# New Warehouse Unit, Magor

# Sustainability Statement

**For**

**Cubex Land**

**Prepared by**

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## Revision record

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# CHAPTER: 1 EXECUTIVE SUMMARY

Carbon Consult Limited has been commissioned on behalf of Cubex Land to prepare a Sustainability Statement as supporting documentation to a planning application for a Warehouse Development on land to the west of Wales One, Magor.

The proposed development comprises the construction of a speculative industrial/storage and distribution warehouse (Use Class B2/B8), with ancillary offices (Use Class E(g)(i)), with associated access, parking, landscaping, and ancillary infrastructure. The proposed building is 14,440m$^2$ GFA. An end user has not been identified at this stage.

The site is located within the settlement boundary and is allocated for employment purposes under Policy SAE1(a) (Identified Industrial and Business Sites – Wales 1, Magor (West)), as defined by the Proposal Map that accompanies the Local Development Plan (LDP) (adopted February 2014).

The development is targeting the achievement of a BREEAM Excellent rating at both Design and Construction Stages.

The scheme in summary proposes the following:

| Energy & Carbon Emissions |
| --- |
| • Achievement of the mandatory BREEAM performance standards within the Energy section of assessment for an Excellent rating<br>• A fabric first approach to design<br>• Incorporation of Low and Zero Carbon technology in the form of Solar PV<br>• Metering and monitoring systems |

| Land Use, Ecology & Archaeology |
| --- |
| • Mitigation of loss in ecological value with landscaping proposals for habitat creation and management<br>• Implementation of a Construction and Environmental Management Plan (CEMP)<br>• Implementation of a Landscape and Ecological Management Plan (LEMP) |
| **Water, Flooding & Drainage** |
| • Specification of water efficient fittings<br>• Metering and monitoring systems including leak detection<br>• Designing drainage systems to take account local flood risk, increases due to climate change and managing surface run-off through infiltration<br>• Systems to prevent local pollution of water courses |
| **Waste Management** |
| • Development of a materials efficient design<br>• Development of a Site Waste Management Plan<br>• Targets and systems in place to minimize construction waste and divert from landfill<br>• Facilities to enable the tenant to operate a full recycling policy |
| **Transport** |
| • The transport assessment has considered the access to the site for staff and for HGV's/ operational vehicles<br>• A Framework Travel Plan has been developed to help inform the design<br>• Incorporation of active sustainable travel (cycle) facilities |
| **Health** |
| • Designing the base build to allow the tenant to develop a pleasant indoor working environment<br>• Provision of external spaces to enhance a sense of wellbeing |
| **Materials** |
| • Undertake material reviews for embodied impact<br>• Developing a Sustainable Procurement policy<br>• Responsibility source materials |

| Operational Pollution |
| --- |
| • Minimising impacts associated with operations including noise, light, and accidental spillages |
| **Construction** |
| • Appointing contractors who have Environmental Management Systems in place<br>• Developing a Construction Environmental Management Plan to ensure minimized impact<br>• Monitoring and setting targets for water and energy use during construction<br>• Setting targets for maximum waste production during construction and minimum targets for diversion from landfill. |

# CHAPTER: 2 INTRODUCTION

## 2.1 GENERAL – PROJECT DETAILS

Carbon Consult Limited has been commissioned on behalf of Cubex Land to prepare a Sustainability Statement to support the submission of a planning application for a new speculative warehouse development on land to the west of Wales One, Magor.

The plans include:

- Warehouse unit 14,440m$^2$
- Two storey ancillary office 929m$^2$
- Parking for 50 HGVs
- 12 Dock loading for HGVs
- 165 Car Parking Spaces including 8 accessible and 34 Electric Vehicle Charging
- Security Gates
- Landscaping buffer

The site itself comprises undeveloped agricultural land in a broadly rectangular parcel. Its boundaries appear to be well defined by mature hedging. The site also appears to include 1no. existing access from Wales One Business Park to the East.


*Image courtesy of UMC Architects*

**Figure 1: Site Location – Land to the west of Wales One, Magor**

## 2.2 SUSTAINABILITY IN PLANNING

This Sustainability Statement has been provided to detail the proposed aspirations for the project and reflects the goals it aims to achieve.

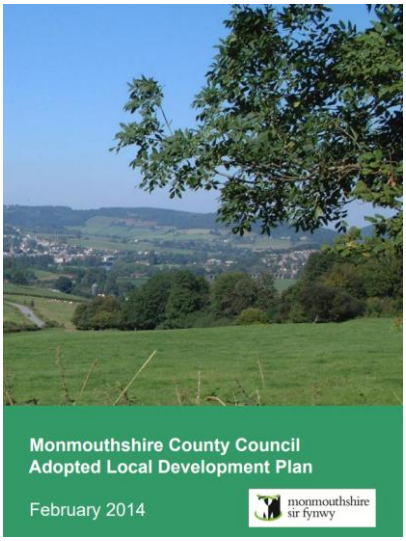
It is proposed that an independently certified environmental assessment (BREEAM: Building Research Establishment Environmental Assessment Method) will also be undertaken on the project, with an aspiration to achieve a BREEAM Excellent rating.

## 2.3 POLICIES AND DRIVERS

This section summarises the key local policy and national regulations affecting the proposed project.

### 2.3.1 LOCAL POLICIES

### 2.3.2 MONMOUTHSHIRE LOCAL DEVELOPMENT PLAN[1]




The Local Plan was adopted in February 2014. It sets out the following policies relating to sustainability for developments.

Specific policies of note include:

#### Policy SD1 – Renewable Energy

Policy SD1 set out the criteria by which proposal for renewable energy schemes are assessed 'seeking to balance the protection of the County's unique natural and built heritage assets and the amenities of residents and visitors with the need to reduce carbon emissions and encourage zero carbon technologies'.

[1] Monmouthshire Local Development Plan, adopted February 2014

### Policy SD2 – Sustainable Construction and Energy Efficiency

Development proposals will be supported where they contribute to meeting the relevant following objectives as well as the preferred method of assessment, BREEAM.

'Proposals for low carbon design solutions in new buildings will be permitted in accordance with the energy hierarchy of reducing energy demand through passive design, promoting energy efficiency through use of appropriate building fabric and inclusion of renewable or low carbon energy generation technologies. All new development proposals will be required to incorporate efficient resource use during construction, operation and maintenance. Where planning permission is required, proposals for the installation of renewable and low carbon technology on existing buildings will be permitted subject to detailed planning considerations.'

### Policy SD3 – Flood Risk

Policy SD3, Flood Risk notes that 'Proposals for highly vulnerable development or emergency services will not be permitted in areas which may be liable to flooding, unless the residential development is for the conversion of upper floors within defined settlement boundaries or the proposal is to extend an established tourism, leisure or educational establishment. Less vulnerable built development will be permitted within defined settlements or on sites allocated for uses such as employment.

Development proposals within a flood plain will be required to demonstrate that:

a. the development is or can be protected by approved engineering works and / or other flood protection measures;
b. such remedial measures would not cause flooding or significantly increase the risk of flooding elsewhere;
c. the development, including any remedial measures, can be sympathetically assimilated into the environment in terms of its siting, scale, design and landscaping;

d. the development does not interfere with the ability of the Environment Agency or other bodies to carry out flood control works or maintenance; and
e. the nature conservation interest of the water source corridor is protected and, where practicable, enhanced.

Development resulting in additional surface water run-off and leading to an increased risk of flooding will only be permitted where adequate protection and mitigation measures are included as part of the proposal.'

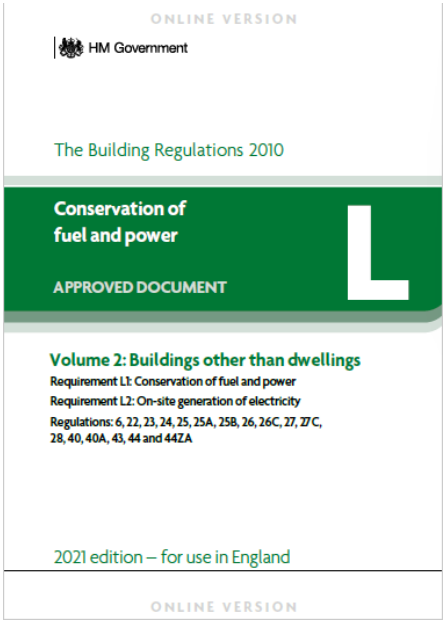
### Policy SD4 – Sustainable Drainage

Development proposals will be expected to incorporate water management measures, including Sustainable Urban Drainage Systems (SUDS), to reduce surface water run-off and minimise its contribution to flood risk elsewhere.

## 2.3.3 NATIONAL POLICIES

### Building Regulations Part L

Part L[2] sets the energy efficiency standards required by Building Regulations. It controls the insulation values of building elements, the allowable area of windows, doors and other openings, air permeability of the structure, the heating efficiency of boilers and the insulation and controls for heating appliances and systems together with hot water storage and lighting efficiency. It also sets out the requirements for SBEM (Simplified Building Energy Model) calculations used within Part L.




[2] HM Government, The Building Regulations 2010, Conservation of Fuel and Power in new dwellings, Approved Document L1A 2013 Edition, incorporating 2016 Amendments

# CHAPTER: 3 LOCATION, CONTEXT AND COMMUNITY

The Site is immediately situated North-West of the Magor town centre. It benefits from excellent road links, directly adjacent to the A4245 Magor Road and south-west of the Magor interchange and with the M4 Motorway (to the north) and A4810 Queens Way (to the east) being in close proximity. Approximately 0.5 miles to the south of the site is the South Wales Main Line with runs south of Magor.


*Site Location - Wider Context*


*Site Location - Immediate Context*

The site itself comprises undeveloped agricultural land in a broadly rectangular parcel. Its boundaries appear to be well defined by mature hedging. The site also appears to include 1no. existing access from Wales One Business Park to the East.

## 3.1 BOUNDARY

The site is largely flat in nature but with an undulating surface. The site is adjacent to Wales One Business Park, including Edenstone Homes and Ty Hotel immediately facing the site. In addition the existing Magor Brewery is situated directly to the south of the site and access via Magor Road.

## 3.2 COMMUNITY INVOLVEMENT

As part of the pre-application procedure, community engagement has been undertaken to comply with statutory requirement and actively consult with the relevant stakeholders. Items of note include:

- Erection of a site notice in accordance with article 2C of the Town and Country Planning Order 2012
- Notice given in writing to adjoining landowners and specialist consultees
- Notice given in writing to community consultees
- Draft Planning Application documents made available online via Avison Young's purpose-built website for the consultees and wider community to inspect and
- Provision of an online form through the above website which can be downloaded, completed and posted or emailed directly to Avison Young.

The Pre-Application Consultation (PAC) Report which will accompany the planning application, documents the consultation process in further detail.

# CHAPTER: 4 CLIMATE CHANGE

## 4.1 ADAPTATION

In line with the principles of BREEAM, the building will be designed to consider any potential future changes in climate.

This approach ensures asset resilience and value through considering any risks or impacts associated with any future climate scenarios, such as extreme weather events.

As such the design will take into account needs to respond for:

- Future adaptation
- Maintenance
- Disruption

Various supporting reports and investigations have been and will be developed to consider future scenarios:

- Flood Risk and Drainage Design
- Energy – reducing Carbon emissions and incorporating LZC technology
- Thermal comfort and thermal modelling

## 4.2 DESIGNING FOR DISASSEMBLEY AND ADAPTABILITY

The proposed development is speculative in nature at this stage (no tenant contracted), as such the design is for Shell only (building fabric) and some core elements.

This will mean that any future tenant can fit out the building according to their intended use requirements.

Inherent to the design is a level of adaptability to allow alteration to accommodate alternate/ complimentary uses and to allow future changes such as services refit and split of the office/ warehouse ratio.

# CHAPTER: 5 ENERGY & CARBON EMISSIONS

## 5.1 APPROACH

Minimising energy is considered throughout the design with a target of:

- A rated EPC for base build works (noting the fit out will relate to any prospective tenant)
- Achievement of 2.5$m^3$/hr/$m^2$ @ 50pa Air Permeability
- Roof mounted Photovoltaic Panels
- Air Source Heat Pump (ASHP) or Solar Thermal technology
- 20% of total parking as Electric Vehicle Charging points (with infrastructure for 100%)

A hierarchical approach to energy consumption, will be adopted:

1. **Be Lean** (Use Less Energy),
2. **Be Clean** (Supply Energy Efficiently),
3. **Be Green** (Use Renewable Energy).

As part of the aspiration to achieve a BREEAM Excellent rating, a mandatory requirement within the BREEAM scheme is to achieve at least 4 of the available 9 scores associated with Reduction of Energy Use and Carbon Emissions: Energy Performance. This target relates to an Energy Performance Ration for New Construction (EPRNC) (BREEAM Calculation method) of 0.4 or greater.

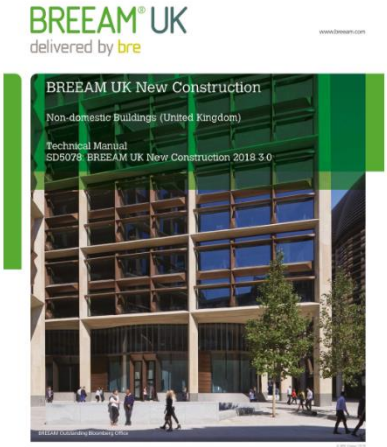
Feasibility for incorporating renewable energy technology will be considered within the “Be Green” stage. This will tie in with the BREEAM requirement to undertake a Low and Zero Carbon (LZC) technology feasibility study. Ensuring that technologies are considered for:

- Viability
- Carbon emissions
- payback

# CHAPTER: 6 ENVIRONMENTAL RATING SCHEMES

## 6.1 ENVIRONMENTAL ASSESSMENT METHOD

In line with recommendations stated in **Policy SD2 – Sustainable Construction and Energy Efficiency,** the project will be assessed using BREEAM with an aspiration to achieve an Excellent rating.




Carbon Consult Ltd have been appointed as specialist BREEAM Assessors on the project and have conducted a Pre-Assessment exercise at this early stage of the project to generate an indicative scoring scenario and to establish a set of targeted BREEAM scores.

Due to the nature of the project, it will be assessed against a variant of BREEAM, where the assessment criteria are scoped to reflect:

- New build Industrial Unit with ancillary office and external spaces
- Speculative, Shell Only (fit out by tenant and therefore not included within assessment)

## 6.2 PRE-ASSESSMENT OUTCOMES

| Item Categorisation | Description |
|---|---|
| **Targeted** | - Known to be within current design<br>- Ties-in with the client design brief<br>- Expected design performance<br>- Standard practice |

| | |
|---|---|
| **Potential** | - Could be achieved with additional:<br>• Effort<br>• Investigations<br>• Expenditure; and,<br>• Design development<br>- Performance unknown at this stage |

The Pre-Assessment demonstrates a set of scores which reflect:

Formal BREEAM assessment and certification requires the presentation of suitable documentary evidence of compliance.

If the scores identified as Targeted and Potential are achieved, the following BREEAM rating levels can be attained.

| | **Targeted/ Basic** | **Plus, Potential** |
|---|---|---|
| Magor Warehouse | 70.30% | 77.28% |

Where the performance thresholds are:

- Very Good >55%
- Excellent >70%
- Outstanding >85%

The Pre-Assessment exercise has also provided the team with understanding of a route to certification, including:

- Compliance timings
- Ownership
- Types of documentary evidence required

# CHAPTER: 7 LAND USE, ECOLOGY & ARCHAEOLOGY

## 7.1 LOCATION

The site itself comprises undeveloped agricultural land in a broadly rectangular parcel. Its boundaries appear to be well defined by mature hedging.

## 7.2 BIODIVERSITY/ GREEN INFRASTRUCTURE PROVISION

A Preliminary Ecological Appraisal[3] notes that the site comprises a large sheep grazed improved pasture field bordered by hedgerows, scrub and semi-mature to mature trees. The site is bordered to the north by the M4 motorway and to the south and east by the industrial properties associated with Wales One business park. An arable field borders the site to the west.

The key ecological features in relation to the proposed development are the hedgerows, scrub and semimature scattered trees along the perimeters of the site. These habitats have the potential to support a range of protected species.

The report notes that in order to ensure compliance with wildlife legislation and relevant planning policy, the following recommendations have been made:

**R1 Habitat Retention and Protection:** The development proposals should be designed (where feasible) to allow for the retention and protection of existing notable habitats including hedgerows and semi-mature and mature trees.

**R2 Biodiversity Enhancement:** In accordance with the provision of Chapter 6 of Planning Policy Wales (Distinctive and Natural Places) and Local Planning Policy, biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed works to maximise the ecological value of the site.

[3] Preliminary Ecological Appraisal, Middlemarch Environmental, February 2022

**R3 Roosting Bats:** The development of the site has potential to disturb any bats which may be roosting within the trees along hedgerow H2. Due to the nature of the trees, it is not safe to undertake further daytime assessments using tree climbing methods and as such, to determine the presence/absence of roosting bats within the trees, further survey work is required in the form of dusk emergence and dawn re-entry surveys.

**R4 Foraging/Commuting Bats:** It is recommended that the lighting strategy is re-designed to minimise potential disturbance and fragmentation impacts on bats. The lighting strategy should be carefully designed in consultation with a suitably qualified ecologist using best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012). If it is possible to reduce the lighting along the boundary vegetation to <1 lux, then bat activity surveys will be required to determine the current usage of the site by bats.

**R5 Terrestrial Mammals including Badger, Brown Hare and Hedgehog:** Vegetation clearance/removal should be undertaken in a sensitive manner to avoid harming small mammals (including hedgehog). Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape.

**R6 Nesting Birds:** Vegetation clearance should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August).

A landscape plan will be developed with BREEAM scores in mind to ensure that the maximum potential is achieved. As such the planting plan will be developed based on local indigenous species reliant solely on precipitation. A construction phase ecological management plan will be developed and will be further adapted post construction to act as an operational ecological management plan.

## 7.3 CONTAMINATED LAND

A Phase 1 Geo-Environmental Assessment[4] has been developed for the site.

The study found no significant offsite sources of contamination. It was noted that a field to the east was used for storage of construction materials and there is evidence of localised burning.

It is recommended within this study that further Phase II investigations occur to establish the characteristics and chemical quality of the soils and to establish if any risks existed which would need managing through the construction process.

[4] Phase 1 Geo-Environmental assessment, IDOM, December '21

# CHAPTER: 8 WATER, FLOODING AND DRAINAGE

## 8.1 DESIGN APPROACH

Minimisation of water usage will cover both the buildings themselves as well as the construction process. **Policy SD4 – Sustainable Drainage** notes that development proposals will be expected to incorporate water management measures, including Sustainable Urban Drainage Systems (SUDS), to reduce surface water run-off and minimise its contribution to flood risk elsewhere.

## 8.2 POTABLE WATER USE

Under the BREEAM assessment of a Shell only building the potable water consumption of fixtures and fittings is not assessed, as it is anticipated that any future tenant will install to suit their needs.

The proposed base build for the project will however include provision of WC's and sanitary facilities. These are to be specified for their water efficiency.

Water consumption will be monitored through the installation of a water meter which will allow the end user to understand their consumption and help flag any inefficiency in the water distribution system should the unlikely event of leakage be detected.

The water metering system will be linked to a Building Management System able to identify any major water leaks.

## 8.3 FLOOD RISK ASSESSMENT

**Policy SD3 – Flood Risk** requires the incorporation of Sustainable Drainage Systems wherever feasible, and projects are required to address any risk to water resources. The site is assessed again Planning Policy Wales Technical Advice Note 15 (TAN 15). Furthermore, as part of the BREEAM requirements, a site-specific Flood Risk Assessment (FRA) is required. Proposals should seek to reduce flood risk through the creation of multi-functional green infrastructure and sustainable drainage systems.

The Flood Consequences and Drainage Statement[5] has been undertaken by Craddys in line with relevant legislation and guidance.

According to Natural Resources Wales's (NRW) online Development Advice Map (DAM), the site is entirely located within the TAN 15 Development and Flood Risk Zone A, which describes areas at little or no risk of tidal or fluvial flooding. Refer to appendix E for the TAN 15 Development Advice Map, and other flood maps from NRW.

According to the detailed flood risk map, the site is entirely located within Flood Zone 1 (less than 0.1% chance of flooding from rivers or seas in any given year), which generally coincides with DAM Zone A. The nearest areas shown to be at elevated risk of fluvial or tidal flooding are associated with St Bride's Brook, some 800m to the east of the site and on the far side of the M4 motorway. The site is not shown to have flooded historically, or to be at elevated risk from reservoir flooding. An area at the south eastern corner of the site, the lowest area according to the topographic survey, is shown to be at elevated risk of surface water flooding. This area is however contained entirely within the site, so is likely to arise from flows generated within the site itself. The development will therefore remove this risk from the site through changes to site levels and the introduction of a positive drainage system.

[5] Flood Consequences and Drainage Statement, Craddys, Feb 2022

The development is deemed appropriate in this location, is at minimal risk of flooding and its undertaking will not increase the risk of flooding to the neighbouring area.

## 8.4 SURFACE WATER RUN OFF

The disposal of surface water generated by the development is proposed to be to the ground via infiltration features. Re-use of rainwater in the proposed development is not considered to be viable due to the relatively large ratio of yield to demand, generated by minimal non-potable water requirements in the warehouse and small office. Intrusive investigations on the site have identified granular soils which are likely to support infiltration features, and the adjacent developments also discharge surface water to the ground via permeable paving and trench soakaways.

The system will be designed to have enough storage capacity to prevent flooding for all storm durations up to and including the 1 in 30-year return period event, plus a 40% increase in rainfall intensity as allowance for climate change. MicroDrainage System 1 software will be used to size the pipes and MicroDrainage Simulation and Source Control software will be used to model the integrated below ground drainage system.

# CHAPTER: 9 WASTE MANAGEMENT

The **Waste Regulations** [6] sets many targets designed to achieve a more sustainable approach to how we deal with waste. The strategy, therefore promotes the principles of the "Waste Hierarchy" to prevent, reduce, reuse, recycle and recover.

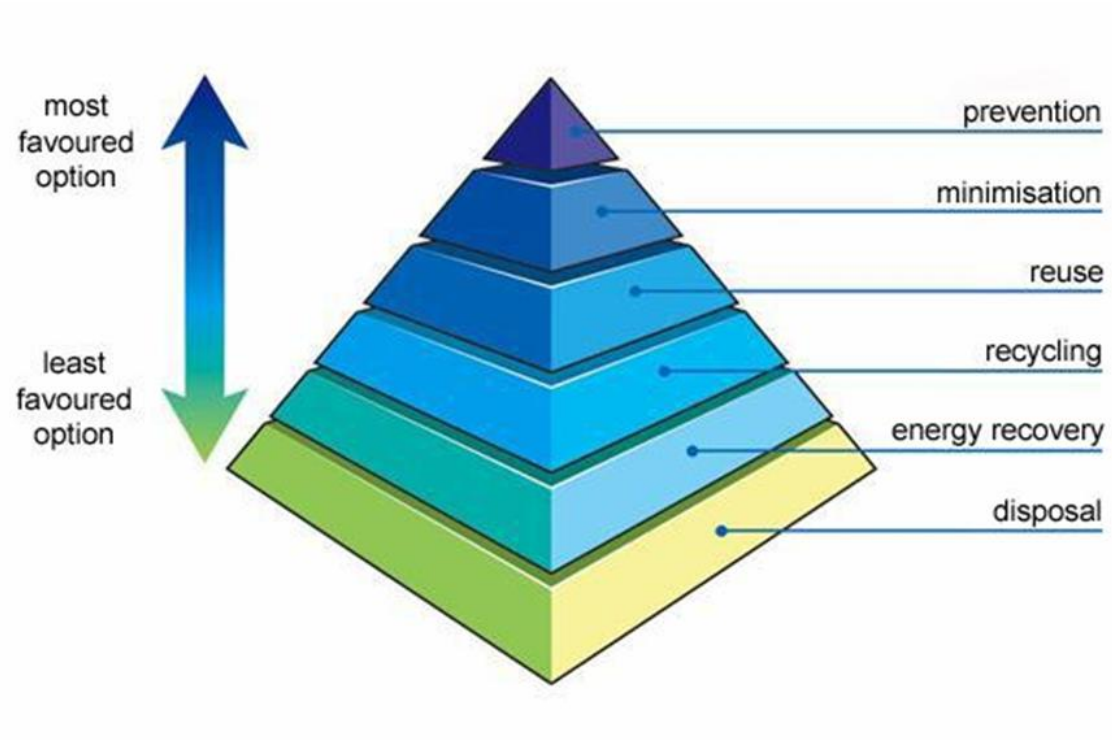



**Figure 2: Waste Hierarchy**

## 9.1 MATERIAL EFFICIENCY

A documented approach to Material Efficiency will be established (to link with BREEAM).

This will consider opportunities for:

- Reducing cost as a result of a reduction of material use in design
- Encourage reuse of materials

[6] Environmental Protection, England and Wales, Statutory Instrument No. 988, the Waste (England and Wales) Regulations 2011

- Encourage the use of materials with higher levels of recycled content
- Improve understanding of, and the performance of, alternative design and construction methods that result in lower material usage and waste levels.

## 9.2 CONSTRUCTION: RESOURCE MANAGEMENT PLAN/ SITE WASTE MANAGEMENT PLAN

Tying in with both the requirements of Local Plan and performance against BREEAM the contractor will develop a combined Resource Management Plan (RMP) and Site Waste Management Plan (SWMP) which will consider:

- Materials optimisation
- Reduce waste generated on site
- Develop and implement procedures to sort, reuse and recycle construction and demolition waste on and off site
- Set targets for maximum waste production
- Establish best practice waste handling options
- Limit waste to landfill
- Monitoring waste produced

See also **Construction Section** of this report

## 9.3 RECYCLING OF OPERATIONAL WASTE

The base build will incorporate features to allow the future tenants to operate a full waste management and recycling policy, including a designated area within the external hard landscaping for refuse and recycling storage and collection. This will be sited to allow ease of collection for waste handling.

# CHAPTER: 10 TRANSPORT

Key policies of the Local Plan relevant to transportation include **S16 – Transport – Achieving Sustainable Accessibility** which supports travel management schemes and development proposals that reduce congestion, encourage an improved and integrated transport network and allow for a wide choice of modes of transport as a means of access to jobs, homes, leisure and recreation, services and facilities.

Complimentary policies exist such as **MV2 – Sustainable Transport Access** and **MV4 Cycleways**, which support the reduction of local congestion and contribute to local traffic management by managing parking and providing opportunities for cycling, walking, increased public transport or emerging transport technologies.

## 10.1 TRANSPORT ASSESSMENT

A Transport Assessment[7] has been developed for the site, this considers both the accessibility of the site for workers by car and by more sustainable modes of transport and also considers the impact of the operational activities of the building on the local transport infrastructure.

### 10.1.1 STAFF ACCESS

The site will be linked into the local pedestrian and cycle routes connecting to both residential and amenity uses. Public transport to/ from the site is relatively constrained by the location but services do exist to access the site.

Car and motorcycle parking will be provided. A 20% provision for EV charging has been included. Cycle parking will be in excess of Monmouthshire's Parking Standard (29 required, 40 to be provided).

[7] Transport Assessment, Land to the North of Magor Road, Key Transport Consultants, Mar '22

### 10.1.2 HGV/ OPERATIONAL ACCESS

The proposed access for HGV's associated with the operation of the facility are noted as suitable both in terms of dimensions of road and junctions and traffic flow.

## 10.2 LOCAL AMENITIES

Wales One Business Park is in close proximity. A motorway services, food outlet and a drive through coffee shop are all local to the site.

## 10.3 FRAMEWORK TRAVEL PLAN

A Framework Travel Plan is likely to be developed for the site in due course and align with BREEAM.

The Plan will cover the following high-level objectives for the site:

- Promotion of the plan and the benefits which can be realised
- Reducing the number of employees accessing the site via single car occupancy
- Increase the use of sustainable transport use
- Promotion of healthier lifestyle for employees through encouraging active sustainable transport use
- Committing to managing the impact of travel through provision of information and operational management.

# CHAPTER: 11 HEALTH

## 11.1 WORKING ENVIRONMENT

Whilst a major part of ensuring a healthy working environment for building staff will relate to the tenant fit out of the building, the base build will establish opportunities for healthy working including:

- Providing a well day-lit office environment, will access to views out via high quality glazing
- Ensuring an acoustic environment which is not impacted by plant noise
- Light levels in line with best practice standards (e.g., CIBSE)

## 11.2 SAFETY AND SECURITY

Site access for HGVs is controlled by security gates, ensuring a secure perimeter to the warehouse area. Staff parking, whilst sharing the same entrance to the site, is offset from the HGV loading/ unloading area. Pedestrians using the car park have access directly to the office area and will not need to walk through any area where HGVs may travel.

Cycle spaces are located adjacent to the office entrance to ensure they are within view and therefore increase security.

## 11.3 SAFE AND HEALTHY SURROUNDINGS

The green boundary of the site, allows for a pleasant working environment and provides outdoor space for staff.

# CHAPTER: 12 MATERIALS

Materials within a development will be sourced to have minimal environmental impact and to be as sustainable as possible. The materials for the project will reflect the local context.

General specifications for materials include:

- Trapezoidal built-up metal cladding system
- Aluminium framed windows to office areas with aluminium curtain walling

Other building and external landscaping surfaces to be designed for durability and longevity due to the intended nature of use of the building e.g., brushed concrete to service yards and permeable block pacing to car parks and footpaths around the office.

## 12.1 EMBODIED IMPACT

- Materials Specification - The building fabric and materials specified will have a low environmental impact. Materials may include reclaimed or recycled materials where appropriate. The BRE's Green Guide[8] will be used to help procure materials with low embodied impact (Green Guide A or A+ rated materials). For example, Mineral Wool insulation.
- Where practical and suitable, the Recycled Content of Materials will be considered
- A full Life Cycle Assessment of the main building materials, in line with IMPACT software and the BREEAM requirements has been undertaken.

## 12.2 SUSTAINABLE SOURCING

Where practical, materials will be responsibly sourced including 100% of the timber to be legally and responsibly sourced e.g., FSC Timber

[8] Green Guide to Specification, https://www.bregroup.com/greenguide/podpage.jsp?id=2126

## 12.3 MATERIALS EMISSIONS

Volatile Organic Compounds (VOCs) are organic chemicals that have a high vapour pressure at ordinary room temperature. As part of the scheme and wider development proposal, a commitment to use low VOC paints has been indicated. Low VOC products bring a healthier internal air quality environment and also have a benefit to construction workers in terms of health and safety. Internal paints which have a low solvent / low VOC content will be used.

Insulation materials for both fabric and services Zero Ozone Depletion potential (ODP) and Global Warming potential (GWP) will be specified.

## 12.4 DURABILITY AND RESILIENCE

In line with the requirements of BREEAM a Durability and Resilience study will be developed to ensure designing for longevity.

Robust building elements will be included to suit the intended nature of use, such as building protection to docking bays, heavy duty finishes internally, heavy duty hard surfaces for HGV parking and loading/ unloading.

# CHAPTER: 13 OPERATIONAL POLLUTION

## 13.1 NOISE

A site-specific noise impact assessment in line with BS4142:2014 has been developed by a Member of the Institute of Acoustics (MIOA).

A survey of environmental noise levels on the site and surrounding area has been undertaken which has been coupled with noise modelling based on intended/ expected operation of the facility.

### 13.1.1 PLANT NOISE

The results of this modelling have been used to set plant noise limits to meet the respective requirements of the BREEAM assessment, achieving 5dB below background sound level at nearby sensitive receptors.

### 13.1.2 VEHICLE NOISE

The acoustic consultant has previously undertaken an operational noise assessment of a similar facility in terms of vehicle movements (including HGV Chiller units, HGV movements, unloading/ loading). This has been combined with anticipated trip data in delivery noise modelling.

This modelling has been compared against the measured background noise levels with the result indicating that noise associated with the operational activities of the facility would fall below the Low Observed Adverse Effect Level (LOAEL) of the NPPG and NPSE.

## 13.2 LIGHT

All external fittings will be low energy and controlled to avoid their use during daylight hours. The use of time clocks and PIR sensors may be considered where appropriate.

Security lighting will be considered to ensure a safe environment for workers, but also to minimise obtrusive light pollution to surrounding properties.

## 13.3 WATER COURSE

Due to the nature of intended use, oil/ petrol interceptors will be incorporated into the drainage system to mitigate against Pollution risk.

# CHAPTER: 14 CONSTRUCTION

As noted throughout this statement, a truly Sustainable Development requires the close interaction of the Design Team and Contractor to ensure the most sustainable decisions are made.

Construction Phase impacts can be mitigated through the following areas:

## 14.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

A Construction Environmental Management Plan (CEMP) is to be developed (to be secured by planning condition). This will primarily aim to reduce any adverse impacts from construction on local sensitive receptors.

Areas covered within the CEMP will include:

- Air quality
- Water quality and drainage
- Noise and vibration
- Geology and soils
- Landscape and visual impact
- Nature conservation
- Archaeology and cultural heritage
- People and communities
- Waste
- Energy
- Transport
- Materials

The CEMP will be structured to cover:

- Policy and planning,
- environmental impacts,
- risks and mitigation,
- procedures for monitoring construction,
- pollution control and
- environmental risk

## 14.2 CERTIFICATION

At each stage of the Construction phase, the lead contractor is to be considered for their Environmental Accreditation e.g., ISO 14001 Environmental Management Systems.

## 14.3 UTILITY MONITORING

### 14.3.1 ENERGY

Energy efficiency measures can be made through the construction phase of the project. Energy on site can be metered and recorded and best practise benchmarks sought. Additionally, energy and carbon can be kept to a minimum where possible through the promotion of using a local workforce with the use of public transport encouraged.

Targets will be developed, and data recording processes established to monitor performance.

### 14.3.2 WATER

Water use for the construction phase should be metered separately and water efficiency should be considered for site welfare facilities e.g., low flush WCs, low flow taps and potentially rainwater harvesting.

Targets will be developed, and data recording processes established to monitor performance.

## 14.4 MONITORING TRANSPORT

Development of a Construction Phase, Green Travel Plan, considering:

- Access to the site
- Routes
- Timings of deliveries
- Waste Collection
- Staff access and minimising impact

Monitoring of vehicles to and from the site specifically those carrying materials and removing waste, allowing the associated Carbon Emissions to be established.

## 14.5 SUSTAINABLE PROCUREMENT POLICY

A sustainable procurement policy is to be developed in line with the requirements of BREEAM.

This will cover the following areas:

- Sustainable/ legal sourcing of timber used in both temporary and permanent works e.g., FSC Timber, BES6001
- Sustainability Aim, Objectives and Strategic targets
- Availability of locally supplied construction products
- Checking and verification of sustainability credentials of products/ suppliers
- Processes to record and check certification of products

## 14.6 POLLUTION PREVENTION

Good practise measures such as the Environment Agency's Pollution Prevention Guidance (PPGs)[9] and the updated Guidance for Pollution Prevention (GPPs) would also be recommended through the dissemination of appropriate tool-box talks.

To minimise local pollution during construction, the following measures would be recommended:

- Pollution prevention measures and environmental controls to be included in a site environmental management plan, a site-specific induction, as well as delivery of relevant tool-box talks
- Controls in place to control construction dust
- Safe and secure storage of materials
- Adoption of best practice pollution prevention guidance
- Adoption the best practicable means to reduce the effects of noise, vibration, dust and site lighting. This can be demonstrated through a construction management plan.
- During construction works, any lighting will be kept to a minimum. Task specific lighting will be reviewed and monitored accordingly.
- Adoption of good practice dust control measures

## 14.7 CONSTRUCTION WASTE MANAGEMENT - SITE WASTE MANAGEMENT PLAN (SWMP)

Due to the nature of the project site, careful planning will be required with respect to deliveries and storage of materials and storage of waste prior to collection/ removal.

A Site Waste Management Plan (SWMP) (to be secured by planning condition) would ensure construction waste is monitored, recorded and minimised within each of the European Waste

[9] Environment Agency, Working at Construction and Demolition Sites: PPG6, withdrawn 2015 – update in progress

Catalogue (EWC)[10] groups. This plan will outline how the project can reduce the amount of waste generated and how materials can be diverted from landfill.

Location of skips should be considered to reduce any risk to surrounding neighbours and local traffic. The use of comingled waste could be considered before management and separation off-site. Recycling and waste bins will be kept clean and clearly marked in order to avoid contamination of materials.

[10] European Commission, European Waste Catalogue, Decision 2000/532/EC

# CHAPTER: 15 CONCLUSION

This Sustainability Statement in combination with the BREEAM Pre-Assessment, demonstrate the sustainability credentials and approach for the project.

The project is targeting a BREEAM Excellent rating, which is over and above the local plan requirement for a Very Good rating, which should be afforded sufficient weight when determining this application.

The targeted BREEAM rating carries with it a number of actions which serve to reduce the impact of the proposed building and improve its sustainability including:

- Minimizing energy use and therefore reduce Carbon Emissions
- Sustainable sourcing of materials
- Considering embodied impact of materials
- Managing the construction site in an environmental conscious fashion
- Mitigating and enhancing the local biodiversity
- Taking into account future climate events with respect to design elements such as flood risk
- Mitigation of local pollution