# Sustainability Statement

for

**The Priory**

Site Address:

**The Priory, Pontefract Road,**
**Lundwood, Barnsley**
**S71 5PN**

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## About *Midland Energy Services*

***Midland Energy Services* is an established consultancy practice specialising is providing sustainable building solutions throughout the UK.**

We offer a full range of services for both residential and commercial buildings from small individual properties through to highly complex mixed used developments. We operate nationally as *Midland Energy Services, Southern Energy Services* and *Northern Energy Services.*

We are an industry leader in delivering a professional, accredited and certified service to a wide range of clients including architects, developers, builders, housing associations & the public sector.

Employing highly qualified staff, our team comes from a variety of backgrounds within the construction industry with combined knowledge of building design, engineering, assessment, construction, development, research and surveying.

Our services include SAP & SBEM calculations, Code for Sustainable Homes Assessments, LZC & Renewable Energy Statements, Dynamic Thermal Modelling, Air Leakage Testing, PassivHaus Evaluations, BREEAM, Energy Performance Certificates, Daylight Modelling and Post Occupancy Evaluations.

*Midland Energy Services* maintains its position at the forefront of changes in building regulations as well as technological advances. Our clients, large or small are therefore assured of a cost effective, cohesive and fully integrated professional service.

## About the Author

*Chris Jones* is a Sustainability Consultant with *Midland Energy Services* and has over 10 years experience in sustainable construction. He holds an Honours Degree in Mechanical Engineering and a Masters Degree in Energy Efficient and Sustainable Building.

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## Section 1: Introduction

The purpose of this Sustainability Statement is to support the application for planning approval to Barnsley Metropolitan Borough Council for the proposed development at the Priory Pontefract Road, Lundwood, Barnsley.

The report illustrates how sustainability has been considered during the planning stage and will continue to be considered during the detailed design and construction of the project and also during the buildings use.

## Section 2: Description of the development

### *Location*

The Priory is located on the A628 Pontefract Road just north of the junction with the A633 on the eastern edge of Barnsley. The existing building offers facilities for community use, ranging from meeting spaces, class's, community events and also conference facilities.
The proposal is to extend these facilities to provide a health centre, commercial office space and additional community facilities and sports facilities in a new building. The existing and new buildings are to be connected by a new central hub which will form a new entrance for the centre.

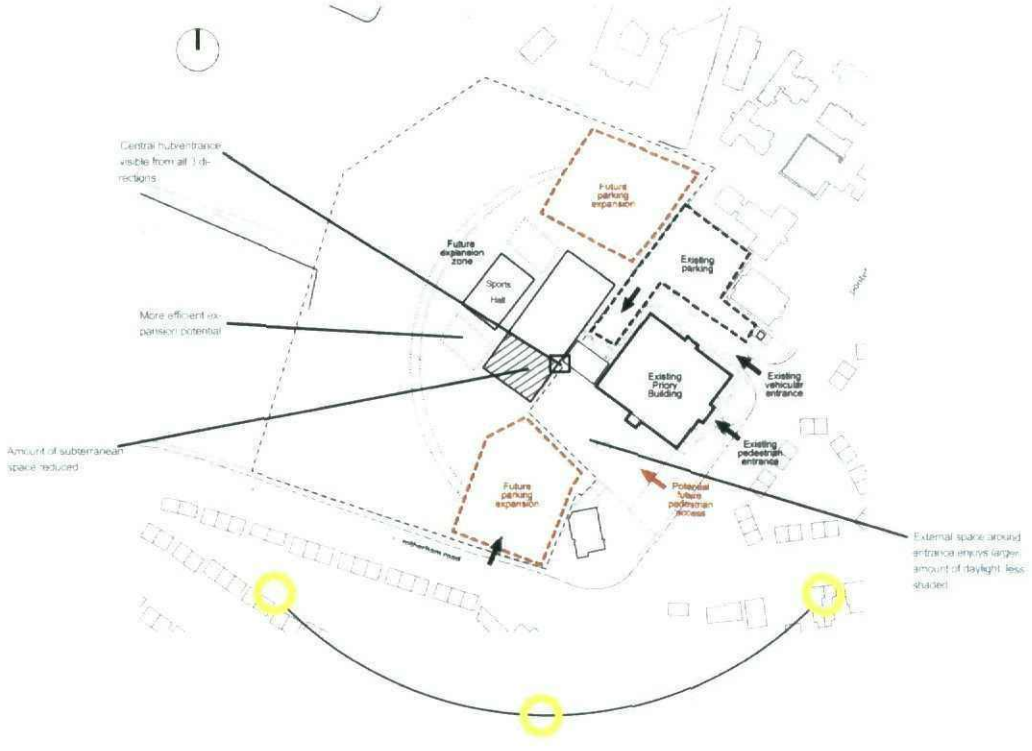



Figure 2.1: Sketch Layout Plan. (architecture 2B)

### *Orientation*

The proposed new buildings are orientated north east - south west with the main glazing to the north east. The southern end of the new building will be built into the slope of the site and is semi underground. Natural light will be provided through roof lights and there would appear to be no issues with over shading of existing buildings or of the proposed new build.

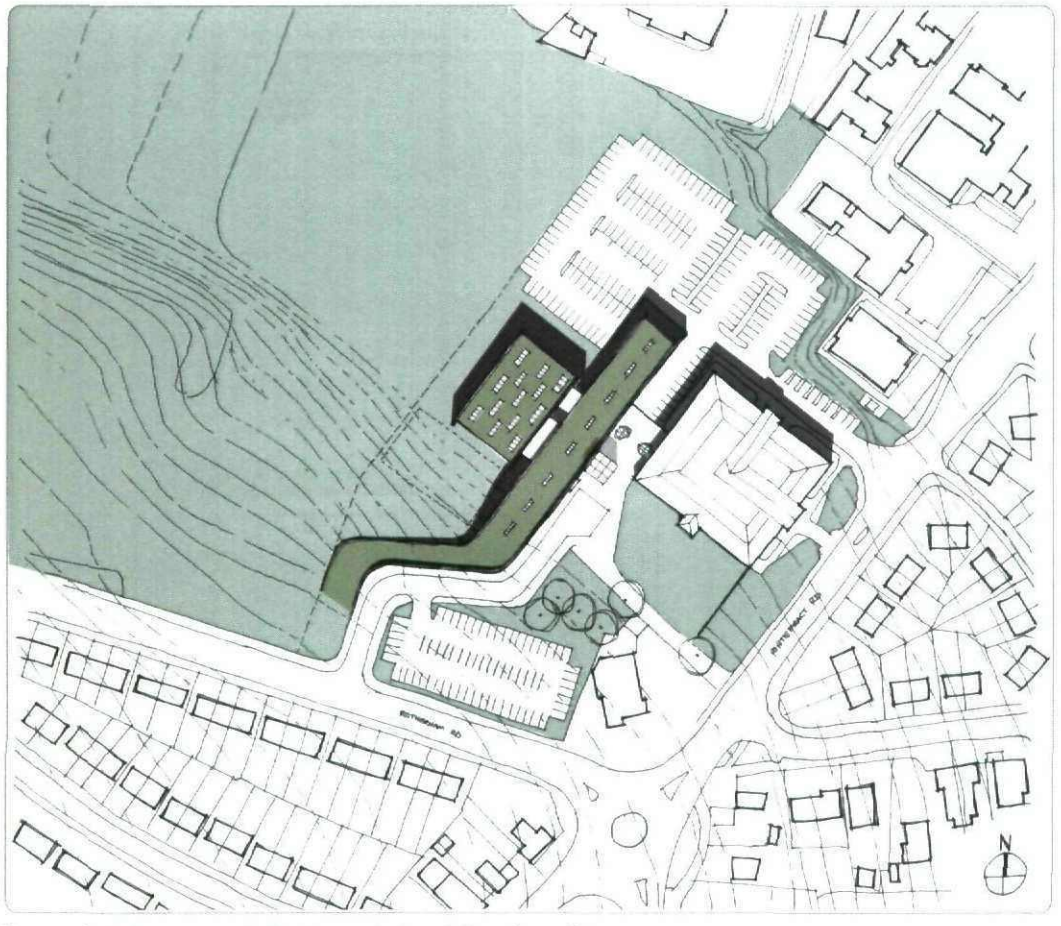


Figure 2.2: Proposed site layout. (architecture 2B)

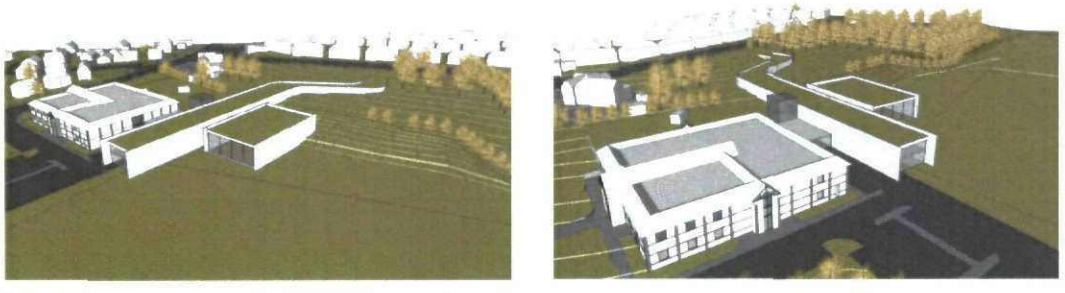


Figure 2.3: CGI views from north and east respectively. (architecture 2B)

## Section 3: Sustainable design considerations

### *Management*

An appropriate level of commissioning will be carried out to ensure optimum performance. This will include as a minimum the appointment of an appropriate project team member responsible for monitoring and programming of pre-commissioning, commissioning and if necessary re-commissioning.

Consideration will be made to ensure that disruption due to site works will be kept to a minimum through adoption of the Considerate Contractors Scheme.

Consideration will also be made to ensure the environmental impacts of site works will be managed.

Information will be provided to allow the building users to understand and operate the buildings systems on a day to day basis.

### *Health & Wellbeing*

The design will take advantage of available natural light while minimising glare to provide a healthy internal environment and reduce the need for artificial lighting. Roof lights will be employed to maximise the advantage of daylight throughout the year in all parts of the building where this is possible. All fluorescent and compact fluorescent lighting will be supplied with high frequency ballasts to reduce the problems associated with flicker from fluorescent lighting.
The general lighting design will provide adequate lighting levels, enough to provide a pleasant comfortable environment while remaining energy efficient.

A natural ventilation system will be employed to remove or reduce the requirement for comfort cooling. Narrow plan floor plates will encourage efficient cross ventilation reducing energy demand and improving internal comfort and air quality.

To promote a healthy internal environment, finishes and materials will be used that do not contain any volatile organic compounds (VOCs).

High thermal mass in the building structure and the semi-subterranean design will moderate the buildings internal temperature, maintaining comfortable conditions during both warm and clod periods. In conjunction with natural ventilation and controllable space heating systems this will ensure thermal comfort levels for the building occupiers and users minimising the possibility of extreme temperature variation.

Internal water systems will be designed and installed to minimise the risk of microbial contamination the cause of legionellosis.

The building will be designed to meet the appropriate acoustic standards for internal comfort and external noise contamination.

***Energy***

In an effort to reduce emissions and improve energy efficiency the building and its services will be designed to achieve an EPC rating of 40 or less.

To aid monitoring and promote energy efficiency energy will be sub-metered for:

- Space heating
- Domestic Hot Water
- Cooling*
- Lighting
- Small Power
- Other major energy-consuming items
- Tenancy areas

(*If required)

The building fabric will be designed to be thermally efficient by concentrating on levels of insulation and fabric air leakage.

Internal and external lighting will use energy efficient fittings where possible with adequate control to ensure efficient use.

Low & zero carbon technologies will be considered for their feasibility and appropriateness. Particular technologies that will be considered are:

- Solar thermal
- Photovoltaic
- Wind
- Heat pumps
- CHP
- Biomass

### *Transport*

Public transport, cycling and car share will be promoted and encouraged for both building users and occupiers through the provision of good transport information and adequate, safe facilities. Both pedestrian and cyclist safety will be considered in the design of the building and its surroundings.

### *Water*

Internal water use will be reduced through the fitting of low flow/volume fittings. Including low flow taps and duel flush toilets.
The systems will be designed for easy leak management and will be adequately metered.
The feasibility of rain or grey water recycling will be assessed as a method of further reducing potable water use.
Landscaping will be designed to be naturally irrigated or use re-cycled water where necessary.

### *Materials*

Efforts will be made to specify materials with a low environmental impact and that are responsible sourced. Reused/recycled materials will be used where appropriate and insulations which use environmentally harmful chemicals in their manufacture or installation will be avoided.
The building will be designed to be robust to minimise the frequency for replacement of materials necessary.

### *Waste*

Consideration will be made to methods for reducing construction waste and promoting the use of recycled materials.
Facilities will be provided for the storage of recyclable waste so that is can be adequately sorted and managed to reduce waste going to landfill.
Composting facilities and or utilisation of available green waste collection schemes for the management of green waste will be provided if considered appropriate.

### *Land use and ecology*

Efforts will be made to minimise any negative impact on site ecology by protecting any existing ecological features during and after construction. Features designed to improve diversity will be incorporated including the use of native species in the soft landscaping schemes and a proposed green roof to part of the new building effectively increasing the landscaped area possible post development.

### *Pollution*

The use of natural ventilation will reduce or remove the requirement for refrigerants in the buildings mechanical systems. If it should prove to be the case that cooling is required in parts of the building, refrigerants will be used that have a low global warming potential and systems will be put in place to minimise the risk of leakage in the event of mechanical failure.

In an attempt to reduce the environmental impact of $CO^2$ from the building, low emission heating systems are to be employed. These will also be specified so as to reduce other atmospheric pollutants such as $NO_x$.

To manage surface water run-off, reduce flood risk and protect the local water courses, sustainable urban drainage systems (SUDs) will be employed. Dependent on site conditions a number of options will be considered including soak-aways or storage tanks. Rainwater harvesting and green roofs can also be employed to manage surface water run-off.

Measures will also be taken to reduce any potential light or noise pollution from the proposed buildings.

## Section 4: Conclusions

By designing and building with consideration for the issues detailed in section 3 of this report, the final building will be both energy efficient and sustainable while providing a pleasant, healthy internal and external environment of its users, occupiers and the surrounding community.

The materials used in its construction and management of waste will minimise resource demand and environmental impact of the building fabric while its design will promote energy efficiency and reduced emissions from both building services and during its day to day use.

The ecological impact of the building will be managed by encouraging biodiversity and reducing damage to the existing ecology through protection of features and managing the risk of pollution both during construction and over the buildings lifetime.

These considerations will result in a sustainable development with the intention to add to both the local and wider environment and community.