstrating storage areas for waste streams.

Waste 05 - Adaptation to climate change

Encouraging consideration and implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the lifespan of the building.

- Climate change adaptation strategy to be prepared.

Waste 06 - Design for disassembly and adaptability

Encouraging consideration and implementation of measures design options related to adaptability and disassembly, which can accommodate future changes to the use of the building and its systems over its lifespan.

- Disassembly strategy challenging given form of construction.

Land Use & Ecology 01 - Site selection

Recognising the reuse of previously developed and contaminated land where appropriate remediation has taken place.

- Site not contaminated so remediation reports/strategy not relevant.

Land Use and Ecology 02 - Ecological risks and opportunities

Identifying and understanding the ecological risks and opportunities associated with the site to inform the determination of the strategic outcome for the site.

- Compliance against UK and EU regulations
- Initial survey undertaken and outcomes identified.

Land Use & Ecology 03 - Managing impacts on ecology

Recognition of steps taken to avoid impacts on existing site ecology as far as possible.

- Measures to be implemented as project progresses.

Land Use & Ecology 04 - Ecological change and enhancement

Recognition of steps taken to enhance site ecology.

- Measures are limited by site scope but will be implemented.

Land Use & Ecology 05 - Long term ecological management and maintenance

Encouraging the long term maintenance and management of ecology on site to ensure both new and existing ecological features continue to thrive.

- Monitoring will be implemented.

Pollution 01 - Impact of refrigerants

Rewarding buildings that reduce the impact of refrigerant gas emissions.

- Some refrigerants required as air conditioning provided due to poor external air quality and high ambient noise levels.

Pollution 02 - Local air quality

Recognising buildings which limit their impact on local air quality, by consideration of the combustion plant and fuel used on site.

- No points: site is in a high pollution location.

Pollution 03 - Flood and surface water management

Rewarding buildings and their sites that limit on-site and off-site local flooding and hence the damage this can cause.

- Flood risk assessment prepared
- Surface water run off mitigated.

Pollution 04 - Reduction of night time light pollution

Avoiding or reducing the impact of night time light pollution, through careful design and specification of light sources.

- All external lighting to be low impact and to have automatic switch off controls.

Pollution 05 - Reduction of noise pollution

Avoiding or reducing the impact of external noise from the building.

- Noise impact assessment report to demonstrate noise emanating from the building has been suitably controlled.