



**Report Title: DREAM**  
(Defence Related  
Environmental  
Assessment Methodology)

**Questions and Guidance  
Notes  
REPORT**

**Question Set : Living  
Accommodation - New Build  
Version: 6**

## Stage: Survey

### Biodiversity & Environmental Protection - Survey

code	title	credits
<b>S-BI 1</b>	<p><b>Brownfield Site</b></p> <p><b>Aim:</b> To encourage the use of brownfield sites.</p> <p><b>Credit Criteria:</b> The site for the development should be a brownfield site. Brownfield land is another term for previously developed land, or land which is or was occupied by a permanent structure, including the curtilage of the developed land and associated fixed surface infrastructure.</p> <p>To obtain a credit the site should be occupied by an existing building or hard-standing, covering at least 75% of the site, which will be redeveloped. Where the site has already been cleared of previous construction, it should not have been unoccupied for more than five years.</p> <p><b>Credit Evidence:</b> The project team should provide copies of documents such as maps, aerial photographs, drawings, reports etc, which clearly define the buildings or hardstand which are/were on the site and the extent of the buildings or hardstand. If the buildings or hardstand are no longer present, evidence of their date of demolition should also be provided.</p>	1

**Further Information:**



## Biodiversity & Environmental Protection - Survey

code	title	credits
<b>S-BI 2</b>	<p><b>Land Contamination Survey</b></p> <p><b>Aim:</b> To reduce the risk of harm to humans, ecology and property from land contamination.</p> <p><b>Credit Criteria:</b> This credit can be awarded following a systematic investigation and report upon the risks to health, safety, environmental and property associated with a contamination or potential contamination on the site. This must be carried out in accordance with MODs '<a href="#">Land Quality Assessment Practitioner Guide 07/12</a>'.</p> <p><b>Credit Evidence:</b> The design team should provide a copy of the investigation report.</p> <p><b>Further Information:</b></p>	1

## Biodiversity & Environmental Protection - Survey

code	title	credits
<b>S-BI 3</b>	<p><b>Remediation Method</b></p> <p><b>Aim:</b> To encourage the use of previously contaminated land, encourage sustainable methods of 'in-situ' remediation, reduce the amount of hazardous material disposed of via landfill and reduce the amount of waste removed from the site.</p> <p><b>Credit Criteria:</b> To achieve this credit,</p> <ul style="list-style-type: none"> <li>• the Land Contamination Survey should conclude that the land within the site is affected by contamination and;</li> <li>• all alternative remediation options to dig-and dump have been considered and included in the remediation strategy.</li> </ul> <p>Sustainable soil remediation techniques (such as bioremediation) should be used on site where possible to meet requirements outlined by the relevant Local Authorities. The credit cannot be achieved where 'dig and dump' is applied on the site, unless it is proven that there is no viable alternative to 'dig and dump'.</p> <p>The extent of remediation must be appropriate to the proposed use of the site, to ensure that the site is brought back into beneficial use and poses no risk to future site users.</p> <p><b>Credit Evidence:</b></p>	1

Evidence should be in the form of an options appraisal and remediation strategy that has been approved by the EA, SEPA or other relevant local authority.

**Further Information:**



## Biodiversity & Environmental Protection - Survey

code	title	credits
S-BI 4	<p data-bbox="358 491 964 533"><b>Preliminary Ecological Appraisal</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1273 751">To ensure compliance with statutory obligations to conserve biodiversity and encourage ecological enhancement of the site, and to minimise impacts on wildlife habitat.</p> <p data-bbox="358 806 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 848 1273 1289">One credit can be awarded if a competent person undertakes a PEA. A competent person is someone with appropriate qualifications who is also a Member of the Institute of Ecology and Environmental Management (IEEM) (Associate or above) or an equivalent organisation. The person should be licensed if appropriate and necessary. The competent person should follow IEEM “Guidelines for Ecological Impact Assessment”, or guidelines of a similar standard.</p> <p data-bbox="358 1344 1273 1785">If appropriate, the PEA should include a desk study, extended phase one Habitat Survey, Ecological Constraints and Opportunities Plan and Ecological Impact Assessment to identify constraints and requirements for further survey, assessment and approvals. This could also be a site wide survey carried out in the last 12 months or where the survey is older steps must have been taken to verify its accuracy. The report will need to record how the project is going to impact on the exact site location.</p> <p data-bbox="358 1839 1273 1961">A further credit can be awarded if the ecological appraisal concludes that the site is of low ecological value.</p>	2

If the project may impact on a statutory designated site, or protected species, additional statutory assessment and mitigation requirements exist, and must be addressed. Specialist advice from DIO Safety, Environment and Engineering Team should be sought in these instances.

**Credit Evidence:**

The design team should provide a copy of the ecologist's report.

**Further Information:**



## Biodiversity & Environmental Protection - Survey

code	title	credits
<b>S-BI 5</b>	<p><b>Protection and Enhancement of the Historic Environment</b></p> <p><b>Aim:</b> To protect and enhance the historic environment and to ensure its sustainable future.</p> <p><b>Credit Criteria:</b> To award the credit, the assessor should establish that the historic environment features on the site are known; the likely impacts of the project on those features have been identified together with the necessary mitigation measures; and the necessary permissions obtained (E.G. Listed Building Consent). It should also be necessary to demonstrate that the appropriate documents and Subject Matter Experts (SME) have been considered or consulted. This could include:</p> <ul style="list-style-type: none"> <li>• SEE Historic Environment Teams (Archaeology Team and Historic Buildings Team)</li> <li>• Relevant Services' historic branches</li> <li>• Heritage Statutory Bodies (through Historic Environment Teams)</li> <li>• Local Planning Authority</li> <li>• Statements of Significance</li> <li>• Conservation Management Plan</li> <li>• Heritage components of Environmental Management Systems;</li> <li>• Integrated Land/Rural Management Plans or</li> <li>• Integrated Estate Management Plans.</li> <li>• Quadrennial Inspections (QI)</li> <li>• Quinquennial Inspections of Scheduled Monuments.</li> </ul>	1

- National Planning Policy Framework, Chapter 12
- Institute of Field Archaeologists Code of Practice
- Historic archives and plans

This could also be a site wide survey conducted within the last 12 months.

**Credit Evidence:**

The project team should ensure that the historic environment features are reflected within the Construction Environmental Management Plan (CEMP) together with any mitigation measures. Evidence of any necessary consents should also be presented to the DREAM Assessor.

**Further Information:**

## Energy - Survey

code	title	credits
<b>S-EN 1</b> *	<p><b>Energy Infrastructure</b></p> <p><b>Aim:</b>            To ensure that the energy needs of the project can be met and opportunities for onsite renewable energy and low emission generation are identified.</p> <p><b>Credit Criteria:</b>            One credit is awarded when:</p> <ol style="list-style-type: none"> <li>1. the local electricity and gas suppliers and distributors, Maintenance Management Organisation and/or the DIO Area Utilities Manager have been consulted, to confirm that there is sufficient capacity within the local electricity and gas infrastructure to meet the demands of the project and;</li> <li>2. the site has been assessed for the potential for renewable energy generation to reduce the demand on grid electricity and mains gas. Energy from renewable sources means energy from non-fossil fuel sources, such as wind, solar, geothermal, hydropower, biomass and sewage treatment plant gas. The assessment should determine whether any of the above are feasible and provide detail on:               <ul style="list-style-type: none"> <li>. Potential contribution to the reduction in regulated carbon dioxide emissions</li> <li>. Potential contribution to overall building</li> </ul> </li> </ol>	<b>1</b>

**energy demand**

- **Lifecycle cost of each technology, including payback period**
- **Constraints – e.g. local planning conditions, operational restrictions etc...**
- **Opportunities – available grants, tariffs etc...**
- **Existing site technologies**

**This is a mandatory credit.**

**Credit Evidence:**

**Evidence of discussions with local electricity and gas suppliers and distributors, Maintenance Management Organisation and/ or the DIO Area Utilities Manager, should be provided. This could be in the form of correspondence or meeting minutes. In addition, a renewable energy report should be provided, summarising all reviews undertaken and the outcomes of these reviews.**

**Further Information:**

## Procurement - Survey

code	title	credits
S-PR 1	<p><b>Sustainable Development Specialist</b></p> <p><b>Aim:</b> To identify key sustainability opportunities, with an aim to achieving best practice design standards.</p> <p><b>Credit Criteria:</b> The survey team should receive input from a competent person with proven skills and abilities in the design and delivery of sustainable buildings. The competent person could be a DREAM / BREEAM / CEEQUAL accredited assessor and will be required to help facilitate the successful achievement of the target DREAM rating.</p> <p><b>Credit Evidence:</b> Evidence could include a letter of appointment or a report from the sustainable development specialist, along with details of the specialist's qualifications and experience in sustainable development.</p> <p><b>Further Information:</b></p>	1

## Procurement - Survey

code	title	credits
S-PR 2	<p data-bbox="358 491 683 533"><b>Desktop Surveys</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1273 758">To ensure that all relevant information, findings and recommendations from previous and current studies, surveys, assessments and management systems are incorporated into the project.</p> <p data-bbox="358 806 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 848 1214 982">The following studies, surveys, assessments and management systems should be collected (where relevant):</p> <ul data-bbox="391 1066 1219 1780" style="list-style-type: none"> <li>• Sustainability Appraisal (SA)</li> <li>• Environmental Impact Assessment (EIA)</li> <li>• Strategic Environmental Assessment (SEA)</li> <li>• Natural Environment Clearance &amp; Consents</li> <li>• Historic Environment Clearance &amp; Consents</li> <li>• Flood, Marine &amp; Coastal Consents</li> <li>• Climate Impact Risk Assessment (CIRAM)</li> <li>• Geotechnical surveys</li> <li>• Site travel plans</li> <li>• Site energy management plans</li> <li>• Environmental Management System ( EMS)</li> <li>• Integrated Environmental Management Plan (IEMP)</li> <li>• Integrated Land Management Program (ILMP)</li> <li>• Integrated Rural Management Plan (IRMP)</li> <li>• Review of public access arrangements</li> </ul> <p data-bbox="358 1864 1263 1990">These studies and surveys should be reviewed, and all recommendations should be identified for incorporation into the remaining stages of the</p>	1

project.

**Credit Evidence:**

The Project Manager should confirm in writing which studies and surveys have been collected, and provide a summary of all findings and recommendations which are relevant to the later stages of the project. The assessor should use his/her judgement to evaluate whether the summary is sufficient for handover to the design, construction and operation teams.

**Further Information:**

## Travel - Survey

code	title	credits
S-TR 1	<p><b>Green Travel Plan</b></p> <p><b>Aim:</b> To encourage people to walk or cycle and reduce dependence on individual motorised transport means.</p> <p><b>Credit Criteria:</b> Green Travel Plans should identify the specific required outcomes, targets and measures, and set out proportionate future monitoring and management arrangements.</p> <p>As a minimum, the Green Travel Plan should:</p> <ul style="list-style-type: none"> <li>• benchmark travel data</li> <li>• forecast the level of trips by all modes of transport likely to be associated with the development;</li> <li>• provide relevant information about existing travel habits on site and in the surrounding area;</li> <li>• explain how safe pedestrian and cycle routes from the development to other onsite facilities will be provided;</li> <li>• include proposals to reduce the need for travel to and from the site via all modes of transport;</li> <li>• include proposals to enhance the use of public transport services and facilities for cycling and walking; and</li> <li>• consider parking strategy options</li> </ul> <p>The credit may be awarded if an existing site wide Green Travel Plan has been consulted and updated</p>	1



accordingly.

**Credit Evidence:**

The team should provide a copy of the Green Travel Plan.

**Further Information:**



## Water - Survey

code	title	credits
S-WR 1	<p><b>Water Infrastructure</b></p> <p><b>Aim:</b> To ensure that the water needs of the project can be met.</p> <p><b>Credit Criteria:</b> One credit can be awarded for consulting the appropriate water authority to confirm that there is sufficient capacity within both the local water supply and wastewater disposal infrastructure to meet the demands of the project during its projected lifecycle. This should include consideration of future climate change.</p> <p>For projects on Aquatrine sites, the DIO PFI Aquatrine Team / Aquatrine Service Provider should be contacted to determine future demand availability / waste water capacity.</p> <p>For projects on non-Aquatrine sites, the incumbent statutory undertaker (i.e. Water Company) should be contacted to determine future demand availability / waste water capacity.</p> <p><b>Credit Evidence:</b> To achieve this credit, evidence of discussions with the appropriate water authority, should be provided. This could be in the form of correspondence or meeting minutes.</p> <p><b>Further Information:</b></p>	1

## Water - Survey

code	title	credits
S-WR 2	<p><b>Flood Risk</b></p> <p><b>Aim:</b> To ensure the site is not at risk of flood or the identified risks will be addressed in the design.</p> <p><b>Credit Criteria:</b> It is MOD policy that decisions involving estate change should take account of present and future flood risk over the development's lifetime.</p> <p>A credit can be awarded for undertaking a flood risk assessment using the appropriate planning guidance and reviewing natural drainage to determine whether the site is at risk from flooding. The flood risk assessment must take account of future climate change. If flooding is a risk on the site, a strategy should be developed for mitigating the risks.</p> <p>If a flood risk assessment has been undertaken on the site in the last five years and if it has been completed under the most recent relevant planning guidance then this credit can be awarded.</p> <p><b>Credit Evidence:</b> A copy of the flood risk assessment and (where relevant) mitigation strategy should be provided to the assessor.</p> <p><b>Further Information:</b></p>	1

## Waste - Survey

code	title	credits
S-WS 1	<p><b>Waste Infrastructure</b></p> <p><b>Aim:</b> To ensure that the waste recycling and disposal needs of the project can be met.</p> <p><b>Credit Criteria:</b> One credit can be awarded for consulting the local authority, or site utility or infrastructure manager, to confirm that collection of wastes and recyclable materials is available to meet the demands of the project.</p> <p><b>Credit Evidence:</b> Evidence of discussions with the local authorities, or site utility or infrastructure manager, should be provided. This could be in the form of correspondence or meeting minutes.</p> <p><b>Further Information:</b></p>	1

## Stage: Design

### Biodiversity & Environmental Protection - Design

code	title	credits
<b>D-BI 1</b>	<p><b>Site Ecology Design</b></p> <p><b>Aim:</b> To ensure compliance with statutory obligations to conserve biodiversity and encourage ecological enhancement of the site, and to minimise impacts on wildlife habitat.</p> <p><b>Credit Criteria:</b> Credits can be awarded where the recommendations of the Preliminary Ecological Appraisal completed at S-BI-4 have been incorporated into the design and have resulted in:</p> <p>Avoidance – 2 credits Enhancement – 1 credit</p> <p>(Plus 1 credit for offsite projects, up to a total credit award of 3 credits. The offsite credit is independent of the other credits.)</p> <p><b>Avoidance:</b> undertaken at the design stage, requires that the building and any associated hardstand be positioned on the site to avoid existing habitats and hence minimise impacts.</p> <p><b>Enhancement:</b> defines an improvement of the ecological value of the site; e.g. reintroducing appropriate indigenous vegetation, clearing intrusive vegetation (such as Japanese Knotweed) or linking isolated habitats, and should take account of</p>	3

habitats and ecosystem characteristics within the surrounding area.

If the project may impact on a statutory designated site, or protected species, additional statutory assessment and mitigation requirements exist, and must be addressed. Specialist advice from the DIO Safety, Environment and Engineering Team should be sought in these instances.

**Off-site projects** involve providing resources (of any type) to support off-site ecological and biodiversity projects in the local area through managed schemes and programmes. This could include local schools and ecological or other nature groups.

**Credit Evidence:**

The design team should provide the appropriate documentary evidence (e.g. photos of the existing site) and drawing information to demonstrate the selected strategy. The assessor should confer with the project ecological consultant or other appropriate person to confirm which credits can be awarded. For the additional credit for off-site projects there shall be appropriate documentary evidence in the form of a letter or email from the receiving organization confirming the nature and type of assistance received.

**Further Information:**

## Biodiversity & Environmental Protection - Design

code	title	credits
<b>D-BI 2</b>	<p><b>Protection and Enhancement of the Historic Environment</b></p> <p><b>Aim:</b> To protect and enhance the historic environment and to ensure its sustainable future.</p> <p><b>Credit Criteria:</b> To award the credit, the assessor should ensure that the heritage integrity of the site is considered and where possible enhanced by the design of the construction. This includes:</p> <ul style="list-style-type: none"> <li>• Location and layout</li> <li>• Special features including proximity to a historic feature</li> <li>• Sympathetic colour schemes and construction materials</li> <li>• Stakeholder consultation</li> <li>• Vernacular architecture, landscape and townscape</li> <li>• Historic maps, plans and archives on site should be referred to the Historic Environment Teams</li> <li>• The relevant heritage sections of the Design Excellence Evaluation Process (DEEP) have been followed and taken into consideration.</li> </ul> <p>If the historic environment assessment carried out at S-BI-5 found no historic environment features NA may be selected for this credit.</p> <p><b>Credit Evidence:</b> The project team should demonstrate that the</p>	1

heritage of the site has been actively considered within the design phase of the project. They should provide evidence of consultations and how the various aspects as outlined above have been considered.

**Further Information:**





## External EQ - Design

code	title	credits
D-EEQ 2	<p><b>NOx emissions of heating source</b></p> <p><b>Aim:</b> To reduce the nitrogen oxides emitted into the atmosphere.</p> <p><b>Credit Criteria:</b> Credits can be achieved as follows:</p> <ul style="list-style-type: none"> <li>• &lt;100 mg/kWh output energy = 1</li> <li>• &lt;70 mg/kWh output energy = 2</li> <li>• &lt;40 mg/kWh output energy = 3</li> </ul> <p>This should also include the emission of a heat source if it is from central services providing it is quoted in the same rates/ units.</p> <p>Note:</p> <ul style="list-style-type: none"> <li>• These are dry NOx emissions at 0% oxygen.</li> <li>• The boiler or calorifier NOx emission rating that is the greatest should be selected for assessment.</li> <li>• No credits permitted for the use of electricity sourced from the National Grid for space heating.</li> <li>• Where district CHP or heating only is provided, the performance of the central plant should be considered.</li> <li>• Manufacturer's specifications should be used to determine mg/kWh.</li> </ul> <p><b>Credit Evidence:</b></p>	3

The design team should provide a copy of the specification stating the type of plant (make and model), and evidence of the maximum NO<sub>x</sub> emission rate from the manufacturer (e.g. correspondence, literature, specifications).

**Further Information:**

## External EQ - Design

code	title	credits
D-EEQ 3	<p><b>Zero ODP and GWP &lt;5 Insulants</b></p> <p><b>Aim:</b> To reduce the amount of ozone depleting substances and substances with global warming potential to the atmosphere.</p> <p><b>Credit Criteria:</b> Some blown insulation products contain gases that are harmful to the ozone layer, such as chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs), or have a global warming potential, such as hydrofluorocarbons (HFCs). The design team should specify insulants which have zero ODP and GWP less than five. This should include all insulation products applied to building services systems as well as the building fabric insulation.</p> <p><b>Credit Evidence:</b> The design team should provide copies of the specification clauses stating all types of insulation to be used within the building, and evidence from the manufacturers (e.g. correspondence, literature, specifications) which confirms that the insulation is zero ODP and GWP less than five. Note: Where insulation is inherently zero ODP and GWP less than five (mineral wool, glass fibre), evidence from the manufacturers is not required.</p> <p><b>Further Information:</b></p>	1

## Energy - Design

code	title	credits
D-EN 1	<p><b>Building Regulations Enhancement Part L2A</b></p> <p><b>Aim:</b> To reduce CO<sub>2</sub> emissions to the atmosphere.</p> <p><b>Credit Criteria:</b> To achieve these credit(s), the BER for the building must be calculated using an approved National Calculation Methodology (NCN) tool such as SBEM, in line with the requirements of the latest relevant devolved administration building regulations. Credits will be awarded based on the improvement compared to the TER as calculated using the same software program.</p> <ul style="list-style-type: none"> <li>• No improvement = 0</li> <li>• &gt; 10% = 2</li> <li>• &gt; 20% = 3</li> <li>• &gt; 30% = 4</li> </ul> <p><b>Credit Evidence:</b> The design team should provide a copy of the calculations and results demonstrating improvement. Evidence may be provided in the form of an Energy Performance Certificate.</p> <p><b>Further Information:</b></p>	4

## Energy - Design

code	title	credits
D-EN 2.2	<p><b>Building Air Leakage Design</b></p> <p><b>Aim:</b> To reduce the thermal load associated with air infiltration.</p> <p><b>Credit Criteria:</b> To award the credit, building envelope should be designed to reduce air leakage. Credits will only be awarded if an improvement is made on a base rate of air infiltration. Credits are determined as follows:</p> <ul style="list-style-type: none"> <li>• &lt; 6m<sup>3</sup>/(h.m<sup>2</sup>) @ 50Pa = 1 credit</li> <li>• &lt; 4m<sup>3</sup>/(h.m<sup>2</sup>) @ 50Pa = 2 credits</li> <li>• &lt; 2m<sup>3</sup>/(h.m<sup>2</sup>) @50Pa = 3 credits</li> </ul> <p><b>Credit Evidence:</b> The design team should provide a copy of the calculation results demonstrating improvement. This could be taken from a sample construction type eg for modular build projects.</p> <p><b>Further Information:</b></p>	3

## Energy - Design

code	title	credits
D-EN 3	<p><b>Low or Zero Carbon (LZC) Technologies</b></p> <p><b>Aim:</b> To reduce CO<sub>2</sub> emissions to atmosphere and maximise sourcing of energy from LZC resources.</p> <p><b>Credit Criteria:</b> Credits can only be awarded if LZC technologies recommended in the feasibility study conducted at S-EN1 have been specified.</p> <ul style="list-style-type: none"> <li>• One credit can be awarded when the LZC technology specified contributes &gt;5% of overall building energy demand or result in &gt;5% reduction in regulated carbon dioxide emissions.</li> <li>• Two credits can be awarded when the LWC technology specified contributes &gt;10% of overall building energy demand or result in &gt;10% reduction in regulated carbon dioxide emissions.</li> </ul> <p>Any installation should be done in consultation with the site manager and/or Area Utilities Manager.</p> <p><b>Credit Evidence:</b> The assessor should provide calculations showing the estimated output of the LWC technology and its contribution to overall building energy demand and/or reduction in regulated carbon dioxide emissions. The assessor should also provide copies of meeting minutes or notes relating to discussions with site manager / Area Utilities manager.</p> <p><b>Further Information:</b></p>	2



## Energy - Design

code	title	credits
<b>D-EN 4</b>	<p><b>Reduction of Carbon Dioxide Emissions</b></p> <p><b>Aim:</b> To reduce the emissions of CO2 to atmosphere</p> <p><b>Credit Criteria:</b> Credits will be given to reduce the energy demand and hence CO2 emissions through specifying techniques for heat recovery or passive design. Either one or all of the options can be used within the project.</p> <ul style="list-style-type: none"> <li>• 2 credits for heat recovery, or re-use initiatives. These credits may be awarded if heat generated from any process where the heat would otherwise be lost is collected and meaningfully re-used. Sources of waste heat or energy might include refrigeration units, boilers, power generation plant etc.</li> <li>• 2 credits for passive design measures. These credits may be awarded if building energy demands (heating, cooling, lighting etc...) are meaningfully reduced through the use of passive design measures. Passive design can include consideration of building orientation, shading, material selection etc...</li> </ul> <p><b>Credit Evidence:</b> Evidence shall be provided of; a) energy recovery and reuse from the waste heat generated b) passive design measures within the building through provision of drawings, specifications etc.</p>	4



**Further Information:**



## Energy - Design

code	title	credits
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**D-EN 5.1**

### **Lighting Flexibility, Zoning and Control**

**3**

#### **Aim:**

To minimise energy use from artificial lighting.

#### **Credit Criteria:**

Credits are awarded as follows for implementing the following features in the lighting control strategy:

- Zoned lighting – 1 credit
- Occupancy linked Lighting controls – 1 credit
- Circadian rhythm – 1 credit

#### **Zoned lighting – 1 credit**

The project design should have appropriately zoned lighting to allow for varying occupancy levels and appropriate combinations of luminaires to be switched on and off, varying lighting levels. The zoning should include the following, as a minimum:

- Separate zoning and controls for circulation spaces, utility rooms, stores, common rooms and other separate space types within the building (e.g. disabled toilet).
- Within each accommodation unit, separate zoning and controls for each living area, bedroom, study space, bathroom etc.
- Areas adjacent to windows and other glazed areas should be zoned separately to maximise use of daylight.

#### **Occupancy linked lighting controls – 1 credit**

Occupancy detection linked control of lighting should be provided in circulation spaces, utility rooms, stores, common rooms and other separate space types within the building (e.g. disabled toilet). Full and low-level lighting controls should be available for the living area and bedroom.

The credit for zoned lighting must also be achieved in order to obtain this credit. This should be in line with health and safety requirements.

### **Circadian rhythm – 1 credit**

One credit can be awarded where circadian lighting systems capable of controlling the colour and intensity of the light at particular times, with feedback from the illuminated space, have been specified. For example, blue wavelengths are beneficial during daylight hours because they boost attention, reaction times and mood, but appear to be disruptive at night. So as part of a control regime, the 'blue light' could be controlled throughout the day to transition from a stimulating 'biological light' (with maximum blue content) to a restful 'biological darkness' (with little or no blue content).

The above strategies should be developed in consultation with a CIBSE Qualified Lighting Engineer (e.g., Member of the Society of Light and Lighting (MSLL)).

### **Credit Evidence:**

To award each credit, the design team should provide specifications and schematics demonstrating that the criteria have been met.

### **Further Information:**

## Energy - Design

code	title	credits
<b>D-EN 6</b>	<p><b>Lighting Levels</b></p> <p><b>Aim:</b> To minimise energy use in lighting and thus reduce CO<sub>2</sub> emissions.</p> <p><b>Credit Criteria:</b> To ensure occupant comfort while minimising energy consumption in lighting, the lighting levels from the relevant CIBSE Lighting Guide should not be exceeded.</p> <p>If you are required by contractual arrangements to work to JSP scales, this credit is not applicable.</p> <p><b>Credit Evidence:</b> To gain the credit, specification and schematic drawing evidence should be supplied to show the lighting levels of all areas within the building. If this credit is not applicable, the assessor should be provided with the extract from the contract which applies JSP scales.</p> <p><b>Further Information:</b></p>	1

## Energy - Design

code	title	credits
<b>D-EN 7</b>	<p><b>Internal and External Luminaires</b></p> <p><b>Aim:</b> To maximise energy efficiency in lighting and reduce CO<sub>2</sub> emissions.</p> <p><b>Credit Criteria:</b> To exceed standards laid down in the latest relevant devolved administration building regulations. To award this credit, a lighting plan should be developed, in consultation with a CIBSE Qualified Lightening Engineer (e.g. Member of the Society of Light and Lighting (MSLL), that includes appropriate lighting layout and method of controls (switches - including remotely controlled switches). The plan should include a luminaire schedule that shows the efficacy of each lamp and how that corresponds to the luminaires specified.</p> <p><b>Credit Evidence:</b> The design team should provide a copy of the lighting plan and supporting calculations</p> <p><b>Further Information:</b></p>	1

## Energy - Design

code	title	credits
<b>D-EN 8</b>	<p><b>Carbon Rating of Heating Fuel</b></p> <p><b>Aim:</b> To reduce carbon emissions from space heating.</p> <p><b>Credit Criteria:</b> Two credits can be awarded where the entire space heating load is met by energy sources other than National Grid generated electricity.</p> <p>One credit can be awarded where the space heating base-load is met by energy sources other than National Grid generated electricity</p> <p>An exception would be where a purchasing agreement has been arranged with electricity suppliers to provide from renewable sources generated within 10 miles from the site, or where the electricity has been generated on site through renewable sources. 'Green' tariff electricity sourced from the grid is not eligible.</p> <p>Heat pump installations will also be eligible for this credit provided a COP (ratio of kW of heat delivered: kW of electrical power) of &gt; 3 is achieved.</p> <p>This is based on the following statistics:</p> <ul style="list-style-type: none"> <li>• National Grid = 0.519 kg CO<sub>2</sub> / kWh</li> <li>• Oil = 0.298 kg CO<sub>2</sub> / kWh</li> <li>• Gas = 0.216 kg CO<sub>2</sub> / kWh</li> <li>• Biomass = 0.016 kg CO<sub>2</sub> / kWh</li> </ul>	2

(Figures from Building Regulations Approved Document Part L2)

**Credit Evidence:**

The design team should demonstrate via drawings and/or specification clauses the type of fuel being used for space heating purposes.

**Further Information:**

## Energy - Design

code	title	credits
<b>D-EN 10</b>	<p><b>Boiler Efficiency</b></p> <p><b>Aim:</b> To ensure the specification of energy efficient heat generating plant and reduce CO2 emissions.</p> <p><b>Credit Criteria:</b> Credits can be awarded if the summer and winter operating efficiency of the project boilers meets the following values:</p> <p>One credit:</p> <ul style="list-style-type: none"> <li>• Natural Gas - 91%</li> <li>• LPG - 93%</li> <li>• Oil - 84%</li> <li>• Biomass - 75%</li> </ul> <p>Two credits:</p> <ul style="list-style-type: none"> <li>• Natural Gas - 95%</li> <li>• LPG - 97%</li> <li>• Oil - 87%</li> <li>• Biomass - 78%</li> </ul> <p>One credit will be awarded if it is necessary to use an existing site wide scheme, and the main boiler is of low efficiency, but contact has been made with the site manager suggesting that improvements be made.</p> <p><b>Credit Evidence:</b> Specification clauses and/or equipment schedules confirming the types of boilers being installed, and</p>	2



supporting technical evidence from the manufacturers should be provided to confirm the efficiency.

**Further Information:**



## Energy - Design

code	title	credits
<b>D-EN 13</b> *	<p><b>Energy Metering</b></p> <p><b>Aim:</b>  <b>To facilitate energy management and saving initiatives, thus reducing CO2 emissions.</b></p> <p><b>Credit Criteria:</b>  <b>Metering should be provided to all incoming supplies of gas and electricity. In addition, sub-metering to all major energy uses within the building should be provided in compliance with the appropriate Building Regulations.</b></p> <p><b>The metering of major energy uses should allow &gt;90% of energy use to be captured.</b></p> <p><b>Credit Evidence:</b>  <b>Type and location of meters should be indicated on drawings together with supporting evidence to demonstrate compatibility of data to BMS requirements.</b></p> <p><b>Further Information:</b></p>	<b>2</b>

## Energy - Design

code	title	credits
<b>D-EN 14</b>	<p><b>Thermal Modelling</b></p> <p><b>Aim:</b> To optimize thermal comfort of occupants and reduce building heating and cooling loads. Data generated from the model should be used to inform the design team with reliable information regarding building performance and energy loads.</p> <p><b>Credit Criteria:</b> The first credit can be awarded if a dynamic thermal modelling analysis has been undertaken, and the results of the analysis has been used to aid and inform the design team in the overall building design. Operative temperatures ranges should be in accordance with the criteria set out in CIBSE Guide A Environmental Design. A thermal modelling software package compliant with the Guidance of CIBSE AM11 should be used.</p> <p>Where analysis of environmental conditions shows likely discomfort of occupants, passive environmental control methods should be employed to moderate the internal environment. Comfort criteria are outlined in CIBSE Guide A.</p> <p>The second credit can be awarded if thermal modelling demonstrates that the operative temperature ranges are achieved when projected climate change has been taken into account. Where analysis of the environmental conditions shows likely discomfort for occupants passive environmental control methods should be employed to moderate the internal environment.</p>	2

**Credit Evidence:**

The results of the thermal modelling should be provided, along with evidence that the results of the thermal modelling exercise have informed the design strategy with regard to orientation and fenestration arrangements, the control of solar gains, ventilation, heating and cooling arrangements.

**Further Information:**

**Energy - Design**

code	title	credits
<b>D-EN 15</b>	<p><b>Laundry Facilities</b></p> <p><b>Aim:</b> To minimise consumption of electricity and water in laundry facilities</p> <p><b>Credit Criteria:</b> One credit can be awarded when adequate internal or external drying facilities are provided. This credit cannot be awarded if tumble dryers or washer dryers are specified.</p> <p><b>Credit Evidence:</b> The design team should provide a site plan showing the locations and capacity of the drying facilities.</p> <p><b>Further Information:</b></p>	1

## Energy - Design

code	title	credits
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<b>D-EN 17</b>	<b>Energy Efficient Equipment</b>	2
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**Aim:**

To encourage the procurement of energy efficient equipment

**Credit Criteria:**

Two credits can be awarded when the following appliances achieve the Government Buying Standard Best Practice Level:

- Chest freezers, fridge freezers, upright freezers and refrigerators must have an 'A++' rating for energy efficiency.
- Dishwashers must be 'A+++' energy labelled.
- Domestic electric ovens must have an 'A' rated energy label.
- Commercial ovens must meet Energy Star or equivalent criteria.
- Vented and Condensing tumble dryers must be 'A+' rated or above.
- Washer dryers must have an 'A' rating.
- Domestic washing machines must be A+++ rated for Energy Efficiency.

If none of the above are specified please select NA.

**Credit Evidence:**

The design team should provide the specifications of the proposed appliances, including confirmation of their ratings from the manufacturers.

**Further Information:**



## Energy - Design

code	title	credits
D-EN 18	<p><b>Energy Efficient Lifts</b></p> <p><b>Aim:</b> To encourage the procurement of the optimum number of energy efficient lifts.</p> <p><b>Credit Criteria:</b> One credit can be awarded for:</p> <ul style="list-style-type: none"> <li>• conducting an analysis to determine the optimum number of lifts based on potential usage patterns</li> <li>• comparing energy usage of two types of lifts in accordance with BS EN ISO 25745 and specifying the system with the lowest energy consumption</li> </ul> <p>A further credit can be awarded if the lift(s) specified have the following features:</p> <ul style="list-style-type: none"> <li>• a standby condition available for off-peak periods</li> <li>• lighting that provides an average lamp efficacy of &gt;60 lamp lumens/circuit Watt</li> </ul> <p>If no lifts are specified please select NA.</p> <p><b>Credit Evidence:</b> For the first credit evidence should be provided that demonstrates that a) usage patterns b) energy usage have influenced the procurement of lifts. For the second credit, specification clauses or equipment schedules confirming the types of lifts</p>	2



being installed and supporting technical evidence from the manufacturers should be provided to confirm the standby condition and lamp efficacy.

**Further Information:**



## Internal EQ - Design

code	title	credits
<b>D-IEQ 1</b> *	<p><b>Environmental Comfort - Meet Standards</b></p> <p><b>Aim:</b>            To provide a comfortable and healthy environment</p> <p><b>Credit Criteria:</b>            Credit will be awarded if the internal and external design conditions used in the design calculations for heating and ventilation systems comply with guidance outlined in CIBSE Guide A.</p> <p>If you are contractually required to work to JSP scales, this credit may be awarded by default.</p> <p><b>Credit Evidence:</b>            The design team should provide the internal and external design conditions for the heating and ventilation systems, and demonstrate that these comply with guidance outlined in CIBSE Guide A.</p> <p>If this credit is not applicable, the assessor should be provided with the extract from the contract which applies JSP scales.</p> <p><b>Further Information:</b></p>	<b>1</b>

## Internal EQ - Design

code	title	credits
<b>D-IEQ</b> <b>2.1</b>	<p><b>Day lighting</b></p> <p><b>Aim:</b> To reduce artificial lighting requirements and thus reduce CO<sub>2</sub> emissions.</p> <p><b>Credit Criteria:</b> Two credits can be achieved if the daylight factor is equal to or greater than 5% across 80% of the floor area of the building. This should be assessed at a height of 800mm.</p> <p>One credit may be achieved where the daylight factor is greater than or equal to 2%, but less than 5%, in those circumstances where design constraints make a higher daylight factor unachievable.</p> <p><b>Credit Evidence:</b> The design team should demonstrate compliance by providing calculations to show a daylight factor. Where one credit is awarded the design team should provide evidence of the design constraints.</p> <p><b>Further Information:</b></p>	2

## Internal EQ - Design

code	title	credits
D-IEQ 4	<p><b>Thermal Zoning</b></p> <p><b>Aim:</b> To provide local control according to different load conditions and optimise staff comfort levels. The ability to provide out-of-hours local heating to spaces and separate zones independently of one another should also be provided to optimise energy usage</p> <p><b>Credit Criteria:</b> The design team should demonstrate that appropriate thermal zoning has been provided, incorporating the following:</p> <ul style="list-style-type: none"> <li>• Local heating control to different areas should be easy to understand with manual operation such that occupants have a satisfactory level of local control over their environment. An appropriate system would be TRV control of radiators. The control system should also include a manual override facility for out-of-hours use.</li> <li>• Space heating systems designed with an understanding of the likely occupancy types and patterns of different zones.</li> <li>• Space heating systems for larger areas should have a simple, easy to use control system to provide manual override of heating program for out-of-hours use. The larger spaces should have separate thermal control zones of 200m<sup>2</sup> to allow for operations in one area of the process area only. This will be best achieved through the use of a radiant heating system.</li> </ul>	1

**Credit Evidence:**

For local heating control and space heating systems the design team should provide evidence of the proposed method of control, including specification clauses and schematic drawings.

**Further Information:**

## Internal EQ - Design

code	title	credits
D-IEQ 5	<p><b>Acoustic Design</b></p> <p><b>Aim:</b> To ensure a safe and comfortable working or living environment, and enable intelligible speech in the offices.</p> <p><b>Credit Criteria:</b> Predicted internal noise levels should be in accordance with noise levels and level ranges as stated in BS8233:2014. Where a minimum level is also specified, this it so ensure reasonable privacy in shared areas.</p> <p>Noise emissions from plant or from processes within the building should be in compliance with local authority standards where applicable.</p> <p><b>Credit Evidence:</b> The design team should provide calculations or a written statement from an acoustician to demonstrate that internal noise levels to unoccupied spaces do not exceed the criteria.</p> <p><b>Further Information:</b></p>	3

## Internal EQ - Design

code	title	credits
<b>D-IEQ 7</b>	<p><b>Internal Emissions</b></p> <p><b>Aim:</b> To prevent emissions of air pollutants and encourage healthy internal environments.</p> <p><b>Credit Criteria:</b> One credit can be awarded for developing a plan that specifically addresses indoor air pollution. The plan should consider how contaminant sources will be managed, how air pollution will be tested and how air quality will be maintained once the building is occupied.</p> <p>A further two credits can be awarded if the internal finishes comply with the following performance standards:</p> <ul style="list-style-type: none"> <li>• <b>Paints and varnishes</b> –should be ‘no’ or ‘low’ VOC and comply with EU Directive 2004/42/CE ('Paints Directive')</li> <li>• <b>Wood panels</b> –should be low emission formaldehyde (e.g. class E1 or better), be ‘no’ or ‘low’ VOC and comply with BS EN 13986:2004 +A1:2015 Wood-based panels for use in construction</li> <li>• <b>Timber structure</b> –should be low emission formaldehyde (e.g. class E1 or better) and comply with BS EN 14080:2005 Timber structures - Glues laminated timber</li> <li>• <b>Wood Flooring</b> – should be low emission formaldehyde (e.g. class E1 or better), be ‘no’ or ‘low’ VOC and comply with BS EN 14342:2005+A1:2008 Wood flooring -</li> </ul>	3

Characteristics, evaluation of conformity and marking.

- **Resilient textile and laminated floor coverings** – should be low emission formaldehyde (e.g. class E1 or better), be ‘no’ or ‘low’ VOC and comply with BS EN 14041:2006 Resilient, textile and laminate floor coverings - Essential characteristics
- **Flooring adhesives** – should be ‘no’ or ‘low’ VOC and comply with BS EN 13999-1:2013 Adhesives
- **Wall coverings** – should be low emission formaldehyde (e.g. class E1 or better) and comply with BS EN 233:1999 Wallcoverings in roll form - Specification for finished wallpapers, wall vinyl’s and plastic wall coverings.

**Credit Evidence:**

For the first credit a copy of the air pollution plan should be provided. For the second and third credits, the design team should provide specifications, drawings or testing results which confirm that the internal finishes comply with the compliant performance standard listed above.

**Further Information:**



## Internal EQ - Design

code	title	credits
<b>D-IEQ 8</b>	<p><b>Adaptation to Climate Change</b></p> <p><b>Aim:</b> To ensure that MOD policy for addressing the issues of adaptation to climate change has been addressed and that the building will be fit for purpose during its projected life cycle.</p> <p><b>Credit Criteria:</b> Buildings can be designed for longevity under changing conditions by anticipating the likely impacts and matching the specification to the environmental pressures that will be experienced.</p> <p>One credit can be awarded if a risk assessment to identify the impacts of climate change on the building over its projected life cycle has been completed.</p> <p>The risk assessment should consider, as a minimum, the impact of changes in temperature, precipitation and extreme weather conditions. Potential impacts could include:</p> <ul style="list-style-type: none"> <li>· a higher risk of flooding;</li> <li>· an increased pressure on water resources;</li> <li>· increased risk of subsidence;</li> <li>· higher risk of thermal discomfort;</li> <li>· increased risk of damp, condensation and mould.</li> </ul> <p>When available, the risk assessment should take account of the sites Climate Resilience Risk Register. In addition, the risk assessment should refer to UK Climate Projections (UKCP09) and the appropriate Regional and/or Local Authority Climate</p>	2

## Change Risk Assessments.

The second credit can be awarded when the findings of the risk assessment have influenced the design and, where appropriate, enhanced the buildings resilience to future climate change.

### **Credit Evidence:**

For the first credit, the project team should provide a copy of the risk assessment. For the second credit, the project team should demonstrate via specifications, drawings or other appropriate evidence, the features which have been designed into the building that will enhance its resilience to climate change.

### **Further Information:**

## Procurement - Design

code	title	credits
D-PR 1	<p data-bbox="358 491 1094 533"><b>Innovation in Sustainable Construction</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1198 751">To provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by DREAM.</p> <p data-bbox="358 806 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 848 1273 1205">The credits awarded for up to five separate instances, where the performance of the project significantly exceeds the requirements of DREAM. For example, this could be an advanced energy, water or waste saving measure. Any sustainability enhancements that have not been given credits elsewhere in the DREAM assessment tool should be given a score in this section.</p> <p data-bbox="358 1255 672 1293"><b>Credit Evidence:</b></p> <p data-bbox="358 1297 1232 1381">For each credit the design team should propose in writing to 'DIO-DREAM@mod.gov.uk';</p> <ul data-bbox="391 1470 1208 1684" style="list-style-type: none"> <li data-bbox="391 1470 1179 1554">• The aim of the innovation and the proposed requirement for achieving the credit.</li> <li data-bbox="391 1558 1208 1684">• The design approach for achieving this credit should be submitted through written or drawn information.</li> </ul> <p data-bbox="358 1772 1240 1990">Before submitting a proposal for consideration the assessor should be content that the innovation significantly exceeds DREAM requirements and be satisfied that those objectives can be achieved. Previously approved credits can be supplied on</p>	5

request.

**Further Information:**



## Procurement - Design

code	title	credits
D-PR 2	<p><b>Sustainable Development Construction Specialist</b></p> <p><b>Aim:</b> To identify key sustainability opportunities, with an aim to achieving best practice design standards.</p> <p><b>Credit Criteria:</b> The design team should receive input from a competent person with proven skills and abilities in the design and delivery of sustainable buildings. The competent person could be a DREAM / BREEAM / CEEQUAL accredited assessor and will be required to help facilitate the successful achievement of the target DREAM rating.</p> <p>Good design should:</p> <ul style="list-style-type: none"> <li>• Make a positive addition to the location, the environment and the community</li> <li>• Add value and reduce whole life costs</li> <li>• Create built environments that are safe to construct and safe to use</li> <li>• Create flexible, durable, sustainable and ecologically sound environments for the community</li> <li>• Minimise waste of materials, energy and pollution both in construction and in use</li> <li>• Be attractive and healthy for users</li> <li>• Contribute to construction that is quick, safe and efficient</li> <li>• Produce a facility that is easy and cost effective to manage, clean and maintain</li> </ul>	1

**Credit Evidence:**

Evidence could include a letter of appointment or a report from the sustainable development specialist, along with details of the specialist's qualifications and experience in sustainable development.

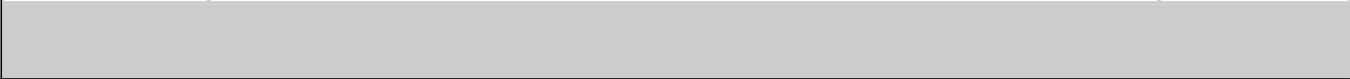
**Further Information:**



## Procurement - Design

code	title	credits
D-PR 3	<p data-bbox="358 493 862 535"><b>Building User Consultation</b></p> <p data-bbox="358 541 448 577"><b>Aim:</b></p> <p data-bbox="358 583 1260 758">To ensure that both end users and stakeholders are consulted early on in the design process on sustainable development issues and suggestions / feedback are acted upon.</p> <p data-bbox="358 808 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 850 1247 1115">One credit is available where at least two consultation sessions were held with building users and other relevant stakeholders prior to stage D of the design process to discuss sustainable development issues. Issues for discussion could include, but should not be limited to:</p> <ul data-bbox="391 1203 1268 1465" style="list-style-type: none"> <li>• what support will be available to show users how to operate the building (heating, lighting etc...) efficiently so that it meets their own needs whilst helping reduce energy, waste and water usage</li> <li>• whether there will be sufficient flexibility to allow systems to be independently controlled</li> </ul> <p data-bbox="358 1549 1247 1633">A further credit is given where the user/stakeholder input has been integrated into the design.</p> <p data-bbox="358 1684 672 1719"><b>Credit Evidence:</b></p> <p data-bbox="358 1726 1247 1988">For the first credit, the design team should provide evidence such as feedback forms or minutes from the consultation sessions. For the additional credit, evidence can include minutes of meetings which record design changes based on consultation feedback.</p>	2

**Further Information:**





## Procurement - Design

code	title	credits
D-PR 4	<p data-bbox="358 491 1162 575"><b>Evaluation of Local Supply Chain for Local Procurement</b></p> <p data-bbox="358 583 448 621"><b>Aim:</b></p> <p data-bbox="358 630 1203 714">To mitigate transportation energy use and costs, and negate unnecessary use of transport.</p> <p data-bbox="358 760 631 798"><b>Credit Criteria:</b></p> <p data-bbox="358 806 1256 932">Materials originating from within 50 miles of the site should be selected and incorporated into the design wherever possible.</p> <p data-bbox="358 987 1247 1201">A review should be undertaken to identify opportunities for use of local suppliers providing products that have originated within 50 miles of the site. This should cover the following building elements:</p> <ul data-bbox="391 1289 586 1507" style="list-style-type: none"> <li>• Structure</li> <li>• Masonry</li> <li>• Flooring</li> <li>• Windows</li> <li>• Cladding</li> </ul> <p data-bbox="358 1591 1243 1856">At least 30% of materials by mass should have the potential to be supplied from local sources. As well as newly manufactured building products, this may include re-used or recycled materials or building elements. All local timber should meet the requirements of credit D-PR 10.</p> <p data-bbox="358 1906 1235 1990">Where buildings are required in remote areas, and the review of local suppliers shows that it is not</p>	1

possible to purchase at least 30% of materials by mass within 50 miles, then this credit may be awarded by default.

This credit should also take into account off-site or modular building manufacturer which should also be included within the 50 mile radius.

In exceptional circumstances, where products which have a demonstrable through-life benefit for sustainability, these may be procured outside the quoted radii and the credits awarded by default.

**Credit Evidence:**

Written confirmation of the origins of products shall be obtained from the suppliers (e.g. websites, correspondence etc... showing addresses of sources). In cases where products are procured outside the quoted radii there shall be written evidence demonstrating their superior sustainability performance.

**Further Information:**

## Procurement - Design

code	title	credits
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<b>D-PR 5</b>	<p><b>Environmental Profile of Materials</b></p> <p><b>Aim:</b> Reduce waste; save energy; reduce landfill and mitigate transportation costs</p> <p><b>Credit Criteria:</b></p> <ul style="list-style-type: none"> <li>• One credit is awarded where two of the eight building construction elements listed below have an 'A' or 'A+' rated environmental performance.</li> <li>• Two credits are awarded if three of the elements are 'A' or 'A+' rated.</li> <li>• Three credits are awarded if four of the elements are 'A' or A+ rated.</li> <li>• Four credits are awarded if five or more of the elements are 'A' or A+ rated.</li> <li>• Five credits are awarded if six or more of the elements are 'A' or A+ rated.</li> </ul> <ol style="list-style-type: none"> <li>1. Roofs - 90% 'A' or 'A+' rated</li> <li>2. External Walls - 90% 'A' or 'A+' rated</li> <li>3. Upper floors - 90% 'A' or 'A+' rated</li> <li>4. Windows - 90% 'A' or 'A+' rated</li> <li>5. Insulation - 90% 'A' or 'A+' rated, zero ODP, GWP&lt;5</li> <li>6. Floor finishes - 90% 'A' or 'A+' rated</li> <li>7. Internal walls - 90% 'A' or 'A+' rated</li> <li>8. Hard landscaping - 90% 'A' or 'A+' rated</li> </ol> <p>Where materials have been reused from an existing building, or where major building elements have been retained (e.g. the refurbished building uses the</p>	5
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existing external walls), these materials automatically achieve an 'A' rating.

Where a construction element contains more than one specification, it is permissible to calculate the average rating by taking account of the relative area of each individual specification.

Where specialist buildings have an outer building envelope, these criteria can be applied to the outer building only.

**Credit Evidence:**

The design team should provide specifications or drawings which detail all types of materials to be used. The assessor should use discretion where construction types vary slightly from those specified in the Green Guide.

**Further Information:**

## Procurement - Design

code	title	credits
D-PR 6	<p data-bbox="358 491 919 533"><b>Recycled Aggregate Materials</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1235 758">To encourage the recycling of aggregate materials or pulverised fuel ash, thereby reducing costs by avoiding the need for landfill and unnecessary handling and transportation.</p> <p data-bbox="358 806 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 848 1260 1247">To award the first credit &gt;30% of aggregates by mass specified should come from recycled or secondary aggregate. Recycled aggregates come from reprocessing materials that have previously been used in construction e.g. construction or demolition waste. Secondary aggregates are by-products of other industrial processes that have not previously been used in construction e.g. pulverised ash.</p> <p data-bbox="358 1295 1252 1430">To award the second credit &gt;50% of aggregates by mass specified should come from recycled or secondary aggregate</p> <p data-bbox="358 1478 1240 1604">Credits can only be awarded if the recycled or secondary aggregates come from sources within a 100 mile radius.</p> <p data-bbox="358 1652 1138 1736">Potential applications for reclaimed /recycled materials are:</p> <ul data-bbox="391 1829 1235 1999" style="list-style-type: none"> <li data-bbox="391 1829 1235 1913">• Road pavement layers - Blast furnace slag (air cooled)</li> <li data-bbox="391 1917 1235 1999">• Block work - Pulverised fuel ash, China clay waste</li> </ul>	2

- Embankment & fill - Colliery spoil
- Unbound sub base - Foundry sand
- Cement bound sub base - Recycled crushed glass
- Cement bound road base - MSW incinerator ash
- P G concrete - Plastic asphalt cement additive, Crushed concrete, Spent oil shale, Spent railway ballast, Steel slag

Where contractual specifications preclude the use of recycled or secondary aggregates for some applications these may be omitted from any calculations.

**Credit Evidence:**

For each credit, the team should provide calculations showing the total amount of aggregates required and the amount of aggregates sourced from reclaimed and/or recycled materials. The team should also provide evidence of sources of recycled or secondary aggregates (e.g. letters from suppliers stating that the required volume of reclaimed and/or recycled aggregates can be provided, and the origin of these aggregates). If contractual specification precludes the use of recycled or secondary aggregates an extract from the contract must be provided.

**Further Information:**

## Procurement - Design

code	title	credits
D-PR 7	<p><b>Recycled Content of Building Materials</b></p> <p><b>Aim:</b> To encourage the reuse and recycling of building materials.</p> <p><b>Credit Criteria:</b> Encouraging the reuse and recycling of building materials reduces consumption of primary resources and minimises the quantity of UK waste being sent for disposal in landfill. Reuse / recycling of materials can also reduce costs by avoiding landfill disposal charges and minimising transportation. Options include: reuse of reclaimed products; local recycling of construction and demolition waste; and the selection of manufactured products containing a higher fraction of recovered materials. This objective links to good practice in site waste management.</p> <p>Use the online tool developed by WRAP (the Waste &amp; Resources Action Programme) to determine the value of recycled content used and the top ten opportunities to increase this outcome.</p> <p>The minimum outcome is 10% recycled content as a proportion of the total value of materials used on the project. The Quick Wins are the largest contributors to the potential increase in recycled content for the project, going from baseline/standard practice to cost-neutral good practice. They involve simple substitution of one product/material by an equivalent mainstream alternative (e.g. a competing brand with higher recycled content).</p>	1

The Credit is awarded for implementing five of the top ten Quick Win opportunities PROVIDING the projected recycled content of the project is at least 10%.

Note that reuse of a product or material (such as demolition waste used as fill) is attributed 100% recycled content by value, and should be preferentially investigated as a potential Quick Win.

**Credit Evidence:**

The team should provide the standard report from the WRAP tool quantifying the projected overall level of recycled content by value and identifying the top ten Quick Win opportunities for the project. Details of the Quick Wins selected for implementation should be specified within this report. Evidence of the actual use of higher recycled content products for the selected Quick Wins may be sought during the construction phase (e.g. through review of product data sheets, delivery notes or invoices).

**Further Information:**



## Procurement - Design

code	title	credits
D-PR 9	<p><b>PVC Minimisation</b></p> <p><b>Aim:</b> To avoid the use of PVC materials.</p> <p><b>Credit Criteria:</b> PVC is an inappropriate material to use in areas of high UV exposure due to degradation of the material.</p> <p>A review of material specifications for the following products should be undertaken to identify alternatives to PVC:</p> <ul style="list-style-type: none"> <li>• Window frames</li> <li>• Floor,</li> <li>• Wall and surface finishes</li> </ul> <p>Furthermore, to achieve the credit, PVC use in non-exposed areas needs to be considered and alternatives specified where suitable.</p> <p><b>Credit Evidence:</b> The design team should provide specifications and/or drawings which demonstrate that alternative materials to PVC have been selected and specified.</p> <p><b>Further Information:</b></p>	1

## Procurement - Design

code	title	credits
<b>D-PR 10</b> *	<p><b>Timber</b></p> <p><b>Aim:</b>            To ensure that timber products manufactured from sustainable sources are incorporated into the design.</p> <p><b>Credit Criteria:</b>            The credit is achieved when timber procurement is in line with the UK Government Timber Procurement Policy. The policy states that only timber and wood-derived products originating from an independently verifiable Legal and Sustainable source should be specified. This includes all virgin timber and wood-derived products, including temporary site works and material supplied by suppliers.</p> <p>Recycled timber can be used as an alternative to timber and wood-derived products from a Legal and Sustainable source.</p> <p>To gain the credit, the assessor should be satisfied that the design specification for sustainable timber products is in accordance with these guidelines.</p> <p>This is a mandatory credit.</p> <p><b>Credit Evidence:</b>            To confirm this, the assessor shall be provided with (1) the design specification, and (2) any other evidence which demonstrates that the UK Government Timber Procurement Policy has been specified in design work.</p>	<b>1</b>

**Further Information:**

## Procurement - Design

code	title	credits
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<b>D-PR 11</b>	<p data-bbox="344 489 662 531"><b>Building Manual</b></p> <p data-bbox="344 537 448 575"><b>Aim:</b></p> <p data-bbox="344 581 1279 758">To ensure that the building users understand the building and its systems, and how to operate the building efficiently to minimise resource consumption and other environmental impacts.</p> <p data-bbox="344 806 634 844"><b>Credit Criteria:</b></p> <p data-bbox="344 850 1279 1068">One credit can be awarded when the design team prepare a draft manual which describes building systems and how to operate the building most efficiently. The manual should cover the following as a minimum:</p> <ul data-bbox="391 1157 1279 1822" style="list-style-type: none"> <li data-bbox="391 1157 1279 1375">• Non-technical description of the building, including heating and cooling strategy, BMS, energy efficiency measures, water systems, waste facilities, emergency systems, ventilation, lighting.</li> <li data-bbox="391 1381 1109 1465">• Contact details for suppliers of installed equipment.</li> <li data-bbox="391 1472 894 1509">• Maintenance requirements.</li> <li data-bbox="391 1516 1094 1600">• Plans showing locations of meters and equipment.</li> <li data-bbox="391 1606 1243 1690">• Sample tables for monitoring and reporting gas, electricity and water usage.</li> <li data-bbox="391 1696 1198 1822">• Detail on how users can operate the building efficiently to help reduce energy, waste and water usage.</li> </ul> <p data-bbox="344 1906 1279 1990">A further credit can be awarded if a training schedule is prepared for building users around handover. The</p>	2
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training should, as a minimum:

- introduce the Building Manual;
- explain key building systems and how they operate;
- demonstrate how to operate the building efficiently.

**Credit Evidence:**

For the first credit the design team should provide a draft copy of the manual. For the second credit a copy of the training schedule should be provided.

**Further Information:**

## Procurement - Design

code	title	credits
D-PR 13	<p><b>Supply Chain</b></p> <p><b>Aim:</b> To ensure that the supply chain is aware of the environmental requirements of the project and will commit to managing the environmental consequences of their activities.</p> <p><b>Credit Criteria:</b> All Government Departments and all contractors operating on behalf of Government Departments are required to manage the impacts of their supply chain activities and make green purchases whenever possible. Suppliers should be assessed on their capabilities to address the consequences throughout the supply chain of all design, non-renewable material use, manufacture and production methods, packaging, logistics, service delivery, operation, maintenance, reuse, recycling and disposal options. One credit can be awarded if the project team can demonstrate their ability to influence the environmental performance of the supply chain.</p> <p><b>Credit Evidence:</b> The project team should provide copies of their procurement and supply chain strategy / management programme and supplier evaluation questionnaires.</p> <p><b>Further Information:</b></p>	1

## Procurement - Design

code	title	credits
D-PR 14	<p><b>Tendering and Evaluation of Contracts</b></p> <p><b>Aim:</b> To ensure that MOD policy for addressing SD in contracts is delivered. All projects/IPTs involved in procurement on or affecting the Defence Estate must consider Sustainable Procurement as a fundamental part of their project.</p> <p><b>Credit Criteria:</b> To gain a credit, sustainable development questions should be incorporated into both the PQQ and ITT/N stages. The questions also need to contribute to the scoring procedure. The DIO Sustainability Team can help prepare appropriate questions and provide subject matter experts to evaluate the response.</p> <p><b>Credit Evidence:</b> The project team should provide copies of documents demonstrating the inclusion of the questions and the weighting allocated to the SD section.</p> <p><b>Further Information:</b></p>	1

## Procurement - Design

code	title	credits
D-PR 16	<p data-bbox="358 491 776 533"><b>Responsible Sourcing</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1149 663">To encourage the use of responsible sourced materials.</p> <p data-bbox="358 716 631 753"><b>Credit Criteria:</b></p> <p data-bbox="358 758 1260 936">Two credits can be awarded where it can be shown that 50% of the materials that make up the following elements have been responsible resourced according to BES 6001:2008.</p> <ul data-bbox="391 1020 837 1325" style="list-style-type: none"> <li>• Windows</li> <li>• Doors</li> <li>• Floors</li> <li>• Roofs</li> <li>• Ceilings</li> <li>• Internal &amp; external walls</li> <li>• Insulation</li> </ul> <p data-bbox="358 1415 1159 1545">Three credits can be awarded where it can be shown that 75% of the materials have been responsibly resourced.</p> <p data-bbox="358 1593 1279 1988">BES 6001:2008 Framework Standard for Responsible Sourcing of Construction Products provides a framework for the assessment and certification of the responsible sourcing of construction products. To comply with the standard a product must meet a number of mandatory criteria. To view a list of products approved to BES 6001 and additional information about the standard visit: <a href="#">GreenBook Live</a></p>	3



**Credit Evidence:**

For each credit, the team should provide calculations showing all the constituent materials of each element specified and the % of those materials that have achieved a performance rating of Pass or higher according to BES 6001:2008 Framework Standard for Responsible Sourcing of Construction.

**Further Information:**

## Procurement - Design

code	title	credits
D-PR 17	<p><b>Life Cycle Analysis</b></p> <p><b>Aim:</b> To promote economic sustainability through the use of life cycle analysis.</p> <p><b>Credit Criteria:</b> Three credits can be awarded if a Life Cycle Cost (LCC) Plan has been developed and can be shown to have influenced the design. The LCC Plan should be developed in line with BCIS 'Standardised method of life cycle costing for construction procurement' and cover the buildings:</p> <ul style="list-style-type: none"> <li>• structure</li> <li>• envelope</li> <li>• services</li> <li>• finishes</li> </ul> <p><b>Credit Evidence:</b> A copy of the LCC Plan covering each of the above features should be provided. In addition, the assessor should provide evidence of how the LCC Plan has been used to influence design and specification.</p> <p><b>Further Information:</b></p>	3

## Travel - Design

code	title	credits
<b>D-TR 1</b>	<p><b>Cyclist Facilities</b></p> <p><b>Aim:</b> To encourage people to cycle to the workplace, dining facilities and other local amenities, and reduce dependence on individual motorised transport means.</p> <p><b>Credit Criteria:</b> Two credits may be awarded if appropriate numbers of secure cycle storage, showers, changing facilities and drying spaces are included in the building design and construction specifications and drawings. Cycle storage facilities should be sheltered and secure. Showers, changing facilities and drying spaces should also be provided.</p> <p>Facilities should be provided for &gt;10% of the buildings population. The cycle facilities may be elsewhere on site.</p> <p>If cycling is prohibited on the site, NA may be selected. If the Green Travel Plan completed at S-TR-1 forecasts low level of trips by bicycle, the 10% threshold may be adjusted in consultation with DIO-DREAM@mod.gov.uk.</p> <p><b>Credit Evidence:</b> The team should provide drawings which show the locations, numbers and specifications of cycle facilities - including storage, showers, changing and drying spaces.</p> <p><b>Further Information:</b></p>	2



## Travel - Design

code	title	credits
<b>D-TR 2</b>	<p><b>Site Accessibility for Pedestrians and Cyclists</b></p> <p><b>Aim:</b> To ensure that people have the opportunity to walk and cycle to the workplace/dining facilities and other local amenities, and reduce dependence on individual motorised transport means.</p> <p><b>Credit Criteria:</b> To award the credit safe pedestrian and cycle routes should be provided from the office to other onsite and/or local facilities, and they should not cross main vehicular access routes without safe crossing points. In addition, where appropriate, any design should take into account the recommendations from the Travel Plan completed at S-TR1.</p> <p><b>Credit Evidence:</b> The team should provide a plan showing the locations of the project site and other onsite and/or local facilities (e.g. dining, shops), the available pedestrian and cycle routes, and safe crossing points on major roads. Where these facilities do not currently exist, and team should demonstrate that it is viable to include the construction of these as part of the project.</p> <p><b>Further Information:</b></p>	1

## Water - Design

code	title	credits
D-WR 1	<p><b>Low Flow Rate Taps</b></p> <p><b>Aim:</b> To reduce water consumption for sanitary use in buildings.</p> <p><b>Credit Criteria:</b> Where kitchen taps are specified they should have flow rates of &lt;5 litres/minute with all mixers having a clear indication of hot and cold with hot tap or lever position to the left. Flow rates of less than 4 litres/minute are not recommended for kitchen taps.</p> <p>Where hand basin taps are specified they should have flow rates of &lt;4 litres/minute delivered through either hand detecting spray taps or push button spray taps with timed shut-off.</p> <p>All fittings must be Water Regulations Advisory Service (WRAS) approved.</p> <p><b>Credit Evidence:</b> The assessor should ensure that the design and construction specifications and drawings specify the appropriate sanitary ware/fittings.</p> <p><b>Further Information:</b></p>	1

## Water - Design

code	title	credits
<b>D-WR 2</b>	<p><b>WCs</b></p> <p><b>Aim:</b> To reduce water consumption in toilets.</p> <p><b>Credit Criteria:</b> All WC's should have an effective flush volume of &lt;4 litres</p> <p>All fittings must be Water Regulations Advisory Service (WRAS) approved.</p> <p><b>Credit Evidence:</b> The assessor should confirm that all WC's have an effective flush volume of &lt;4 litres and that they are specified in the design and construction specifications and drawings.</p> <p><b>Further Information:</b></p>	1

## Water - Design

code	title	credits
<b>D-WR 4</b> *	<p><b>Water Meter</b></p> <p><b>Aim:</b>            To both reduce water consumption and allow all water consumption to be managed and monitored.</p> <p><b>Credit Criteria:</b>            The building design and construction specifications and drawings should stipulate the fitting of meters for the main incoming supply, all areas of major water consumption, for example process areas and accommodation blocks. The meters should be capable of being monitored via a BMS.</p> <p><b>For Aquatrine sites, installation of meters should be done in consultation with the Aquatrine Service Provider.</b></p> <p><b>Credit Evidence:</b>            The design team should provide drawings which show the locations and types of all water meters, including the capability of being monitored via a BMS.</p> <p><b>Further Information:</b></p>	<b>1</b>



## Water - Design

code	title	credits
D-WR 5	<p><b>Rain Water Management</b></p> <p><b>Aim:</b> The aim is twofold:</p> <ul style="list-style-type: none"> <li>• To reduce water consumption</li> <li>• To limit flow of storm water into mains drainage system</li> </ul> <p><b>Credit Criteria:</b> Score one credit if there is an establishment wide policy on rain water management and the project team have spoken to the DIO Area Utilities Manager and identified how this could be included in the project.</p> <p>A further credit can be gained if the building design includes provision for rainwater recycling system or a green roof to attenuate storm water. Examples include the provision of:</p> <ul style="list-style-type: none"> <li>• facilities for the collection of rain water run-off from the building roof are provided to supply WC cisterns. One method of compliance will be to show that &gt;50% of urinal/WC flushing demand can be met by the system. Any rain water harvesting equipment needs to be compliant with the relevant <a href="#">Government Buying Standard</a>.</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• a green roof capable of 25% rain water retention</li> </ul>	2

is specified for greater than 80% of the roof area.

**Credit Evidence:**

For the first credit, a copy of the establishment wide policy on rain water management should be provided along with evidence of correspondence with the utilities manager. For the second credit, drawings, specifications and calculations should be provided to show the type of rainwater attenuation system to be installed and its retention capacity. Any calculations should take account of the payback period and future climate change.

**Further Information:**

## Water - Design

code	title	credits
D-WR 6	<p data-bbox="358 491 786 533"><b>Drainage and Flooding</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1198 621">To minimise risks of water pollution and flooding.</p> <p data-bbox="358 669 631 711"><b>Credit Criteria:</b></p> <p data-bbox="358 716 849 758"><i>Fluvial and pluvial flooding:</i></p> <p data-bbox="358 806 1256 1157">One credit can be gained if the project is situated in Flood Zone 1 (i.e. having a less than 1 in 1,000 annual probability of river or sea flooding). This should be determined by the flood risk assessment carried out at S WR 2. If the project is not situated in Flood Zone 1, the credit can be achieved if flood risk issues identified by the flood risk assessment have been mitigated.</p> <p data-bbox="358 1205 797 1247"><i>Surface Water Flooding:</i></p> <p data-bbox="358 1295 1263 1562">One credit can be awarded if the flood risk assessment conducted at S WR 2 concludes that the risk of surface water flooding has not increased. Where the risk of surface water flooding has increased, the credit can be awarded if the risk has been mitigated.</p> <p data-bbox="358 1610 764 1652"><i>Watercourse pollution:</i></p> <p data-bbox="358 1701 1195 1829">One credit can be awarded if there is low risk of watercourse pollution or where appropriate mitigation has been put in place.</p> <p data-bbox="358 1877 1240 2009">In all instances the impact of future climate change should be considered, including climate change projections and allowances for precipitation and</p>	3

river flows. For estuaries, please also consider wave, wind and sea level rise projections / allowances.

Potential mitigation measures for water pollution and flooding include, but are not limited to:

- Use of Sustainable Urban Drainage Systems
- Natural drainage management. Any water bodies / courses affected by the development should be managed to maintain their effectiveness, including natural flood plain areas and groundwater movement. Control of site water run-off. Storage facilities to contain run-off and allow managed release must be provided.
- Area of impermeable surfaces must be minimised. Alternatives include using green roofs / permeable hard standing / grasscrete car parks etc.
- The potential for pollution of natural water courses and groundwater must be minimised, for example using filters / separation / settling.
- Controlled use of non-potable water, for example using rain water run off for watering of landscaped areas or vehicle washing.
- Features to reduce flood impact for developments in known flood plains, for example high level electric sockets.

**Credit Evidence:**

The design team should demonstrate via specifications, drawings or other appropriate methods, evidence of flood risk assessment and the features that have been included to mitigate this.

**Further Information:**

## Water - Design

code	title	credits
<b>D-WR 7</b>	<p><b>Showers</b></p> <p><b>Aim:</b> To reduce water consumption for sanitary use in buildings.</p> <p><b>Credit Criteria:</b> Where showers are specified they should have flow rates of &lt;6 litres/min.</p> <p>All fittings must be Water Regulations Advisory Service (WRAS) approved.</p> <p>This credit may be awarded by default if no showers are specified.</p> <p><b>Credit Evidence:</b> The assessor should ensure that the design and construction specifications and drawings specify the appropriate sanitary ware/fittings.</p> <p><b>Further Information:</b></p>	1

## Water - Design

code	title	credits
<b>D-WR 8</b>	<p><b>Water Using Appliances</b></p> <p><b>Aim:</b> To reduce consumption rates from appliances that use water.</p> <p><b>Credit Criteria:</b> Where the following appliances are specified, the following consumption rates must be achieved.</p> <ul style="list-style-type: none"> <li>• Domestic sized dishwasher (up to 14 place settings) - volume per (typical) cycle must not exceed 8 litres.</li> <li>• Commercial sized dishwasher – volume per rack must not exceed 4 litres.</li> <li>• Domestic sized washing machine (up to 5kg load capacity) - volume per (typical) cycle must not exceed 39 litres.</li> <li>• Commercial sized washing machine - volume per kg must not exceed 5 litres.</li> <li>• Waste disposal unit – volume per minute must not exceed 0 litres</li> </ul> <p>This credit may be awarded by default if none of the above are specified.</p> <p><b>Credit Evidence:</b> The assessor should ensure that the designs specify the appropriate appliances.</p> <p><b>Further Information:</b></p>	1



## Waste - Design

code	title	credits
D-WS 1	<p><b>Storage and Collection of Food &amp; Recyclable Wastes</b></p> <p><b>Aim:</b> To reduce items sent to landfill and reduce the requirement for the use of virgin materials through recycling.</p> <p><b>Credit Criteria:</b> The credit can be awarded where the building design allows for the on-site secure disposal, segregation, storage and collection of recyclable and compostable wastes.</p> <ul style="list-style-type: none"> <li>• Collection bins should be placed in prominent positions throughout the building for personnel to dispose of paper, plastic, metal, glass and general waste.</li> <li>• Secure, labelled storage space for paper, plastic, metal, glass, compostable and general waste should be allocated in close proximity to the buildings food preparation and dining areas in an internal or external service area, with easy access for collection.</li> <li>• Sufficient space allocation (1m<sup>2</sup> per 1000m<sup>2</sup> of floor area, minimum 5m<sup>2</sup> , maximum 10m<sup>2</sup> ).</li> <li>• Compostable food wastes, where produced, should be stored separately in the external service area in a well ventilated, covered and secure storage container before being collected and transported to nearby composting facilities either on site or in the local</li> </ul>	1



community. The food waste storage should be secure from vermin or local wildlife.

This credit can also be awarded where establishment wide recycling facilities already exist and are used or where offsite segregation and recycling is already in place.

**Credit Evidence:**

The assessor should be provided with (1) layout drawings which show the locations, numbers and types of collection bins throughout the building, or (2) general arrangement drawings which show the location and size of the establishment recycling facility, or (3) details of off site segregation and recycling arrangements.

**Further Information:**

## Waste - Design

code	title	credits
<b>D-WS 2</b>	<p><b>Design for Waste Minimisation</b></p> <p><b>Aim:</b> To maximise resource efficiency and minimise disposal of material to landfill.</p> <p><b>Credit Criteria:</b> One credit can be achieved for including three relevant design features.</p> <p>Buildings can be designed to optimise resource efficiency, by minimising waste generation during construction, using reclaimed materials, and making materials available for reuse at the end of the useful life of the building.</p> <p>Examples of relevant design features include:</p> <ul style="list-style-type: none"> <li>• Modular off site construction. This reduces on-site waste generation during construction, and prevents other problems such as over-ordering.</li> <li>• Pre-fabrication, or off-site fabrication. This minimises waste and maximises construction efficiency. The structure, external cladding, plant and roof can incorporate pre-fabricated modular construction components.</li> <li>• Use reclaimed materials in the construction of the building. This could include reuse of materials, components or equipment from other sources such as dismantled buildings.</li> <li>• Design for deconstruction. This enables the building to be dismantled at the end of its useful life, and the materials, components and equipment can be salvaged for reuse elsewhere.</li> </ul>	1

**Credit Evidence:**

The design team should demonstrate via specifications, drawings or other appropriate evidence, the features which have been designed into the building to minimise waste generation during construction and decommissioning.

**Further Information:**

## Stage: Construction

### Biodiversity & Environmental Protection - Construction

code	title	credits
<b>C-BI 1</b> <b>*</b>	<p><b>Construction Pollution Control Plan</b></p> <p><b>Aim:</b> Reduce the potential for pollution to water sources, air, land and soil during construction.</p> <p><b>Credit Criteria:</b> Minimisation of the following is required through site practices;</p> <ul style="list-style-type: none"> <li>. Pollution to air through dust emissions</li> <li>. Pollution of water courses and ground water; and</li> <li>. Pollution of soil and land through spills.</li> </ul> <p><b>A site-specific sedimentation, air pollution and spill control plan should be developed and implemented. This document should highlight methods of preventing loss of materials during construction by stormwater runoff and/or wind erosion, preventing sedimentation of particulates in surface water sewers or watercourses, preventing air pollution with dust and particulate matter and preventing spills of substances such as fuel and paint which can result in soil contamination.</b></p> <p><b>Credit Evidence:</b> A site-specific sedimentation, air pollution and spill control plan, which meet the requirements</p>	<b>1</b>

**listed in the criteria section above, should be provided by the contractor. Further to this, evidence should be provided that the plan has been implemented and confirmed at post construction review.**

**Further Information:**

## Biodiversity & Environmental Protection - Construction

code	title	credits
<b>C-BI 2</b>	<p><b>Protection and Enhancement of the Historic Environment</b></p> <p><b>Aim:</b> To protect and enhance the historic environment and to ensure its sustainable future.</p> <p><b>Credit Criteria:</b> To award the credit, the Assessor should establish that the heritage features are appropriately protected during the construction of the structure. This includes ensuring that:</p> <ul style="list-style-type: none"> <li>• Action plans are in place to protect features from physical damage (including direct and indirect impacts of construction activities e.g. vibration);</li> <li>• A recording methodology should be in place to record any historic/archaeological features;</li> <li>• Conditions made in relevant planning permissions, listed building or scheduled monument consents are adhered to;</li> <li>• If archaeology is discovered during the construction phase, then advice should be sought from the DIO Historic Environment TEam. National Planning Policy Framework procedures must be consulted and followed where necessary; and;</li> <li>• If any historic artefacts or treasure are found then the find must be reported to the site Estate Surveyor and the Archaeology Advisor. The Estate Surveyor should follow procedures outlined in JSP 362 Ch.6 (to be superseded by JSP 850) and the Defence Estates Guide Ch.24.</li> </ul>	1

If the historic environment assessment carried out at S-BI-5 found no historic environment features and no further features were discovered during construction please select NA.

**Credit Evidence:**

The project team should demonstrate that the heritage of the site has been actively protected within the construction phase of the project and any heritage issues that have arisen have been managed according to MoD policy.

**Further Information:**

## Biodiversity & Environmental Protection - Construction

code	title	credits
<b>C-BI 3</b>	<p><b>Site Ecology Implementation</b></p> <p><b>Aim:</b> To encourage conservation and improvement of the site ecology, and to reduce impact on wildlife habitat.</p> <p><b>Credit Criteria:</b> One credit is awarded when it can be shown that the ecological design agreed at D-BI-1 has been secured, allocated and implemented at the construction phase of the project.</p> <p><b>Credit Evidence:</b> The contractor should provide the appropriate documentary evidence (e.g. a CEMP) to demonstrate that agreed impact avoidance, mitigation, compensation or monitoring measures been secured, allocated and implemented at the construction phase of the project. The assessor should confer with the project ecological consultant or other appropriate person (i.e. IEEM registered) to confirm the credit has been achieved.</p> <p><b>Further Information:</b></p>	1



## External EQ - Construction

code	title	credits
C-EEQ 1	<p><b>Noise and Light Pollution Control on the Construction Site</b></p> <p><b>Aim:</b> To reduce the potential for noise and light pollution and hence adverse health impacts on construction workers and neighbours during construction.</p> <p><b>Credit Criteria:</b> Construction sites typically operate before and beyond the average working day and working week (09.00 to 17.30 Monday to Friday). Noise is often generated from site activities and artificial lighting is often used within and outside these latter hours.</p> <p><i>Noise:</i> To prevent noise pollution, a site-specific noise plan should be prepared and implemented prior to construction. The plan should identify how site activities fall within the remit of The Control of Pollution Act 1974, and The Environmental Protection Act 1990 (EPA 1990). This plan should include requirements for noise monitoring before, during and after construction, methods for preventing excessive noise pollution to the surrounding area, allowable noise limits during the day, evening and night, and other restrictions such as operating hours for machinery, equipment etc. Measurements of LA10T, LA90T, LAeqT and LAm<sub>ax</sub> of noise before, after and during construction should be made to determine if the noise amounts to a nuisance in terms of.</p> <p>If the measured noise levels are not compliant with The Control of Pollution Act 1974 and The</p>	1

Environmental Protection Act 1990, and exceed the recommended levels, provision of sound barriers, acoustic partitions and revised hours of work shall be considered.

*Light:*

To prevent light pollution, a site-specific light pollution plan should be prepared and implemented prior to construction. The plan should outline how temporary lighting is to be used during construction, and measures to prevent light pollution. The plan must be in accordance with the ILE's *Guidance Notes for the Reduction of Obtrusive Light* (GN01:2011).

All noise and light complaints should be recorded. When a complaint is received, measurements should be undertaken immediately, and if necessary actions should be taken immediately to mitigate the problem.

**Credit Evidence:**

The contractor should provide a copy of the noise and light pollution plan prior to commencement of construction. In addition, noise monitoring results should be provided to the assessor before, during and after construction. Records of complaints and actions taken to mitigate noise or light pollution should also be provided.

**Further Information:**

## Energy - Construction

code	title	credits
<b>C-EN 1</b>	<p><b>Energy Metering, monitoring and minimisation on the Construction Site</b></p> <p><b>Aim:</b> To reduce energy waste and meet energy targets through metering and monitoring of energy usage on construction sites.</p> <p><b>Credit Criteria:</b> The credit is provided for minimising energy use and meeting energy targets by adopting metering and monitoring of energy usage. This credit relates specifically to energy consumption in construction related facilities (e.g. site offices, washrooms, canteens, temporary lighting and accommodation etc.) rather than the building under construction. The credit can be awarded when:</p> <ol style="list-style-type: none"> <li>1. metering is provided to all main incoming supplies of gas and electricity; and sub-metering to all major energy uses (e.g. lighting, small power, large appliances, catering, kitchens etc.)</li> <li>2. energy consumption targets are set for the construction site and measures which enable those targets to be met are identified. Measures to minimise energy usage could include: <ul style="list-style-type: none"> <li>• temporary lighting which is zoned and can be switched on and off according to occupancy and daylight;</li> <li>• using luminaries with an efficacy greater than 70 lumens per watt.</li> </ul> </li> </ol>	1

- temporary space heating load to be met by energy sources other than national Grid generated electricity.
- using a temporary hot water heating plant which has an efficiency of > 90%.
- checking regularly that computers, printers and all associated equipment and site facility equipment, are switched off when not in use;
- construction equipment is switched off and not left on idle.

**Credit Evidence:**

The construction team should provide documented evidence of the metering to be used (e.g. plans showing locations and types of meters). In addition, the contractor should provide evidence of the energy targets set and the actions implemented to meet them.

**Further Information:**

## Energy - Construction

code	title	credits
C-EN 2	<p><b>Renewable Energy Provision on the Construction Site</b></p> <p><b>Aim:</b> The aim is twofold:</p> <ul style="list-style-type: none"> <li>• To reduce the emissions of CO<sub>2</sub> to atmosphere.</li> <li>• To encourage the take up of renewable energy.</li> </ul> <p><b>Credit Criteria:</b> One credit is available for providing onsite renewable energy sources such as photovoltaics, solar collectors, roof-mounted wind turbines, biofuel boilers and electricity generators etc. for temporary construction related facilities (e.g. site offices, washrooms, canteens, temporary lighting etc.). The credit is achieved for providing greater than 10% of the construction total energy consumption via renewable technologies: Alternatively, local renewable energy purchasing from a supplier where power is generated within 10 miles of the site will be eligible. “Green” electricity sourced from the grid is not eligible.</p> <p><b>Credit Evidence:</b> Evidence shall be provided of renewable energy technology use on the construction site through provision of drawings, photos, correspondence etc. Calculations should be provided showing the estimated output of the system as a percentage of total construction energy consumption. Where local renewable energy is purchased, a copy of an agreement or contract to purchase this renewable energy for the entire construction period must also</p>	1

be provided to the assessor.

**Further Information:**



## Energy - Construction

code	title	credits
<b>C-EN 4.2</b>	<p><b>Building Air Leakage Testing</b></p> <p><b>Aim:</b> To reduce the thermal load associated with air infiltration.</p> <p><b>Credit Criteria:</b> To award the credit, building envelope air leakage testing must be undertaken. The credit will only be awarded if the constructed building envelope meets or exceeds the designed air leakage as given at D-EN2.2. The credit should not be awarded if testing reveals air leakage to be &gt; 6m<sup>3</sup>/h/m<sup>2</sup>.</p> <p><b>Credit Evidence:</b> Air Filtration Test Certificates and supporting design specifications must be supplied to the assessor for one or more of the credits to be awarded.</p> <p><b>Further Information:</b></p>	1

## Procurement - Construction

code	title	credits
C-PR 1	<p data-bbox="358 491 797 533"><b>Commissioning Quality</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1192 709">To ensure that all building services systems are commissioned correctly by appropriately trained personnel.</p> <p data-bbox="358 758 631 795"><b>Credit Criteria:</b></p> <p data-bbox="358 800 1211 978">To obtain two credits the contractor must confirm that all commissioning has been carried out in accordance with the latest Building Regulations, CIBSE and BSRIA guidelines.</p> <p data-bbox="358 1031 1187 1203">For specialist items of plant, an appropriate commissioning specialist must be appointed to manage or oversee the commissioning of these systems. These systems should include:</p> <ul data-bbox="391 1289 1227 1644" style="list-style-type: none"> <li>• Process ventilation equipment.</li> <li>• Air-conditioning systems.</li> <li>• Mechanical ventilation systems.</li> <li>• Gas-fired radiant heating systems.</li> <li>• Building management systems and associated controls.</li> <li>• Any other innovative systems (eg geothermal cooling).</li> </ul> <p data-bbox="358 1730 1252 1854">Commissioning should be done in collaboration with the future building managers, facilities management team etc...</p> <p data-bbox="358 1906 672 1944"><b>Credit Evidence:</b></p> <p data-bbox="358 1948 1146 1990">The contractor must provide (1) a copy of the</p>	2



specification which requires that commissioning will be carried out in accordance with the latest CIBSE Codes and BSRIA Guides, (2) a copy of the letter of appointment to the commissioning specialist, which outlines all responsibilities, and (3) a copy of all of the commissioning results, confirming that commissioning was undertaken in accordance with the latest CIBSE Codes and BSRIA Guides (4) evidence that the appropriate facilities management team have been involved in commissioning.

The assessor should also see evidence that appropriate time allowances have been made within the project programme for commissioning of systems prior to project hand-over.

**Further Information:**

## Procurement - Construction

code	title	credits
C-PR 2	<p><b>Contractor Sustainable Practice and Policy</b></p> <p><b>Aim:</b> To ensure sustainable site practice.</p> <p><b>Credit Criteria:</b> One credit is achieved when the contractor implements an Environmental Management System, ISO 14001 or equivalent, on the construction site.</p> <p>The second credit is achieved where the contractor is a member of the Considerate Constructors Scheme (CCS) and achieves a CCS score of &gt; 30. At least five points in each of the five sections in the CCS assessment should be achieved.</p> <p>The third credit is achieved where the contractor is a member of the CCS and achieves a CCS score of &gt; 35. At least seven points in each of the five sections in the CCS assessment should be achieved.</p> <p>The fourth credit is achieved where the contractor is a member of the CCS and achieves a CCS score of 40 or more. At least seven points in each of the five sections in the CCS assessment should be achieved.</p> <p><b>Credit Evidence:</b> For the first credit, the contractor must provide written confirmation or certification of the relevant environmental system and/or policies including the Construction Environment Management Plan (CEMP). For the second credit, the contractor must provide a copy of a recent audit/site report for CCS,</p>	4

showing the scores achieved in each category.

**Further Information:**



## Procurement - Construction

code	title	credits
C-PR 6	<p><b>Using Reclaimed Materials for Temporary Site Works</b></p> <p><b>Aim:</b> To encourage the use of reclaimed materials for temporary site works, such as formwork, hoarding, hardstands and parking areas, thereby reducing the unnecessary manufacture of materials, use of virgin materials, their transportation and the associated</p> <p><b>Credit Criteria:</b> One credit can be obtained when two of the following are used on site:</p> <ul style="list-style-type: none"> <li>• Reused timber for 80% of formwork and hoarding;</li> <li>• Reused materials (various) for temporary site facilities such as hardstands and parking areas;</li> <li>• Reusing fencing;</li> <li>• Reusing scaffolding (no new scaffolding to be purchased for project)</li> </ul> <p>All reclaimed materials should be sourced from within a 100 mile radius to achieve the credit.</p> <p>In line with the UK Government Timber Procurement Policy, virgin timber and wood derived products, including for temporary site works, should originate from an independently verifiable legal and sustainable source.</p> <p><b>Credit Evidence:</b> The contractor should provide calculations showing</p>	1

the total amount of material required for each use, and the amount of reclaimed material used, to demonstrate that the minimum requirements have been met. The contractor should also provide evidence of the sources of reclaimed materials (e.g. invoices with suppliers' addresses). Where virgin timber is used the assessor should provide evidence which demonstrates that the UK Government Timber Procurement Policy has been followed.

**Further Information:**

## Procurement - Construction

code	title	credits
<b>C-PR 7</b> *	<p><b>Pre-Handover Review</b></p> <p><b>Aim:</b>            To ensure that the building conforms to design specification and handover responsibility for DREAM assessment.</p> <p><b>Credit Criteria:</b>            To obtain this credit a documented post construction review meeting and site/building inspection must be undertaken with the existing Project phase DREAM Lead Assessor and the new Operation phase Lead Assessor* at the end of the construction process, prior to handover of the building.</p> <p><b>* NB: Operation phase Lead Assessor to be Facilities Manager, Building Manager or appropriate responsible person.</b></p> <p><b>Credit Evidence:</b>            The Project phase Lead Assessor should confirm in the Assessors Notes that he/she has undertaken a post-construction review of the building and associated documentation (e.g. building manual, commissioning log, chain of custody records for sustainably sourced timber etc.), and is satisfied that the building conforms to the design specification. This should include a review of both the Survey and Design stages of the assessment.</p> <p><b>Where the building does not conform to the design specification, and credits have been claimed for designs not delivered, all related</b></p>	<b>1</b>

**credits (at any stage) should be reassessed and scoring adjusted accordingly, Any adjustment should also be clearly articulated in the Assessors Notes.**

**Additionally it should be stated that the Operation phase Lead Assessor has received pre-handover of the building and the DREAM assessment.**

**NB: Once the pre-handover has been completed you will need to ensure that the Operation phase Lead Assessor obtains a DREAM log in. You will need to select them as the Lead Assessor for the Operation stage. If this is not done you will be unable to submit the Construction stage DREAM assessment.**

**Further Information:**

## Procurement - Construction

code	title	credits
<b>C-PR 8</b>	<p><b>Sustainable Development Construction Specialist</b></p> <p><b>Aim:</b> To identify key sustainability opportunities, with an aim to achieving best practice construction standards.</p> <p><b>Credit Criteria:</b> The construction team should receive input from a competent person with proven skills and abilities in the design and delivery of sustainable buildings. The competent person could be a DREAM / BREEAM / CEEQUAL accredited assessor and will be required to facilitate the successful achievement of the target DREAM rating.</p> <p>Good construction should:</p> <ul style="list-style-type: none"> <li>• Make a positive addition to the location, the environment and the community;</li> <li>• Add value and reduce costs;</li> <li>• Create built environments that are safe to construct and safe to use;</li> <li>• Create flexible, durable, sustainable and ecologically sound environments for the community;</li> <li>• Minimise waste of materials, energy and pollution in construction;</li> <li>• Contribute to construction that is quick, safe and efficient;</li> <li>• Produce a facility that is easy and cost effective to manage, clean and maintain</li> </ul>	1



**Credit Evidence:**

Evidence could include a letter of appointment or a report from the sustainable development specialist, along with details of the specialist's qualifications and experience in sustainable development.

**Further Information:**

## Travel - Construction

code	title	credits
C-TR 1	<p><b>Green Travel Plan for Construction</b></p> <p><b>Aim:</b> To encourage people to reduce dependence on individual motorised transport means and reduce CO<sub>2</sub> emissions associated with transport.</p> <p><b>Credit Criteria:</b> The credit can be achieved for :</p> <p>a) preparing a Green Travel Plan for construction. The plan should include the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Objectives - identify what you are trying to achieve from your travel plan. The plan should encourage green transport measures such as walking, cycling, car sharing, shuttle buses to local towns or train stations etc;</li> <li>• Actions - identify the proposed actions/ measures for achieving your stated objectives;</li> <li>• Marketing - identify how you will market the Plan and the elements contained within it;</li> <li>• Targets - identify targets to determine whether your objectives are being achieved;</li> <li>• Monitoring - identify how you will monitor the effectiveness of your travel plan, what will be monitored and who will be responsible for monitoring;</li> <li>• Dissemination - people will want to share in the success of the plan and will want to know what the results are.</li> </ul>	1

b) Demonstrating that >25% of site workers use green transport options.

**Credit Evidence:**

The contractor should provide a copy of the green travel plan and written evidence showing >25% of site workers use green transport options.

**Further Information:**

## Travel - Construction

code	title	credits
C-TR 2	<p><b>Supply Chain Transport Policy</b></p> <p><b>Aim:</b> To reduce the number of journeys to site by delivery vehicles using fossil fuel powered vehicles, encouraging the use of alternative fuels, and deliveries to be in bulk to ensure the reduction of CO2 emissions and local air pollutants.</p> <p><b>Credit Criteria:</b> One credit can be achieved when any of the following has occurred:</p> <ul style="list-style-type: none"> <li>• 80% of suppliers have developed and implemented a green travel plan;</li> <li>• 80% of delivery vehicles use of alternative fuels;</li> <li>• 80% of site deliveries are optimised to ensure materials are delivered in bulk.</li> </ul> <p><b>Credit Evidence:</b> The contractor should provide a list of all suppliers, and correspondence from the suppliers which confirm that:</p> <ul style="list-style-type: none"> <li>• they have developed and implemented green travel plans or;</li> <li>• their vehicles use of alternative fuels or;</li> <li>• they will provide materials in bulk where possible</li> </ul> <p><b>Further Information:</b></p>	1



## Water - Construction

code	title	credits
C-WR 1	<p><b>Water Metering and Monitoring on the Construction Site</b></p> <p><b>Aim:</b> To reduce water wastage and meet water targets through metering and monitoring of water usage on construction.</p> <p><b>Credit Criteria:</b> The credit is provided for minimising water use and meeting water targets by adopting metering and monitoring of water usage. This credit relates specifically to water consumption in construction related facilities (e.g. site offices, washrooms, canteens etc.) rather than the building under construction. The credit can be awarded when:</p> <ul style="list-style-type: none"> <li>• metering is provided to all main incoming supplies of water.</li> <li>• water consumption targets are set for the construction site, and actions which enable site operations to meet water targets are identified. Actions should include, as a minimum, monitoring for leaks on a regular basis.</li> </ul> <p><b>Credit Evidence:</b> The construction team should provide documented evidence of the metering to be used (e.g. plans showing locations and types of meters). In addition, the contractor should provide copies of procedures which will be used for setting water targets, monitoring water consumption and implementing actions to meet the targets, and the logs which will</p>	1

be used to record the metered and monitored data.

**Further Information:**



## Water - Construction

code	title	credits
C-WR 2	<p><b>Minimise Water Use on the Construction Site and in Construction Related Facilities</b></p> <p><b>Aim:</b> Minimise water use, adopt controls and reduce CO<sub>2</sub> emissions.</p> <p><b>Credit Criteria:</b> The credit is provided for minimising water use and for the adoption of controls to the construction areas in and around the building/s being constructed and site facilities, including offices, cafeteria and washroom facilities, toilets and any other accommodation and storage areas on site, as follows.</p> <p>One credit can be achieved for implementing at least three of the following measures:</p> <ul style="list-style-type: none"> <li>• hand detecting spray taps or push button spray taps with timed shutoff in all hand basins;</li> <li>• low flow (&lt;6L/min) showerheads in all showers (except emergency showers);</li> <li>• toilets with an effective flush volume of &lt;4litres;</li> <li>• proximity detection devices for urinals;</li> <li>• procedures to minimise potable water use in wash-downs, vehicle washing, concrete mixing etc;</li> <li>• harvesting and reusing greywater on site.</li> </ul> <p><b>Credit Evidence:</b> To obtain the credits, the construction team should provide documented evidence of the strategies and</p>	1



controls to be used.

**Further Information:**



## Waste - Construction

code	title	credits
<b>C-WS 1</b>	<p><b>Construction Waste Management</b></p> <p><b>Aim:</b> To avoid unnecessary landfill and transport requirements and negate the necessity to use virgin materials and energy. To demonstrate a strategy whereby the use of reclaimed and recycled materials is considered at the construction planning stage.</p> <p><b>Credit Criteria:</b> Three credits can be achieved for developing and implementing a site waste management plan. This plan should include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• who will be responsible for resource management;</li> <li>• what types of waste will be generated;</li> <li>• how will it be managed – will it be reduced, reused or recycled;</li> <li>• which contractors will be used to ensure the waste is correctly recycled or disposed of responsibly and legally;</li> <li>• how the quantity of waste generated by the project will be measured;</li> <li>• what targets will be set and what actions will be needed to meet them.</li> </ul> <p>The Waste and Resources Action Programme (WRAP) can provide advice on how to develop and implement a site waste management plan.</p> <p>A maximum of two further credits can be awarded if it can be shown that:</p>	5

- >90% of non-hazardous construction waste by volume has been diverted from landfill – one credit
- >95% of non-hazardous construction waste by volume has been diverted from landfill – two credits

**Credit Evidence:**

For the first three credits the contractor should provide a copy of the site waste management strategy, and evidence of its implementation on site (i.e. records of waste volumes, including types and amounts of materials recycled, and actions undertaken to meet waste targets etc.). For the two further credits, the contractor should provide documented evidence of the amount of waste generated and the % diverted from landfill.

**Further Information:**

## Stage: Operation

### Biodiversity & Environmental Protection - Operation

code	title	credits
O-BI 1	<p><b>Site Ecology Management</b></p> <p><b>Aim:</b> To encourage conservation and improvement of the site ecology, and to reduce impact on wildlife habitat.</p> <p><b>Credit Criteria:</b> The credit is achieved for developing and implementing an ecological management plan, which covers the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Description of habitat areas;</li> <li>• Ecological management principles;</li> <li>• Objectives;</li> <li>• Management specifications;</li> <li>• Monitoring programme; and</li> <li>• Enhancement programme.</li> </ul> <p>Any relevant biodiversity maintenance requirements should be integrated into site management systems i.e. EMS or Integrated Rural/Land Management Plan (IRMP/ ILMP). EMS is most appropriate for sites with minimal biodiversity requirements. Sites with major biodiversity requirements should have a specific component plan as part of an IRMP/ILMP, Specialist advice from the DIO Safety, Environment and Engineering Team should be sought in ensuring maintenance requirements are integrated into IRMP/ILMP.</p>	1

**Credit Evidence:**

The assessor should be provided with a copy of the ecological management plan, and evidence to demonstrate how it has been integrated into the EMS, IRMP or ILMP. The assessor should confer with the project ecological consultant (IEEM registered or equivalent) to confirm the suitability of the ecological management plan. NB plans can be site wide.

**Further Information:**

## Biodiversity & Environmental Protection - Operation

code	title	credits
O-BI 2	<p><b>Protection and Enhancement of the Historic Environment</b></p> <p><b>Aim:</b> To protect and enhance the historic environment and to ensure its sustainable future.</p> <p><b>Credit Criteria:</b> To award the credit, the assessor should establish whether the historic environmental features on site are proactively considered and managed within the operational phase of the project. Such features are incorporated into relevant management plans for the site/building (e.g. EMS; IEMP) and that relevant inspections are carried out (e, g, Quadrennial Inspections) and that any repairs are carried out in a timely fashion. Any maintenance works or installations need to be sympathetic to the heritage integrity of the site. The relevant consents may be required if statutorily protected buildings are altered for operational reasons. Historic buildings or scheduled monuments should not become 'at risk'.</p> <p>If the historic environment assessment carried out at the survey stage (S-BI-5) found no historic environment features and no further features were discovered during construction (C-BI-2) this credit may be awarded by default.</p> <p><b>Credit Evidence:</b> The project team should demonstrate that the historic environment is incorporated within the relevant management plans and demonstrate that a system is in place for condition surveys (QI's) where necessary. The project team should also</p>	1

demonstrate that any repairs identified (e.g. through condition surveys) have been carried out in a timely manner (e.g. forward maintenance Register). The project team should provide evidence of any consents granted.

**Further Information:**

## External EQ - Operation

code	title	credits
<b>O-EEQ 1</b>	<p><b>Landscaping Maintenance</b></p> <p><b>Aim:</b> To minimise the risk of adverse impacts on the local environment through inappropriate maintenance of the site landscaping.</p> <p><b>Credit Criteria:</b> The credit is awarded where a contract or other form of agreement is in place to maintain the site landscaping on a regular basis, and keep it free from litter, debris and other pollutants.</p> <p><b>Credit Evidence:</b> The assessor should be provided with a copy of the contract or other form of agreement.</p> <p><b>Further Information:</b></p>	1



## Energy - Operation

code	title	credits
O-EN 1	<p data-bbox="358 491 1263 537"><b>Minimise Energy Consumption During Operation</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1252 764">To reduce energy waste, energy overuse and meet energy targets through metering and monitoring of energy usage in the building, to ultimately reduce CO<sub>2</sub> emissions.</p> <p data-bbox="358 821 631 858"><b>Credit Criteria:</b></p> <p data-bbox="358 863 1263 1037">Credits are provided for minimising energy use and meeting energy targets by adopting metering and monitoring of energy usage. Credits are awarded as follows:</p> <ul data-bbox="391 1125 1252 2018" style="list-style-type: none"> <li data-bbox="391 1125 1211 1255">• The first credit is achieved for setting up and implementing a procedure for monitoring all energy meters on a monthly basis.</li> <li data-bbox="391 1260 1252 1654">• If the first credit is achieved, the second credit can be achieved for setting energy consumption targets for the whole building, as well as (1) lighting and small power, (2) space and water heating, and (3) other major energy users within the building (eg chillers). These targets must be reviewed on an annual basis, to reflect improvements in building operation and changes to best practice benchmarks.</li> <li data-bbox="391 1659 1252 2018">• If the first and second credits are achieved, the third credit can be achieved for identifying actions and setting up an action plan (with allocated responsibilities and deadlines for actions) which will enable site operations to meet energy targets. The action plan must be reviewed on an annual basis to reflect changes to energy targets and changes in energy</li> </ul>	4

performance of the building.

- If the first three credits are achieved, the final credit can be achieved for demonstrating that actions from the action plan have been implemented by their deadline.

**Credit Evidence:**

The assessor should be provided with the following evidence to award each credit:

- Credit 1 – copy of the monitoring procedure, and monitoring results for the previous twelve months of operation.
- Credit 2 – copy of the energy consumption targets, and the procedure for reviewing the targets on an annual basis.
- Credits 3&4 – copy of the action plan, showing responsibilities, deadlines and the status of actions, and the procedure for reviewing actions on an annual basis.

**Further Information:**

## Energy - Operation

code	title	credits
<b>O-EN 2</b>	<p><b>Energy Consumption Reporting</b></p> <p><b>Aim:</b> To demonstrate the energy performance of the building and occupants.</p> <p><b>Credit Criteria:</b> The credit is awarded where:</p> <p>Monitoring results are collated on a monthly basis and reported to occupants via notice boards, email or other appropriate means. The reporting must include the energy targets for the building and actions which have been implemented to improve energy performance AND monitoring results which are collated on an annual basis and reported through the appropriate chain of command.</p> <p><b>Credit Evidence:</b> In consultation with the DIO Area Utilities Manager, the assessor should be provided with copies of all reports for the previous twelve months, with details of how the information was disseminated to occupants and through the chain of command.</p> <p><b>Further Information:</b></p>	1

## Energy - Operation

code	title	credits
<b>O-EN 3</b>	<p><b>CO2 Emissions</b></p> <p><b>Aim:</b> To reduce CO<sub>2</sub> emissions from operation of the building.</p> <p><b>Credit Criteria:</b> The building's operational CO 2 emissions should be calculated using the first 12 months of energy bills, and compared against the buildings TER as calculated for credit D-EN1. Credits are awarded as follows:</p> <ul style="list-style-type: none"> <li>• No improvement = 0</li> <li>• &gt; 10% = 1</li> <li>• &gt; 20% = 2</li> <li>• &gt; 30% = 3</li> </ul> <p><b>Credit Evidence:</b> The assessor should be provided with documentation showing the building's operational CO2 emissions and % improvement over the Target Emissions Rate (TER) as calculated for credit D-EN1.</p> <p><b>Further Information:</b></p>	3

## Internal EQ - Operation

code	title	credits
<b>O-IEQ 1</b> *	<p><b>Building Manual</b></p> <p><b>Aim:</b>            To ensure that the building users understand the building and its systems, in order to optimise user comfort, health, safety and productivity, while minimising resource consumption and other environmental impacts.</p> <p><b>Credit Criteria:</b>            The first credit is available if a building manual describing building systems and how to operate the building most efficiently has been developed. The manual must be available to all staff and should cover the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Non-technical description of the building, including heating and cooling strategy, BMS, energy efficiency measures, water systems, waste facilities, emergency systems, ventilation, lighting.</li> <li>• Contact details for suppliers of installed equipment.</li> <li>• Maintenance requirements.</li> <li>• Plans showing locations of meters and equipment.</li> <li>• Sample tables for monitoring and reporting gas, electricity and water usage.</li> <li>• Detail on how users can operate the building efficiently to help reduce energy, waste and water usage.</li> </ul>	<b>2</b>

**A further credit can be awarded if building users were trained during handover. The training should, as a minimum:**

- . introduce the Building Manual**
- . explain key building systems and how they operate**
- . demonstrate how to operate the building efficiently.**

**Credit Evidence:**

**For the first credit the assessor should be provided with a copy of the manual. The Facilities Manager should also demonstrate how occupants are informed about the manual (e.g. inductions) and how occupants can access the manual (e.g. intranet). For the second credit a copy of the training schedule should be provided.**

**Further Information:**

## Internal EQ - Operation

code	title	credits
<b>O-IEQ 2</b>	<p><b>Occupant Comfort</b></p> <p><b>Aim:</b> To optimise the comfort of occupants in the building.</p> <p><b>Credit Criteria:</b> One credit can be achieved for carrying out an annual survey of the building's occupants to assess comfort within the building. The survey should cover the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Temperature / thermal comfort</li> <li>• Ventilation</li> <li>• Air quality</li> <li>• Lighting levels</li> <li>• Glare problems</li> <li>• Acoustics</li> <li>• Workstation comfort (for offices)</li> <li>• Proximity to amenities</li> <li>• Views out (for offices)</li> </ul> <p>The second credit can be achieved by demonstrating that the results of the survey have been collated, and measures identified and implemented to improve user comfort.</p> <p><b>Credit Evidence:</b> The results of the most recent survey should be provided, along with measures identified and implemented as a result of the outcomes of the survey.</p> <p><b>Further Information:</b></p>	2





## Procurement - Operation

code	title	credits
O-PR 1	<p data-bbox="358 491 837 533"><b>Seasonal Commissioning</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1263 667">To ensure that all systems are robustly tested under varying seasonal conditions.</p> <p data-bbox="358 716 631 753"><b>Credit Criteria:</b></p> <p data-bbox="358 758 1260 934">The credits are awarded where seasonal commissioning is undertaken during the first year of occupation. Seasonal commissioning should include the following:</p> <ul data-bbox="391 1020 1260 1598" style="list-style-type: none"> <li>• Testing under full-load conditions during peak heating and peak cooling seasons, as well as part-load conditions in the spring and autumn;</li> <li>• All equipment and systems to be tested and commissioning in a peak season to observe full-load performance;</li> <li>• Heating equipment will be tested during winter extremes;</li> <li>• Cooling equipment will be tested during summer design extremes, with a fully occupied building;</li> <li>• Subsequent commissioning may be required under conditions of minimum and/or maximum occupancy or use.</li> </ul> <p data-bbox="358 1682 672 1719"><b>Credit Evidence:</b></p> <p data-bbox="358 1724 1252 1900">Results from seasonal commissioning should be collated and retained in the Building Log Book. The results should be submitted to the assessor for inspection.</p> <p data-bbox="358 1948 737 1986"><b>Further Information:</b></p>	2



## Procurement - Operation

code	title	credits
O-PR 2	<p data-bbox="358 493 1154 575"><b>Environmental Performance of Third Party Service Providers</b></p> <p data-bbox="358 583 448 619"><b>Aim:</b></p> <p data-bbox="358 630 1235 758">Where services are provided by third parties, the long term benefits of environmental considerations should be upheld.</p> <p data-bbox="358 808 631 844"><b>Credit Criteria:</b></p> <p data-bbox="358 854 1252 1026">The tender process for appointing/awarding services, including compete FM, to third parties should include an environmental performance specification that includes targets for:</p> <ul data-bbox="391 1115 1203 1598" style="list-style-type: none"> <li>• energy efficiency;</li> <li>• water efficiency;</li> <li>• waste reduction and recycling;</li> <li>• minimal use of disposal materials (eg plastic cutlery, paper plates);</li> <li>• use of materials from sustainable sources or 100% recycled materials (eg toilet paper and hand towels made of 100% recycled paper);</li> <li>• use of suppliers which minimise packaging and/or reuse/recycle packaging;</li> <li>• transport and travel.</li> </ul> <p data-bbox="358 1686 1263 1770">To achieve the first credit, appropriate requirements must be included in the tender specification.</p> <p data-bbox="358 1820 1138 1948">To achieve the second credit, suppliers must demonstrate compliance with the tender specification.</p>	2

**Credit Evidence:**

For the first credit, the assessor should be provided with a copy of this performance specification. For the second credit, evidence is required from the first year of operation that the requirement is being met.

**Further Information:**

## Procurement - Operation

code	title	credits
O-PR 4	<p data-bbox="358 491 1089 533"><b>Maintenance Contracts and Schedules</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1227 709">To maximise efficiency of all building systems and hence minimise resource consumption and emissions of pollutants.</p> <p data-bbox="358 758 631 800"><b>Credit Criteria:</b></p> <p data-bbox="358 804 1273 934">The credit is achieved where maintenance contracts and schedules have been established for the following systems (where applicable):</p> <ul data-bbox="391 1020 1159 1509" style="list-style-type: none"> <li>• Energy supplies;</li> <li>• Space and hot water heating;</li> <li>• Chillers;</li> <li>• Ventilation;</li> <li>• BMS;</li> <li>• Lighting (including cleaning);</li> <li>• Water supplies;</li> <li>• Wastewater services;</li> <li>• Drainage (surface water runoff);</li> <li>• Pollution control devices (eg interceptors);</li> <li>• Carpets and floor finishes (cleaning).</li> </ul> <p data-bbox="358 1591 672 1633"><b>Credit Evidence:</b></p> <p data-bbox="358 1638 1256 1724">The assessor should be provided with copies of the maintenance contracts and schedules.</p> <p data-bbox="358 1772 737 1814"><b>Further Information:</b></p>	2

## Procurement - Operation

code	title	credits
<p><b>O-PR 5</b> *</p>	<p><b>Annual Environmental Audit</b></p> <p><b>Aim:</b> To minimise the environmental impacts of the operation of the building.</p> <p><b>Credit Criteria:</b> To achieve the credit, an annual environmental audit of the building should be undertaken by a registered environmental auditor, to assess compliance with environmental legislation and regulations, policies and systems implemented within the building, and general environmental due diligence.</p> <p>The results of the environmental audit must then be used to improve the environmental performance of the building and occupants.</p> <p><b>Credit Evidence:</b> The assessor should be provided with a copy of the latest audit report. The Facilities Manager must also demonstrate how the recommendations of the audit have been implemented to improve environmental performance.</p> <p><b>Further Information:</b></p>	<p><b>2</b></p>

## Travel - Operation

code	title	credits
O-TR 1	<p><b>Green Travel Plan</b></p> <p><b>Aim:</b> To encourage people to reduce dependence on individual motorised transport means and reduce CO<sub>2</sub> emissions associated with transport.</p> <p><b>Credit Criteria:</b> Credits are awarded as follows:</p> <ul style="list-style-type: none"> <li>• 0 = no green travel plan</li> <li>• 1 = a green travel plan has been developed</li> <li>• 2 = a green travel plan has been implemented</li> </ul> <p>A green travel plan, which may be site wide, should be developed and implemented. The travel plan should include the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Background information on the site - location, numbers of people etc.</li> <li>• Objectives - identify what you are trying to achieve from your travel plan. The plan should encourage green transport measures such as walking, cycling, car sharing, shuttle buses to local towns or train stations etc.</li> <li>• Actions - identify the proposed actions/ measures for achieving your stated objectives.</li> <li>• Marketing - identify how you will market the Plan and the elements contained within it.</li> <li>• Targets - identify targets to determine whether your objectives are being achieved.</li> <li>• Monitoring - identify how you will monitor the</li> </ul>	2

effectiveness of your travel plan, what will be monitored and who will be responsible for monitoring.

- Dissemination - people will want to share in the success of the plan and will want to know what the results are.

The plan should encourage measures such as walking, cycling, car sharing, shuttle buses to local towns or train stations etc.

**Credit Evidence:**

The assessor should be provided with a copy of the green travel plan.

**Further Information:**



## Water - Operation

code	title	credits
O-WR 1	<p><b>Minimise Water Consumption During Operation</b></p> <p><b>Aim:</b> To reduce water waste, water overuse and meet water targets through metering and monitoring of water usage in the building.</p> <p><b>Credit Criteria:</b> Credits are provided for minimising water use and meeting water targets by adopting metering and monitoring of water usage. Credits are awarded as follows:</p> <ul style="list-style-type: none"> <li>• The first credit is achieved for setting up and implementing a procedure for monitoring all water meters on a monthly basis. Note: Aquatrine measurement arrangements determine water consumption levels across circa 2,800 supply points.</li> <li>• If the first credit is achieved, the second credit can be achieved for setting water consumption targets for the whole building. These targets must be reviewed on an annual basis, to reflect improvements in building operation and changes to best practice benchmarks. As a minimum, office buildings should conform to the Greening Government Commitment of &gt;6m<sup>3</sup>/FTE/Year.</li> <li>• If the first and second credits are achieved, the third credit can be achieved for identifying actions and setting up an action plan (with allocated responsibilities and deadlines for actions) which will enable site operations to meet water targets. The action plan must be reviewed on an annual basis to reflect changes</li> </ul>	4

to water targets and changes in water performance of the building.

- If the first three credits are achieved, the final credit can be achieved for demonstrating that actions from the action plan have been implemented by their deadline.

**Credit Evidence:**

The assessor should be provided with the following evidence to award each credit:

- Credit 1 – copy of the monitoring procedure, and monitoring results for the previous twelve months of operation.
- Credit 2 – copy of the water consumption targets, and the procedure for reviewing the targets on an annual basis.
- Credits 3&4 – copy of the action plan, showing responsibilities, deadlines and the status of actions, and the procedure for reviewing actions on an annual basis.

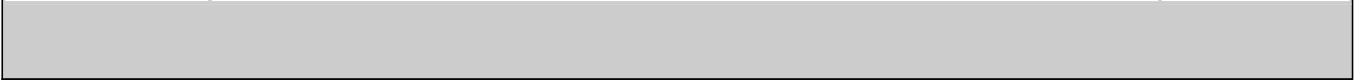
**Further Information:**

## Water - Operation

code	title	credits
O-WR 2	<p><b>Water Consumption Reporting</b></p> <p><b>Aim:</b> To demonstrate the water performance of the building and occupants.</p> <p><b>Credit Criteria:</b> The first credit is awarded where:</p> <ul style="list-style-type: none"> <li>• Results are monitored and collated on a quarterly basis and reported to occupants via notice boards, email or other appropriate means and on an annual basis and reported through the chain of command. The reporting must include the water targets for the building and actions which have been implemented to improve water performance.</li> </ul> <p>The second credit is awarded where:</p> <ul style="list-style-type: none"> <li>• Improvements identified through monitoring have been implemented.</li> </ul> <p>The Defence Infrastructure Organisation provides periodic water reports to Head of Establishments with the intention that they are used to increase user awareness of water use in buildings.</p> <p><b>Credit Evidence:</b> For the first credit, the assessor should be provided with copies of all reports for the previous twelve months, with details of how the information was</p>	2

disseminated to occupants and chain of command.  
For the second credit, the assessor should be provided with evidence of improvement measures implemented.

**Further Information:**



## Waste - Operation

code	title	credits
O-WS 1	<p data-bbox="358 491 1206 533"><b>Storage and Collection of Recyclable Wastes</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1224 709">To reduce items sent to landfill and reduce the requirement for the use of virgin materials through recycling.</p> <p data-bbox="358 758 631 795"><b>Credit Criteria:</b></p> <p data-bbox="358 800 1268 930">The operation of the building should include on site secure disposal, segregation, storage and collection of recyclable wastes.</p> <ul data-bbox="391 1020 1276 1507" style="list-style-type: none"> <li data-bbox="391 1020 1276 1192">• Recycling bins should be placed in prominent positions throughout the building for occupants to dispose of paper, plastic, metal, glass and general waste.</li> <li data-bbox="391 1197 1276 1415">• Secure, labelled storage space for paper, plastic, metal, glass and general waste should be allocated in close proximity to the building in an internal or external service area, with easy access for collection.</li> <li data-bbox="391 1419 1276 1507">• Sufficient space allocation (1m<sup>2</sup> per 1000m<sup>2</sup> of floor area, minimum 5m<sup>2</sup>, maximum 10m<sup>2</sup>).</li> </ul> <p data-bbox="358 1591 672 1629"><b>Credit Evidence:</b></p> <p data-bbox="358 1633 1260 1806">The assessor should receive evidence of the waste facilities provided in the building, for example photographs and plans showing locations and sizes of bins and storage areas.</p> <p data-bbox="358 1860 737 1898"><b>Further Information:</b></p>	1



## Waste - Operation

code	title	credits
O-WS 2	<p data-bbox="358 491 1208 533"><b>Minimise Waste Generation During Operation</b></p> <p data-bbox="358 537 448 575"><b>Aim:</b></p> <p data-bbox="358 579 1276 709">To reduce the amount of waste generated, and maximise reuse and recycling rather than disposal to landfill.</p> <p data-bbox="358 758 631 800"><b>Credit Criteria:</b></p> <p data-bbox="358 804 1276 978">Credits are provided for minimising waste generation and meeting waste and recycling targets by adopting monitoring of waste generation and disposal. Credits are awarded as follows:</p> <ul data-bbox="391 1066 1276 2001" style="list-style-type: none"> <li data-bbox="391 1066 1276 1241">• The first credit is achieved for setting up and implementing a procedure for monitoring the total amount of waste generated, and the amounts which are reused or sent for recycling.</li> <li data-bbox="391 1245 1276 1465">• If the first credit is achieved, the second credit can be achieved for setting waste and recycling targets for the whole building. These targets must be reviewed on an annual basis, to reflect improvements in operation.</li> <li data-bbox="391 1470 1276 1913">• If the first and second credits are achieved, the third credit can be achieved for identifying actions and setting up an action plan (with allocated responsibilities and deadlines for actions) which will enable site operations to meet waste and recycling targets. The action plan must be reviewed on an annual basis to reflect changes to waste and recycling targets and changes in waste and recycling performance in the building.</li> <li data-bbox="391 1917 1276 2001">• If the first three credits are achieved, the final credit can be achieved for demonstrating that</li> </ul>	4

actions from the action plan have been implemented by their deadline.

**Credit Evidence:**

The assessor should be provided with the following evidence to award each credit:

- Credit 1 – copy of the monitoring procedure, and monitoring results for the previous twelve months of operation.
- Credit 2 – copy of the waste and recycling targets, and the procedure for reviewing the targets on an annual basis.
- Credits 3&4 – copy of the action plan, showing responsibilities, deadlines and the status of actions, and the procedure for reviewing actions on an annual basis.

**Further Information:**



**Waste - Operation**

code	title	credits
<b>O-WS 3</b>	<b>Waste Reporting Aim:</b>	2