



Section 3:

Sustainability

Appraisal

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HOW TO USE THIS GUIDANCE

This guidance forms Chapter 3 of the MOD Sustainability and Environmental Appraisal Tool Handbook ('the Handbook'). It provides practical information on how to undertake a Sustainability Appraisal.

- Section 3.1:** Explains what Sustainability Appraisal is and why it is important to MOD.
- Section 3.2:** Provides practical guidance on how to undertake a full Sustainability Appraisal.
- Section 3.3:** Provides practical guidance on how to undertake an abbreviated form of Sustainability Appraisal for minor new works or reactive maintenance tasks.

FREQUENTLY ASKED QUESTIONS

A summary of where to find information in this guidance (based on frequently asked questions) is provided below.

Frequently asked question	Relevant section of guidance
What is Sustainability Appraisal?	Paragraph 3.1.1
Why is it important?	Paragraph 3.1.4
When does it apply?	Paragraph 3.1.8
Who is responsible for it?	Paragraph 3.2.3
How does it relate to the lifecycle of plans, programmes and projects (P/P/Ps) in MOD?	Figure 3.1
How much time and effort will it require?	Paragraph 3.2.12
What assistance is available to help understand and undertake a Sustainability Appraisal?	Box 3.1 & 3.10

MOD is always seeking to learn from good practice to improve the ways that guidance is provided and that Sustainability Appraisal is undertaken. Please email any **suggestions or feedback** to sustainable.development@de.mod.uk

SEATID - ONLINE HANDBOOK AND DATABASE

The Sustainability and Environmental Appraisal Tools Information Database (SEATID) is managed by the Sustainable Development Support team in Defence Estates. If you are responsible for undertaking a Sustainability Appraisal you will be required to input and update your Appraisal findings directly to the database as your P/P/P develops. If you are unable to use the database, then you are required to inform the Sustainable Development Support that a Sustainability Appraisal is being undertaken and submit copies of the Appraisal findings to the Team (contact details are provided in Box 3.1).

The database provides access (at varying levels) to other Sustainability Appraisals which have been undertaken, allowing you to share information with other users on specific sites or activity types and so avoid duplication of effort. This information could also be required to comply with MOD reporting requirements, Parliamentary Questions and Freedom of

Information requests, and will be used by Defence Estates to audit the coverage, quality and accuracy of Sustainability Appraisals.

Box 3.1 Sustainability Appraisal Advice and Guidance	
<p>Sustainability Appraisal Policy: DE Property Directorate Sustainable Development Team Room 14, K Block Foxhill Bath BA1 5AB Contact: Sus Dev1b1 Mil. 9355 84132 Civ. 01225 884132 sustainable.development@de.mod.uk</p> <p>Sustainability Appraisal Implementation: DE Operations Directorate Environmental Advisory Services (EAS) Westdown Camp Tilshead SP3 4RS Mil. 94325 4869 Civ. 01980 674869 estsustainability@de.mod.uk</p> <p>TLB CESO Focal Points (See Appendix J)</p>	

INTERNAL MOD SPECIALISTS

The MOD has a wide array of specialists who have a wealth of subject matter expertise with specific experience at applying their knowledge to MOD projects and they can assist and advise project teams in the completion of their Sustainability Appraisal. **In all instances project teams should seek support from internal MOD specialists and resources prior to considering the use of external consultant support.** Basic SA completion cost is approximately £5,000 and this figure can significantly increase when external support is obtained. This may put the project at risk of exceeding deadlines and budget. Please see Box 3.1 (above) for contact information relating to MOD implementation/specialist support.

Sustainability Appraisal Training

Sustainability Appraisal Training is now available to all project managers and individuals who may need to complete SA. A long term point of contact for organising training has yet to be confirmed. In the mean time please contact EAS using the information in Box 3.1.

3.1 INTRODUCTION

WHAT IS SUSTAINABILITY APPRAISAL?

- 3.1.1 Sustainability Appraisal is a process that helps to ensure sustainable development considerations and policy requirements are integrated into all plans, programmes and projects (P/P/Ps) that have the potential to affect the environment, society or the economy on, over or around areas owned, occupied or used by MOD, its agencies and partners. It helps to identify potential negative impacts, allowing alternative options to be sought or mitigation measures to be implemented, and to identify positive sustainability benefits and opportunities.
- 3.1.2 The consideration of sustainable development issues is not new. Many decisions already take account of issues (for the purposes of this guidance an issue is an aspect of a project that will result in either a positive, negative or neutral impact) such as energy use, waste disposal, proximity to protected areas or capacity of local transport systems. Many sustainability issues reflect common sense and good practice and are compatible with long-term business efficiency. What Sustainability Appraisal does is provide a mechanism for considering issues such as these in a structured and auditable way. Sustainability Appraisal does not give right or wrong answers, nor does it provide a quantitative score on the performance of a P/P/P¹.
- 3.1.3 Sustainability Appraisal is objectives-led. This means that each P/P/P is judged against a series of sixteen sustainability objectives (see Table 3.1) which together reflect the priorities for sustainable development in MOD and the priorities of the UK Sustainable Development Strategy.

Table 3.1 Sustainability themes and objectives

Sustainability theme	Sustainability objective
A Travel and Transport	Minimise amount of traveling required, particularly via roads and private cars.
B Water	Reduce total water consumption, maximise efficiency of use and encourage reuse whilst minimising the risks of water pollution and flooding.
C Energy and Climate Change	Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources, and improve resilience to climate change.
D Noise and Vibration	Minimise disturbance and annoyance to people and wildlife and stress to historic buildings caused by uncontrolled noise and vibration.
E Air Quality	Minimise greenhouse gas emissions and pollution of air with gases and particulates.
F Waste	Reduce waste production and promote reuse, recycling and recovery.
G Sustainable Construction and the Built Environment	Minimise expansion onto green sites, explore refurbishment before building afresh, design sustainability features into new buildings and promote recycling of materials.
H Sustainable	Ensure that all Departmental procurement takes full account of

¹ P/P/P refers to Plan/Programme/Project. For full definitions of these terms, please refer to the Glossary within Section 7 of the S&EAT Handbook.

Sustainability theme	Sustainability objective
Procurement	Sustainable Development principles and helps meet Sustainable Development targets and objectives.
I Geology and Soils	Identify, reduce, manage and mitigate the introduction of threats to soil which can reduce soil extent, diversity or quality.
J Biodiversity and Nature Conservation	Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.
K Historic Environment	To protect and where possible enhance the MOD historic environment in recognition that it is an integral part of cultural heritage and the role it plays in supporting defence capability.
L Landscape and Townscape	To protect and enhance the character of landscapes and townscapes.
M Health, Safety and Wellbeing	Maximise opportunities to promote healthy, safe and secure environments in which to live and work.
N Communities and Social Values (including consideration of need for a Regional Socio-Economic Report)	Promote MOD as a good neighbour which works with local communities to minimise disturbance and maximise positive social impacts.
O Infrastructure and Amenities	To support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.
P Economy and Employment	Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all.

WHY IS SUSTAINABILITY APPRAISAL IMPORTANT?

- 3.1.4 The Secretary of State for Defence has issued a Safety, Health, Environmental and Sustainable Development Policy Statement which contains the following instruction:

MOD will “Carry out sustainability appraisals and environmental assessments, as appropriate, for new or revised policies, programmes (including acquisition programmes) office relocations, new projects and training activities”²

- 3.1.5 This means all P/P/Ps that have the potential to affect the environment, society or the economy on, over or around areas owned, occupied or used by MOD, its agencies and partners, should be subject to Sustainability Appraisal. This commitment is reiterated in the MOD Sustainable Development and Environment Manual (JSP 418), Declarations of Intent with statutory conservation bodies, and Memoranda of Understanding with the Department of Environment, Food and Rural Affairs (Defra) and the devolved administrations.
- 3.1.6 Sustainability appraisal should not be seen as a hurdle to overcome during the project process but rather an integral element which supports the project by helping it achieve its objectives in a more sustainable manner.
- 3.1.7 Sustainability Appraisal can also help project teams to:

² Safety, Health, Environmental Protection and Sustainable Development in the Ministry of Defence: A Policy Statement by the Secretary of State for Defence (July 2009).

- Refine project design and development, inform the choice of options and tailoring of bidder questionnaires/contract clauses, inform investment appraisals and business cases. Such is the importance of sustainable development, projects and business cases need to have a section demonstrating how SD issues have been addressed – see the [Investment Approvals Board Statement on Sustainable Procurement](#).
- Meet the statutory requirements of the EU [Environmental](#) Information Regulations and the Freedom Of Information Act: the Regulations give the public the right of access to environmental information held by public authorities and encourage active dissemination of information. A completed Sustainability Appraisal can provide information that demonstrates how sustainability issues have been considered in decision-making, which may be required under the Regulations;
- Meet the requirements of the UK Sustainable Development Strategy: the Strategy emphasises the role of the public sector as a leading exponent of sustainable development;

Box 3.2 Priorities of the UK Sustainable Development Strategy

The four priorities for sustainable development in the UK are:

- Sustainable consumption and production;
- Climate change and energy;
- Natural resource protection and enhancement; and
- Sustainable Communities



- Meet the targets for Sustainable Operations on the Government Estate (as detailed within the MOD Sustainable Development Report and Action Plan [SDRAP] and TLB Sustainable Development Action Plans [SDAP]). These targets set a common agenda for central Government on a number of priority areas. The targets are also linked to a series of MOD strategies to manage the Department's commitments in technical areas such as the historic environment, waste and energy, which add an additional policy driver for Sustainability Appraisal;

Box 3.3 Targets for Sustainable Operations on the Government Estate

The targets for Sustainable Operations on the Government Estate were set by the Prime Minister in 2006. They were agreed by central Government Departments and apply to all central Government Departments and executive agencies and to Non-Departmental Public Bodies on a case-by-case basis.

The targets set a common agenda for central Government on a number of priority areas for action. They aim to drive a significant step-change improvement in the way that Government manages its land and buildings sustainably.

Some of the targets extend those originally set in the Framework for Sustainable Development on the Government Estate (originally published between 2002 and 2004) whilst others set new requirements. The new target set is more concise and challenging for Government.

The full list of targets are available online from [HERE](#)



- Fulfil the strategic aims of the Defence Estate Strategy 2006, 'In Trust and on Trust' which among others includes the aims to 'proactively integrate the Government's overarching objectives for sustainable development whilst ensuring the delivery of defence capability'.³ Progress against this strategy is reported annually in the Stewardship Report and can be viewed [HERE](#).

3.1.8 Over 5 years experience of using Sustainability Appraisal in MOD has shown that it has a wide range of other benefits:

- It helps to identify and reduce the environmental, social and economic risks for the P/P/P that may otherwise lead to:
 - i. Refusal of planning consent;
 - ii. Increased through-life project costs;
 - iii. Major delays and costs due to Public Inquiry;
 - iv. Reduction in operational capability;
 - v. Bad publicity.
- It provides a systematic, transparent and auditable way of demonstrating that a broad range of social, economic and environmental issues have been systematically considered and have influenced decisions
- It constitutes an initial, high-level 'screen' to give early warning of issues requiring further assessment (e.g. more detailed topic evaluation or statutory Environmental Impact Assessment), allowing project and budget managers to prepare for the associated time and resource implications, rather than face last-minute disruptions
- It raises awareness of sustainable development in MOD.

Box 3.4 What does sustainable development mean for the defence estate?

As a major landowner, developer, employer, service provider and consumer, MOD has a crucial role to play in promoting sustainable development. MOD requires a diverse estate to train and support its people and equipment. Overall, the UK estate comprises some 240,00ha with around 4,000 sites together with over 50,000 houses and MOD has rights to train over a further 1% of the UK mainland. The MOD estate has many outstanding features of national importance including 172 Sites of Special Scientific Interest (SSSI)⁴, the largest number owned by any Government Department, and many listed buildings and scheduled monuments. The Department uses significant estate overseas, including in Germany, Cyprus, the Falkland Islands and Gibraltar, with major training facilities in Canada, Cyprus, Germany, Norway, Poland and Kenya.



³ Defence Estates (2006). Defence Estates Strategy 2006: In Trust and On Trust.

⁴ SSSI official figure Dec 2006.

WHEN IS SUSTAINABILITY APPRAISAL REQUIRED?

- 3.1.9 Sustainability Appraisal should be applied to all P/P/Ps that could affect the environment, society or the economy on, over or around areas owned, occupied or used by MOD, its agencies and partners. This includes the MOD estate, other land over which MOD has ownership or management responsibility and private land over which MOD has access. It encompasses both land and water and activities that take place over land (e.g. flying). The types of activity covered include:
- Strategic change or rationalisation of the estate;
 - Property construction, refurbishment or redevelopment;
 - Changes in estate maintenance or management;
 - Relocation of units (military and civilian);
 - Significant changes in land or property use (including military training) and intensification of use;
 - Procurement of new equipment (where estate issues must be addressed in parallel with the Project Oriented Environmental Management System (POEMS) process for the Defence Equipment and Support organisation).
- 3.1.10 In all instances, project business cases must have a section demonstrating how SD issues have been addressed and supply a completed Sustainability Appraisal – see the [IAB Statement on Sustainable Procurement](#).
- 3.1.11 The majority of these activities fall under Defence Estates' Estate Business Management System (EBMS) Projects Process 1.3. The relationship between Projects Process 1.3 and Sustainability Appraisal is illustrated in Figure 3.1 and explained in detail in Table 3.4.
- 3.1.12 Figure 3.1 also illustrates the relationship between Sustainability Appraisal, the CADMID/CADMIT cycle, IAB approvals points and the Integrated Project Guide (the procurement route for all major equipment and service acquisition in MOD). Other EBMS processes that may affect the MOD estate, and hence require Sustainability Appraisal, include:
- Minor New Works and Maintenance;
 - Lands Estate Management;
 - Lands Disposal;
 - Lands Acquisition;
 - Training Estates Programme Management;
 - Training Estates Service and Equipment Procurement Processes.
- 3.1.13 Guidance on the links and related trigger points for Sustainability Appraisal within these processes can be found on Defence Estates' EBMS pages on the Defence Estates Intranet site⁵.
- 3.1.14 Minor new works and maintenance often require a simplified approach to Sustainability Appraisal. Chapter 3 provides guidance on how to apply Sustainability Appraisal to this type of activity.

⁵ http://deintranet-ebms.de.r.mil.uk/qmap/defence_estates_home_page.htm

- 3.1.15 There are two major exceptions where Sustainability Appraisal, as described in this Handbook, may be inappropriate. Firstly, this relates to situations where sustainability appraisal is being applied to a development plan that will be formerly adopted by the Local Planning Authority, a statutory Sustainability Appraisal will be required which is of a comparable standard to that used by the Local Planning Authority. Secondly, where there is a statutory requirement to undertake a Strategic Environmental Assessment (SEA), or complete a non-statutory equivalent (Strategic Sustainability Appraisal - SSA) of a plan or programme, then a separate Sustainability Appraisal may be unnecessary. Refer to Section 2 of the Handbook for guidance on whether a Strategic Environmental Assessment is required.

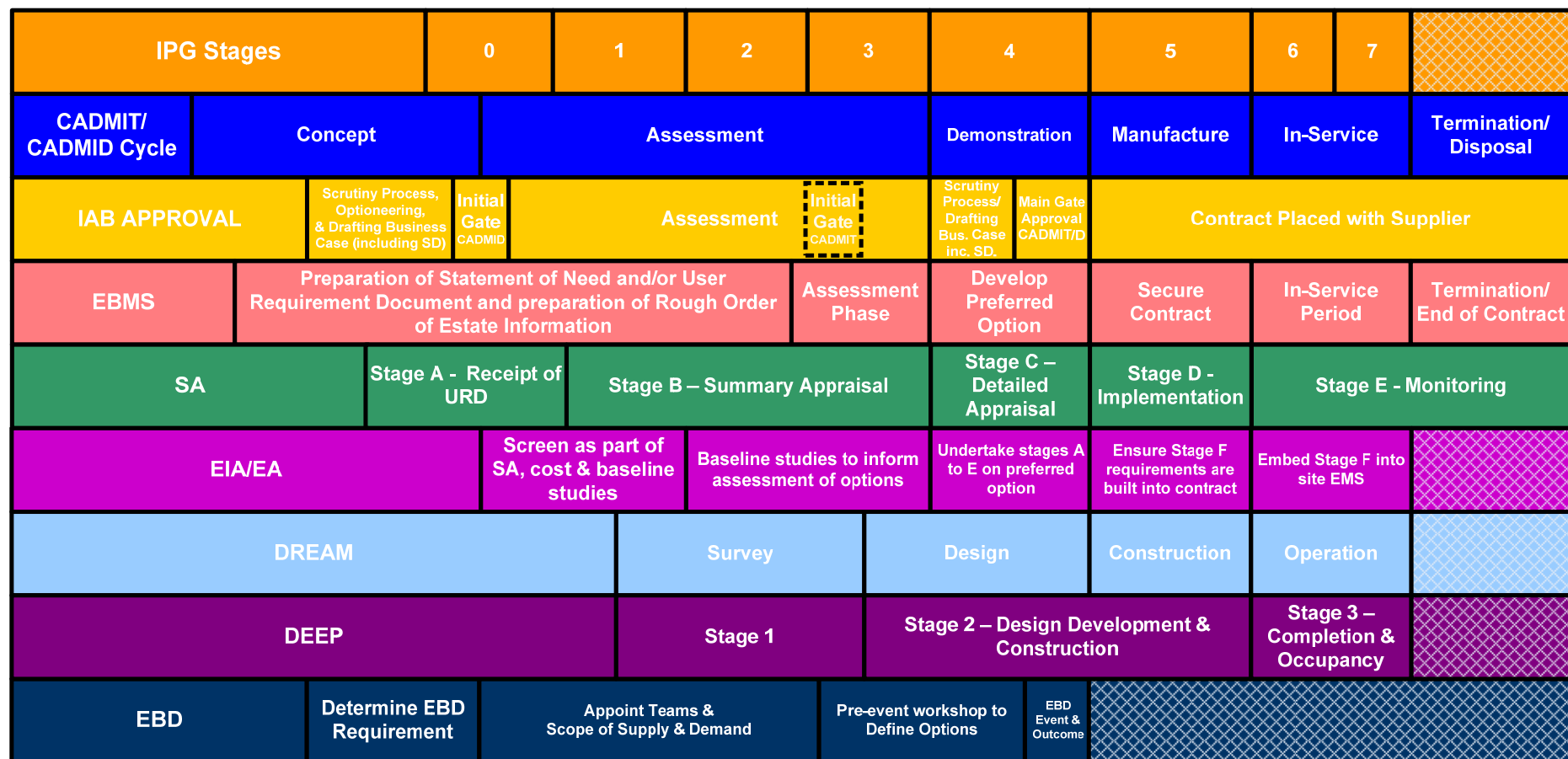
Box 3.5 Sustainability Appraisal and Planning Framework documents

In certain situations MOD will aim to have its land use and development planning aspirations (e.g. Integrated Estate Management Plans or Master Plans for site development) formally accepted as part of the Local Planning Authority's Local Development Framework. In these cases a statutory Sustainability Appraisal of the proposals will be required which is of a comparable standard to that used by the Local Planning Authority.

It is essential that early consultation takes place with the Local Planning Authority to confirm the scope and approach required in the Sustainability Appraisal. The objectives and scope of the Appraisal may need to be tailored to match that of Local Planning Authority.



Figure 3.1 Relationship between Sustainability Appraisal (SA), the CADMIT/D cycle, Defence Estate's Estate Business Management System (EBMS), the Investment Approvals Board (IAB) process, Integrated Project Guide (IPG) stages, Environmental Impact Assessment (EIA) / Environmental Assessment (EA), Defence Related Environmental Assessment Methodology (DREAM), Defence Excellence Evaluation Process (DEEP) and Enquiry by Design (EBD)



Timeline of events in relative terms

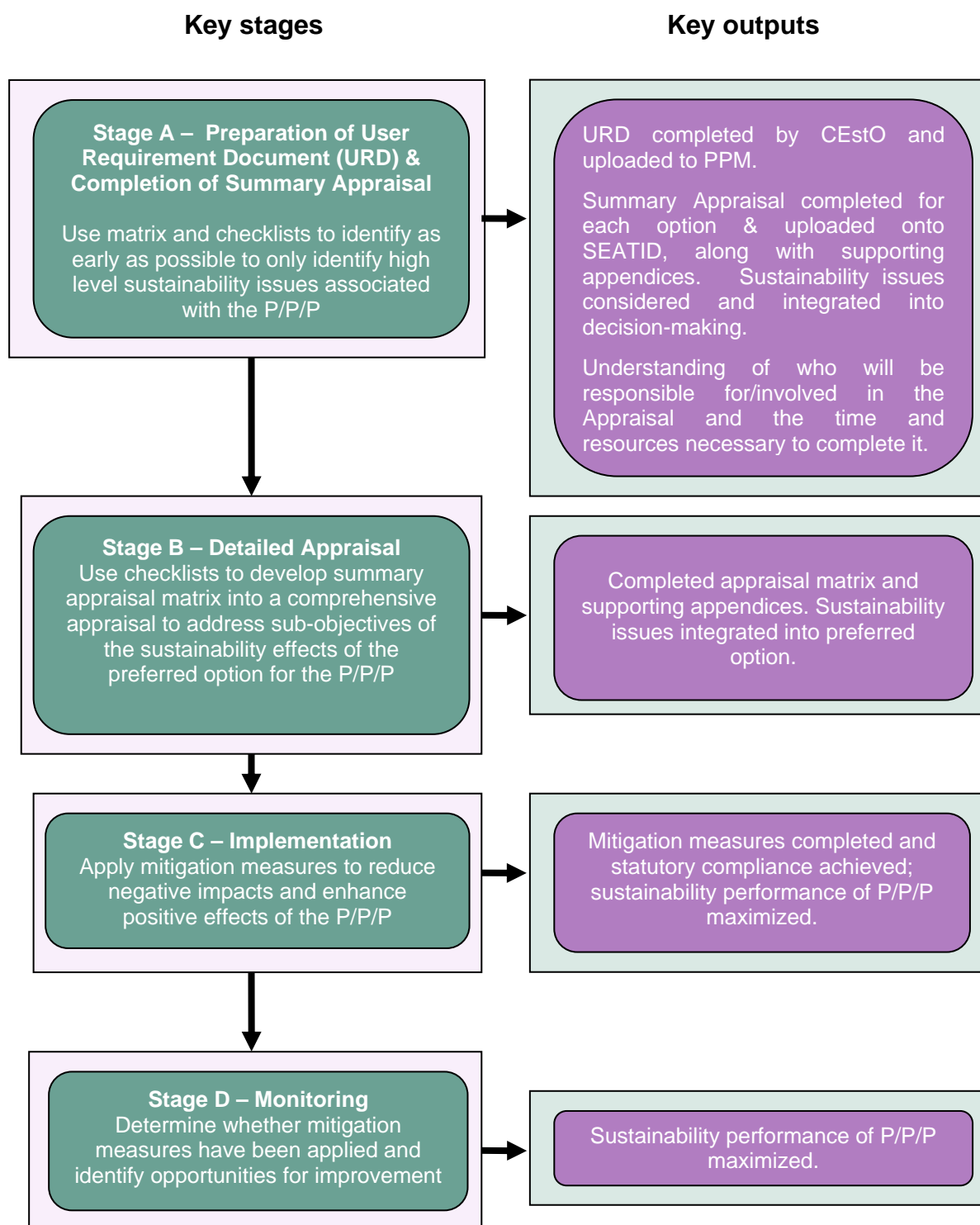
3.2 HOW TO UNDERTAKE A SUSTAINABILITY APPRAISAL

INTRODUCTION

3.2.1 This chapter provides practical guidance on how to undertake a full Sustainability Appraisal and ensure that its findings are used effectively. The exact approach can be tailored to individual circumstances, and the guidance is designed to be sufficiently flexible for all types of P/P/P. A quality assurance checklist is provided in **Appendix 3H** which can be used at any stage of the Sustainability Appraisal to help ensure that it meets MOD requirements. In the case of minor new works please refer to Section 3.3. Table 3.4 explains how to apply the guidance to specific MOD management processes and types of activity, namely:


- The Estate Business Management System (Projects Process 1.3);
- Procurement of new equipment;
- Disposals and demilitarisation activities;
- Military training and test and evaluation.

3.2.2 In the case of minor new works, please refer to Section 3.3 for further information.

Figure 3.2 Key stages and outputs of a Sustainability Appraisal

Please Note: Originally, summary and detailed appraisal matrices existed as separate documents. Now, a single SA matrix exists which should firstly be completed to form a summary appraisal and this should be developed into a detailed appraisal, enabling SA to exist as a living document.

Box 3.6 Comparison of a Summary & Detailed Appraisal

Summary Appraisal	Detailed Appraisal	
At an early stage use the checklists (appendix 3E) to obtain a better understanding of each sustainability theme. Then complete the matrix (appendix 3A) for each option by only considering the high-level issues by assessing the performance against the overall theme objective.	When completing the detailed appraisal, develop the summary appraisal by using the checklists and developing it to give greater detail. Do this by providing commentary on the theme sub-objectives and how each option will impact the sustainability themes. .	

GUIDING PRINCIPLES**Responsibility for completing the Sustainability Appraisal:**

- 3.2.3 Responsibility for undertaking the Sustainability Appraisal sits with the Integrated Project Team Leader (IPTL), lead decision-maker or Project Manager (i.e. the post that holds responsibility at each stage of the P/P/P). For example:
- On estates projects the Customer Estate Organisation (CEstO) is responsible for preparing the User Requirement Document (URD) and the Sustainability Appraisal that sits alongside it. This responsibility along with the need for further development and implementation/monitoring will then transfer with the delivery stages of the project to the Defence Estates Project Manager and on to the Contractor/Partner (although these responsibilities can be delegated to a private partner the responsibility remains with the MOD to ensure that an SA is completed and that it meets the required standard);
 - In equipment acquisition, responsibility for the programme sits with the Integrated Project Team Leader for the life of the programme as does the completion of the Sustainability Appraisal and undertaking any further statutory appraisals.
- 3.2.4 The specific task of undertaking the Sustainability Appraisal may be delegated by the Integrated Project Team Leader or Project Manager to appropriate individual(s) within the project team, such as environmental or sustainability specialists, or commissioned from consultants.

Stakeholder Involvement

- 3.2.5 Experience in MOD shows that it is valuable for the Sustainability Appraisal to involve the wider team of people responsible for delivering the P/P/P, including budget holders and Defence Estates or Top Level Budget environmental advisors. Individuals with specialist expertise on particularly important topics or insight into the conditions at specific sites affected by the P/P/P can also make a valuable contribution, particularly at the detailed appraisal stage. You should always ensure that the people involved in the P/P/P are aware of the Sustainability Appraisal and its findings.
- 3.2.6 Sustainability Appraisals are inherently subjective exercises and different people approach them with different perspectives and knowledge, so it is good to get mixed views and contributions. The involvement of a wider group of people also helps to raise awareness of sustainability issues among individuals responsible for implementing the P/P/P. The involvement of project leaders and budget holders is particularly important to get high level buy-in from management who have the authority to ensure that the findings of the Sustainability Appraisal are accounted for within the decision-making process.
- 3.2.7 The involvement of external stakeholders can help the appraisal team gain a better understanding of issues. This should improve the accuracy of impact predictions (i.e. by making the Sustainability Appraisal more informed by a wider range of local or specialised

knowledge) and help to identify and address areas of potential conflict at an early stage, minimising risk of delays. Opportunities are also provided to build trust and increase understanding of MOD activities.

- 3.2.8 An effective way of involving people, particularly for larger P/P/Ps, is to invite them to an appraisal workshop to work through the summary matrix (matrices) and/or detailed checklists.

Organising an appraisal workshop

- 3.2.9 Holding an appraisal workshop with contributions from a range of stakeholders is the most effective way of completing the summary and detailed matrix (matrices). The following point can help to produce a successful workshop:

- Invite a wide range of people involved in the P/P/P, to get a range of knowledge and opinion. The involvement of site-based staff can be particularly important as they are often the most well-informed of potential impacts on a particular site;
- Encourage attendance by high level decision-makers and budget holders, to help inform decisions and allow mitigation measures to be funded;
- Consider opportunities to invite external organisations, e.g. the Environment Agency or local Town or Parish council, to contribute specialised or local knowledge. You may want to involve internal and/or external stakeholders, particularly for larger P/P/Ps. In deciding whether or not to involve stakeholders, consider the nature and scale of the P/P/P, who may be interested in the P/P/P or affected by it, how much influence stakeholders can have over outcomes and whether specialised input is required on particularly complex or important issues;
- Circulate Sustainability Appraisal materials (e.g. summary matrix [Appendix 3B] and appraisal checklists [Appendix 3F]) and information about the P/P/P in advance so that attendees can become familiar with the appraisal method and likely issues.
- Use a laptop and projector to enter the Appraisal findings directly to the Sustainability and Environmental Appraisal Tools Information Database (SEATID) – ensure a Microsoft Word format is used to record and upload the data, whilst ensuring project information is entered/registered onto SEATID and that the statutory assessment form (appendix 3C) is also completed and uploaded. Where a direct LAN internet connection is not available, which is often the case; the forms should be uploaded onto the laptop prior to the workshop and then downloaded onto SEATID as stand-alone documents.
- Ensure that a mechanism is in place to feed back the findings to the people involved to ensure an accurate and agreed record of discussion and decisions. SEATID allows MOD users and most contractors to do this online.
- In all instances, organisers are urged to carefully plan workshops in an attempt to minimise costs and maximise the use of time with attendees. For instance, the use of teleconference facilities can reduce the need for travelling and can dramatically decrease costs incurred when it is necessary to engage with external stakeholders. Equally, allocating time slots for each stakeholder will ensure their time is efficiently utilised. This may avoid the need for certain stakeholders to attend sections of the workshop that are irrelevant to their area of interest. Don't forget that undertaking an appraisal workshop will increase the indicative resource requirements for undertaking the appraisal. The workshop may last from just one or two hours to a whole day, depending on the complexity of the P/P/P. Hence, requiring external stakeholders to unnecessarily attend a section of the workshop that are of no interest to them, is poor use of their time and will increase the costs incurred for the SA.

Box 3.6 Hints and tips for stakeholder engagement and public consultation throughout the P/P/P and SA



Who are my stakeholders?

Stakeholders are people who have an interest in or may be affected by the P/P/P that is being appraised.

Stakeholders are often specific to each project, but Internal stakeholders may include:

- End users of the P/P/P; (Customer 1 and Customer 2 reps)
- Defence Estates personnel (incl DTE if necessary)
- Staff Liaison committees;
- Subject specialists – e.g. Bridage or site energy managers, Top level Budget infrastructure representatives, CESOs or Brigade or Site Environmental Protection Officers.

External stakeholders may include (once again, these will be specific to the project and will be dependent upon the type and sensitivity of the activity):

- Statutory environmental protection bodies – e.g. the Scottish Environmental Protection Agency, Countryside Council for Wales, Northern Ireland Environment Agency, English Heritage or Natural England;
- Local and regional government – e.g. Town or Parish Councils, Local Authorities and Regional Development Agencies;
- Service and transport providers – e.g. the Highways Agency, Primary Care Trust and the Police;
- Non-government organisations (NGOs) representing environmental, social or economic interests – e.g. the Royal Society for the Protection of Birds (RSPB), Ramblers Association and Chamber of Commerce;
- Community groups – e.g. residents' associations, local wildlife trusts and youth groups.

How should I involve external stakeholders?

Broadly speaking, stakeholder engagement and community consultation for a P/P/P are likely to involve either informing or involving people:

- Informing people: use tools such as leaflets, newspapers or the internet to present people with information and updates. There is an official consultation section on the MOD website that can be used to disseminate information and reach the wider public audience;
- Involving people: work with existing liaison groups (e.g. town or parish council liaison committees) or initiate new procedures such as meetings, workshops or exhibitions to actively encourage people to give their views.

3.2.10 MOD has procedures and guidelines for stakeholder engagement and public consultation, depending on the issues concerned and the audience sought, which should be referred to.

Box 3.8 Illustrative example – the benefits of community consultation and stakeholder engagement



The Sustainability Appraisal of disposal of MOD land at Aldershot for a commercial development project involved a facilitated workshop. The workshop was aimed at key stakeholders and included Defence Estates, military customers, the Local Planning Authority and consultants. Issues raised at the workshop included the impacts of the development on highways, a Special Protection Area (European designated site for the protection of birds) and town centre shopping. The stakeholders helped to identify and address weaknesses in the development proposal as well as positive attributes. This has improved the image and profile of the MOD as well as providing a basis for a sustained relationship with stakeholders during the various stages of the development.

Seeking advice within MOD

- 3.2.11 Sustainable development specialists in MOD are available to provide guidance on Sustainability Appraisal, quality-check the findings and provide advice on MOD approved contracts for external consultancy support. Contact details are provided in Box 3.10. **In all instances users are advised to utilise and exhaust internal MOD expertise and resources prior to seeking external consultant support.**

Box 3.9 Support available during a Sustainability Appraisal



Policy advice

The Defence Estates Property Directorate Sustainable Development Team can provide policy advice relating to the application of Sustainability Appraisal, defence exemptions, best practice and policy guidance. Their contact details are:

Email: sustainable.development@de.mod.uk
Telephone: civilian – 01225 883106; military – 9355 83106

Implementation advice

The Sustainable Development Support Team (part of the Environmental Advisory Services in Defence Estates, formerly known as the Sustainability Advisory Team) can provide a wide range of assistance, including:

- Helping to plan a Sustainability Appraisal;
- Facilitating appraisal workshops;
- Reviewing the quality of completed Sustainability Appraisals;
- Auditing and evaluating completed Sustainability Appraisals;
- Directing you to other subject specialists or appropriate consultants;
- Awareness-raising presentations and training sessions.

Their contact details are:

Email: estsustainability@de.mod.uk
Telephone: civilian – 01980 674869; military – 94325 4869

Other advice

Specialist advice and assistance on environmental and sustainability issues is available from officers in the wider Defence Estates Professional Services Team, Top Level Budget Chief Environmental and Safety Officers (CESOs), Customer Estates Organisation (CEstOs) and regional or establishment Safety, Health, Environment and Fire (SHEF) Officers.

Resources required for completing a Sustainability Appraisal

- 3.2.12 A Sustainability Appraisal must be adequately staffed and resourced. The effort required varies, depending on the complexity of the P/P/P, magnitude of likely impacts and whether stakeholders are involved. Table 3.2 provides broad estimates for the number of days required to complete each stage of a Sustainability Appraisal.

Table 3.2 Indicative resource requirements for Sustainability Appraisal

Sustainability Appraisal stage	Estimated number of working days (one person full time equivalent)
Stage A Preparation of URD	Approximately half a day.
Summary Appraisal	Approximately half to two days to complete, depending on the number of options appraised, level of detail available and who is involved
Stage B Detailed Appraisal	Approximately one to three days to complete, depending on the size and complexity of the preferred option, requirements for background research and involvement of subject specialists and/or external stakeholders
Stage C Implementation	Ongoing
Stage D Monitoring	Ongoing

STAGE A – PREPARATION OF URD & COMPLETION OF SUMMARY SUSTAINABILITY APPRAISAL

PREPARATION OF URD

- 3.2.13 The User Requirement Document (URD) forms part of the Integrated Projects Guide process and sits outside of SA tool. However, the close relationship between these parallel processes makes it an integral part of enabling the SA process. Once the Statement of Need has been produced, the URD should be produced in conjunction with the Summary SA.
- 3.2.14 Contact your CEStO or project manager for further information on completing the URD. Alternatively further guidance can be found in the [Integrated Projects Guide \(IPG\)](#) and the [URD Guidance Notes](#).

SUMMARY APPRAISAL

Introduction

- 3.2.15 The aim of the summary appraisal is to identify as early as possible the likely sustainability issues and risks associated with the P/P/P (refer to Fig 3.1 for when this should be completed), as well as:

- What mitigation measures are necessary to reduce negative impacts and enhance positive outcomes;

- What further statutory/policy-level assessments or research are necessary to implement the P/P/P;
- Associated costs and resource implications.

- 3.2.16 Ideally, alternative options for the P/P/P will be available (e.g. choice of location, type of equipment or nature of development), in which case each option is appraised separately against a 'do nothing' option. The findings are then compared to determine which option has the strongest sustainability performance.
- 3.2.17 Decision-makers and budget holders can then use the appraisal findings to inform the choice and/or design of a preferred option (Initial Gate Business Case).

Box 3.10 Illustrative example – risks of undertaking Sustainability Appraisal too late

A Sustainability Appraisal undertaken late in the disposal process of an army training camp highlighted that the site was of interest to Historic Scotland, who later sought to give the site legal protection. Defence Estates now has significant financial liability to look after the site whilst protracted negotiations take place about its future. If the Sustainability Appraisal had been carried out before the closure decision was taken, the risk associated with the heritage status of the site could have been highlighted from the outset of the disposals process. It may have been far more cost-effective to keep the site open and dispose of a more profitable alternative.

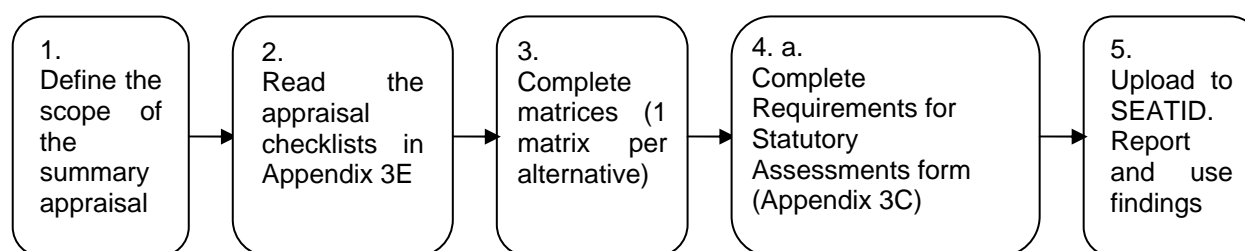


- 3.2.18 Note that, if the sensitivity, complexity or level of scrutiny of the P/P/P requires a more thorough level of evaluation even at this early stage, you can progress directly to the detailed appraisal (Stage C).

Approach

- 3.2.19 The steps in the summary appraisal are illustrated in Figure 3.3. The main body of work involves scoring the P/P/P against sixteen sustainability objectives in the appraisal matrix. **If several alternative options are being considered, then a separate matrix is completed for each option.** A blank template is provided in Appendix 3C and available to download from the Sustainability and Environmental Appraisal Tools Information Database (SEATID).

Figure 3.3 - Summary appraisal steps



Step 1 – Define the scope of the summary appraisal

- 3.2.20 Clearly define at the outset the scope of the P/P/P that will be appraised, including alternative options if these are available. For example, if three discrete sites are being closed to create one new combined site elsewhere, you need to decide whether to undertake a separate sustainability appraisal for each site or to cover all of the sites in one appraisal (note however that whilst it is permissible to give overall scores for the P/P/P as a whole, you cannot cancel out positive and negative scores at different sites).

- 3.2.21 Decide whether you are going to appraise the through-life impacts of a P/P/P (recommended) or whether your appraisal will only cover impacts over a specified timescale. Record any exclusions to the scope of your appraisal and underlying assumptions.
- 3.2.22 The impacts of the P/P/P should be appraised against what would happen under a 'business as usual' or 'do nothing' scenario; i.e. the situation that would exist without the P/P/P being implemented. This will establish the existing baseline against which impacts can be assessed. Ensure that you understand what this scenario would be.

Step 2 – Read appraisal checklists in Appendix 3E.

- 3.2.23 Familiarise yourself with the variety of potential issues and impacts and how the elements of the P/P/P may relate to each sustainability objective.

Step 3 – Complete appraisal matrix (or matrices) – Appendix 3A.

- 3.2.24 Remember to complete a separate summary matrix for each P/P/P option that is appraised and allocate an impact for the P/P/P against each sustainability objective
- 3.2.25 Begin by assessing the likely sustainability impact of the P/P/P against each high level sustainability objective (overall theme objectives) by giving a score on the scale from A (major positive impact) to E (major negative impact). Record the score with a '✓' (copy and paste the one on the form as required) in the appropriate box in the 'score' column. If you don't have enough information to confidently predict what the impact is likely to be, then use a question mark instead of a tick.

A	B	C	D	E
Major positive impact	Minor positive impact	No impact	Minor negative impact	Major negative impact

- 3.2.26 When allocating a score, you must think about whether the impact is likely to be:
- Positive or negative;
 - Major or minor;
 - Long or short term.
- 3.2.27 Information on how to consider these issues (for the purposes of this guidance an issue is an aspect of a project that will result in either a positive, negative or neutral impact) is provided below. In addition, examples of score allocations are provided within the relevant appraisal checklist for each sustainability objective. Remember that scoring is done without taking mitigation measures into account, unless these have already been clearly defined and resourced as part of the P/P/P option.

Is the impact likely to be positive or negative?

- 3.2.28 Sustainability Appraisal does not give 'right' or 'wrong' answers. The purpose is to explore, justify and record whether issues are significant or insignificant, and demonstrate how they have been addressed in the P/P/P. Nonetheless, many users worry about how negative scores will be perceived and are therefore reluctant to give them. Remember that:
- Nearly all P/P/Ps will have both 'positive' and 'negative' impacts – Sustainability Appraisal aims to arrive at an optimal solution in the face of potential conflicting impacts. Negative impacts are not necessarily detrimental to the success of a P/P/P; indeed, identifying them presents an opportunity to take action that may ultimately strengthen the success of the P/P/P.

- It is important to be open with the Local Planning Authority, public and other stakeholders about the likely effects of the P/P/P. Doing so helps to build trust and demonstrate that the MOD is proactively identifying potentially significant effects and exploring ways to address them. The report accompanying the Sustainability Appraisal can explain the channels and mechanisms by which further work will be achieved.
- The Sustainability Appraisal may be audited by Defence Estates or requested by an external stakeholder. Bias in the Appraisal towards un-warranted positive scores will be noted and may erode trust in the robustness of the Appraisal with external groups.

Is the impact likely to be major or minor?

3.2.29 Use the criteria listed in Table 3.3 to help to determine whether impacts are likely to be major or minor.

Table 3.3 Criteria for the determination of major and minor impacts

Major impact	Minor impact
Extensive	Localised
Will affect many people	Will affect few people
Large change in environmental conditions	Small change in environmental conditions
Effect will be unusual or particularly complex	Effect will be ordinary or simple
Will affect valuable or scarce features or resources	Will not affect valuable or scarce features or resources
High risk that environmental standards will be breached	Lower risk that environmental standards will be breached
High likelihood that protected sites, areas or features will be affected	Lower likelihood that protected sites, areas or features will be affected
High probability of effect occurring	Lower probability of effect occurring
Long term / permanent	Short term / temporary
Irreversible	Reversible
Mitigation difficult	Mitigation easier

Is the impact likely to be short or long term?

For each issue, the appraisal matrix has separate rows that allow you to give separate scores for the likely short and long term impacts of the P/P/P. This is likely to be particularly relevant to P/P/Ps that involve construction, where impacts may be negative and require mitigation in the short term, but are positive in the long term. For P/P/Ps where there is no major distinction between short and long term impacts, you can merge the two rows and simply allocate a single overall score.

Box 3.11 Examples of typical short term sustainability impacts and their resulting long-term impacts**Short term impacts**

- Noise, dust and disturbance arising from construction & demolition activities;
- Temporary loss in public access to MOD land or facilities;
- Reduction in local economic activity resulting from withdrawal of MOD presence.

Long term impacts

- Energy savings from construction of more energy efficient buildings;
- Better public access to MOD land or community facilities;
- Release of land for employment and business use.

Provide commentary to explain each score

3.2.30 Whatever the score given, use the 'commentary' box to explain it and briefly summarise the main positive or negative issues and impacts. **If 'no impacts' or uncertain impact are recorded, you must use the 'commentary' box to explain why this is the case.**

Box 3.12 Additional tips for impact prediction and scoring

- The overall aim of Sustainability Appraisal is to integrate and optimise the whole spectrum of sustainability issues into a P/P/P, not trade off one against the other. It is not acceptable to cancel out poor performance in some objectives with gains in others. All are used to inform the decision-making in the P/P/P.
- Impacts are considered throughout their lifecycle where practicable, i.e. from acquisition of raw materials, through construction or operational phases, to decommissioning and disposal.
- A precautionary approach must be adopted when stating whether there is an impact or not. If there is not enough information to state with reasonable certainty that there is no impact, then the impact should be recorded as uncertain. Sustainability Appraisal should identify potential issues, rather than generate definitive statements or predictions. Lack of scientific certainty, baseline information or quantifiable data is not a basis for deciding that there are no impacts.
- When identifying impacts, it is important to look beyond the direct influences of a P/P/P. Boundaries have to be set on the appraisal scope, but the P/P/P may generate significant indirect or off-site impacts. Some effects of a P/P/P may be insignificant in themselves, but when considered in combination with other activities nearby or at the same time give substantial cumulative (overall) effects. Estate Advisers or Establishment Heads can offer strategic perspectives on activities. Appraisals should also acknowledge the context of local impacts in the public or private sector, beyond MOD control.
- Finally, don't forget that the real value of Sustainability Appraisal is to get people thinking about sustainability issues to inform decision making and identify actions to improve the sustainability performance of MOD. Scoring helps to facilitate this but is not an end in itself.

Summarise further action required

3.2.31 Use the 'action required' boxes to summarise further action that would be necessary to develop the P/P/P, for example:

- Mitigation measures necessary to minimise the negative impacts of the P/P/P or take advantage of opportunities to increase its sustainability performance (for example, disposal of a site may require remediation of contaminated land but provide opportunities for returning the land to community use). Examples of mitigation measures are provided in the appraisal checklists in Appendix 3F.
- Further assessments necessary to analyse in detail the likely effects of the P/P/P;
- Further research necessary to provide information on key issues or resolve uncertainties;
- An estimate of the costs associated with implementing the P/P/P, given the above (for example, it may be necessary to engage consultants to undertake additional assessments).

Step 4 – Complete the Requirements for Statutory Assessments form

3.2.32 Complete the Requirements for Statutory Assessments form to highlight the need for statutory assessments of the P/P/P, e.g. Strategic Environmental Assessment, Environmental Impact Assessment, Land Quality Assessment etc. It is essential that this is undertaken early in the life of the P/P/P to identify the additional funding, risks and time that these assessments might require. The form is provided in **Appendix 3C** and available on SEATID.

Box 3.13 Identifying the need for Strategic Environmental Assessment (SEA)

<p>It is important to decide whether a Strategic Environmental Assessment is required early in the decision-making process for plans and programmes. This is because Strategic Environmental Assessment is a statutory requirement for certain plans and programmes that MUST be used to assess the environmental effects of the plan or programme and reasonable alternatives. The findings MUST be considered in decision-making. In addition, consultation with specific statutory environmental protection bodies MUST be undertaken at specific stages in the Strategic Environmental Assessment process. Strategic Environmental Assessment cannot therefore be done retrospectively, after a plan or programme has been finalised.</p>
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<p>Detailed guidance on when and how to undertake Strategic Environmental Assessment is contained in Section 2 of the Handbook..</p>
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**Step 5 – Report and use findings**

3.2.33 Decide whether, if several alternative options for the P/P/P have been appraised, you want to complete the matrix for the comparison of alternative options (**Appendices are available for download from the [Defence Intranet](#) and [Sustainable Development Information Portal](#) in a Microsoft Word format**). The matrix will help you to summarise and compare the scores for different options. If necessary, separate comparative matrices can be completed for short and long term impacts.

3.2.34 **It is imperative that project teams ensure the report is of the highest standard so that the decision making process is clearly evident and is supported by the relevant**

information. In an effort to maintain high SA standards, a Quality Assurance mechanism is in place that can review any SA at any time. To assist project teams in achieving high quality SA outputs and reports, a Quality Assurance Checklist has been produced in Appendix H.

- 3.2.35 Compile a brief covering report to accompany the completed summary matrix/ matrices and Statutory Assessments form, The appraisal report should provide background information on the P/P/P (e.g. who is responsible for it and details of specific sites affected) and how the summary appraisal has been undertaken (e.g. who was involved). A report template is available in **Appendix 3D** and to download from the Sustainability and Environmental Appraisal Tools Information Database.

Box 3.14 Importance of the Sustainability Appraisal report



A summary report is essential because it:

- Gives essential context and background to the appraisal for users and auditors
- Can be passed to people involved at subsequent Appraisal stages to provide information on what was appraised and how;
- Provides details of the people responsible for implementing the P/P/P with a formal record of the Appraisal findings;
- Provides an auditable document which can be referred to at a later date to see how sustainability issues have been considered in MOD. This information may be required under the Freedom of Information Act or Environmental Information Regulations;
- May be required to support a planning application and associated public consultation.

- 3.2.36 Ensure that decision-makers and budget holders are aware of the importance of the Sustainability Appraisal and can use its findings to inform the selection and/or development of a preferred option for the P/P/P. Sustainable development should be considered alongside other factors such as cost and operational need when making decisions about the choice and/or design of a preferred option for a P/P/P. Ideally, the relevant individuals will already have been involved in the Sustainability Appraisal, for example through participation at an Appraisal workshop (see paragraph 3.2.6 and Box 3.7).
- 3.2.37 Include the major findings of the summary (top-line) appraisal (e.g. significant effects, requirements for statutory assessments and risks) in the Investment Appraisal Business Case.

Stage A Outputs

The key outputs of the summary appraisal are:

- A completed matrix (or matrices where alternative options have been appraised), submitted to the Sustainability and Environmental Appraisal Tools Information Database;
- A completed Requirements for Statutory Assessments form (Appendix 3B), submitted to the Sustainability and Environmental Appraisal Tools Information Database;
- A covering sustainability appraisal report (all of the above submitted to SEATID)

- Awareness among decision-makers and budget holders of sustainability issues and any statutory assessment requirements to be taken into account in the choice and/or development of a preferred option.

Stage A Completion

- 3.2.38 Once completed, the URD should be uploaded to PPM (Programme and Project Management tool) and the Summary Appraisal should be uploaded to SEATID and forwarded to Defence Estates – for further information on completing the URD and the wider project delivery under core works please refer to the [URD Guidance Notes](#) and [Integrated Project Guide](#) respectively.

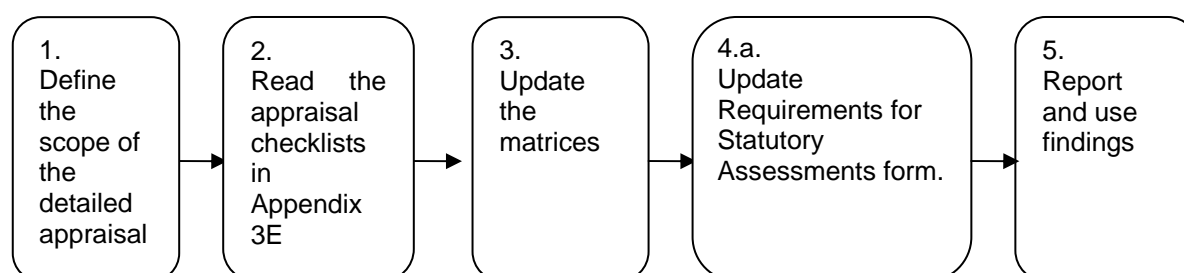
STAGE B – DETAILED APPRAISAL

- 3.2.39 The aim of the detailed appraisal is to provide a comprehensive assessment of the likely sustainability impacts, mitigation measures and requirements for further assessment or research of the preferred option for the P/P/P. It builds on the findings of the summary appraisal but is more quantified and detailed, as once a preferred option has been selected there is greater clarity on the intended outcome and detailed local site issues (refer to Fig 3.1 to obtain an overview of when to carry out this stage its relationship to other key project processes)
- 3.2.40 The findings of the detailed appraisal should be used to influence the detailed design and development of the final P/P/P.

Approach

- 3.2.41 The steps in the detailed appraisal stage are illustrated in Figure 3.4. The main body of work involves reviewing Appendix 3E, a series of sixteen checklists, one for each sustainability objective, which require you to decide what impact the P/P/P is likely to have on a range of potential issues associated with each sustainability objective. **Appendix 3E should be used as an aide memoir in the completion of the detailed appraisal. To avoid duplication, users should update and develop their summary appraisal to produce a detailed appraisal, rather than attempt to record it separately.**

Figure 3.4 Detailed appraisal steps



Step 1 – Define the scope of the detailed appraisal

- 3.2.42 Clearly define the boundaries of the P/P/P that is being appraised (see paragraphs 3.2.20 to 3.2.22).
- 3.2.43 Use the summary appraisal, if completed, to scope which impacts and sustainability objectives should be the focus of the detailed appraisal. The summary appraisal may have identified sustainability objectives which are unlikely to be affected by the P/P/P (i.e. where 'no impact' has been recorded in the appraisal matrix); and it is probably unnecessary to complete more

detailed assessment for these objectives. This is particularly likely to be the case for smaller P/P/Ps with a limited range of impacts. Alternatively, the summary appraisal may have identified particularly important or complicated issues where you may require specialist expertise, background information and/or research to complete the detailed appraisal.

Box 3.15 Undertaking research and finding background information



Sustainability Appraisal should be systematic, based on available data. Where such data does not exist it may be necessary to undertake additional studies. This means that decisions should be supported by as much evidence as possible, not just opinion. Appraisals should be informed by collection of baseline data, consultation with experts and awareness of the quality of information available. Try to:

- Use information that is readily available and accessible;
- Focus on significant issues and don't go into any more detail than is useful;
- Take advantage of MOD's wealth of experience on environmental, economic and social issues. Use the internal contacts listed in Appendix 3J.

Step 2 – Read Appraisal Checklists in Appendix 3E.

- 3.2.44 Ensure that everyone involved in the appraisal has read through the appraisal checklists in Appendix 3E to understand the variety of potential issues and impacts of the P/P/P.

Step 3 – Update the summary matrix to produce a detailed and comprehensive matrix

- 3.2.45 Decide what impact the P/P/P is likely to have on the potential issues listed in the checklists.
- 3.2.46 For each theme in the appraisal checklists (appendix 3E), decide whether the P/P/P is likely to have a positive, negative or no impact. The issues are phrased in a generic manner to promote interpretation and lateral thinking, but are by no means comprehensive. If necessary use the 'other issues' row at the bottom of each checklist to consider further issues within each theme.
- 3.2.47 Record your decision in the 'impact' column by placing a '✓' (copy and paste the one on the form as required) in the relevant column. If you are particularly uncertain about what an impact is likely to be, put a question mark next to the symbol.

A	B	C	D	E
Major positive impact	Minor positive impact	No impact	Minor negative impact	Major negative impact

- 3.2.48 For P/P/Ps where there is no major distinction between short and long term impacts, enter the same score in each column.
- 3.2.49 Refer to paragraphs 3.2.28 to 3.2.31 for additional guidance on how to decide whether impacts are likely to be positive or negative and short or long term. Remember that impacts are predicted without taking mitigation measures into account, unless these have already been clearly defined and resourced as part of the P/P/P.

Provide commentary to explain each impact

- 3.2.50 Use the 'commentary' column to explain why the impact has been recorded as positive, negative or no impact and any uncertainties in the appraisal. It is important to explain the

rationale behind judgements to illustrate that issues have been properly thought through. Summarise further action required

3.2.51 Use the 'action required' box to identify:

- Mitigation measures to minimise negative impacts and take advantage of opportunities to enhance the positive effects of the P/P/P;
- Requirements for further research to provide more information on major issues and resolve uncertainties;
- Requirements for further assessments and the appropriate tool to be used (e.g. Archaeological Evaluation, Habitats Regulations Assessment or Building Research Establishment Environmental Assessment Method [BREEAM]/Defence Related Environmental Assessment Methodology [DREAM]);
- Suggested mechanisms for ongoing management (e.g. Environmental Management System or Construction Environmental Management Plan);
- An estimate of the associated costs of the above.

3.2.52 To identify mitigation measures, assess whether there are opportunities in the P/P/P for:

- Enhancement – where there are no negative impacts, but measures are adopted to achieve a positive move towards the sustainability objectives (this is the optimum scenario);
- Avoidance or reduction – where negative impacts are avoided or minimised;
- Mitigation – where negative impacts occur but measures can be put in place to ameliorate them;
- Compensation – where negative impacts occur that cannot be mitigated (e.g. an area of habitat that is unavoidably damaged may be compensated for by recreating similar habitat elsewhere). Compensation is a last resort.

3.2.53 To incorporate mitigation measures, consider whether there are opportunities to:

- Change a specific part of the P/P/P;
- Include new provisions within the P/P/P;
- Apply technical measures during the implementation stage of the P/P/P (e.g. application of design principles);
- Identify issues to be addressed in other appraisals (e.g. Environmental Impact Assessment).

3.2.54 Check that the mitigation measures themselves do not cause negative impacts (for example, areas of habitat can be protected from military training activities by installing fences. However, if the area contains archaeological interest, buried features may be damaged by the fence posts).

Step 4 – Update Requirements for Statutory Assessments form (Appendix 3B)

3.2.55 Update the form for Requirements for Statutory Assessments to take account of new information about the P/P/P.

Step 5 – Report and use the findings

- 3.2.56 Using your summary appraisal to produce a detailed appraisal not only avoids duplication of work but also enables project managers and decision-makers to quickly view the main issues and actions required. It also allows you to see how the sustainability performance of the P/P/P has changed as it has developed.
- 3.2.57 Update the covering report completed at the summary appraisal stage, to accompany the detailed appraisal, updated Requirements for Statutory Assessments form. The report should contain additional information on how the findings of the Sustainability Appraisal have been taken into account so far.

Stage B Outputs

- 3.2.58 The key outputs of the detailed appraisal are:
- A completed sustainability appraisal, created with the aide of the checklists within Appendix 3F.
 - An updated Statutory Assessment form,
 - An updated covering report.
 - Once completed, these should all be submitted to SEATID

STAGE C – IMPLEMENTATION

- 3.2.59 Ensure that a strategy is in place to implement the actions identified by the Sustainability Appraisal. There is no single best way of achieving this. The following measures have proved successful in MOD:
- Incorporate actions into design briefs;
 - Incorporate actions into contractors' specifications;
 - Include actions on the risk and opportunity registers;
 - Identify named individuals to take responsibility for actions, incorporate sustainability objectives into performance review and provide the time and resources necessary to complete the work;
 - Include Sustainability Appraisal as a regular item at project meetings to ensure that actions are being delivered and to assess whether the P/P/P has changed significantly such that the Sustainability Appraisal should be revisited.
- 3.2.60 Actions may also be integrated into management systems such as:
- Sustainable Development Action Plans (SDAP);
 - Sustainability Management Systems (SMS)
 - Environmental Management Systems (EMS);
 - Project Orientated Environmental Management Systems (POEMS);
 - Integrated Rural Management Plans (IRMP);
 - Construction Environmental Management Plans (CEMP);
 - Integrated Environmental Management Plans (IEMP)
- 3.2.61 There are several additional MOD tools that can be used to ensure that actions are integrated into the design and construction elements of projects. If Defence Related Environmental Assessment Methodology (DREAM) or Design Excellence Evaluation Process

(DEEP) is to be applied, then beneficial mitigation measures, sustainable design criteria and the inclusion of innovative sustainable technologies add to the performance score that the P/P/P will receive.

- 3.2.62 Additional information on links between Sustainability Appraisal and other MOD tools and management systems is provided in Section 8 of the Handbook.

Box 3.16 Illustrative Example – Effective Implementation of Sustainability Appraisal Findings



The Sustainability Appraisal of a £4.5m military court centre at Bulford illustrates how Appraisal findings can be successfully integrated into project planning, design and management:

- The Sustainability Appraisal was undertaken at the Assessment Study phase. This meant that the findings could be fed into the planning process and formed part of the Main Gate Business Case;
- The Sustainability Appraisal identified the need for an archaeological evaluation which was subsequently carried out;
- Initially the project was to be subject to Building Research Establishment Assessment Method (BREEAM) at a cost of £40k per building. The Sustainability Appraisal identified that it would be more cost effective to adopt in-house design standards and assessment measures, rather than a bespoke BREEAM certification;
- The Sustainability Appraisal raised issues such as grey water harvesting and procurement of local materials and labour. The findings were incorporated into the project design and project management plan.

STAGE D – MONITORING

- 3.2.63 Where practicable, put in place a strategy to monitor the sustainability impacts of implementing the P/P/P.

Box 3.17 Benefits of Monitoring



Monitoring the sustainability impacts of a P/P/P can help to determine:

- Whether the sustainability performance of the P/P/P is as predicted – this information allows actions to be taken to remedy problems and enhance positive outcomes and can help to improve the accuracy of predictions in future Sustainability Appraisals;
- Whether actions identified by the Sustainability Appraisal have been implemented;
- Whether mitigation measures have been successful.

- 3.2.64 The most effective and efficient method of monitoring sustainability impacts is to integrate this into existing monitoring systems such as those in an Environmental Management System. The Sustainability and Environmental Appraisal Tools Information Database also provides a mechanism for monitoring impacts.

Box 3.18 Hints and tips for monitoring

- Integrate monitoring arrangements into existing plans and monitoring systems (e.g. an IEMP or Environmental Management System);
- Use existing sources of monitoring information, rather than attempting to collect new data;
- Build into the SDAP and/or SMS;
- Focus on significant effects and do not try to monitor everything;
- Consider both adverse and beneficial impacts.

Application of sustainability appraisal to different types of management process

3.2.65 Sustainability Appraisal is sufficiently flexible to be applied to the wide variety of MOD management process for P/P/Ps *that affect the defence estate*. To illustrate how Sustainability Appraisal can be used in different circumstances, table 3.4 provides information on specific issues to be consider when appraising:

- Projects falling under the Business Management System Projects Process 1.3;
- Procurement of new equipment;
- Lands disposals;
- Training activities
- Information relating to the application of SA to Minor New Works can be found in Section 3.3

Table 3.4 Application of Sustainability Appraisal to different management processes


Stage	EBMS process			
	Estate Business Management System Projects Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
Summary	<p>The majority of MOD Sustainability Appraisals are undertaken alongside projects following the 1.3 Process. The Appraisal stages follow the clearly defined procedure within the 1.3 Process (see Figure 3.1).</p> <p>It is particularly important that the Appraisal begins early as the User Requirement Document (URD) is being developed to identify key issues that may affect the success of the proposed project. The Appraisal should be highly iterative – as greater clarity emerges on the proposed design and outcomes of the project the findings from earlier stages should be revised and updated. However, a Sustainability Appraisal can still be initiated at any stage.</p> <p>The Sustainability Appraisal findings should be built into the Investment Appraisals Business Cases at key authorisation</p>	<p>A summary appraisal must be undertaken as part of the EMP 01 stage in POEMS. Actions (including the requirement for any statutory assessments) and significant issues identified should be added into the EIA plan as part of EMP 03.</p> <p>The Sustainability Appraisal may for example identify that a new piece of equipment has significant environmental impacts on training locations and provide a trigger for the requirement for statutory appraisal tools such as Habitats Regulations Assessment (see Section 5 of the Handbook).</p> <p>Sustainability Appraisal should begin at the</p>	<p>Disposals (which fall under Business Management System Process 1.5.7) can be difficult to appraise because there is often little information on the after-use of the site(s) in question and therefore uncertainty over many impacts.</p> <p>However, Sustainability Appraisal can be useful for highlighting issues and risks that may influence future site use (e.g. if a site incorporates or is adjacent to protected areas) and recommending the types of development that</p>	<p>Generally, the impacts of training activities on the defence estate are managed at site on a day-to-day basis by Standard Operating Procedures, site specific instructions and locally agreed restrictions (e.g. through quotas on available training days), as well as guidance in Environmental Management Systems and Integrated Rural Management Plans/Integrated Land Management Plans.</p> <p>Exercise planners should however carry out a Sustainability Appraisal to accompany requests/proposals that involve significant changes to existing training patterns or activities or new large scale exercises (including those overseas). Sustainability Appraisals may be also completed for new Training On Private Land activities.</p>

Stage	EBMS process				
	Estate System	Business Projects Process 1.3 / IPG	Management of new equipment	Land disposals	Training activities and Test and evaluation activities
	stages such as Initial Gate.	earliest opportunity during Concept Phase.	possible during	may be appropriate. An SA will also be required where the MOD obtains outline planning permission prior to sale.	

Stage	EBMS process			
	Estate Business Management System Projects Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
Stage A – URD & Summary Appraisal	<p>URD Complete User Requirement Document (URD) (Refer to the URD Guidance Notes and Integrated Project Guide)</p>	<p>Complete a summary matrix during the concept phase of CADMID/ CADMIT.</p>	<p>Give particular consideration to the involvement of stakeholders who will affect and be affected by the after use of the site(s).</p>	<p>Consider whether a Sustainability Appraisal is required or whether the impacts of the training activity will be covered by existing MOD procedures and management systems.</p>
	<p><u>Summary Matrix</u>: Complete a summary appraisal (in conjunction with the URD) using the checklists to identify potential sustainability issues and risks – with specific reference to the overall theme objectives. Then revisit the summary appraisal during the ROEI stage Complete the form for Requirements for Statutory Assessments (appendix 3B).</p> <p><u>Rough Order of Estate Information (ROEI)</u>: Complete a matrix for each alternative option. Ensure that sustainable development is considered on a through life basis.</p> <p>INITIAL GATE SUBMISSION TO INCLUDE APPRAISAL FINDINGS AND COSTINGS FOR STATUTORY ASSESSMENTS</p> <p><u>Assessment Study</u>: update options matrices undertaken at Rough Order of Estate Information (ROEI) stage. Ensure</p>	<p>Compare the impacts of equipment at different sites. Think about the context in which the equipment will be used and the cumulative impact in combination with associated equipment and site use. Compare the impacts of new equipment against that currently in use.</p>	<p>Use the matrix to record what information is available or what on-going management commitments are linked to the disposal site, and highlight any gaps in knowledge.</p> <p>Identify and compare the sustainability issues and implications for disposing of alternative sites. The appraisal may identify potential positive impacts at some sites (e.g. release of land suitable for local housing) and potential negative impacts at others (e.g. loss of jobs from an area of high unemployment). It may also highlight</p>	<p>There are often unlikely to be alternative options for a training activity, although you may be able to appraise alternative sites to determine the most suitable training location.</p> <p>The appraisal should identify key issues associated with the activity e.g. noise, disturbance to wildlife or archaeological features, waste or utility use.</p>

Stage	EBMS process			
	Estate Business Management System Projects Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
Stage B – Detailed Appraisal	<p><u>Develop preferred option:</u> undertake detailed appraisal of the project by reviewing the checklists and considering the theme sub-objectives and providing commentary as necessary. Ensure that the Sustainability Appraisal report is communicated to individuals responsible for project implementation.</p>	<p>Complete detailed checklists during the Assessment Phase.</p> <p>Appraise the detailed impacts of equipment on a site. This can help to develop operating restrictions (e.g. to prevent disturbance to local communities or wildlife).</p> <p>Ensure that copy of the Sustainability Appraisal report is supplied to individuals responsible for using the equipment.</p>	<p>Design Management Guide 12 (Site Closure)</p> <p>Detailed appraisal for land disposals is only possible where a future use has been identified (i.e. where outline planning permission has been obtained prior to sale), otherwise there are no options to appraise against.</p> <p>Consider involving local stakeholders affected.</p> <p>In all cases, the Design Management Guide 12 (Site Closure) should be followed and the appraisal should form part of the Closure Risk Assessment process. Defence</p>	<p>Explore major issues in greater depth. Ensure that site managers receive a copy of the Sustainability Appraisal report.</p>

Stage	EBMS process				
	Estate System Projects	Business Management Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
				<p>Estates Disposals staff should build on the appraisal to flag up sustainability risks and actions (e.g. remediation of contaminated land or securing the site from vandals).</p> <p>Consider using the Sustainability Appraisal report in the proposal for outline planning permission.</p>	
Stage C - implementation	<u>Secure Contract Commitment/ Implement preferred option:</u> incorporate the requirement for a Sustainability Management Plan into the contract. Include mitigation measures in project implementation e.g. as part of the Construction Environmental Management Plan or Environmental Management System.		Consider mitigation measures to reduce the operational impacts of the equipment.	Consider integrating mitigation measures and opportunities for sustainable development into proposals for outline planning permission. Liaise with the developer and local economic or regeneration bodies (e.g. English Partnerships).	Ensure that sustainability considerations are integrated into site management procedures where training will take place.

Stage	EBMS process			
	Estate Business Management System Projects Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
Stage D - monitoring	Audit and monitor the sustainability performance of the project e.g. as part of an Environmental Management System. Ensure that opportunities for improvement are identified and carried out.	Monitor impacts of equipment use.	Monitoring is unlikely as MOD will not have control over the site once disposed of.	Monitor the impacts of training activities.
Illustrative example 	<p>The Army Infrastructure Organisation's Sustainability Appraisal for provision of additional single living accommodation at the Duke of Gloucester Barracks in South Cerney was undertaken at the User Requirement Document stage.</p> <p>Three alternative options were appraised: (A) new-build 'outside the wire'; (B) new-built within the South Cerney boundary; and (C) renting existing civilian housing.</p> <p>The Appraisal showed that option A would have the greatest social and economic impacts and that options A and B would have the greatest environmental impacts. Potential mitigation measures were identified, such as compliance with Building Research Establishment</p>	<p>Iterative sustainability appraisal helped inform the down-selection of sites for basing the RAF's new Joint Combat Aircraft. The summary matrix was applied to an initial short-list of eight options.</p> <p>Environmental factors that actively influenced rejection of some sites included noise, meteorological and hydrological factors and bird strike risks. The detailed checklists were applied to the remaining four options and used to select the preferred option. The Sustainability Appraisal will inform sustainable design assessments and further environmental</p>	<p>Refer to Box 3.9 for an example of on how stakeholder involvement benefited the Sustainability Appraisal of disposal of land at Aldershot, and Box 3.11 for an example of the Sustainability Appraisal of disposal of land at an army training camp.</p>	<p>The Integrated Project Team responsible for the introduction of the Apache Attack Helicopter commissioned a Sustainability Appraisal to identify impacts of Apache training on helicopter base locations.</p> <p>The Appraisal identified that changes to infrastructure, personnel numbers and local training activities (i.e. local flying and associated ground activity) at Dishforth, and the use of Apache in training activities at Otterburn and Spadeadam, could have significant wildlife impacts. The Appraisal of some options stimulated more detailed Environmental Assessment and Habitats Regulations Assessment work which has resulted in agreements on training routes and locations to</p>

Stage	EBMS process					
	Estate System	Business Projects	Management Process 1.3 / IPG	Procurement of new equipment	Land disposals	Training activities and Test and evaluation activities
	<p>Environmental Assessment Methodology (BREEAM)/Defence Related Environmental Assessment Methodology (DREAM) standards, minimising the use of greenfield land and procurement of local goods and services.</p> <p>The Appraisal also highlighted that an Archaeological Evaluation may be required. Because the Appraisal was carried out at an early stage, it was possible to take the findings into account at subsequent stages of the project.</p> <p>Refer also to the illustrative example for the Sustainability Appraisal of a military Court Centre at Bulford, which was carried out at the Assessment Study phase (Box 3.17).</p>			assessments as the infrastructure is delivered.		minimise disturbance to wildlife.

3.3 HOW TO APPLY SUSTAINABILITY APPRAISAL TO MINOR NEW WORKS

INTRODUCTION

- 3.3.1 This section provides practical guidance on how Regional Prime Contracts⁶ (RPC) can apply Sustainability Appraisal to minor new works and reactive maintenance tasks. The process is initiated by using a Minor New Works Checklist to quickly and easily identify the most significant likely impacts, opportunities and mitigation measures of the works. A decision can then be taken, given the significance of impacts or opportunities identified, on whether a full Sustainability Appraisal is required. The Minor New Works Checklist should only take up to an hour to complete and provides an auditable record that sustainability issues have been considered.
- 3.3.2 The key stages in the process are illustrated in Figure 3.5. A blank Minor New Works Checklist is provided in **Appendix 3G** and available to download from the [Defence Intranet](#) and [Sustainable Development Information Portal](#).

DEFINITION OF MINOR NEW WORKS/CORE SERVICES

- 3.3.3 Minor New Works are defined as work of a value greater than £100, that is related to neither life cycle maintenance nor risk associated items in accordance with the contract conditions. It is work to be carried out to adapt the estate to match the operational requirements of the end-user. Typically there is no financial limit to the work that is required and the assessment criteria for minor new works is based on capability, capacity and competence of the site facilities management team and if these standards are met, it can be delivered through the Core Services via a Change Order. However, if the work is considered technically complex, requires detailed co-ordination of different construction specialisations and requires the appointment of a project manager then the work should be let as a supplementary core works project.
- 3.3.4 In certain cases it may not be appropriate to undertake a Sustainability Appraisal and consequently RPCs have developed their own trigger criteria for identifying a requirement. An overview of RPC specific trigger criteria is summarised in Table 3.5.

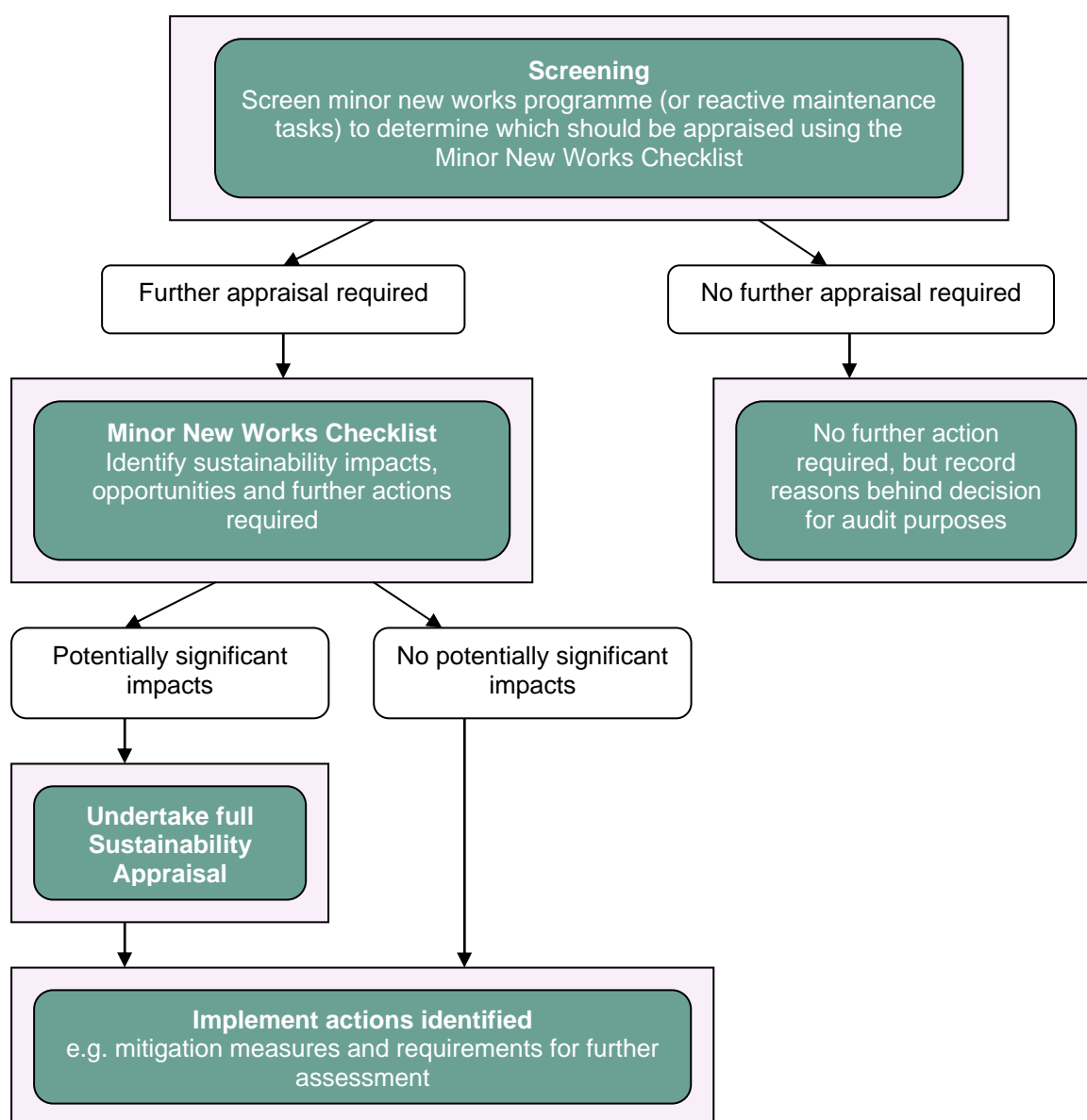
Table 3.5. Summary of RPC Trigger Criteria for Undertaking SA on Minor New Works

RPC	Minor New Works Trigger Criteria
Scotland	Work in excess of £2500
East	Work in excess of £2500 - If after completing checklist, risk is identified as being greater than initially perceived, SA report will be completed.
South West	Work in excess of £2500 and for work under this threshold where significant environmental impact is identified.
South East	High, Medium and Low Impact Risk Assessment is completed.
Central	Trigger dependent upon the completion of a questionnaire.

⁶ RPCs - A project delivered through a single contract, that is primarily of a property management and maintenance nature but can include Facilities Management services as well as Core Works projects.

- 3.3.5 Therefore, the method outlined in this section should be used as the basis for applying SA to Minor works, whilst recognising that there are screening mechanisms specific to each contractor, that will assist in identifying the need for SA. Contact details for RPC's can be found in Table 3.6. In the future, RPC contracts will require the application of a universal method for applying SA to minor New Works. This guidance will be updated as and when these changes are adopted.

Figure 3.5: Application of Sustainability Appraisal to minor new works



Approach

Screening: screen minor new works programme (or reactive maintenance tasks) to determine which should be appraised using the Minor New Works Checklist

- 3.3.6 Begin by screening the programme of minor new works (or reactive maintenance tasks) to identify which works should be appraised. Ideally, a sustainability or environmental specialist should undertake this task, with consultations with site-based staff to understand the scope of works and site-specific issues.

- 3.3.7 To decide whether or not to do an appraisal, think about the size and location of the work and whether it is likely to have significant sustainability impacts or present significant opportunities for innovation. Do not base the decision on the cost of the work alone as even inexpensive works can have major impacts if they are in a sensitive location (for example minor roof repairs could affect protected bat species). The decision not to apply the Minor New Works Checklist or undertake a full Sustainability Appraisal has to be based on a pragmatic judgement. The Defence Estates Sustainable Development Support Team can provide advice to assist your decision.
- 3.3.8 Examples of the types of work which the Minor New Works Checklist should be used to appraise include:
- Replacement of boilers;
 - Digging a trench to lay a cable between buildings;
 - Small scale office refurbishment;
 - Replacing or retiling a roof;
 - Adding a small extension to a building;
 - Resurfacing or extending a road;
 - Constructing a small car park;
 - Any activity that affects a scheduled monument or listed building.
 - Any activity on or close to known protected species or a protected habitat (SSSI, SAC, SPA etc.)
- 3.3.9 Record the reasons behind the decision whether or not to apply the Minor New Works Checklist against the entry on the works programme.
- 3.3.10 Apply the Minor New Works Checklist as early as possible whilst there is still scope to influence the type of work undertaken and take advantage of opportunities to improve sustainability performance (for example, if a requirement is identified for increased car parking space, then the Minor New Works Checklist may identify opportunities for incorporating cycle racks to encourage more sustainable travel).

Complete the Minor New Works Checklist

- 3.3.11 Decide whether the work is likely to have a significant impact on each sustainability objective. Record the answer using a tick in either the 'yes' or 'no' column.
- 3.3.12 Decide whether the work is likely to present significant opportunities to improve sustainability performance against each sustainability objective. Record the answer using a tick in either the 'yes' or 'no' column.
- 3.3.13 Use the 'explanation' column to briefly explain the rationale behind your answers.
- 3.3.14 Use the 'further action required' column to briefly describe mitigation measures or further assessments required to address any impacts or opportunities identified.

Box 3.19 Illustrative example – impacts and opportunities identified using the Minor New Works Checklist

When the Minor New Works Checklist was applied to a project to replace an old oil-fired boiler system, the potential issues identified included: soil and groundwater to be contaminated during removal of the pipe work and old boiler; disturbance to staff while work was being carried out; the likely presence of protected species (bats); and the possible presence of asbestos lagging. Mitigation measures included operating procedures for contractors carrying out the work to prevent pollutant spills and specifying that the work be carried out in summer when heating was not required. Opportunities included installation of energy efficient boilers and use of renewable energy e.g. biomass boilers.

- 3.3.15 At the bottom of the Minor New Works Checklist record whether a full Sustainability Appraisal is required, and explain the rationale behind your decision. This will depend on criteria such as:
- Location – Is the work likely to affect a protected site, area or feature (e.g. a Site of Special Scientific Interest or a listed building)?;
 - People – Is the work likely to cause disturbance to sensitive people in the community (e.g. schools)?;
 - Pollution – is the work likely to generate significant discharges to air, water or land?;
 - Hazardous materials – Is the work likely to require the use of hazardous materials or lead to the generation of hazardous waste that must be transported off-site?;
 - Resources – Is the work likely to use resources or materials from unsustainable sources?
- 3.3.16 Use the ‘further action required’ box to summarise mitigation measures, assessments or other actions required to address the impacts and opportunities identified in the Checklist.
- 3.3.17 Finally, ensure that the completed Minor New Works Checklist is submitted to your organisation. SD focal points will be asked to supply quarterly updates of all Minor New Works to the MOD via SEATID.

Box 3.20 Illustrative example – Application of a Minor New Works Checklist

Like all RPC's, RPC Scotland has developed its own version of the Minor New Works Checklist to appraise the sustainability impacts of core services and minor new works. The annual programme of new works is screened by a sustainability advisor, who reviews each scope of work to assess whether there are likely to be significant sustainability effects, and consults stakeholders such as the Core Services Manager or area offices to understand any site-specific issues.

Works that require appraisal are then passed their central environment support team, who use a bespoke checklist to assess the likely significant sustainability impacts and opportunities presented by the work, and make recommendations to address these issues. The completed checklist is passed to the design team responsible for new works, to enable them to take forward the recommendations. The checklist is kept in the project file.

Table 3.6. Regional Prime Contract and Other Contractor's Contact Information

Contractor	Contact Information
RPC Scotland	Donna Green; donna.green@turneres.mod.uk ; 01383 648690
RPC East	Gemma Sortwell; gemma.sortwell@babcockdyncorp.mod.uk ; 07989 850774
RPC South West	Amanda Wharton; amanda.wharton@debutsouthwest.mod.uk ; 07841 782498
RPC South East	Barry Burton; barry.burton@pride.mod.uk ; 07747 074157
RPC Central	Dean Malik; dean.malik@c-e.mod.uk ; 07841 166645
Housing	Helen Clark: 07740 817565
Landmarc	Camilla Timms; Camilla.timms@landmarc.mod.uk ; 07748 110955
SLAM	Gareth Brown; gareth.brown@projectslam.co.uk ; Tel: TBC
Aquatrine	Annette Shaw; Annette.shaw@de.mod.uk ; 94421 3208

Click [HERE](#) for an up to date list of contractor contact information.

APPENDIX 3A: APPRAISAL MATRIX

Plan/Programme/Plan
and/or option title:

Date completed:

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term					COMMENTARY	ACTION REQUIRED
		A	B	C	D	E	
A - Travel and Transport Minimise amount of traveling required, particularly and the use of private cars	ST						
	LT						
B – Water Reduce total water consumption, maximise efficiency of use and encourage reuse whilst minimising the risks of water pollution and flooding	ST						
	LT						
C - Energy and Climate Change Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources. Improve resilience to climate change	ST						
	LT						
D - Noise and Vibration Minimise disturbance and annoyance to people and wildlife and stress to	ST						

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term					COMMENTARY	ACTION REQUIRED
		A	B	C	D		
historic buildings caused by uncontrolled noise and vibration	LT						
E - Air Quality Minimise greenhouses gas emissions and pollution of air with gases and particulates	ST						
	LT						
F – Waste Reduce waste production and promote reuse, recycling and recovery	ST						
	LT						
G – Construction and the Built Environment Minimise expansion onto green sites, explore refurbishment before building fresh, design sustainability features into new buildings and promote recycling of materials	ST						
	LT						
H – Sustainable Procurement Ensure that all Departmental procurement takes full account of sustainable development principles and	ST						

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term					COMMENTARY	ACTION REQUIRED
		A	B	C	D	E	
helps meet sustainable development targets and objectives							
I – Geology and Soils Identify, reduce, manage and mitigate the introduction of threats to soil which can reduce soil extent, diversity or quality	ST						
	LT						
J – Biodiversity and Nature Conservation Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife	ST						
	LT						
K – Historic Environment Protect and where possible enhance the MOD historic environment in recognition that it is an integral part of cultural heritage and the role it plays in supporting defence capability	ST						
	LT						
L – Landscape and Townscape Protect and enhance the character of landscapes and townscapes.	ST						

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term					COMMENTARY	ACTION REQUIRED
		A	B	C	D		
	LT						
M – Health, Safety and Well-being Maximise opportunities to promote healthy, safe and secure environments in which to live and work.	ST						
	LT						
N – Communities and Social Values Promote the MOD as a good neighbour which works with local communities to minimise disturbance and maximise positive social impacts.	ST						
	LT						
O – Infrastructure and Amenities Support the welfare, cultural, recreational and infrastructure needs of military and civilian communities	ST						
	LT						
P – Economy and Employment Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all	ST						
	LT						

ST = short term, LT = long term

APPENDIX 3B: EVALUATION OF REQUIREMENTS FOR STATUTORY ASSESSMENTS, CONSENTS AND LICENSES

Date completed: _____

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

See Handbook Section Two for full information on legislation, requirements and contact details for specialist teams in MOD who can help you decide whether Strategic Environmental Assessment is required.

Do the following apply to the proposal?	Yes	No	Unsure
Is your proposal a plan or programme? If so , have you completed MOD Form 1923 to screen for the statutory requirement for statutory Strategic Environmental Assessment?			
If your proposal is defence exempt have you considered how you will meet the requirement of the Secretary of State's Policy Statement 2008 to undertake a study, " <i>as far as reasonably practicable, at least as good as</i> " the legislation? Or have you received the appropriate level of approval to confirm that it is not " <i>reasonably practicable</i> " to do so?			
Will your proposal be formally adopted by a regional or local planning authority as part of their planning framework documents e.g. Local Development Document or Regional Spatial Strategy?			

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

See Handbook Section Four for full information on legislation, requirements and contact details for specialist teams in MOD who can help you decide whether Environmental Impact Assessment is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Will your proposal or project require Planning Permission under Town & Country Planning Act 1990 (incl. equivalent legislation in Scotland and Northern Ireland)?			
If so , does the type, scale and potential for significant effects meet criteria in the Town and Country Planning (EIA) Regulations 1999 (Schedule 1, Schedule 2 or Schedule 3)?			
If Yes , Have you requested a Screening Opinion from the Local Planning Authority (which may be the National Park Authority)?			
Will your project fall under any of the following legislation?			
• Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations 2001			
• Environmental Impact Assessment (Forestry) Regulations			
• Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999			
• Harbour Works (Environmental Impact Assessment) Regulations 1999			
• Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999			
• Environment Act 1995 Part III National Parks and Circular 12/96			
• Other Environmental Impact Assessment Regulations including those in the Devolved Administrations			

NATURAL ENVIRONMENT CLEARANCE & CONSENTS

See Appendix 3E, Theme J and JSP 362 Chapter 5 for full information on policy, requirements and contact details for specialist teams in MOD who can help you decide whether Historic Environment Clearance and Consents are required

Also see S&EAT Handbook Section Five for full information on legislation, requirements and contact details for specialist teams in MOD who can help you decide whether Habitats Regulations Assessment is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Is your proposal or project likely to have a significant effect on a Special Area of Conservation (SAC), Special Protection Area (SPA) or a Ramsar site ie is a 'Habitats Regulations Assessment' required?			
Is your proposal or project Listed as an Operation Likely to Damage the Special Interest of a Site of Special Scientific Interest (SSSI), i.e. is SSSI Assent or Consent required?			
Is your proposal or project likely to result in an offence under protected species legislation – ie is a protected species licence required?			
Will your proposal or project affect trees or hedgerows covered by Tree Preservation Orders, Conservation Areas or the Hedgerow Regulations, or otherwise is a Felling Licence required?			
Will your proposal or project affect land covered by an Environmental Stewardship or Woodland Grant Scheme, i.e. could the proposal contravene MOD's or our tenants' obligations under these schemes?			

OTHER POSSIBLE ENVIRONMENTAL REQUIREMENTS: FLOOD, MARINE & COASTAL CONSENTS & LICENCES

See Appendix 3E, Theme B for water-related guidance. For further advice and guidance please contact PTS.

Are the following consents required for the project or proposal?	Yes	No	Unsure
Flood Defence Consent (for works that could affect inland waterways & lakes)?			
Food & Environment Protection Act (FEPA) Licence (for deposits or construction on the sea bed)?			
Coastal Protection Act (CPA) Consent (for works that could affect sea defences)			

HISTORIC ENVIRONMENT CLEARANCE & CONSENTS

See Appendix 3E, Theme J and JSP 362 for full information on policy, requirements and contact details for specialist teams in MOD who can help you decide whether Historic Environment Clearance and Consents are required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Will your project or proposal require Listed Building Consent under the Planning (Listed Buildings and Conservation Areas) Act 1990 or the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997? This also includes the curtilage of listed structures.			
Will your project or proposal require Scheduled Monument Clearance under DCLG Circular 02/2006 (Crown Application of the Planning Acts)?			
Is your project or proposal subject to Planning Policy Guidance 15 and 16 (and the Scottish and Welsh equivalents), requiring archaeological evaluation before planning approval is granted?			
Have you consulted (via Defence Estates) the County Archaeologist or relevant Statutory Heritage Body (English Heritage, Cadw, Historic Scotland, Northern Ireland Environment Agency)?			
Is the action likely to disturb the location of a designated wreck or aircraft protected under Protection of Military Remains Act 1986?			
Will your project or proposal affect a Registered Battlefield, Park or Garden, or World Heritage Site?			
Does the project require demolition of structures that might be protected under Local Listing by the Local Authority?			
Is the Site in a Conservation Area?			

PUBLIC ACCESS AND RECREATION

See Appendix 3E for Theme N and JSP 362 Chapter 7 for full information on policy, requirements and contact details for specialist teams in MOD who can provide advice on Public Access and Recreation in relation to your project.

Do the following apply to the project or proposal?	Yes	No	Unsure
Are there likely to be any changes to public rights of way or highways in the project area?			
Are there likely to be any changes to statutory open access designation in the project area, as defined by the Countryside and Rights of Way Act 2000 or Land Reform (Scotland) Act 2003?			
Are there likely to be any changes to permissive (granted) access in the project area?			

LAND QUALITY ASSESSMENT (LQA)

See Appendix 3E for Theme H and JSP 418 Leaflet 2 for full information on policy, requirements and contact details for specialist teams in MOD who can help you decide whether a LQA is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have any historic polluting activities taken place on the site(s) in your proposal? If So , requirements under Part IIA of the Environmental Protection Act 1990 need to be considered and the legacy of these activities maybe a material consideration in any Planning Application.			

BEST PRACTICE ENVIRONMENTAL MANAGEMENT OF PROJECTS

See Handbook Sections Three (Appendix 3E) and Eight (Linked Tools & EMSs) for full information on policy, requirements and contact details for specialist teams in MOD who can provide advice on best practice environmental management of projects.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does your proposal require a Socio Economic Report (SER)? A SER may apply if the proposal carries a Ministerial commitment to complete one, is a major MOD relocation or if the SRO determines it should be completed – refer to JSP 507 and 418 for further information.			
Does your proposal require a design and construction environmental performance assessment such as Building Research Establishment Assessment Method (BREEAM) or Defence Related Environmental Assessment Methodology (DREAM)? See Chapter 6 of the S&EAT handbook for DREAM guidance.			
Does your proposal require a Defence Estates' Design Excellence Evaluation Process (DEEP)?			
Have you or will you be registering on the Considerate Constructors Scheme?			
Is the project's budget manager aware of the requirements for any additional studies or mitigation requirements?			
Is there a formal process for including any proposed mitigation measures or monitoring into the site Environmental Management System or Integrated Management Plan e.g. Integrated Land Management Plan or Integrated Estate Management Plan?			

APPENDIX 3C: MATRIX FOR COMPARISON OF ALTERNATIVE OPTIONS

Date completed:

SUSTAINABILITY THEME	SUSTAINABILITY SCORE			EXPLANATION
	Option 1	Option 2	Option 3	
A – Travel and Transport				
B – Water				
C – Energy and Climate Change				
D – Noise and Vibration				
E – Air Quality				
F – Waste				
G – Sustainable Construction and the Built Environment				
H – Sustainable Procurement				
I – Geology and Soils				
J – Biodiversity and Nature Conservation				
K – Historic Environment				
L – Landscape and Townscape				
M – Health, Safety and Well-being				
N – Communities and Social Values				
O – Infrastructure and Amenities				
P – Economy and Employment				

Please insert additional columns if more than three options have been appraised.

Sustainability scores – key	A	B	C	D	E
	Major positive impact	Minor positive impact	No impact	Minor negative impact	Major negative impact

Overall comments:

APPENDIX 3D: SUSTAINABILITY APPRAISAL REPORT

Completed by: _____ Date: _____

DETAILS ABOUT THE POLICY / PROGRAMME / PROJECT	
Title:	Customer reference number:
Name and position of owner / manager / sponsor:	
Brief description:	
Capital cost (if appropriate):	
Funding stream:	
Security status:	

Completed by: _____

Date: _____

SUSTAINABILITY APPRAISAL REPORT

Brief description of site(s) affected (subdivide column if more than one site is affected)	Establishment code:			
	Site name:			
	County:			
	Country:			
	Grid reference:			
	Size:			
	Land use:			
Key questions (please tick)		YES	NO	DON'T KNOW
	Major relocation, ministerial commitment or SRO discretion to complete an Socio-Economic Assessment?			
	New buildings planned?			
	Refurbishment of existing buildings?			
	Disposal and/or acquisition project?			
	Significant intensification in estate activity?			
	Statutorily-protected sites likely to be directly or indirectly affected?			
	Land Quality Assessment already undertaken?			
Appraisal methodology	Date of appraisal:			
	Stage in decision making process when undertaken:			
	How the appraisal was undertaken (e.g. workshop, individual, consultants):			
	Names / positions of people involved:			
	Groups and organisations consulted:			
	References used:			
Appraisal findings (please tick)		YES	NO	
	Checklists completed?			
	Summary matrix updated?			
	Form for 'Evaluation of requirements for statutory assessments' updated?			

IMPLEMENTATION

Description of mechanisms in place for implementing key actions:

Completed by: _____ Date: _____

MONITORING

Description of mechanisms in place for monitoring sustainability impacts:

APPENDIX 3E: APPRAISAL CHECKLISTS

THEME A: TRAVEL & TRANSPORT

Overall sustainability objective: Minimise amount of travelling required, particularly via roads and private cars.

Sub-objectives:

- To reduce the need to travel, especially by road;
- To improve the fuel efficiency of vehicle fleet and encourage opportunities for safe walking and cycling;
- To reduce noise, vibration and fumes from transport and prevent habitat loss due to new transport infrastructure; and
- To promote a transport system that provides choice, minimises environmental harm and reduces congestion.
- To design new developments that promote the use of public transport and other greener forms of transport e.g. walking, cycling etc.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in fuel efficiency and emission levels from vehicles.	Explore alternatives to cars, lorries and aircraft for freight transport (e.g. rail and water). Encourage the use of alternative fuels.
Change in volume of commuting or travelling to clients and facilities.	Develop and implement green travel plans for construction and operation stages. Educate project teams/users about travel/transport issues; promote travel behaviour changes & mitigation. Ensure that materials are delivered in bulk and programme heavy vehicle movements (e.g. military convoys, lorries etc.) outside peak travel hours.
Change in amount of vehicle use in training exercises.	Site units close to areas where they will need to train, and in proximity to other units, customers or organisations that they regularly interact with.
Change in freight distance covered if engaging with different suppliers or procuring/disposing of different quantities.	Procure supplies or dispose of waste as close to operations and installations as practicable.
Change in transport mode for commuting or travelling to clients or facilities.	Develop and implement a green travel plan. Encourage the use of public transport. Improve transport links through the layout and design of the new development. Liaise with Local Authorities and transport providers on choice, timings of routes, alternative access and bus/train stops. Incorporate safe routes, storage areas and showers/changing facilities for walkers/cyclists into the design and layout of the development. Develop incentives for car sharing, particularly work journeys and commuting. Make use of video-conferencing and e-mail instead of travelling.
Change in levels of congestion on local roads or at access points.	Undertake assessment or monitoring of travel patterns to understand local baseline levels and impacts of proposal.
Other travel and transport issues.	

**TARGETS FOR
SUSTAINABLE
OPERATIONS ON THE
GOVERNMENT ESTATE**
CARBON EMISSIONS FROM ROAD VEHICLES

- Reduce carbon emissions from road vehicles used for Government administrative operations by 15% by 2010/11, relative to 2005/2006 levels.

WHY THIS THEME IS IMPORTANT TO MOD

- A1. Travel and transport is an important theme for MOD due to a combination of legislative requirements and characteristics of the Department and its estate.
- A2. An efficient transport system is essential to support a strong, prosperous economy and to maintain and improve peoples' quality of life. However, congestion and unreliability of journey times add to the costs of business and may undermine competitiveness and efficiency. Exhaust emissions from high volumes of traffic contribute to deposits of soot and acid erosion on buildings, climate warming, and health impacts. Emissions include Nitrogen Oxides, Hydrocarbons, Carbon Monoxide, Carbon Dioxide, black smoke and particulates. It is estimated that up to 24,000 vulnerable people die prematurely each year and similar numbers are admitted to hospital through exposure to air pollution, much of which is due to road traffic.
- A3. The UK Government recognises the need for a radical change in transport policy and is promoting a transport system that provides choice, minimises environmental harm and reduces congestion. As a Government department, MOD must comply with UK legislation and policies that support sustainable travel and transport objectives. The Road Traffic Reduction Act 1997 prompts Local Authorities to manage growth of road traffic and the Road Traffic Reduction (National Targets) Act 1998 makes further provision for road traffic reduction targets. National and International targets have been adopted in relation to greenhouse gases, air pollution, railway freight, walking, cycling and use of sustainable public transport. These should be factored into MOD activities where relevant.
- A4. MOD's corporate approach to sustainable travel is the responsibility of the Safety, Sustainable Development and Continuity Division in MOD Centre.. MOD is also working with the cross-Departmental civil service group and is committed to managing its White Fleet growth in line with the general downsizing in Defence. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Sustainable Development Travel Strategy was produced detailing strategic objectives: further details in Appendix J. Under the MOD Climate Change Strategy 2008 the MOD Sustainable Travel Strategy will be updated in 2009.
- A5. In response to new Government sustainability policy in relation to vehicle procurement and use DE published a Policy Instruction (PI) on Business Travel in Apr 08, which sets out the guiding principles to ensure DE pool vehicles and hire cars meet the requirement of a maximum emissions level of 130g of CO₂ per kilometre for admin cars. This maximum will further reduce from 2012 to 100g.
- A6. Under the Climate Change Act 2008 it has become an statutory duty for Government departments to reduce the UK's Greenhouse Gases (rather than just CO₂) emissions by at least 80% by 2050 and by at least 26% by 2020. A Committee on Climate Change (CCC) has been established to advice Government on carbon budgets and targets, including opportunities that exist to reduce emissions of greenhouse gases for the transport sector.

- A7. Sustainability Appraisal presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

MOD ACTIVITIES AND IMPACTS

- A8. MOD employs approximately 280,000 staff, many of whom have to travel to work by public or private transport. Any relocation or rationalisation of units or teams will alter the balance of commuting distances and transport types used.
- A9. Many staff regularly travel from their permanent duty station to other locations for meetings. Adoption of technology such as video-conferencing, e-mail and conference-calls should be routinely considered as an alternative to physical travel. If travel is unavoidable, locations that minimise the total distance travelled should be explored and public transport and car sharing promoted when practicable. The use of alternative fuelled vehicles must be given consideration where these vehicles are available.
- A10. Training the Armed Forces often entails a significant element of travel and vehicle use. This is reflected in both the need for units to travel to exercise destinations and the use of vehicles during the exercises (aircraft, wheeled or tracked vehicles and boats or amphibious craft). Defence restructuring and subsequent changes in location of units or training facilities will alter the distances travelled to get to exercises.
- A11. Changes in the nature of training or the types of units using a training area, harbour or air base may stimulate a change in the types of vehicles used on or in the vicinity of the site. This may have implications for local air quality, noise, dust or pressures on local road systems. Similarly, construction activities and the movement of heavy vehicles and plant can cause congestion on local roads. Careful timings of movements or creation of alternative access points may alleviate local congestion impacts.
- A12. Military garrisons or bases need constant inputs of supplies e.g. food, stationery, consumables, cleaning and maintenance teams and equipment, and regularly send waste away to be disposed of. Procurement of supply and disposal services should consider the proximity principle, sourcing goods close to where they are required and disposing of waste as near to its source as practicable. Both objectives minimise transport distances. Support functions e.g. personnel and IT units should also be close to their customers.
- A13. When purchasing vehicles (both operational and white fleet) or commissioning contractors for haulage or vehicle transportation, it is important to consider the through-life energy use and emissions. MOD is working to provide lower carbon emission vehicles for staff. In future, all vehicle replacements or new requirements are to be the cleanest vehicle available within the approved range.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Scheme design is accompanied by a Green Travel Plan and negotiation of public	Pre mitigation design includes for cycle racks and showers.	No Impact	Increase in amount of commuter traffic on roads.	Increase in distance units travelled for training or business. Increase in

transport options.				movement of people and freight by road and air.
Increase in simulation over vehicle training.				

Good practice case study – St. Athan

The Defence Technical Academy (DTA) at St. Athan has produced a green travel plan in order to reduce congestion and improve air quality and human health (promoting exercise and reducing stress caused by commuting via private vehicles). This was achieved through identifying commuter profiles and producing a strategy that focused on commuter requirements. This included various initiatives to promote and sustain alternative and 'greener' commuting options including walking, cycling, using the bus, car sharing, pool cars and the provision of additional travel resources.

This was aided by a target being set to obtain a 10% reduction in the number of single occupancy car trips to and from the DTA. To ensure the success of the travel plan a Travel Plan Management Board was set up to oversee its development and ensure all stakeholders were affectively engaged throughout. Also, fundamental to this process was the travel plan being considered as a living document which continually evolved as situations and circumstances change. Additionally, a dedicated Travel Plan co-ordinator was put in place to monitor progress, manage key travel plan elements, co-ordinate data for future development, raise awareness and where necessary provide advice.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Environmental Focal points for each TLB
- Defence Estates Property Directorate, Environmental Policy, Sutton Coldfield – Tel: 0121 311 2018
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp - Tel: 01980 674866
- MOD Safety, Sustainable Development and Continuity Division (SSD&CD), Environment Team, Main Building, London
- Heads of Establishment for advice on the practical aspects of implementing travel plans and infrastructure

External

- Advisory Committee on Business and the Environment (for advice on green transport plans for business) - Tel: 020 7890 6568
- Local authorities (for strategic transport planning in the area and travel awareness campaigns)
- [Transport 2000](#) (an independent organisation promoting sustainable transport) - Tel: 020 7613 0743
- [Sustrans - for advice on cycle routes and opportunities](#)
- [Department for Transport – advice on sustainable travel](#)

INFORMATION AND REFERENCES

- MOD: JSP 418: *MOD Sustainable Development and Environment Manual* (Volume 2, Leaflet 15)
- [MOD: Sustainable Development Travel Strategy](#)
- Countryside Agency: 2001: *Great Ways to Go – Good Practice in Rural Transport* (CA62)
- Countryside Agency: 1995: *Roads in the Countryside* (CCP459)
- DETR: 1998: *A New Deal for Transport: Better for Everyone. The Government's White Paper on the Future of Transport*
- Department for Transport: *Transport 2010 - The Ten Year Plan*
- Institute of Environmental Management and Assessment: *Guidelines for Environmental Assessment of Road Traffic*
- Institution of Highways and Transportation: 1999: *Guidelines for Planning for Public Transport in Developments*
- Institution of Highways and Transportation: 1994: *Guidelines on Traffic Impact Assessment*
- DCLG: 1994: *Planning Policy Guidance Note 13: Transport*
- Transport 2000: 1995: *Alternatives to Traffic Growth: The Role of Public Transport and the Future of Freight*
- Transport 2000: 1997: *Changing Journeys to Work: An Employers Guide to Green Commuter Plans*
- [UK Government Sustainable Development information resource](#)

THEME B: WATER

Overall sustainability objective: Reduce total water consumption, maximise efficiency of use and encourage reuse whilst minimising the risks of water pollution and flooding.

Sub-objectives:

- To safeguard fresh water resources and water quality at a time when pressures from climate change and demand are likely to increase;
- To safeguard the health and productivity of inland waters and seas;
- To maintain and enhance marine and coastal water quality;
- To reduce the threat of persistent or diffuse pollutants to the environment and human health;
- To prevent injury, distress and avoid or reduce property damage caused by all types of flooding;
- To ensure our waters are clean enough to sustain healthy use by wildlife and communities; and
- To design water efficient and flood resilient developments.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Response to all types of flood risk	<p>Increase resilience to flooding through location, layout and design. Consult with the Local Planning Authority if compliance with PPS25, PPS15, TAN15 or SPP7 is needed.</p> <p>Undertake a CIRAM assessment (see Theme C) to determine the significance of current and future flood risk of the location and development's lifetime and reduce the risk through location, layout and flood resilient design. Explore opportunities to relocate existing buildings that are vulnerable to flooding and to make space for water, e.g. use green infrastructure for flood storage, conveyance and SUDS, re-create functional floodplains.</p>
Change in area under hard surfaces / Response to Surface Water management / Connect Surface Water to public sewer	<p>Educate project team/users about water & drainage issues, promote behaviour changes and mitigation.</p> <p>Implement Sustainable Urban Drainage Systems (SUDS) that meet national design standards. SUDS help promote "natural" approaches to manage floods and surface water drainage, & conserve natural resources e.g. reduce impermeable surfaces in car parks.</p> <p>Differentiate SUDS from drainage features, controlled waters and sewers, so as to avoid pollution to controlled waters.</p> <p>Explore opportunities to enhance flood storage capacity, e.g. surface water management plans to limit the peak rate and total volume of discharge of surface water. Ensure developments in flood risk areas are appropriately flood resilient/resistant, including safe access and escape routes and that any residual risk can be safely managed.</p>
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion or construction.	Undertake further assessment to evaluate changes in water use and disposal, or to assess impacts on hydrological systems.
Change in number of people and processes consuming/abstracting water.	Consult with the Environment Agency, Scottish Environment Protection Agency (SEPA), Local Authorities and water suppliers about potential changes in demand/abstraction/discharge/wastewater treatment, and proposals to build near floodplains. Work with Project Aquatrine

	to optimise water supply and infrastructure integrity.
Change in number of people and processes that discharge waste water.	Explore alternative options for sewage or effluent treatment e.g. slow percolation through reed-beds rather than enlarging sewage works. Monitor water quality around discharge points.
Change in the use and installation of water-saving measures.	Minimise consumption of treated water by integrating rainwater capture technology using "grey" water for toilet flushing or "industrial" processes. Explore the use of water saving devices e.g. dual flush toilets, push button showers/taps or aerated shower heads. Install flow meters, other devices to monitor consumption cycles and identify where savings can be made.
Change in number or type of potentially polluting activities or processes on site.	Use bunds, booms, sediment traps, oil-water separators or holding tanks to prevent contaminated runoff from construction, training activities, de-icing, waste, fuel or chemical storage and handling areas reaching water bodies. Take into account the likelihood of increased storm flows.
Other water/drainage issues.	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	<ul style="list-style-type: none"> • Reduce water consumption by 25% on the office and non-office estate by 2020, relative to 2004/2005 levels. • Reduce water consumption to an average of 3m³ per person/year for all new office builds or major office refurbishments.
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WHY THIS THEME IS IMPORTANT TO MOD

- B1. Water and drainage are important themes for MOD due to a combination of legislative requirements and characteristics of the Department and estate. MOD's net annual consumption of water in Great Britain is estimated to be 24.2 million m³.
- B2. Water is an essential natural resource vital for public health and the environment. Although it is a renewable resource, there are limits to freshwater availability on a regional, national and global basis. Water is important for the survival of flora and fauna and for human health, industry and transport. As the world's population continues to expand, there will be a consequent rise in demand for water. Climate change is also putting stress on the availability of water through an increasing proportion of rain falling in extreme events, more frequent periods of drought, and saline inundation of freshwater reserves due to rising seas.
- B3. The Government's main objectives related to water and drainage include:
- *Water resources*: Ensure adequate water resources are available to meet consumers' needs whilst sustaining aquatic ecosystems and natural hydrological processes. Encourage efficient use of water by controlling water supply, consumption and leakage and minimising over-abstraction.
 - *Fresh water*: Sustain and improve the water quality and aquatic environment by controlling surface and ground water quality, pollution, waste water treatment and recreational use of water.
 - *Marine water*: Minimise human inputs into the sea (directly or from inland via rivers) to control estuarine and marine water quality and pollution and protect marine biodiversity.
- B4. In the UK, the Environment Agency (England and Wales), Scottish Environment Protection Agency (SEPA) and the Northern Ireland Environment and Heritage Service help deliver the sustainable use of water resources through regulation, provision of advice and working with partners.

The EU Water Framework Directive (WFD) 2000 promotes integrated river basin management, to improve surface water chemistry, ecology and hydrology. The Directive includes targets to: Publish river basin management plans by the end of 2009, and deliver 'good ecological quality' status for all inland and coastal waters by 2015. The Environment Agency, Scottish Environmental Protection Agency and the Northern Ireland Environment Agency published draft River Basin Management Plans for England & Wales, Scotland and Northern Ireland respectively on 22nd December 2008. The final plans will be published in December 2009 (in consultation until 22 June 09). New planned developments within the river basin districts might be required to take into account water resources, sewage treatment capacity, protection of biodiversity, flood risk management and consideration of the likely impacts of climate change. An Information Note on the WFD was published by DE Prop last Oct 08 containing guidance for all those involved with the development of the estate and defence activities that have the potential to impact on the water environment. See annexes.

- B5. The Government has extended the building regulations to cover water efficient fittings and has developed with industry a Code for Sustainable Buildings. The code will establish stretching voluntary standards for resource efficiency on key issues including minimising water consumption, site drainage and site management.
- B6. In autumn 2004, The Making Space for Water (MSW) consultation exercise sought views on proposals for a new cross-government strategy for England. This focused on the sustainable management of flood and coastal erosion risk from all sources. A MSW Programme of Work has been developed and includes various research projects aiming to identify holistic approaches to managing flood and coastal erosion risk, whilst achieving sustainable development. There are plans to develop more concise flood and coastal erosion risk management appraisal guidance by Defra and best practice implementation guidance will be by the EA.
- B7. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Strategic Statement on Water Consumption was produced detailing strategic objectives for action.
- B8. UK planning policies on development and flood risk have been set out under PPS25 (England), TAN15 (Wales), PPS15 (Northern Ireland) and SPP7 (Scotland) aiming at minimise flood risk to people, property and the environment at all stages in the planning process. The policies intend to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new development is, exceptionally, necessary in such areas, policies aim to make it safe without increasing flood risk elsewhere and where possible, reducing flood risk overall.
- B9. The Directive on the Assessment and Management of Flood Risks 2007 (The Floods Directive) is designed to help Member States prevent and limit floods and their damaging effects on human health, the environment, infrastructure and property. Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMP) will become a requirement from 2009. A change in management policy might be identified in the longer term where a long term hold the line policy will not be economically viable, technically sustainable, or environmentally acceptable.
- B10. The UK Government published Future Water, the Water Strategy for England in February 2008 setting up a vision for a sustainable delivery of secure water supplies and an improved and protected water environment. A consultation on Surface Water Runoff took place in early 2008 in order to set out a vision for more effective drainage of surface water and prepare for the impacts of climate change. Proposals include the development of surface water management plans.

- B11. A Draft UK Floods and Water Bill will be published for consultation the 21 Apr 09, aimed at update and streamline, strengthen and extend existing flood and water legislation including implementing appropriate recommendations from the Pitt Review, Future Water and Making Space Water strategies. It will include provisions to increase the uptake of SUDS, limit the automatic right of premises to connect to sewers, restrict non-essential domestic uses of water during droughts and empower the Environment Agency, for instance to challenge developments to be compliant with PPS25.
- B12. Sustainability Appraisal presents an opportunity to build such commitments and targets into a new project or proposal from an early stage. An additional demand on the local water supply, sewerage or surface water drainage networks may require capital expenditure to reinforce them. Water is an expensive utility that MOD must purchase. Minimising consumption and saving water therefore produces financial as well as environmental benefits. The Watermark project has revealed that every £1 spent on water-saving measures can yield up to £10 in savings. Both delivery and removal of water must be paid for, and if water becomes polluted during use, it often has to be treated as special waste.

MOD ACTIVITIES AND IMPACTS

- B13. MOD undertakes many activities that can affect water use, quality and drainage. Daily activities such as cleaning (people, clothing, linen, buildings, and equipment), food preparation, leisure amenities, livestock and horses all require fresh or treated water and produce waste water. Changes in numbers of people on site will change the amount of water used and discharged.
- B14. Many MOD activities have potential to contaminate watercourses, either through direct discharges, from surface run-off and groundwater percolation, or from deposition of airborne contaminants. Water pollution can arise from:
- sewage treatment effluent;
 - "industrial" processes e.g. research and testing;
 - liquid catering waste;
 - overboard disposal or jettisons;
 - sedimentation from dredging, vehicles fording watercourses, surface erosion from bare tank tracks and impact craters, run-off from construction sites, waste water from vehicle or aircraft washdowns (the latter of which may contain contaminants such as cadmium);
 - leaks and run-off from fuel or chemical stores and re-fuelling points;
 - heavy metals in range butts and impact areas leaching into groundwater;
 - Run off of fertilisers or pesticides from agricultural land on the estate;
 - Firing of missiles, artillery and other rounds into the sea.
- B15. Design and construction of buildings and infrastructure should be sensitive to local hydrological regimes and drainage patterns. If vegetated areas are replaced with solid surfaces this can accelerate surface run-off causing flooding downstream, desiccation of underlying soil and substrate, along with inundation and vegetation changes on the margins of the solid surfaces. Implications for the effects on run off must be considered in all changes to buildings and infrastructure.
- B16. Point sources of pollution such as discharge pipes are now well regulated. Today's biggest water pollution problems stem from the widespread run off of contaminated flow from roads and hard surfaced areas and agricultural land. Development, refurbishment and activities of agricultural tenants should account for position and flow of local surface and sub-surface watercourses, and the need to "trap" contaminants that may be present in flows.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Large reduction in people and activities that use water and produce contaminated effluent. Combined with installation of water saving technologies.	Installation of water saving devices, grey-water recycling, rainwater capture or bunds to reduce flow of contaminants.	No Impact	Increase in people and activities to consume water. Increase in hardened surfaces. Discharges into surface or ground water.	Significant increases in surface or groundwater contamination. Permanent development and hardening of surfaces in flood-risk areas.

Good practice case studies

Navy Showerhead Study

The Navy has undertaken an investment appraisal into options for replacing existing showerheads with water-saving heads on Royal Marine establishments. One product, trialled by DERA, would use 63% less water to meet existing specifications for performance and durability, producing a 10 year saving of £1,411,000 in water, sewage, heating and maintenance charges if all existing heads were replaced. The study certainly recommends installing the product in new developments, where savings would be even greater.

RAF Kinloss – Surface Water Treatment Facility

During the winter months the aircraft and runway at RAF Kinloss often have to be de-iced. In order to treat the de-icing and rainwater a reed bed system was installed in Apr 07 to treat the polluted water, including 4km of underground steel storage pipes, a treatment lagoon where fresh air is pumped into the polluted water and over one hectare of reed beds where the outflow is treated before being diverted into the sea.

RMB Chivenor – new flood defences being adapted to climate change

As part of the development of new motor transport facilities and new accommodation at RMB Chivenor a Flood Risk Assessment (FRA) of the site was undertaken and new flood defences designed in compliance with PPS25. The new defences, currently being constructed, have been designed to protect RMB Chivenor facilities for at least the next 25 years and can be adapted thereafter.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Environmental Focal points for each TLB
- Defence Estates Property Directorate, Environment Policy, Sutton Coldfield – Tel: 0121 311 2018
- Defence Estates Environmental Advisory Services, Sustainable Development Support Westdown Camp - Tel: 01980 674866
- Defence Estates Specialist Services Unit (for water contamination issues), Sutton Coldfield – Tel: 0121 311 2007

- MOD Safety, Sustainable Development and Continuity Division (SSD&CD), Environment Team (policy and ministerial level advice), Main Building, London
- Defence Utilities Policy and Review Group representatives, TLB utility managers
- Regional, Establishment, base or Unit Environmental focal points
- Project Aquatrine Communications Manager, Sutton Coldfield – Tel: 0121 311 2297

External

- [Department for Environment, Food and Rural Affairs \(DEFRA\)](#)
- [Environment Agency](#) – Tel: 08459 333111
- [Scottish Environment Protection Agency](#) – Tel: 01786 457700
- [NI DOE Environment and Heritage Service](#) - Tel: 028 9054 6614
- [Centre for Ecology and Hydrology](#) – Tel: 01491 838800
- [Water UK](#) - forum representing water industry, government and stakeholders
- Relevant Local Authority and Water Company

INFORMATION AND REFERENCES

- Defence Estates: 2006: [Defence Estates Strategy 2006, In Trust and On Trust](#)
- MOD JSP 418: *Sustainable Development and Environment Manual* (Volume 2, Leaflet 19)
- MOD: *Strategic Statement: Water Consumption*
- [CIRIA Sustainable Drainage Systems \(SUDS\)](#)
- [Department for Communities and Local Government Planning Policy Statement 25: Development and Flood Risk](#)
- [DEFRA: Pollution Prevention and Control information resource](#)
- [DEFRA: Water information resource](#)
- Environment Agency / SEPA: *Pollution Prevention Guidelines*
- Environment Agency: *Environmental Good Practice Guide: Urban Redevelopment for Industrial and Commercial Uses - Site Appraisal and Layout, Surface Water Disposal and Landscapes for Biodiversity*
- Environment Agency: *Policy and Practice for the Protection of Floodplains*
- Environment Agency: *Conserving Water in Buildings*
- [Government's Sustainable Buildings web pages, hosted on the DTI website](#)
- DCLG: 1994: *Planning Policy Guidance Note 23: Planning and Pollution Control*.
- DCLG: 2001: *Planning Policy Guidance Note 25: Development and Flood Risk*.
- [UK Government Sustainable Development information resource](#)

THEME C: ENERGY AND CLIMATE CHANGE

Overall sustainability objective: Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources, and improve resilience to climate change.

Sub-objectives:

- To improve energy efficiency;
- To promote development and use of renewable energy;
- To prolong the availability of finite fossil fuels;
- To explore secure, diverse supplies of energy at competitive prices that are generated in environmentally acceptable ways; and
- To prepare for the likely impacts of a changing climate in order to minimise disruption and take advantage of opportunities.
- Incorporate adaptation features into the design of new developments and refurbishments

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in number of energy consuming personnel on site.	Undertake further assessments to evaluate current/projected energy use. Educate project team/users about energy consumption and procurement issues, promote behavioural changes & mitigation. For further information relating to grants and other funding opportunities to support improved energy efficiency, please contact the DE Prop Energy Team.
Change in number of energy consuming buildings or processes on site.	Avoid the need for energy to be used, e.g. building orientation and large windows to maximise light levels, or "sun-pipes" to beam natural light into basements/interiors.
Change in amount of energy saving technology installed in facilities.	Consult MOD Carbon Saving booklet for practical approaches to carbon emission reductions. Minimise energy consumption and improve energy efficiency. Short-term paybacks = energy saving light bulbs. Medium-term payback = more efficient boilers (e.g. condensing boilers) & extra insulation. Long-term = use energy efficient technology in new buildings (e.g. insulation/movement sensitive lighting/solar panels/natural or mechanical ventilation rather than a/c).
Change in balance of renewable/non-renewable energy used.	Generate renewable electricity on MOD land, where it can be achieved in an operationally and environmentally sensitive way.
Change in opportunity to explore generation of renewable energy or CHP.	Acquire electricity generated from renewable resources (e.g. wind, wave, geothermal, solar, biomass energy). Use Combined Heat and Power (CHP) generation. Generation of electricity produces large amounts of heat, much is dissipated or lost through cooling towers. CHP facilities re-circulate this heat into nearby buildings, maximising energy released from the original fuel and reducing energy needed for heating. CHP systems are often fuelled by waste incineration and renewable bio-fuels. Explore other low/non carbon technologies (see DCLG guidance "Low or Zero Carbon Energy Sources : Strategic Guide")
Change in through-life energy use of equipment.	Consider the through-life energy requirements of buildings/materials/equipment. Use Building Energy Management Systems (BEMS) or Kitchen Energy Management Systems (KEMS).

Application of Common Minimum Standards, OGC Guide 11 and grading of energy performance.	Procure "A" rated white goods under DEFRA's Energy Labelling Scheme.
Other energy issues.	
Response to risks and potential opportunities posed by climate change as a result of this activity.	Ensure developments are located and designed to incorporate adaptation features. See Table C1.
Management of the vulnerability of the location of new developments to climate change impacts.	Undertake a CIRAM assessment to assess/determine potential issues and engage Subject Matter Experts assistance to investigate specific risks (e.g. Flood).
Extent of in-built resilience to climate change into new developments and major refurbishment projects.	Scrutinise Statement of Requirements and Terms of Reference to ensure that the specification requested will still be delivered under different climatic conditions.
Other energy and climate change issues.	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	CARBON EMISSIONS FROM OFFICES <ul style="list-style-type: none"> • Reverse the current upward trend in carbon emissions by April 2007. • Reduce carbon emissions by 12.5% by 2010-11, relative to 1999/2000 levels. • Reduce carbon emissions by 30% by 2020, relative to 1999/2000 levels.
	CARBON EMISSIONS FROM ROAD VEHICLES <ul style="list-style-type: none"> • Reduce carbon emissions from road vehicles used for Government administrative operations by 15% by 2010/11, relative to 2005/2006 levels.
	CARBON NEUTRAL <ul style="list-style-type: none"> • Central Government's office estate to be carbon neutral by 2012.
	ENERGY EFFICIENCY <ul style="list-style-type: none"> • Departments to increase their energy efficiency per m² by 15% by 2010, relative to 1999/2000 levels. • Departments to increase their energy efficiency per m² by 30% by 2020, relative to 1999/2000 levels.
	EXISTING SUSTAINABLE OPERATIONAL COMMITMENTS (TO CONTINUE UNTIL COMPLETION) <ul style="list-style-type: none"> • Departments to source at least 10% of electricity from renewables (31 March 2008) • Departments to source at least 15% of electricity from Combined Heat and Power (2010)

WHY THIS THEME IS IMPORTANT TO MOD

- C1. The effects of climate change can already be seen. Temperatures and sea levels are rising, ice and snow cover are declining, and the consequences could be catastrophic for the natural world and society. Scientific evidence points to the release of greenhouse gases, such as carbon dioxide, into the atmosphere by human activity as the primary cause of climate change. MOD needs to manage the issue both from the perspective of reducing carbon dioxide and other greenhouse gas emissions (mitigation) and preparation for the likely impacts of climate change (adaptation).
- C2. The Government is keen to promote more diverse local electricity and heat generation with different generation technologies, supplying the needs of individual consumers and buildings, and providing excess electricity back into the National Grid. Particular emphasis has been put on Combined Heat and Power (CHP) and renewable technologies such as wind, hydroelectric, wave, solar, biofuel and geothermal energy.
- C3. The Government is also keen to promote energy efficiency. The 2006 Building Regulation Part L introduces minimum performance standards for buildings in terms of carbon dioxide emissions per m² and the EU Energy Performance of Buildings Directive will lead to the introduction of 'energy certificates' for buildings and statutory inspection of heating and cooling plant.
- C4. The UK Government is committed to both reducing the country's greenhouse gas emissions and adapt to the impacts of climate change. Under the Climate Change Act 2008 it has become a statutory duty for Government departments to reduce the UK's Greenhouse Gases (rather than just CO₂) emissions by at least 80% by 2050 and by at least 26% by 2020, but it has also become a statutory duty for Government departments (including MOD) to report at least every five years on climate change risks and publish a programme to address them. Powers have been created to require public bodies and statutory undertakers (e.g. utility companies) to take action on adaptation.
- C5. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), the Estate Utilities Board (EUB) was established in 2006 to provide strategic coordination and direction of utilities management across the MOD. The EUB aims to reduce consumption, minimise spend, reduce environmental impact and ensure security of supply on the estate. A MOD Utilities Best Practice & Renewable Initiatives Database has been developed to share best practice.
- C6. Defence Estates Chief Executive is the Sustainable Procurement Champion for DE and sits on the MOD Sustainable Procurement Projects Board (SPPB) which aims to improve procurement processes to reduce energy consumption and improve energy efficiency on the MOD Estate.
- C7. Planning Policy Statement Supplement 1 (PPS1): Planning and Climate Change was published Dec 07 and sets out the Government planning policy in providing new homes, jobs and infrastructure that contribute to minimise greenhouse emissions and are resilient to the impacts of climate change.
- C8. A Planning Policy Statement (PPS) for coastal change will be published for consultation in Jul 09. The new PPS will set out Government planning policy on development and coastal change, ensuring that spatial policies to support the delivery of regeneration and economic growth for coastal areas take proper account of the physical processes affecting the coast and decisions regarding the planning and management of coastal defences.
- C9. The MOD Climate Change Strategy was published Dec 08 which sets out both MOD approaches towards reducing greenhouse emissions from defence activities and

delivering Defence capability that is resilient and adapted to climate change. This includes detail on the Adaptation Strategy for the MOD Estate. It can be located from the web-link given at the end of this theme

- C10. In order to respond to the Adaptation commitments in the Climate Change Act and MOD Climate Change Strategy, DE is developing a climate impacts risk assessment method (CIRAM) that will be used to assess the risks and opportunities that climate change will bring for the MOD Estate on a site by site basis. CIRAM will be available by Jan 2010.
- C11. Sustainability Appraisal presents an opportunity to build such commitments and targets into a new project or proposal from an early stage. The capacity of the local electricity or gas supply network to accommodate any additional demand should be taken into consideration.

MOD ACTIVITIES AND IMPACTS

- C12. The MOD's built estate is considerable and includes office buildings, sports and recreation facilities, accommodation, messes, workshops, motor transport facilities, hangars, stores and warehouses. Much of this requires energy for heating, lighting, cooking and operating equipment. The annual total non-operational energy cost to the MOD world-wide is in excess of £200 million which equates to carbon emissions in the order of 2 million tCO₂ each year. As MOD is such a big energy consumer, we have an obligation to explore ways to improve efficiency and reduce carbon emissions.
- C13. All public sector funded construction projects must meet the standards laid out within the Government's Common Minimum Standards for the Procurement of Built Environments and follow the principles of the Office of Government Commerce (OGC) Achieving Excellence in Construction Procurement Guide 11: Sustainability. In particular, any new procurement project (whether new build, refurbishment, purchased, leased or the procurement of a service - e.g. managed workspace) must fall into the upper quartile of energy performance for the building type, except where specific operational requirements prevent this.
- C14. MOD policy is that consumption of energy should be managed as efficiently as possible, consistent with operational effectiveness. Particular importance is attached to the economic benefits of reducing non-operational running costs and emissions by reducing energy consumption.
- C15. The diversity of activities taking place on the MOD estate means that there are many sectors that will be impacted upon by climate change. These sectors have been identified as: the built environment (location, design and construction, for instance to incorporate renewable energy production on site under the Merton Rule and PPS22); Maintenance / FM / core services; Contaminated land; Utilities; Biodiversity; Agriculture; Forestry; Cultural heritage; and Water. All activities in these sectors should assess the risks to the impacts of climate change and develop/incorporate adaptation measures, for example, higher summer temperatures must be factored into building design and a longer growing season will require more resources for grounds maintenance. See DE Sustainable Procurement Practitioner Guide.
- C16. MOD has a large rural estate, parts of which may provide suitable sites for establishing renewable energy facilities. Small, isolated establishments may potentially be powered by small wind generators (guidance currently being produced by DE), hydropower, solar power or biomass generators. Micro-generation of energy e.g. photovoltaic cells, solar water heating and Combined Heat and Power (CHP) can be incorporated into the built estate.

C17. Departmental restructuring exercises may have energy implications. If there is a significant increase in personnel or operations on a site, it is likely that there will be a significant increase in energy consumption. However, there may be efficiencies in combining tri-service facilities onto one site as there are both financial and environmental economies of scale in fuelling one larger facility rather than small, discrete sites.

C18. New build or refurbishment projects offer the potential to incorporate energy efficiency measures, either by design from the start or by gradually replacing old systems with new, efficient technology. The revised Building Regulations cover energy efficiency in some detail. Project teams should be receptive to the short, medium and long-term savings that offset initial expenditure on energy efficient technology or renewable energy initiatives. The focus should be shifted from initial investment costs to the through-life energy costs and impacts of buildings, materials and equipment. Local Energy Managers must be consulted when exploring alterations to energy supply and technology.

C19. It is MOD policy not to specify air conditioning or mechanical ventilation unless it can be shown that there is an unavoidable design or operational requirement that makes natural ventilation unsuitable. Where air conditioning is required renewable energy sources or CHP in reverse should be considered. Where appropriate, a cooling strategy for the site should be developed and consideration should be given to having a central chiller plant rather than a whole series of split air conditioning units. A central plant could also reduce the amount of ozone depleting substances refrigerants on the site.

Table C1: Climate Change Adaptation Impacts and Responses (Undertake a CIRAM assessment to determine which potential impacts of climate change and adaptation responses apply to your development plan).

Potential Impacts of Climate Change	Examples of Possible Adaptation Responses
Planning	
Higher risk of flooding/erosion of susceptible developments in floodplains or coastal margins	Ensure planning takes account of future trends in flooding and coastal erosion. Consider range of options for flood and coastal management, including promoting appropriate and sustainable defences (with the Environment Agency where appropriate) and locating new development away from areas of highest risk (DE GEODE mapping uses EA data on floodplains and coastal margins to create a layer that provides information on river and tidal flooding. Please note that other sources of flooding are not represented).
Hotter drier summers could further increase pressure on water resources	Consider potential water supply/demand issues when siting new development
Emergency planning for severe weather	Ensure emergency procedures and equipment are updated to meet increased risk
Buildings and Infrastructure	
Increased risk of subsidence as soils shrink in hotter drier summers	Plan for preventative and remedial maintenance of existing stock, e.g. consider changes to procedures and inspections to ensure foundations are resilient
Extreme Weather stresses	Improve design scope to minimise brittle failures in infrastructure

Higher risks in floodplains or coastal margins	Consider restricting new development in the floodplain and coastal margins, and relocation or instigating a range of flood-proofing measures or sustainable defence measures for existing properties
Temperature increases affect living / working environment	Use thermal properties of materials to improve cooling and retrofit energy efficient systems
Temperature increases affect living / working environment	Reduce solar heating using recessed windows, roof overhangs and shades
Temperature increases affect thermal comfort	Retrofit or upgrade energy efficient heating and ventilation
Wetter winters causing damp, condensation and mould problems	Upgrade weatherproofing systems and manage internal environment
Increased rainfall intensity affecting embankments and bridge piers and washing more debris into gullies	Increase monitoring and maintenance of embankments and bridge piers, and increase gully emptying activity
Drier summers increase risk of road subsidence and higher temperatures increase risk of surface damage	Re-examine road structural design. Implement remedial work for existing roads
Natural Environment Awareness	
Climate change influence on species and habitats	Plan for wildlife corridors to allow natural migration. Consider resilience of species in farming and forestry

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Procurement of renewable energy. Use of CHP technology, or renewable electricity generators on the estate. Planning, design and implementation of the activity takes full account of changing requirements from future climate scenarios e.g. Procurement of developments with a range of adaptation features, such as passive ventilation,	Inclusion of natural or mechanical ventilation systems and energy saving devices in buildings. Inclusion of some adaptive features.	No Impact Activity unlikely to be affected by changing climatic conditions in any way.	Increase in personnel using or residing in a facility with limited consideration of energy management. Minimal resilience to climate change relative to the lifespan of the project or activity.	Large, long-term increase in operational or non-operational energy consumption (e.g. large scale energy inefficient new build). No account of the effects of climate change taken during the execution of the activity e.g. Procurement of developments in vulnerable locations or with no flexibility to accommodate climatic conditions outside of a

solar attenuation and high thermal absorption capacity.				narrow range.
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Good practice case studies

RM Norton Manor - new Single Service Living Accommodation incorporated extensive solar panelling to heat water. The Works Services Building at RM Condor, Arbroath is a small but important trial project for a variety of sustainable technologies, including: innovative modular solar collectors, pre-packaged engineering systems, use of natural light in corridor and interior space, cavity wall insulation. The considered evaluation of the energy and financial savings for this project will assist in determining their wider application across the defence estate.

Castlemartin Training Area, Pembrokeshire, Wales – replacement of existing oil fired heating boiler with a wood burning biomass boiler.

An existing oil fired heating boiler is to be replaced with a 100kWth wood burning biomass boiler fuelled by wood chips harvested from the Forestry Commission woodland adjacent to the training area.

HMNB Clyde, Faslane, Scotland – New SLA, dining and recreational facility for 2,500 personnel.

Installation, which supports the Government's photovoltaics demonstration programme, comprising three photovoltaic arrays made of Unisolar laminated bonded onto a Kalzip roof. The array will generate 49.9 kilowatt peak (kwp) of electricity.

Meteorological Office – New Office Building, Exeter

Heat exchangers in the air-handling units, motion detection on the lighting, and special solutions for windows and walls are being used to minimise energy use. A CHP plant has been installed on-site. The mass of the building is being used through a 'ThermoDeck Ventilation System' for heating and cooling.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Focal points for each TLB
- Defence Estates Property Directorate, Environment Policy, Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp - Tel: 01980 674866
- MOD Directorate of Safety & Claims (policy and ministerial level advice), Main Building, London
- Defence Utilities Policy and Review Group (DUPARG, formerly DUWG) representatives
- TLB Utility Management branches, e.g. Army Utilities Management Board, PTC Utilities Management, CESCO (RN)
- Regional, Establishment, base or Unit Environmental focal points

External

- [Carbon Trust - energy advice for businesses and the public sector](#)
- [UK Climate Impacts Partnership \(UKCIP\)](#) - coordinates research and information on dealing with our changing climate

INFORMATION AND REFERENCES

- MOD JSP 418: *MOD Sustainable Development and Environment Manual* (Volume 2, Leaflets 4 - Climate Change and 17 - Utilities Management)
- [MOD: Sustainable Development Strategy for Non-Operational Energy](#)
- [MOD: Strategic Statement: Estate Adaptation to Climate Change](#)
- [MOD Carbon Saving Booklet, Practical Approaches to Carbon Emission Reductions on the Defence Estate](#)
- [DCLG Low or Zero Carbon Energy Sources: Strategic Guide](#)
- [DEFRA: Sustainable Energy information resource](#)
- [DEFRA: UK Energy Strategy](#)
- [DEFRA: Climate Change](#)
- [DTI Renewable Energy information resource](#)
- [DTI: 2003: *Our Energy Future - creating a low carbon economy* \(Energy White Paper\)](#)
- DCLG: 1993: *Policy Planning Guidance Note 22: Renewable Energy*
- Royal Commission on Environmental Pollution: 2000: *Energy: The Changing Climate*
- [UK Government Sustainable Development information resource](#)

THEME D: NOISE AND VIBRATION

Overall sustainability objective: Minimise noise and vibration disturbance to people and wildlife and stress to historic buildings caused by routine MOD activities.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Is there a change in intensity, duration or timing of training activities that may affect people (including recreational visitors) and wildlife?	Publicise or liaise with local communities in advance of exercises involving firing, low flying and night activities. Consult subject matter experts regarding any potential disturbance impacts on wildlife, especially if the proposal could affect designated sites or protected species (see Theme J).
Change in type of vehicle or weapons used	Educate the project team and users about the issues surrounding noise and vibration, and promote behavioural changes and mitigation techniques that can alleviate impacts.
Change in volume and timing of heavy vehicles on roads, particularly through communities or near historic buildings	Avoid heavy vehicle movements (e.g. military convoys/vehicle transporters/delivery trucks/heavy construction plant) near communities or on narrow roads flanked by buildings, especially during unsociable hours, to avoid disturbance from noise and vibration.
Change in noise and vibration from demolition and construction activities	Undertake noise/vibration assessments and monitoring if significant disturbance is likely. Use tools such as GNAT (Gunfire Noise Analysis Tool) and examine weather patterns to understand sound propagation.
Is there a likely noise change in recreational use of the estate, e.g. activities such as driving or shooting?	Consider screening noisy activities with noise bunds.
Other noise and vibration issues	

WHY THIS THEME IS IMPORTANT TO MOD

- D1 Noise and vibration are important issues for MOD due to a combination of legislative requirements and unique activities of the Department. Both can cause disturbance to people and wildlife and should be minimised during projects, activities and operations.
- D2 Disturbance has been defined as "*a feeling of displeasure associated with any agent or condition, known or believed by an individual or group to adversely affect them*" (World Health Organisation, 2000). Several factors need to be accounted for when assessing potential for disturbance, including:
- Timing of disturbance and context of background noise and vibration against which MOD activity occurs;
 - Duration of disturbance - sudden noise events or prolonged activity;
 - The sensitivity and perception of those receiving disturbance.
- D3 Excessive noise can cause annoyance to individuals which can lead to distress, and psychological problems such as interrupted rest and sleep, reduction in the ability to concentrate, and excessive noise levels can damage hearing. Excessive vibration can affect people in a similar way to noise, causing physical and emotional stress.

Vibrations from, e.g. movement of heavy vehicles, can put strain on buildings and structures.

- D4 As a Government department, MOD must comply with UK legislation. Noise and other statutory nuisances are covered by Part 3 of the Environmental Protection Act 1990 [MOD has a disapplication of EPA 90 Pt III for smoke and noise, however the SofS Policy statement requires MOD to act as if the law applies] . The Noise and Statutory Nuisance Act (NSA)1993 excludes military activities, however the Noise Act 1996 requires complaints about noise occurring between 2300-0700 hrs where the noise within the complaints dwelling would exceed a permitted level to be investigated and action taken by Local Authorities.. The MOD is now subject to the planning approval procedures and approvals may be conditional upon adequate noise mitigation and management. The Health and Safety at Work Act 1974 and Control of Noise at Work Regulations 2005 also govern occupational noise levels.
- D5 Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

MOD ACTIVITIES AND IMPACTS

- D6 Some activities undertaken by MOD produce environmental noise or vibration which may cause disturbance to communities. e.g. artillery firing and low flying (helicopters and fast jets). Artillery firing and flying can emit sudden, loud, noises that may frighten people and animals and be intrusive in rural areas. Sound energy from the firing of artillery can have a vibratory effect on nearby surroundings (this is dependent on weather conditions and the type of load being fired).
- D7 Development of the MOD Estate includes decommissioning, refurbishment, construction and engineering projects which can generate significant levels of noise and vibration, particularly during demolition activities, piling and use of heavy vehicles and plant. Noise and vibration is usually focussed near the construction site. Wider communities may be affected by construction work if local roads are used to transport machinery and materials to and from the site.
- D8 Noise and vibration from road transport is not solely restricted to construction movements. MOD uses road transport convey vehicles to training exercises, move supplies of food, fuel, equipment and consumables, and remove waste.
- D9 New licensed estate activities e.g. field sports (shooting), non-military flying, commercial and recreational pursuits are subject to noise assessment and or Establishment noise management procedures. Other sources of noise and disturbance can include the social activities of large groups of personnel, in messes, social clubs and facilities close to the local community. Noise from MOD activities can also affect the enjoyment of countryside by visitors to adjacent sites (e.g. National Parks) to the MOD Estate.
- D10 Noise and vibration can also affect wildlife on and around the defence estate, raising general stress levels in populations, particularly during the breeding season.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of disturbing activities	Liaison schemes in place with local communities. Use of noise screening	Localised and occasional changes in vehicle use or firing	Short term disturbing activities such as construction	Long term increases in vehicle use, firing or flying, or heavy periods of construction.

Good practice case study - GNAT

The Army has adopted GNAT (Gunfire Noise Analysis Tool) for all its major training areas. The GNAT software package generates predicted noise patterns based upon weapon type, location and direction, weather conditions and topography. This allows activities to be positioned at appropriate parts of the training area in relation to sensitive receptors.

The RAF has several initiatives in place to manage the noise impacts of low flying, including:

- JSP 318 (*Military Flying Regulations*) and 318A (*Military Air Traffic Services*);
- *UK Military Low flying Handbook*;
- Regional Community Relations Officers/Media Control Officers in the most affected areas;
- Systems for handling complaints and investigating compensation.

A 5-year construction programme proposed at Northwood had potential to disturb watchkeepers trying to sleep during the day. One of the mitigation measures, proposed by bidders to minimise construction noise, was to bring prefabricated structures onto site.

The Navy has undertaken environmental assessments on the effects that low-frequency active sonar can have on marine mammals and will reconfigure operating procedures to minimise risk of disturbance.

THEME SPECIFIC CONTACTS & FURTHER INFORMATION**Internal**

- Defence Estates Environmental Advisory Services, Sustainable Development Support Westdown Camp - Tel: 01980 674866
- MOD Safety, Sustainable Development and Continuity Division (policy and ministerial level advice), London.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.

External

- [National Society for Clean Air and Environmental Protection](#) - Tel. 01273 878770

INFORMATION AND REFERENCES

- [DEFRA noise information resource](#)
- MOD JSP 375: *Health and Safety Handbook*.
- MOD JSP 418: *Environment Manual*
- DCLG: 1994: Planning Policy Guidance Note 24: *Planning and Noise*.

THEME E: AIR QUALITY

Overall sustainability objective:

- To minimise greenhouse gas emissions and pollution of air with gases and particulates.

Sub-objectives:

- To achieve major long term reductions in greenhouse gas emissions; and
- To improve the quality of our air by minimising air pollution by gases and particulate matter.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in level of CFC/HFC usage	Where climate change/air quality impacts are considered to be significant, assessments can be carried out to evaluate baseline and extent of the changes that may occur as a result of proposals. Educate project team/end-users about climate change/air quality issues, promote behavioural changes and mitigation.
Change in amount of dust produced by firing of weapons and explosives, use of vehicles etc.	Establish a "green" code of practice with contractors to employ practices/technology to minimise dust. Monitor efficiency and emissions of boilers/vehicles/other sources of air contamination.
Change in amount of waste incineration or other combustion activities	Reduce the amounts of waste sent for incineration or to landfill, by overall minimisation and recycling.
Change in reliance on fossil fuels for energy generation or vehicle use	Comply with the Permanent Under Secretary mandated requirement to use alternatively fuelled vehicles, at least for white fleet.
Change in production of atmospheric pollutants from industrial processes.	Use Best Available Techniques (which are statutory) and Standard Operating Procedures to minimise emissions from industrial processes, e.g. fit filters or scrubbers to outlets such as chimneys and exhaust pipes.
Change in indoor air quality due to different layout or use of materials.	Choose natural or non-volatile materials/varnishes/cleaning products to minimise release of gases. To minimise Sick Building Syndrome, consider internal layout of new buildings to promote ventilation and avoid e.g. desks near photocopiers.
Other air quality issues.	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	CARBON EMISSIONS FROM OFFICES <ul style="list-style-type: none"> Reverse the current upward trend in carbon emissions by April 2007. Reduce carbon emissions by 12.5% by 2010-11, relative to 1999/2000 levels. Reduce carbon emissions by 30% by 2020, relative to 1999/2000 levels.
	CARBON EMISSIONS FROM ROAD VEHICLES <ul style="list-style-type: none"> Reduce carbon emissions from road vehicles used for Government administrative operations by 15% by 2010/11, relative to 2005/2006 levels.
	CARBON NEUTRAL <ul style="list-style-type: none"> Central Government's office estate to be carbon neutral by 2012.

WHY THIS THEME IS IMPORTANT TO MOD

- E1. Air quality is an important theme for MOD due to legislative requirements and the detrimental effects poor air quality can have on personnel and the environment e.g. damage to vegetation or building materials from particulate deposition. Air quality is impacted by the burning of fossil fuels, including through transport which are considered in more detail in Themes B and C respectively.
- E2. Burning of fossil fuels either in power stations or via internal combustion engines leads to the emission of wide varieties of pollutants principally carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOCs) and particulates (PM₁₀). In addition, photochemical reactions resulting from the action of sunlight on nitrogen dioxide (NO₂) and VOCs from vehicles leads to the formation of ground level ozone, a secondary long range pollutant, also known as photochemical smog. Industrial power stations emit sulphur dioxide (SO₂) and oxides of nitrogen, which when mixed with water in the atmosphere create sulphuric and nitric acids which, in rainfall, can attack stonework on buildings and damage vegetation by stripping protective waxes off leaves.
- E3. General air quality is diminished by the release of any air pollutant, including emissions from factory chimney stacks, dust from construction or vehicles, exhaust emissions and black smoke. Impacts include:
- Harm to health if irritants and particles are inhaled (e.g. increase in severity of asthma symptoms);
 - Deposition of soot and dirt onto buildings and surfaces;
 - Inhibited plant growth if coated with soot or dust; and
 - Smog and reduced visibility.
- E4. Air Quality is subject to Integrated Pollution Prevention and Control (IPPC) measures under the Environmental Protection Act 1990 and Pollution Prevention and Control Regulations 2000. The Clean Air Act 1993 lays out regulations for smoke, dust and other contaminants, all of which are reinforced by air quality objectives of the Environment Act 1995. The Pollution Prevention and Control Regulations 2000 also update IPC regulations for release of substances into the air.
- E5. The UK Air Quality Strategy sets out standards for nine main air pollutants and objectives for their achievement throughout the UK. It identifies the action that needs to be taken at international, national and local levels and provides a framework which allows relevant parties, including MOD, to identify the contributions they can make to ensuring that the objectives are met. The nine main air pollutants are:
- Nitrogen dioxide
 - Sulphur dioxide
 - Particulates
 - Carbon monoxide
 - Lead
 - Ozone
 - Benzene
 - 1,3-butadiene
 - Poly aromatic hydrocarbons
- E6. As a Government department, MOD must comply with UK legislation and policy supporting Air Quality objectives. The UK has signed up to International Treaties to reduce air pollution, notably The Geneva Convention 1979, which considers the problems of trans-boundary air pollution.

- E7. Sustainability Appraisal presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

MOD ACTIVITIES AND IMPACTS

- E8. MOD has an extensive built estate requiring heating and lighting. Generators, boilers and engines can all emit various gaseous pollutants and smoke.
- E9. Military and civilian activities can involve significant amounts of vehicle use. Vehicles produce exhaust emissions and heavy off-road and construction vehicles can raise dust and cause disturbance through noise and vibration. Vehicle and transport impacts are considered in more detail in Theme B.
- E10. Use of weapons and explosives during military training and testing can release contaminants into the atmosphere. Contamination can arise from the gases and propellants used when firing, and the smoke, metals and other particulates released when the round explodes. The impact of shells can also raise quantities of dust, or initiate vegetation fires in dry periods.
- E11. Air conditioning systems in buildings and cooling systems and fire suppressants on ships and aircraft have often used CFCs and HFCs. Alternative solutions should be adopted for new buildings and equipment. Refurbishment programmes for buildings and equipment should incorporate the phasing out and replacement of such materials.
- E12. MOD produces large volumes of waste per year. If this waste is incinerated, smoke and gases can be released. Methane and other gases can also be released when organic waste decomposes in landfill sites. Waste reduction and recycling can minimise gas release, or methane from controlled digestion can be used as fuel.
- E13. The MOD estate is fairly dynamic, with a rolling programme of decommissioning and replacement or refurbishment of facilities. Construction and demolition activities can introduce large quantities of dust into local atmospheres. Ongoing maintenance of buildings and equipment (e.g. de-painting and re-painting aircraft) can release gases from solvents or paints.
- E14. In a Department with such a large built estate, indoor air quality can be an important consideration. 'Sick Building Syndrome' (a situation where people experience symptoms of ill health that seem to be linked to spending time in a building - but where no specific cause can be identified) is associated with poor indoor air quality, and may originate as a result of:
- Poor ventilation and recirculation of stale air;
 - Ozone produced by photocopiers;
 - Oxygen depletion or carbon monoxide from inefficient heating and boilers; and
 - Release of polycyclic aromatic hydrocarbons (PAH) and volatile organic compounds (VOC) from plastics, furniture veneers, paints and polishes.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Installation of efficient technologies to reduce emission to air.	Use of dust suppression measures during construction activities.	No Impact	Increase in the amount of waste incinerated.	Permanent/widespread increase in emission of harmful gaseous/particulate pollutants.

Good practice case study – MOD Abbeywood

The buildings at MOD Abbey Wood, Bristol have been fitted with high efficiency boilers and specially designed chimneys to significantly reduce the amount of nitrous oxide released into the atmosphere.

**THEME SPECIFIC CONTACTS & FURTHER INFORMATION****Internal**

- CESOs and Environmental Focal points for each TLB
- Defence Estates Property Directorate, Environmental Policy, Sutton Coldfield – Tel: 0121 311 2018
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674866
- MOD Directorate of Safety & Claims (policy and ministerial level advice), Main Building, London – Tel: 0207 2189342
- Regional, Establishment, base or Unit Environmental focal points

External

- [Department for Environment, Food and Rural Affairs \(meeting government objectives and targets\)](#)
- [Environment Agency](#) (Integrated Pollution Control)- Tel: 08459 333111
- The District Council or Unitary Authority (Local Authority Air Pollution Control)
- [The Scottish Environment Protection Agency \(SEPA\)](#) - Tel: 01786 457700
- [National Society for Clean Air](#) - Tel: 01273 878770
- [National Air Quality Information Archive](#)

INFORMATION AND REFERENCES

- MOD JSP 375: *Health and Safety Handbook*
- MOD JSP 418: *Sustainable Development and Environment Manual* (Volume 2)
- [DEFRA: UK Climate Change Programme](#)
- [DEFRA: Air Quality information resource](#)
- [DEFRA: Pollution Prevention and Control information resource](#)
- DETR: 2000: *Global Warming*
- DETR: 2000: *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland*
- DETR: 2000: *Potential UK Adaptation Strategies for Climate Change: Summary and Technical Reports*
- DETR: 2000: *Tackling Climate Change in the UK*
- DETR: 1999: *Planning Policy Guidance Note 10: Planning and Waste Management.*
- DETR: 1994: *Planning Policy Guidance No 23: Planning and Pollution Control*

- DCLG: 1994: *Planning Policy Guidance Note 23: Planning and Pollution Control*
- Royal Commission on Environmental Pollution: 2000: *Energy: The Changing Climate*
- [UK Government Sustainable Development information resource](#)

THEME F: WASTE

Overall sustainability objective: Minimise resource usage, reduce waste arsing and promote reuse, recycling and recovery.

Sub-objectives:

- To actively support National Waste Management Strategies which require greater emphasis to be placed on waste prevention and reuse and a major reduction in waste going to landfill.
- To manage waste in a more sustainable manner using the requirements of the waste hierarchy (Reduce, Reuse, Recover and Dispose.) and the EU Waste Principles.
- To achieve and exceed wherever possible each of the Sustainable Operations on the Government Estate (SOG) targets and work towards the MOD SD Report and Action Plan objective to recover and recycle more waste than we send to landfill by 2012, thereby working towards becoming a zero waste to landfill organisation.
- To reduce waste through careful planning and procurement (e.g. only buying what is required)
- To promote reuse, recovery and recycling;
- To reduce construction waste and meet the Construction Commitment: Halving Waste to Landfill by 2012
- To reduce the production of hazardous waste and ensure that it is treated responsibly and safely; and
- To reduce the spread of persistent or diffuse pollutants and improve the general management of waste.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Waste of resources	Minimise procurement. Effective waste management means procuring and using resources efficiently to reduce the amount of waste produced. Avoid or reduce waste by estimating quantities accurately and working with suppliers to choose products with minimal packaging and transportation.
Construction project with potential to produce large amounts of construction or demolition waste.	Plan to reuse demolition material in the project or elsewhere. Careful planning to minimise the amount of construction materials ordered, reducing chances of surplus materials. Employ construction techniques and practices that minimise waste. Ensure a robust Site Waste Management Plan. Look for opportunities to reuse waste material (including co-operation with other projects). Use a good waste management company.
Bad planning or design reducing the opportunity for good waste management.	Educate the project team and end-users about the issues surrounding waste production and disposal, and promote appropriate allowance being made for waste issues.. Design in opportunities for good waste management...
Change in amount of waste produced (by e.g. more people, different materials).	Educate the project team and end-users about the issues surrounding waste production and disposal, and promote behavioural changes and mitigation techniques that can alleviate impacts. Avoid or reduce waste by estimating quantities accurately and working with suppliers to choose products with minimal packaging and transportation. Where unavoidable ensure waste facilities (e.g. recycling facilities) have capacity and are

	appropriate.
Change in amount of special, controlled, hazardous or radioactive waste produced.	Seek to minimise or avoid. Look for alternative materials. The key is to minimise the use of hazardous materials etc. in design and production so reducing the likelihood of generating these wastes. If unavoidable ensure appropriate management and disposal. Examine recycling and disposal options.
Change in opportunity to procure recycled or re-used materials in construction..	Examine and seize opportunities to maximise the use of recycled materials.
Change in opportunity to increase recycling in operation.	Plan to include a full range of recycling facilities.
Change in opportunity to send more waste for re-use or recycling.	Recycle/re-use waste as near to its source as possible to minimise unnecessary transport impacts and to keep impacts of the project local rather than widespread.
Changes in waste produced through disposal of redundant equipment and materials.	Work with local environmental organisations and small businesses to explore markets for e.g. reconditioned/refurbished IT and mechanical equipment or vehicles. You need to take account of the practicalities of this and also mention the Departments mandated policies on disposing of material assets through DSA. You may find your examples are non-starters and therefore not helpful and potentially misleading.
Other waste related issues	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	WASTE ARISING <ul style="list-style-type: none"> • Departments to reduce their waste arisings by 5% by 2010, relative to 2004/2005 levels. • Departments to reduce their waste arisings by 25% by 2020, relative to 2004/2005 levels.
	RECYCLING <ul style="list-style-type: none"> • Departments to increase their recycling figures to 40% of their waste arisings by 2010. • Departments to increase their recycling figures to 75% of their waste arisings by 2020.

WHY THIS THEME IS IMPORTANT TO MOD

- F1. Article 1 of the revised Waste Framework Directive explains that the Directive's objective is to lay down measures:-
- F2. to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use.
- F3. Waste management is an important issue for MOD. This is due to a combination of strict

legislative requirements, significant MOD-specific environmental impacts, and the increasing financial burden that it places upon individual budget holders. Waste management is one of the UK's major environmental and resource challenges, and encompasses:

- energy and resources to create the materials that become waste;
- transport impacts when moving waste;
- gaseous emissions from incineration or decomposition;
- extent of land required for landfill or processing facilities;
- contamination of land and water and health risks from hazardous waste.

- F4. The UK produces over 100 million tonnes of waste every year from households, commerce and industry and this total has been increasing significantly. Most of this waste is transported by road and landfilled or incinerated, both of which produce greenhouse gases. Landfill space is becoming increasingly scarce in some parts of England and Wales, particularly in the Southeast. MOD is the largest producer of waste in central government, producing some 300,000 tonnes of waste per annum (over 60% of the central government total) and spending nearly £20m on waste management.
- F5. MOD waste arisings are generated by diverse and geographically spread activities across thousands of sites; Naval Bases, Garrisons, airfields, training camps, repair and storage depots etc. The ongoing tempo of Operations also has a significant effect. We have a considerable transient military population which is deployed on and returns from Operations or training exercises, frequently in very large numbers and at varying and often unpredictable intervals. The MOD is also obliged to deal with waste arisings from the foreign vessels and aircraft that use its bases and year on year we consign military equipment to be recycled (e.g. warships and armoured fighting vehicles) in variable amounts
- F6. Sustainable waste management means procuring and using resources efficiently to reduce the amount of waste produced. Where waste is generated, the principles of the UK Waste Strategies should apply. Where possible, waste should be turned into a resource through reuse, recycling, composting and energy recovery, with disposal as a last resort. Many of these depend on attitude and behaviour change and often rely on the presence of adequate collection, reprocessing facilities and markets. Partnerships between local authorities and the public sector, private industry and environmental organisations are facilitating sustainable waste management.

Waste management hierarchy

- REDUCE** Reduce waste through design, improving processes and, working with suppliers on careful choice of packaging, accurately estimating quantities required. Reduce other organisations' waste disposal by procuring reusable, recovered or recycled materials.
- REUSE** Reuse items rather than disposing after initial use, e.g. refillable bottles or print cartridges. Refurbish and market "old" equipment e.g. vehicles, electrical equipment. Reuse postpones and cuts eventual disposal costs and reduces the need to consume raw materials for fresh products.
- RECYCLE** Recycling is the processing and transformation of "waste" materials into another useful product. Recycling reduces the demand for raw materials and postpones and reduces disposal costs of the original item.

RECOVER Recover any useful energy from "waste" material rather than losing it through disposal. Examples include composting organic waste (including some paper and card), collecting methane gas from landfill sites and incinerating waste to produce energy to generate electricity or heat buildings.

- F7. The Government promotes the management of waste in line with the "proximity principle". This states that waste should be disposed of as near to its source as possible. This is to ensure that waste problems are not simply exported to other regions or countries and that the emissions and impacts of waste transportation are minimised.
- F8. As a Government department, MOD must comply with EC/UK legislation and policy that supports waste management objectives. The Environment Act 1995 updates waste regulations that were originally launched under the Environmental Protection Act 1990.
- F9. The UK launched the Landfill Tax in 1996, an initiative that was strengthened by the EC Landfill Directive 1999. The Landfill tax is a levy per tonne of waste sent to landfill which increases by £3 per tonne annually on 1 April for non-hazardous waste (Landfill Tax for inert waste currently resides at £2.50 per tonne and £40 for active waste) with the medium to long-term objective of reaching £64 per tonne by 2012. The revenue is invested in organisations with environmental objectives and schemes.
- F10. The Hazardous Waste Regulations 2005 govern the handling, treatment and disposal of substances that may be toxic, flammable, corrosive, carcinogenic or otherwise hazardous. They also require each site or the construction company disposing of waste to have an annual 'Premises Code' before hazardous waste can be removed off site or given to a licensed carrier. The Radioactive Substances Act 1993 makes similar provisions for the safe handling and disposal of radioactive waste.
- F11. The Controlled Waste Regulations 1992, as amended, list the various types of waste as household, industrial or commercial waste. They state the type of premises that fall within the requirements of 'Controlled Waste' and define the term 'Clinical Waste'. The Regulations also list those household wastes for which the Waste Collection Authorities may charge for the collection and subsequent disposal of. For the benefit of this theme, waste which emanates from an MOD site will be classed as 'industrial waste'.
- F12. Since 2003, all wastes must be defined using a six digit code as described in the European Waste Catalogue (EWC). The EWC assigns a six digit code to each listed waste type, and hazardous wastes are identified by an asterisk. Waste producers must classify their wastes in accordance with the EWC in order to meet the requirements of numerous pieces of waste management legislation. There is now also a mandatory requirement for EWC codes to be placed on all Waste Transfer Notes, hazardous waste Consignment Notes and Notification Forms for overseas recovery of wastes. The EWC is enacted into UK legislation by the List of Wastes Regulations 2005, as amended.
- F13. EC Directives that support the safe management of waste include:
- Waste Framework Directive 2006/12/EC (to be replaced with 2008/98/EC)
 - Waste Electrical and Electronic Equipment (WEEE) Directive 2002;
 - Packaging Waste Directive (enacted in UK by the Packaging Waste Regulations 1997);
 - Incineration of Waste Directive 2000 (enacted in the UK by the Waste Incineration Regulations 2002; and
 - Animal By-Products Regulation 2003 (food and catering waste).
 - The EU Landfill Directive has introduced a requirement for the UK to concentrate at significantly reducing the amount of biodegradable waste that is Land filled over the next 20 years it also requires the pre-treatment of waste before landfilling. Additional requirements include :**Ban on disposal of used tyres**: to encourage the recovery of tyres, to improve the stability of landfill sites and to reduce fire risks, landfilling of whole

and shredded tyres (apart from bicycle and very large tyres) will be banned.

- **Increased cost of landfilling:** Member States are required to ensure that the minimum price to be charged for disposal to landfill includes, among other things, the estimated costs of closure and aftercare of sites for at least 50 years.
- **No joint disposal of hazardous and nonhazardous wastes:** this would mean the phasing out of the well established United Kingdom practice of "codisposal" (see paragraphs 83-91). The Commission claims that the environment will benefit from decreased contamination of soil and groundwater and from improved control of landfills.
- **Stricter provisions for landfills generally:** landfill sites will have to conform to stricter environmental and locational criteria, including provision for gas control and recovery; operators of existing sites will have to produce "conditioning plans" (to include corrective measures) and implement them within 5 years.
- **Remote areas:** small islands with only one landfill and isolated settlements with difficult access are exempted from some of the Directive's provisions (of limited application to the UK): these provisions are very much more tightly drawn than those in the 1995 Common Position rejected by the European Parliament

F14. National waste strategies for England and Wales, and Scotland, give strategic policies and projections for waste management in UK. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Sustainable Waste Management Strategy was produced detailing strategic priorities for action. The Strategy can be located from the web-link given at the end of this theme.

F15. Sustainability Appraisal presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

MOD ACTIVITIES AND IMPACTS

F16. MOD is a large organisation that produces significant amounts of waste (from many diverse operations), including:

- Household waste from accommodation and quarters;
- Industrial waste from sites, research and testing activities;
- Construction, refurbishment and demolition waste;
- Office waste e.g. paper, plastics, aluminium, cardboard, print cartridges and toners;
- Catering and food waste;
- Hazardous waste;
- Clinical waste;
- Radioactive waste from medical activities, weapons, etc; and
- Waste water from sewerage, industrial processes and catering.

F17. Any proposal that involves a change in numbers of people on a site is likely to generate a change in the amount of waste produced and disposed of. Any proposal that involves a change in processes and activities on a site is likely to involve a change in materials used and the type of waste produced, which may require a different hazard or control classification and disposal method.

F18. Maintenance of vehicles and equipment often produces waste fuels, oils, lubricants and other chemicals, as well as contaminated rags and containers. Procurement of new

equipment (vehicles, weapons, clothing, IT, machinery etc) usually implies decommissioning and disposal of old items. Disposal of old weapons, prototypes, missiles and spent rounds entails handling and treatment of toxic, explosive and flammable materials. Procurement processes should consider disposal of new equipment at the end of its life. Unexpected disposal events can also have significant impacts and must be conducted appropriately.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Working with suppliers to reduce the use of resources, design out waste and reduce through life waste arisings	Re-use or recycling of materials e.g. in construction and refurbishment, or office ware procurement.	No Impact	Increase in the production of waste that cannot be reused or recycled.	Significant long-term increase in waste that cannot be reused or recycled, e.g. new equipment or a big increase in personnel.

Good practice case study – St Athan's Waste Management & Recycling Programme

The MOD and Welsh Assembly 1000 acre co-owned estate of St. Athan currently caters for 2000 people, with this set to increase to 8000 by 2014. In early 2007 the increasing transport and disposal costs, legislative requirements, sustainability aims of the site and anticipated 4 fold increase in staff, prompted action leading to new waste management practices being introduced.

St Athan generates a wide variety of waste including paper, cardboard, plastics, tyres and metals, as well as waste oils and other hazardous arisings. In 2006-7 the site generated 1386 tonnes of waste, of which 60% went to landfill.

Through identifying waste streams, sorting and compacting waste on site, implementation of a skip management regime and the transporting of recyclables when efficient, St Athan dramatically reduced the quantity of waste destined for landfill, equating to 672 tonnes to date (to put this into perspective, this quantity of waste could completely cover the Millennium stadium pitch several metres deep).

These measures have also produced:

- savings of £380,000 in charges which would have otherwise been incurred for skip collection, transport charges and landfill taxes and reduced waste collection
- improved efficiencies e.g. collection regime
- a cleaner site/improved house keeping, including a significantly reduced number of skips on site
- enhanced stakeholder engagement; and
- moral obligation met and output benefits being visible

Paramount to these achievements, and to ensure continued success, a comprehensive and on going sustainability campaign was introduced to help ensure enthusiasm behind initiatives is maintained.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Environmental Focal points for each TLB
- Defence Estates Property Directorate, Environment Policy, Sutton Coldfield – Tel: 0121 311 2018
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674866
- Defence Estates Specialist Services Unit, Sutton Coldfield (for hazardous waste and contaminated land issues) – Tel: 0121 311 2007. Nuclear and Maritime branch for co-ordinating Nirex/Drigg disposal of radioactive waste – Tel: 0121 311 3842.
- MOD Disposal Sales Agency (DSA) - Disposal of hazardous waste must be handled through the DSA - DSAOPS4@deso.mod.uk
- MOD Waste Managers (for those units or establishments which have them)
- MOD Safety, Sustainable Development and Continuity Division (SSD&CD), Environment Team (policy and ministerial level advice), Main Building, London
- Regional, Establishment, base or Unit Environmental focal points

External

- [Department for Environment, Food and Rural Affairs \(meeting government objectives and targets\)](#)
- [Environment Agency](#) - General enquiries 08457 333111
- [Scottish Environment Protection Agency \(SEPA\)](#) - Waste Action Line 01786 457700
- [Envirowise](#) - A Government programme providing practical environmental advice - Helpline 0800 585794
- [Waste Watch](#) - National charity promoting action on waste reduction, reuse and recycling, part funded by DEFRA
- [WRAP - seeking markets in recycled resources](#) – Tel: 0808 100 2040
- Relevant Local Authority

INFORMATION AND REFERENCES

- MOD: JSP 392: *Instructions for Radiological Protection*. (Radioactive waste guidance)
- MOD: JSP 418: *Sustainable Development and Environment Manual* (Volume 2, Leaflet 18)
- [MOD: Sustainable Waste Management Strategy](#)
- [DEFRA: Pollution Prevention and Control information resource](#)
- [DEFRA: Waste information resource](#)
- [DEFRA: 2000: Waste Strategy for England](#)
- [Welsh Waste Strategy](#)
- DCLG: 1997: *Planning Policy Guidance Note 10: Planning and Waste Management*
- [SEPA: 1999: National Waste Strategy: Scotland](#)
- [UK Government Sustainable Development information resource](#)
- [Waste Online](#) - information resource on waste topic

THEME G: SUSTAINABLE CONSTRUCTION AND THE BUILT ENVIRONMENT

Overall sustainability objective: Minimise development on green sites, and explore refurbishment before choosing construction. Integrate sustainability features at design stage of new buildings and promote the recovery of materials to divert waste from landfill.

Sub-objectives:

- Justification to be given when a decision is taken to procure and construct new facilities rather than to re-use existing facilities.
- To take account of the likely sustainable development (e.g. economic, environmental and social) costs and benefits of construction options as a key issue in decision making.
- To concentrate new development in existing "brownfield" or urban areas rather than "greenfield" or rural sites;
- To ensure land is managed effectively and efficiently and to the highest practicable environmental standards.
- To maximise efficient use of construction materials and promote use of sustainably sourced materials in line with Government policy.
- To ensure that at least 50% of construction waste generated is diverted from landfill and recovered for use on site or disposed of via other routes; and
- The design vision must comply with legislation, be driven by sustainable development (SD) good practice, and be validated by robust environmental methodologies
- New builds and refurbishments must contribute towards sustainability targets while supporting business delivery.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Opportunity to influence the design and layout of new buildings and facilities.	<p>Development of a Site Master Plan will enable development to be aligned more effectively. More compact, higher utilised development of Defence establishments offer occupational and SD efficiencies, although design quality is important to mitigate congestion and adverse effects (for example, noise). Fire safety and Counter Terrorism Measures (CTM) will also require more careful evaluation. Quality of designed landscape is more important for congested sites as landscaped spaces will act as a 'green lung' to improve amenity and recreation. Good landscape and urban design should be considered at master planning stage.</p> <p>Utilise the appropriate appraisal tools to ensure opportunities for sustainable building design/construction are identified: DREAM, BREEAM, Code for Sustainable Homes, Through Life Costing/Life Cycle Analysis, Movement for Innovation (M4I) sustainability toolkit, GCCP Achieving Excellence in Construction Procurement toolkit, and DEEP.</p>
Change in opportunity to improve energy efficiency, reduce carbon emissions and improve user comfort and welfare.	<p>Consideration of the integration of passive design:</p> <p><i>Orientation:</i> High summer sun angles and low winter sun angles on southern exposures while minimising excessive solar gain on east and specifically west exposures from low year-round sun angles. Consider plan depth versus ceiling height. Consider orientation of building/overshadowing.</p>

	<p><i>Glazing:</i> sizing/positioning/detailing windows to maximise benefit from the sun while avoiding overheating in summer/heat loss in winter.</p> <p><i>Thermal Mass:</i> providing sufficiently exposed thermal mass to store heat from the sun in winter and act as a heat sink for cooling in summer. Benefits of thermal mass are often lost through excessive wall/ceiling/floor coverings. Night purge and thermal mass will improve thermal performance.</p> <p><i>Insulation:</i> specifying high levels of insulation to reduce unwanted heat loss/heat gains through the roof/walls/doors/windows & floors.</p> <p><i>Natural Ventilation:</i> designing clear and robustly controlled air flows through buildings for daytime/night time cooling. Building air-tightness forms a critical component for achieving effective natural ventilation.</p> <p><i>Zoning:</i> providing thoughtful zoning to allow different thermal requirements to be compartmentalised.</p> <p><i>Interior environment:</i> Ensure sufficient natural daylight and task levels for working. Ensure uniformity of daylight distribution. Minimise glare.</p>
Opportunity to refurbish old brownfield facilities rather than new build.	Selection of an existing brownfield site rather than expanding into new greenfield areas. Ensuring brownfield site is adequately treated if contamination present.
Change in amount of green space developed e.g. playing fields, 'greenfield' areas.	Explore opportunities to increase/enhance Greenfield, open space areas.
Change in use of materials for construction and refurbishment.	Specify materials that have low through-life energy requirements and can be disposed of in an environmentally friendly manner at the end of their life. The Governments 'Buy Sustainable – Quick Wins' Product Specifications policy must be adhered. Materials must also be resilient to projected changes in climate for that region/site. Focus should be on materials with high recycled content.
Disposal of land or buildings.	Reclaim and restore land areas that have previously been used by MOD e.g. crumbled hard-standing, rubble from collapsed structures. Half of waste must be diverted away from landfill and either re-used, recycled, composted or processed at a waste-to-energy licensed facility. Ideally seek a sustainable use by new owners.
Changes in how land or buildings are used.	Re-use of buildings offers many advantages and should be carefully assessed to achieve the optimum whole-life solution to meet user-need and satisfy SD criteria. "Hybrid" projects combining retained buildings with new additions have many advantages, for example, converting old buildings for SLA is difficult and expensive. The re-use of buildings should take account of: 1) the intended purpose; 2) design-lifetimes; and 3) accommodation requirements.
Other land, building and construction issues.	Contaminated land, hazardous waste, building regulations,

<p>TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE</p>	<ul style="list-style-type: none"> • The application of MODs Defence Related Environmental Assessment Methodology (DREAM) assessment or BRE's Environmental Assessment Method (BREEAM) excellent standards, or equivalent, to all new builds and major refurbishments. • OGC's Property Benchmarking Scheme – aimed at improving the efficiency and effectiveness of corporate estate management. • Halve construction waste to landfill by 2012 from a 07/08 baseline.
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WHY THIS THEME IS IMPORTANT TO MOD

- G1. The design, construction and management of the built elements of the MOD Estate have a major impact on the environment and society and, therefore, measures are required (in line with legislation and Departmental commitments) to mitigate this impact. Whole-life solutions to reduce impact will be influenced by the design life of projects and, therefore, it is crucial to define the design life at the inception of the project. Construction projects should adopt a whole-life/loose-fit (i.e. easily adaptable to a variety of uses) approach to ensure onward future adaptability and change.
- G2. On a small island such as the UK, land is a finite resource. Population increase, along with industrial and retail growth, has put pressure on land resources by increasing the demand for buildings, housing, transport and utility infrastructure, recreation facilities and land for agriculture. Such demand for land drives activities into more marginal areas and puts increasing pressure on green and open space. Checklists B, I, J, K, L and M give more detail on specific impacts on green spaces (e.g. on watercourses, soils and wildlife).
- G3. As a Government department, MOD must comply with UK legislation and policy that supports objectives for the sustained use of the Defence built environment. The Town and Country Planning Act 1990 (as amended) (including Devolved Administrations equivalents) aims to control development and land use and give strategic direction to national, regional and local area planning. Government Planning Policy is disseminated through a series of regularly updated Planning Policy Statements (PPS). The Coastal Protection Act 1949 governs coastal engineering and development, supporting the Town and Country Planning Regulations which extend to low water mark.
- G4. The MOD's Defence Estate Strategy 2006, *In Trust and On Trust* sets out detailed objectives for efficient and sustainable management and use of the estate. This is supported by the Defence Estates Development Plan which highlights the need for sustainable construction across the MOD. Government is promoting use of previously developed "brownfield" sites and re-using or converting existing buildings and infrastructure. This is to ease pressure on unspoilt "greenfield" sites and encourage urban regeneration.
- G5. Construction can have significant detrimental effects on the environment. It is important to differentiate between the excavation and manufacture of construction materials (high CO₂/env. impact), the transportation and assembly (also high CO₂/env. impact), the commissioning and use (high CO₂ largely through energy use), and the eventual decommissioning or disposal of redundant facilities. Demolition of facilities produces large quantities of waste, which is often landfilled. DE has signed up to the Government's Construction Commitment: Halving Waste to Landfill initiative led by the Waste and Resources Action Programme (WRAP). This requires DE to reduce its construction, demolition and excavation waste going to landfill by 50% by 2012 against a 2007/08 baseline. Quantities of waste should be minimised and materials should be recycled where

possible, or disposed of near to their source. It is important to differentiate between relatively inert construction demolition waste and non biodegradable, for example, PVCu used in windows/doors.

- G6. The UK construction industry uses natural resources and consumes around 6 tonnes of material per person per year. Over 50% of this is for repair and maintenance of existing building stock. Quarrying of 250-300 million tonnes of material in the UK per year for aggregates, cement and bricks imposes significant environmental impacts. Materials e.g. timber and aggregate should be obtained from sustainable renewable or recycled sources, where possible.
- G7. Through life energy and maintenance requirements of buildings and materials should be addressed and minimised to promote long-term energy efficiency, minimal maintenance and replacement and ease of disposal or recycling at end of life. These through-life requirements may favour new construction rather than refurbishment. Relative benefits should therefore be scoped at the inception of the project. These objectives may conflict with headline statement to re-use existing buildings as stated earlier. Other short-term impacts of construction include disturbance to local communities and wildlife through noise, heavy vehicle movements and dust, Ref: Considerate Constructor Scheme (CCS), which is covered in JSP 434 'Defence Construction in the Built Environment', and is one of the commitments made by MOD, it should be signed up to and followed to manage these short-term impacts. There are also social and economic aspects associated with where materials are purchased and how construction personnel are employed. JSP 434 'Defence Construction in the Built Environment' provides further details.
- G8. Government has recognised the need for a more sustainable UK construction policy. The Government's Construction Task Force launched its *Rethinking Construction* report and programme in 1998 to give direction and guidance to boost efficiency and quality in the industry (including the public sector). This was followed by the launch of the Governments Strategy for Sustainable Construction in June 2008. It sets out specific actions by industry and Government to contribute to the achievement of overarching targets within each of the main areas of the sustainability agenda. JSP 434 provides details of recent policy on construction procurement: for example, the Office of Government Commerce (OGC) Achieving Excellence in Construction (AEC) and Common Minimum Standards (CMS) initiatives. The recommended types of Procurement: are Private Finance Initiative (PFI), Prime Contracting and Design & Construct (D&C). The procurement choice has implications for the Sustainable Development (SD) agenda, for example, PFI may have greater potential than Prime/D&C for SD innovation, with longer periods of time for contractor compliance tie-in.
- G9. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Strategic Statement on Construction was produced detailing strategic objectives for action. The Statement can be located from the web-link given at the end of this theme. More recently MOD estate suppliers have signed a Halve Waste to Landfill charter and a Sustainable Procurement charter with Defence Estates aimed to deliver SD improvements across MOD estate development.
- G10. Sustainability Appraisal presents an opportunity to build policy commitments and targets into the project or proposal from the earliest stages. Other legislation, notably the Building Regulations Part L2 came into force on 6 April 2006. As a minimum mandated requirement this legislation is very significant in terms of the SD agenda. There are also Water Conservation specific measures which can be applied to Defence construction, for

example, grey water/rain water harvesting etc., in the context of Aquatrine and other projects.

G11. DE has developed its own bespoke environmental performance and impact assessment tool for construction activities; the Defence Related Environmental Assessment Method (DREAM). DREAM has been developed to cover assessment criteria for a range of building types and structures and DREAM should be the preferred tool for formal environmental performance assessments of defence building projects.

MOD ACTIVITIES AND IMPACTS

G12. The MOD has a world-wide estate valued at £15.3 billion and is one of the largest landowners in the United Kingdom with an estate of some 240,000 hectares. The estate consists of a wide range of facilities including barracks, depots, aircraft hangers and naval bases. Our rural estate comprises training areas and ranges on relatively undeveloped rural land that is often of particular environmental significance. Annual expenditure on the estate is in excess of £1 billion.

G13. The vision for the strategic management and objectives for the estate is set out in the Estate Strategy 2006 In Trust and On Trust: *“To have an estate of the right size and quality to support the delivery of defence capability, that is managed and developed effectively and efficiently in line with acknowledged best practice and is sensitive to social and environmental considerations”*. The rationalisation (including disposal of surplus sites) and development on the UK and overseas estate that is inferred within this vision will have a variety of environmental, economic and social effects and such sustainable development factors should be identified and managed carefully in the these processes.

G14. The Department is a major construction client and commissions many large-scale rebuild and refurbishment projects, major engineering schemes, smaller projects and periodic refurbishment. All stages of construction from inception to decommissioning should account for SD principles, and SD should be embedded in the project vision at the earliest inception stage of the project. The Integrated Projects Guide (IPG) is DE's preferred project process guide which compliments the EMBS 1.3 Project Process. This guide has been integrated with key SD deliverables highlighted at specific points of the projects process.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Demolishing of redundant facilities, with a programme of land restoration.	Rebuild on existing footprints or refurbish existing facilities, both to high sustainable design and construction standards.	No Impact	Construction of new facilities on previously undeveloped land within existing military footprint.	Construction of low-storey, sprawling facilities on greenfield sites.

Good practice case study – Welbeck, Defence Sixth Form College



Welbeck is uniquely both a military establishment and state-of-the-art 6th form college for students pursuing a career in the Armed Services. As one of the UK's leading 6th Form colleges with the highest quality residential and teaching facilities it was a pre-requisite to benefit from the latest educational and technological advances. In support of this objective the design was formulated on sustainable design principles and was required to achieve an excellent SEAM (Schools' Environmental Assessment Method) rating.

Environmental Context

The typography of the site and orientations of the buildings relative to the sun were considered, and, wherever possible arranged to minimize the impact of heat gains into the building. Each building has been designed in such a way that natural ventilation methods are utilised, with staff and students controlling the level of ventilation to the teaching space. Day lighting was at the core of the architectural design philosophy as good levels of natural day light in classrooms, social spaces and circulation provide an ambience to the benefit of students, staff and community.

Windows were sited as high as possible in the façade to maximize the daylight factor in the space. Large floor to ceiling heights and window sizes are combined with pale colours on walls and furniture to reflect light into rooms.

The design and size of the open-able windows were carefully developed to achieve optimum air flow. The majority of classrooms have high and low level external windows, glazed openings to the internal street and a ventilation stack to the rear within the structure and form of the building to naturally draw air through the space. All lighting is controlled by presence detectors, time controls and manual control to ensure that it will automatically switch off in spaces that are unoccupied.

Designing the interior of the College

Under-floor heating and dado trunking provides a flexible arrangement. Rooms located on the south side of the building have a staggered form to provide solar shading, and a high thermal mass structure to control radiant temperature and diurnal temperature swings as well as assisting acoustic attenuation. The staggered form also enables stack ventilation from the rear of the classrooms and across the ceiling void of the concourse to louvers in the north elevation. This provides natural air flow through the spaces that reduces carbon dioxide and improves the students' attention spans.

At the heart of the schemes is the college hall which has retractable seating and adjustable acoustic attenuation to be used as a flexible space for assemblies, concerts, theatres and lectures. Alongside this, there are facilities including a café/bar, internet café, squash courts, swimming pool, gym and fitness rooms, a climbing wall and other external facilities.

External Design

New sports pitches have been positioned and graded to follow the contours of the land and to conserve the existing wildlife habitat of ponds area, ditches and mature woodland. This forms part of an ecological management plan which has been developed for the whole site, highlighting how the building will operate to preserve the natural ecology of the site. Dead trees were retained to provide nesting habitats and bat boxes were incorporated into the gables of the residential blocks. The scope of landscaping throughout the site provides a variety of habitats to encourage a bio-diverse ecology which is further enhanced by the use of sedum roofs.

THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- Defence Estates Property Directorate, Built Environment, Sutton Coldfield – Tel: 0121 311 3705
- Defence Estates Professional and Technical Services (PTS) Team, Sustainable Development Support, Westdown Camp - Tel: 01980 674866
- Defence Estates Construction Support Team, Sutton Coldfield – Tel: 0121 311 3842.
- Defence Estates Sustainable Development Information Portal (DE Intranet access only)
- [Integrated Projects Guide \(IPG\)](#) - (DE Intranet access only)

External

- [Building Research Establishment \(BRE\) \(construction and sustainability best practice resource\)](#) - Tel: (0)1923 664000 Website: www.bre.co.uk
- [CIRIA \(Construction Industry Research and Information Association\)](#) – Tel: (0) 20 7549 3300 Email: enquiries@ciria.org
- [Considerate Constructor's Scheme](#) (a voluntary code of practice, driven by industry, to reward and recognise contractors commitments to raising site management, safety and environmental standards beyond statutory duties)
- [Movement for Innovation \(M4I\) sustainability toolkit](#)
- [GCCP Achieving Excellence in Construction Procurement toolkit](#)
- [Local Planning Authority](#) (LPA - Planning Department)
- [Construction Best Practice Programme](#) – Tel: 0845 605 5556
- [Royal Institute of British Architects](#) - Tel: 0207 580 5533

INFORMATION AND REFERENCES

- [Defence Estates: 2005: *Better Defence Buildings*](#)
- [Defence Estates: 2006: *Defence Estates Strategy 2006. In Trust and On Trust*](#)
- Defence Estates: *Defence Excellence Evaluation Process (DEEP)*
- [MOD: JSP 362: *Defence Lands Handbook*](#)
- MOD: JSP 434: *Defence Construction in the Built Environment*
- [MOD: JSP 418: *Sustainable Development and Environment Manual \(Volume 2\)*](#)
- [MOD: *Strategic Statement: Construction*](#)
- [‘Buy Sustainable – Quick Wins Product Specification’.](#)
- [Aggregates Advisory Service](#) Information Digests and Fact Sheets, including:
 - *033 Construction and Demolition Materials Information Exchange;*
 - *034 Recycling of Construction and Demolition Waste: A List of Potential Sources of Recycled Aggregate;*
 - *035 Potential Sources of Secondary Aggregate in England and Wales; and*
 - *059 Re-use of Crushed Concrete as Aggregate.*
- CIRIA: 2000: *Environmental Management in Construction*, Report C533
- CIRIA / DTI: 2001: *Sustainable Construction Procurement - A Guide to Delivering Environmentally Responsible Projects*
- [Government Construction Clients Panel \(GCCP\): 2000: *Achieving Sustainability in Construction Procurement.*](#)
- DCLG: 1997: Planning Policy Guidance Note 1: *General Policy and Principles.*
- DCLG: 1995: Planning Policy Guidance Note 2: *Green Belts*
- [UK Government Sustainable Development information resource](#)
- [Better Public Buildings](#)

THEME H: SUSTAINABLE PROCUREMENT

Overall sustainability objective: Ensure that all Departmental procurement (new estate projects e.g. buildings, refurbishments, estate management/facility management contracts etc.) takes full account of Sustainable Development principles and helps meet Sustainable Development targets and objectives.

Sub-objectives:

- To deliver sustainable development through the procurement process;
- To take account of the widespread impacts resulting from procurement decisions and activities; and
- To take a whole-life approach to procurement (by abiding by the principles and following the actions detailed in this theme).

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Ability to achieve a Whole Life, Value for Money approach (where SD is appropriately weighted as part of VFM considerations).	Rigorously examine SON/URD to ensure a sustainable solution is required, to reduce negative impacts and maximise benefits through-life. Ensure procured item/contract will be fit for purpose over lifespan (consider what materials go in, how and whom makes it and disposal options) and is future proofed (e.g. climate change) and pragmatically balances the requirements of cost, impact and performance. Ensure sustainable procurement is addressed within the IAB business case.
Sustainability of a project jeopardised by funding.	Ensure potential issues highlighted through SA are considered ASAP and are integrated within cost calculations. Ensure SD deliverables are costed within the ROEI to avoid removal through value-engineering.
Ensuring minimum standards are achieved in Construction.	Full application of Construction Common Minimum Standards, OGC Guide on Achieving Excellence in Construction e.g. timber procurement policy - legally harvested and grown in sustainable forest. Use best practice design e.g. good thermal design to maximise user comfort and save energy. Design stage to incorporate consideration of transit of goods, labour standards, production methods, limit/reduce use of hazardous and non renewable materials and utilise more efficient techniques.
Ensuring environmental minimum standards for products are achieved in the procurement.	Must ensure full application of Governments 'Buy Sustainable – Quick Wins' Product Specification policy by contractor's e.g. A-rated gas boilers, HR3 and HC3 central heating systems and low flush toilets, products with lower environmental impact. Supply chains to use EMS.
Ensuring sufficient opportunities exist for innovative SD (e.g. reduce energy/water consumption, reduce pollution/waste, benefit to local community)	Innovation and best practice should be encouraged e.g. through contractual incentives. Pursue innovation e.g. reduce energy and water use, reduce pollution and waste, increase use of renewable and recyclable materials.
Ensuring environmental, sustainable development and socio-economic	Sustainable procurement should be considered at earliest opportunity and considered in parallel with project lifespan. Considerations included within procurement specification and

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
considerations are translated from theoretical level (highlighted from SA), into reality.	sustainability criteria included in tender process during the Pre Qualification Questionnaire and Invitation to Negotiate/Tender stages and are given appropriate weighting. Integrate specifications within contracts to explicitly incorporate SD e.g. % use of renewable energy, rain water harvesting equipment.
Level of Sustainable Development awareness/training of project team.	Ensure project team and supply chain are well informed with regard to sustainable development and how their constituent roles can achieve this through sustainable procurement. Use of the DE Integrated Project Guide for Core Works Projects is advised.
Other sustainable procurement issues	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	<ul style="list-style-type: none"> Government to mandate accepted elements from the Sustainable Procurement Task Force National Action Plan.
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WHY THIS THEME IS IMPORTANT TO MOD

- H1. Government recognises the importance of procurement in delivering Sustainable Development (SD) objectives. In 2005, it set up the Sustainable Procurement Task Force (SPTF) to look at public sector procurement and make recommendations on how it could make procurement more sustainable. The Task Force report “Procuring the Future” was published in 2006 and Government responded with the publication of the National Sustainable Procurement Action Plan (SPAP) in 2007. A self assessment tool labelled the ‘Flexible Framework’ (FF) was developed by the SPTF and the use of this was encouraged by Government in their SPAP.
- H2. Sustainable Procurement means delivering SD through our procurement activities and outcomes. As a major client of the construction industry and major procurer of equipment, commodities and services, MOD’s procurement activities have significant social, economic and environmental implications and significant potential impacts on future generations and the future conduct of MOD business. It is essential that throughout the procurement cycle we do all we can to reduce negative impacts and seize opportunities to incorporate SD principles.
- H3. The development of requirements and the selection of designs, products and services should involve the consideration of SD principles including innovative alternatives that will minimise harmful emissions or potential risk to the environment. Procuring Authorities will also need to address long term planning issues in order to account for the adverse effects of climate change.
- H4. Consideration of sustainable procurement principles will reduce risks from unintended outcomes of procurement activities. Examples of risks may include direct MOD-attributed activities such as significant pollution events, or indirect risks such as pollution generated from the manufacture (or disposal) of material for a MOD contract, or the use of illegal products, such as protected timber. These events have the potential to impact on MOD performance and reputation.

- H5. Sustainable Procurement principles require that all aspects of through-life management be considered from the outset. Early consideration of such aspects as, Designing for Decommissioning, compatibility/dependencies/operating environment will ensure an informed decision is made based on the realistic whole-life, value for money solution. Early inclusion of the attributed costs of sustainable development to a project will also reduce the risk of SD measures being removed further down the project process.
- H6. MOD aspires to best practice and needs to take the long-term view in its procurement of materials and services. It is important that MOD's aspirations to support SD are communicated right through our supply chain. This has been partly achieved by the signing of a Sustainable Procurement Charter by MOD and its key suppliers. This sets clear objectives in delivering sustainable procurement.
- H7. The MODs Sustainable Development Report and Action Plan highlights Sustainable Procurement as a priority area. A MOD Sustainable Procurement Strategy and Delivery Plan sets out the key actions that the Department will focus on to ensure delivery against the Flexible Framework targets.
- H8. Sustainability Appraisal presents an opportunity to build policy commitments and targets into the project or proposal from the earliest stages.

Table P1: Key actions in the Procurement Life Cycle.

Stage	Action
Project Lifecycle	Consider Sustainable Development issues throughout the project life cycle. All projects/IPTs involved in procurement must consider Sustainable Procurement as a fundamental part of their project. The earlier in a project that SD issues are considered the more effective the contribution will be to MOD, particularly for reducing Whole Life Costs, minimising unanticipated outcomes and engaging with wider stakeholders.
Whole life	All MOD staff and contractors need to take a broad view, not just of what we want, but what material goes into it, how it is made and by whom, and what we do with it at the end of its use.
Concept	Carry out a sustainability appraisal, encompassing sustainable procurement issues, that examines the projected through life strategy for the project, including disposal / termination.
Preparation of Statement Of Need	Consider complete project life cycle including designing for decommissioning, dependencies etc. Prepare to include SD requirements in the Specification documentation.
Requirements Specification	Incorporate Sustainable Development deliverables into requirements specifications. The specification of requirements for design and purchasing can have a significant influence.
IAB Submission	The drivers and principles for SD must be addressed and incorporated when constructing the business case for Investment Approvals Board submission.
Assessment	Incorporate sustainability parameters into the User and System Requirements documentation. It must be clear that a sustainable solution is sought and reflected in KURs.
Demonstration	Specify sustainable development criteria and qualification requirements during assessment, award and review. (1) Pre-Qualification Questionnaire (PQQ): (a) Sustainable Development questions should be included in the PQQ as

Stage	Action
	<p>a stand-alone section, making up part of the scoring procedure. The DE Sustainable Development support (SDS) can provide advice on the evaluation of responses.</p> <p>(2) Invitation to Negotiate (ITN)/Invitation to Tender(ITT):</p> <p>(a) Detailed Sustainable Development questions should be included that require substantial commitment from the bidder on how they will address SD targets and outcomes as part of their contract delivery. Questions and evaluation support are available from SDS, as detailed above.</p> <p>(b) As part of the ITN/ITT the Tenderer is required to produce a Sustainable Development Management Plan. This Plan can be used by the IPT to form part of the Contract documentation. This plan requires the setting of clear measurable agreed targets and objectives to underpin the Contract. Guidance on this Plan is available from SDS.</p>
Manufacture / Migration Preferred Bidder Negotiations and Contract Placement	<p>Verify that the manufacturing/migration process is resource efficient and minimises waste and pollution</p> <p>Refinement of the bidder's SD commitment takes place through negotiation. The Sustainable Development Management Plan must be agreed by both parties and must be kept under regular review throughout the life of the contract.</p>
In-Service	Anticipate and mitigate the impacts of the In-service stage, including support processes, during procurement.
Disposal / Termination	Consider and assess the most sustainable way of disposing of equipment or terminating the services.
Environmental Minimum Standards/ Products (Buy Sustainable – Quick Wins Policy)	<p>All central Government Departments must apply the 'Buy Sustainable – Quick Wins' minimum environmental standards in order to identify and procure products that have a lower environmental impact than equivalent alternatives. These are products that meet specifications for energy saving, recycled content, carbon emissions, energy consumption in use, volatile organic compounds, organic ingredients, and biodegradability.</p> <p>The 'Buy Sustainable – Quick Wins' Product Specifications are comprised of both a set of mandatory minimum standards at the market average level and best practice specifications. The best practice specifications are a new feature for 2008 and are more stretching than the mandatory minimum.</p> <p>The list of products in the 'Buy Sustainable – Quick Wins' policy can be found at: http://www.defra.gov.uk/sustainable/government/what/priority/consumption-production/quickWins/index.htm</p> <p>MOD is required to meet at least the minimum environmental standards and to wherever practicable exceed it. This list should be drawn to the attention of all contractors and they should be monitored to ensure they are buying to these specifications wherever practicable.</p>
Contracts	The Governments Sustainable Operations on the Government Estate (SOG E) targets require that Government Departments include deliverables relating to environmental considerations in all contracts for goods, works and services. These should be for the life of the contract and should ensure that the end-product or service is in full compliance with Government targets.

Stage	Action
Sustainable Construction: OGC Common Minimum Standards for the Procurement of Built Environments and Construction Commitments	Government Departments are required to follow the OGC Common Minimum Standards for the Procurement of Built Environment.. All construction projects should be procured using the principles detailed in the Construction Commitments and in the Achieving Excellence in Construction Procurement Guidance Pack, produced by the OGC.
Design	Incorporate sustainable engineering into designs to minimise the potential for unintended impacts on society, the environment and the economy, for example by: <ul style="list-style-type: none"> • considering transit of goods; • addressing labour standards and production methods; • reducing the use of scarce, hazardous and non renewable materials; and • specifying more efficient, waste minimising and recycling techniques.

MOD ACTIVITIES AND IMPACTS

H9. MOD is a major procurer of a diverse range of goods and services. Those procurement activities have a range of social, economic and environmental impacts both negative and positive (e.g. we generate technological innovation but our construction generates a large amount of waste). MOD can use its procurement power both to influence the market to offer (including through innovation) more sustainable goods and services, and to minimise negative impacts and pursue positive opportunities.

H10. Roles and responsibilities for delivering SD through a procurement project include:

- Integrated Project Team Leader (IPTL). The IPTL is responsible for:
 - Ensuring IPT is in receipt of all preliminary assessment work (such as SEA or other appropriate level assessment see summary section) that takes place during the programming or planning stages prior to the creation of a Project;
 - Appointing a SD focal point and ensuring they have the correct training/awareness;
 - Ensuring SD is considered in business case for Investment Approvals Board submission;
 - Ensuring SD is considered in overall risk process, (project delays may impact on delivery if SD is not accounted for at the earliest opportunity);
 - Ensuring audit trail of decision making, incl. appraisal work prior to project commencement;
 - Costing SD and ensuring it is covered as part of the Through Life Management Plan; and
 - Ensuring all members of the IPT are aware of SD and Sustainable Procurement.
- SD Focal Point. The SD Focal Point is responsible for:
 - Keeping the IPTL aware of SD requirements and raising issues as soon as possible;
 - Keeping the IPTL and the wider team informed of new developments;
 - Ensuring sustainable procurement issues are considered early and throughout procurement process; and
 - Ensuring environmental risk is included within the main risk process
 - Ensuring that equipment projects utilise the Project Orientated Environmental Management System (POEMS)
- Project and Commercial Officers. Project and Commercial officers are responsible for:

- Ensuring SD is part of tender selection, particularly Pre-Qualification Questionnaire (PQQ) and Invitation to Tender (ITT)/Invitation to Negotiate (ITN) stages and contract specification;
- To encourage successful contractors to use items within the specifications on the 'environmental minimum products' list wherever possible and, where this has not been possible, to record the reasons; and
- To audit that the SD specifications defined in the contract are delivered by the contractor.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Highly positive balance of environmental, social or economic impacts as a result of this procurement e.g. incorporation of innovative sustainable design and/or renewable energy.	Significant positive balance of environmental, social or economic impacts as a result of this procurement e.g. local job creation, reduced carbon emissions, use of recycled materials.	No impact	Significant negative balance of environmental, social or economic impacts as a result of this procurement e.g. increased carbon emissions, low or non use of recycled materials.	Major negative balance of environmental, social or economic impacts as a result of this procurement e.g. significant pollution and/or waste and low recycling. Major negative impact on local community.

Good practice case study – Project Allenby Connaught

The Allenby/Connaught contract was signed in early 2006. Appropriate Sustainability Appraisals set the project on course for good SD delivery. Across TidNBul garrison (Tidworth, Perham Down, & Bulford), the project encompassed 106 buildings with rainwater harvesting systems, 58 with micro Combined Heat and Power (CHP) and 54 with solar thermal. The contract required that all refurbished buildings built to Building Research Establishment Environmental Assessment Methodology (BREEAM) "very good" (now this should be "excellent") grade certification and all new builds are built to "excellent" grade. Solar panels and combined heat and power plants utilised at all swimming pools and some buildings, for energy saving measures and rain water harvesting for toilet flushing, to save water. This is an excellent example of a project pro-actively seeking to achieve Sustainable Development from the outset and making good use of good design, innovation, energy efficiency, renewable energy and environmental management systems.



Further guidance for MOD estates projects can be found in the Defence Estates Sustainable Procurement Practitioner Guide 'Procuring Sustainably'.

Use of the Defence Estates Integrated Project Guide is also encouraged. This project document highlights the SD/SP milestones and the roles and responsibilities of the project stakeholders.

THEME SPECIFIC CONTACTS & FURTHER INFORMATION**Internal**

- CESO and Environmental Focal points for each TLB
- Defence Estates Property Directorate, Sustainable Development Team, Bath – Tel: 01225 449505
- Defence Estates Property Directorate, Built Environment Team, Sutton Coldfield – Tel: 0121 311 3705
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674765
- Defence Estates Construction Support Team, Sutton Coldfield – Tel: 0121 311 3842
- Safety, Sustainable Development and Continuity Directorate, Main Building, London – Tel: 020 72186908
- Sustainable Procurement Working Group DPA AESG – Tel: 01179 137563

External

- [Building Research Establishment \(BRE\) \(construction and sustainability best practice resource\)](#) - Tel: 01923 664300
- [CIRIA \(Construction Industry Research and Information Association\)](#) – Tel: 0207 222 8891
- [Considerate Constructor's Scheme](#) (a voluntary code of practice, driven by industry, to reward and recognise contractors commitments to raising site management, safety and environmental standards beyond statutory duties)
- [Local Planning Authorities \(LPA \) \(Planning Departments\)](#)
- [Office of Government Commerce](#) – procurement - sustainability
- Sustainable Development Commission
- Sustainable Procurement Task Force, Defra, 5A, 3-8 Whitehall Place, London, SW1A 2HH, 020 7270809 or [e-mail](#)

INFORMATION AND REFERENCES

- Defence Estates BMS Process 2.7.6 Sustainable Procurement
- Defence Estates: 2005: *Better Defence Buildings*
- [Defence Estates: 2006: *Defence Estates Strategy 2006, In Trust and On Trust*](#)
- Defence Excellence Evaluation Process (DEEP)
- [Invest Approvals Board Statement on Sustainable Procurement.](#)
- [Integrated Projects Guide \(IPG\)](#)
- [User Requirement Document \(URD\) Guidance Notes](#)
- MOD JSP 418: *Sustainable Development and Environment Manual* (Chapter 17).
- MOD JSP 434: *Defence Construction in the Built Environment.*
- [MOD: Strategic Statement: Sustainable Procurement](#)
- *Buying Green! A Handbook on Environmental Public Procurement, Commission of European Communities Working Document, 2004, EU, Brussels*
- CIRIA / DTI: 2001: *Sustainable Construction Procurement - A Guide to Delivering Environmentally Responsible Projects*
- [CIRIA](#)
- CIRIA: 2000: *Environmental Management in Construction, Report C533*
- [Office of Government Commerce \(OGC\) Common Minimum Standards for the Procurement of Built Environments](#)
- [OGC buying solutions website containing the Environmental Minimum Standards or Quick Wins list](#)
- [Sustainable Development Commission: Sustainable Public Procurement](#)

- [Sustainable procurement in central government, Report by the National Audit Office, September 2005.](#)
- *Sustainable Procurement National Action Plan: Procuring the Future*
- [Sustainable Procurement Task Force](#)
- The suite of OGC Achieving Excellence in Procurement guidance (A manager's Checklist, Construction Projects Pocketbook and AE:1-11)⁷ Achieving Excellence in Construction Guidance. Two documents of particular relevance and which provide general guidance for use with all government construction projects are;
 - 1) Achieving Excellence Guide No.1 - Initiative into Action
 - 2) Achieving Excellence Guide No.11 – Sustainability
 - 3) [UK Government Sustainable Development information resource](#)

⁷ <http://www.ogc.gov.uk/sdtoolkit/reference/achieving/index.html>

THEME I: GEOLOGY AND SOILS

Overall sustainability objective: Identify, reduce, manage and mitigate the introduction of threats to soil which can reduce soil extent, diversity or quality.

Sub-objectives:

- To minimise risks to human health and the environment from contaminated land and bring damaged land back into use;
- To protect ground stability and features of geological importance; and
- To minimise soil loss; and
- To maintain and enhance soil quality and protect its function as a substrate for providing food and supporting ecosystems.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in amount of soil e.g. erosion, deposition.	Undertake further assessments to evaluate the quality and value of soil and geological resources if the proposal is likely to have significant effects. DE PTS and TLB Environmental focal points will be able to advise on Land Quality Assessment (LQA) processes.
Change in soil quality e.g. contamination, compaction.	Minimise the amount of soil-derived waste which is ultimately sent to landfill for disposal. Ensure that recycling is carried out where possible. Carefully manage and minimise the amount of non-soil derived waste which has environmentally hazardous constituents.
Change in ground stability, e.g. change in occurrence or severity of landslides and subsidence.	Carefully evaluate and manage the aspects of the project which have the potential to introduce soil impacts; for example, if soil is stripped before digging foundations for a new development, ensure that the soil is carefully handled and stored so that it can be used as topsoil or engineering fill, or that established operating procedures are followed to minimise and clean up spills of chemicals, fuels and residues of explosives and ordnance.
Changes in the features (and possible effects on status) on areas of geological importance e.g. SSSIs / RIGS.	Undertake assessments and consult with internal contacts and Statutory Bodies. Educate the project team and end-users about the importance of the site and the related features of the area. Preservation of features through methods of relocation or possible incorporation into the design can be possible mitigation methods to reduce the impact.
Change in risks to human health and the environment from contaminated land.	Avoid depositing possible sources of contaminants or triggering releases of pollutants. Identify possible sources of dangerous substances and avoid locating landfill sites near urban inhabitation or conservation areas. Educate stakeholders of the range of possible sources, threats and or necessary mitigation methods of individual hazards that can pose a risk to human health or the environment.
Changes in water drainage or irrigation can cause an accumulation of salt triggering salinisation. This can have a negative effect on the fertility of soils.	By altering the irrigation of land the build up of the salts can be reduced or avoided. Topsoil can be removed and scraped away to leave soil with a lower salt content (and therefore more fertile) behind. Other methods include the addition of organic matter and mulching to increase fertility. Flooding the area and then replanting is also an effective method to reverse the process.

Over-extraction or loss of valuable geological resources, such as building aggregates.	Educate the project team and end-users about the value of geological and soil resources and promote non-exhaustive extraction methods. Methods of multiple sourcing and use of alternatives can significantly reduce large-scale impacts.
Changes to the soil/geology of the area can affect surrounding vegetation or wildlife.	Ecological impact assessment (see Biodiversity Theme J). Communicate with stakeholders to establish other important environmental attributes. Understand the relationships between the ecological networks and reduce large-scale impacts that remove or damage valuable habitats or other environmental conditions - contact with other departments and focus groups can increase awareness of surrounding rare or valuable stocks of vegetation and wildlife.
Changes in surface strata (and surface vegetation) can affect the rate or occurrence of flooding.	Evaluate local risk registers and The Environment Agency's Flood resources to establish level of posed hazard. Keep minimum levels of changes to surfaces already at risk; decreased vegetation and impermeable surfaces can increase the frequency and severity of flooding.

NON-UK ESTATE ISSUES

The same issues as the generic ones detailed above apply to non-UK estates, but listed below are some potential geological issues that could arise given the unique and different geological strata on the estates.

CANADA

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Radon release can be triggered when new construction disrupts the geological layers and any trapped pockets. This can be poisonous to both people and wildlife.	By locating possible radon areas, construction can be either avoided or if deemed necessary, mitigation methods to reduce the presence of radon include; soil suction, sealing cracks and vents, pressurisation, or heat ventilation recovery.
Landslides and minor disturbance earthquakes can be triggered by changes to the top strata and removal or undercutting of layers.	Earthquakes and landslides are relatively common in Canada so therefore monitoring is important within the mitigation attempts. However, when rock and soil is being removed, assessments should be made as to their contribution to the surrounding area in terms of their ground stabilising effect.
Submarine landslides by impacting onto the coastal geology (by erosion or deposition) can trigger potential tsunamis.	Limit effects on the coastal regions and geomorphology. Educate the project team as to the 'domino triggers' behind related hazards.
Creep is the slow movement of material, normally down slope. It can be agitated by erosion and undercutting of stabilising geological units.	Through similar assessments to assess the possibility of earthquakes and landslides, how the geology and soils interact with each other is important for understanding their relationship and they support each other.

Karsts are widespread in Canada but by altering the water table and triggering dissolution, collapsed sinkhole events can be increased. These pose a threat to local residents but also transport if it occurs on roads.	Changes to the water table should be minimal, not only as they can trigger this environmental problem but also as it can cause other issues such as contamination of water supplies and changes in groundwater flow. Investigations as to surface and sub-surface flows as well as to the water table should be explored prior to commencement of activities that could have a potential impact.
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CYPRUS

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Underground tunnel collapse (from previous mining activities) and other geological disturbances, caused by changes made to the stability of the geological layers, can be a possible cause of subsidence earthquakes.	Maintenance of the tunnels and support of unstable geological features can prevent related hazards. Avoid removal and additional loads of strata on vulnerable layers. The addition or change in the water content of the soil can also increase strata slippages and can increase the likelihood of potential landslides occurring.
Exploitive activity and vegetation removal leads to a vulnerability to erosion which creates unconsolidated topsoil. Over –exploitation of soils can lead to desertification, and droughts, and can affect the local inhabitants but also wildlife.	Educate project teams to reduce the extent of exploitive activities and minimise over-use of water supplies to prevent erosion of topsoils. Encourage the introduction of vegetation to stabilise the environment. Maintain water supplies, especially natural drainage systems, to reduce the effects of droughts.
By exploiting groundwater in coastal aquifers, Salinisation can occur. This can pose long-term problems for the groundwater stores.	By reducing groundwater exploitation and seeking alternative sources of water the risk of Salinisation in these areas can be significantly reduced.
Naturally occurring pollutants such as arsenic and asbestos can be encouraged to contaminate local areas through a change in land-use activity and disturbances to the strata.	Locate areas of potential risk and avoid cross-contamination with the surrounding area, including the local water supply and any surface run-off or groundwater flow. Educate local health agencies as to the toxicity and associated symptoms of pollutants for quick diagnosis in the event of contamination.
Naturally occurring pollutants such as arsenic	Locate areas of potential risk and avoid cross-contamination with the surrounding area, including the local water supply and any surface

and asbestos can be encouraged to contaminate local areas through a change in land-use activity and disturbances to the strata.	run-off or groundwater flow. Educate local health agencies as to the toxicity and associated symptoms of pollutants for quick diagnosis in the event of contamination.
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GERMANY

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Similarly to Canada, karsts environments are common. Sinkhole collapse can occur due to changes in the water table or groundwater flow.	Again, similar to Canada, attempts should be made to mitigate the changes to the local water table. This involves locating and identifying the level of the water table and limiting activities in the vicinity.
Flash flooding is caused by heavy and intense periods of rain and is a common hazard in Germany. However, stripping of the vegetation and the emplacement of impermeable constructions on top of previous permeable natural soils can increase the likelihood and intensity of the flooding. It can also increase the time taken for the floods to recede.	It is important to successfully identify areas at high risk to flooding and educate the project team accordingly. However, by planting and keeping vegetation, and allowing the presence of permeable soils to act as natural drainage, the risk of flooding can be reduced and increase the grounds ability to absorb the water at times of and between flooding events.
Air pollution from human activities can have an effect on the soil quality; pollutants in the air can become absorbed into the soil and contaminate growing vegetation and the feeding wildlife.	Management of the environment as a whole should be interlinked, and therefore by evaluating the effects of other activity factors can be determined that will have an impact on other environmental areas. In this case, air polluting activities should be avoided next to fragile ecosystems or exposed soils to avoid high absorption rates of possible pollutants.

KENYA

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Soil infertility can be triggered by changes to the vegetation, including agricultural crops. This can change the level of valuable	Affects from military/training activities on local agricultural practices should be minimised and contamination with foreign substances should be avoided, especially in areas of complex geology and soils where there is a high risk of seepage.

nitrates to fauna- either through reduction of nitrates or the input of contaminates.	
Changes in the land-use can affect the wildlife within the area. Wildlife has a close link with the surrounding ecosystem, including the soils.	Closer understanding, through education of the project teams, encourages human activities' impact onto their environment to be fully appreciated, to which leads to more considerate actions within the estate.
Soil erosion and desertification can occur when activities strip the surface of protective soil layers and vegetation. It can also occur when ground is overused- in such activities as training.	By ensuring layers are protected from overuse, and processes that decrease the moisture content are minimised, soil quality can be maintained at an acceptable level, and can also reduce the amount lost to erosion. Intensive activities, such as training, should be minimal on susceptible soils where water moisture is low or where soils are exposed to the elements.

VALUE OF THEME TO MOD

11. The geological dynamics and top-surface soils play a fundamental role in determining the environmental character of an area. Their values include:
 - Supporting ecosystems and biodiversity;
 - Collecting and storing surface water and groundwater;
 - Determining landscape shape and character;
 - Providing a substrate for farming;
 - Providing a foundation for built developments;
 - Providing a source of useful aggregates, minerals, topsoil and peat;
 - Providing a protective mantle for archaeology;
 - Providing information on past climates and earth processes;
 - Maintaining surface stability;
 - Absorbing and attenuating noise and vibration on land and under water;
 - Contributing to water quality by filtering and attenuating contaminants;
 - Rocks and near surface geological deposits contribute to forming new soils; and
 - Heritage and educational benefits.
12. The sustainable use of soils or geological resources includes uses that do not result in a significant short or long term net decline in the quantity or quality of the store.
13. Contaminated land and groundwater are prime examples of the result of our past failure to manage development impacts on soils and to consider the implications of estate activities on future land-users. The introduction of a contamination threat can occur either directly from point sources (such as waste operations, chemical stores or contaminating activities), or by diffuse deposition of airborne contaminants or materials in surface run-off and groundwater. Avoidance of the creation or introduction of foreign pollutants during human activities will result in more sustainable use of soil resources, and the preservation or improvement of their extent, diversity and quality for future generations.

LEGISLATION AND ACTION PLANS

14. To assist in the recognition and preservation of the value of geology and soils, the Government in 2008 published a draft Soil Strategy for England. The Scottish Executive also launched their Soil Strategy Report in 2002. This was further developed in 2004 by the issue of The First Soil Action Plan for England: 2004-2006, subsequently amended in response to the EU Soil Thematic Strategy for Soil Protection (2006)
15. The new Soil Strategy for England sets out an ambitious vision to improve the sustainable management of soil and tackle degradation within 20 years. It covers a range of sectors including agriculture, land management, planning and construction and provides a strategic framework for action that should facilitate Defra's work with delivery partners. Building on the First Soil Action Plan for England (2004-2006), the aim is to ensure that England's soils are better protected and managed – to optimise the varied and important functions they perform so that, amongst other things, we maintain a sustainable food supply and develop resilience to a changing climate.
16. The focus is on four main themes: the sustainable use of agricultural soils; the role of soils in mitigating and adapting to climate change; protecting soil functions during construction and development; and preventing pollution and dealing with historic contamination.
17. Government priorities include preventing the creation of new contamination sources, preventing further contamination of land and remediating existing contamination such that brownfield sites become suitable for use again. Integrated Pollution Prevention and Control (IPPC) measures under the Environment Act 1995 provide the statutory basis for avoiding the creation of new contaminated land and groundwater sources, the Contaminated Land Regulations 2000 (England), 2001 (Wales) and 2005 (Scotland) provide the basis for dealing with existing contaminated land, and the Town and Country Planning Acts provide the basis for dealing with contaminated land where redevelopment is proposed.
18. A definition of Contaminated Land is provided in Part II A of the Environmental Protection Act 1990. The local authorities are the regulators for the contaminated land regime, assisted in specific circumstances by the Environment Agency in England and Wales and the Scottish Environment Protection Agency (SEPA) in Scotland. Every local authority in the UK has a contaminated land function, and provides the first stage in the contaminated land statutory regime, as well as overlap with the planning regime. Details of the contaminated land regime are presented in Leaflet 2 of JSP 418 Volume 2. The MOD has a Memorandum of Understanding with the Environment Agency which includes the management of land contamination. The purpose of the memorandum is to assist in securing effective co-operation and understanding between MOD and the Environment Agency in dealing with issues of environmental protection; and in particular, those issues of environmental protection for which the Agency is the regulator.
19. Geological Sites of Importance for Nature Conservation (SINCs) (protected under the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000) exist to conserve those localities valuable for research and education in the earth sciences. Other protective geological designations include Regionally Important Geological and Geomorphological Sites (RIGS), National Nature Reserves and Local Nature Reserves. Examples of these include West Dorset Coast, Porthleven Cliffs in Cornwall and Clevedon shore in Somerset, details of which are included on Natural England's website.
110. Local Geological Sites are important sites that underpin and complement the SSSI coverage. They are selected by voluntary local groups, which are generally formed by

county or unitary authority area in England. RIGS were established in 1990 by the Nature Conservancy Council (NCC) and continue to be actively supported by the UK statutory conservation agencies. There are now more than 50 local RIGS groups in the UK. UKRIGS is an association of RIGS groups, overseeing the RIGS scheme on a national basis. Some former RIGS groups now use the term 'geology trusts' under an umbrella organisation called the Geology Trusts. These sites do not have formal statutory protection in the same way as SSSIs. However, RIGS groups notify local planning authorities of the RIGS that have been declared in their area and encourage the protection of the site through the planning process. For example, RIGS can be listed on local authorities' development plans.

- I11. County Geological Sites and SINCs may be selected in a similar way, but the criteria vary from county to county. Defra has issued general guidance on the selection and management of local sites.
- I12. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Strategic Statement for Contaminated Land has been produced detailing strategic objectives for action. The Statement can be located from the web-link given at the end of this theme.

MOD ACTIVITIES AND IMPACTS

- I13. MOD undertakes many activities that may introduce threats to soil extent, diversity or quality. Construction and engineering are particularly relevant, as foundations and structures are often excavated or piled into the ground, and construction operations in general are inherently disruptive to the ground. However, other activities, such as military training, reconfiguration of units and resources, provision of technical, administrative and personnel accommodation and facilities, facility operation and active service all have the potential to affect geology and soils through direct and indirect contact or use.
- I14. Changes in intensity or type of off-road vehicle training and manoeuvring alter impacts on the soil of military training areas. Heavy vehicles can strip surface vegetation, shear away upper soil layers and compact underlying material. Soil compaction can inhibit flora and fauna and reduce the soil's ability to absorb surface water. Flowing surface water can erode exposed soil and transfer sediment and soil contaminants to local watercourses. Such soil damage can also be imposed by heavy plant around construction sites. Trampling by foot (e.g. military training and public access) can also promote soil compaction and vegetation loss.
- I15. Major engineering projects can interfere with surface and sub-surface drainage, and changes in groundwater abstraction can alter groundwater flow regimes. Moisture content affects the stability of some soil materials, so changes in groundwater levels may lead to surface instability and landslides.
- I16. There are numerous activities that have potential to affect soil and substrate quality through the contamination of land and groundwater as a result of historic activities and processes, which were constructed or introduced when the consequences of land contamination were not so well understood or regulated. The presence, level and type of contamination may restrict how the land may be reused, and consequently affect its value. It is MOD policy that the disposal of Estate assets is accompanied by a Land Quality Assessment (LQA) to reduce uncertainties over likelihood or extent of contamination, and help develop plans for remediation if required. A balance has to be set in devising such remediation proposals to weigh up the benefits of the remediation against a range of issues including the preservation

of rare flora or fauna that may have developed in response to the unusual habitat conditions present on MOD land.

- I17. Changes in the distribution or intensity of ordnance firing can have implications for soil quality if there is likely to be an accumulation of heavy metal, biological, chemical, radioactive or explosive residues on the surface. Ordnance training and use can also have physical effects, depending on the nature of gun tractor vehicles or tanks.
- I18. Changes in type and intensity of use transport, handling and storage of fuels and chemicals also has the potential to affect land quality through the creation of discrete contamination sources.
- I19. MOD disposes of significant quantities of waste to landfill facilities each year, and, notwithstanding the MOD's and facility operators' Duties of Care under the Waste Management statutory regime, there is the potential for waste management operations to impact soil and groundwater quality.
- I20. Reduction in soil quality and diversity can also occur where lower soil layers of reduced nutrient content become mixed with more fertile surface layers. This type of disturbance can occur through large artillery firing, excavation and construction activities or changes in ploughing regimes of tenant farmers.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Remediation of contaminated land. Protection of soil structure and stability.	Incorporation of pollution prevention measures in the design of facilities to prevent contamination.	No impact	Minor risk of further land contamination.	Significant risk of further contamination from facilities or activities. Increase in vulnerability to destabilising factors.

Good practice case study – Reuse of Soil on Salisbury Plain

Construction of stone roads at Copehill Down, Salisbury Plain, generated quantities of surplus topsoil. This was stockpiled for use in repairing range butts, craters and vehicle track scars. Use of local soil ensures repairs are undertaken with material of an appropriate pH and seed bank to support the chalk grassland SSSI habitat.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Environmental Focal points for each TLB
- Defence Estates PTS Env Liability, Sutton Coldfield – Tel: 0121 311 2007

- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp - Tel: 01980 674866
- MOD Defence Scientific and Technology Laboratory (advice on military-specific contamination, including radiological contamination)
- Regional, Establishment, base or Unit Environmental focal points

External

- [British Geological Survey \(general geological information resource\)](#)
- [ContaminatedLand.co.uk \(general information resource\)](#)
- [Countryside Council for Wales \(Welsh Statutory Body\)](#)
- [Environment Agency \(including National Groundwater and Contaminated Land Centre\)](#)
- [Environment and Heritage Service Northern Ireland \(Northern Ireland Statutory Body\)](#)
- [Geological Society](#)
- [Geologists Association](#)
- [Joint Nature Conservation Committee \(UK Government's wildlife advisory body\)](#)
- Local Authorities (Contaminated Land Officers)
- [Natural England \(English Statutory Body\)](#)
- [Marine Life Information Network](#)
- [Scottish Environment Protection Agency \(SEPA\)](#)
- [Scottish Natural Heritage \(Scottish Statutory Body\)](#)

INFORMATION AND REFERENCES

- [Defence Estates: 2006: *Defence Estates Strategy 2006, In Trust and On Trust*](#)
- MOD: JSP 418: *Sustainable Development and Environment Manual* (Volume 2, Leaflet 2)
- [MOD: *Strategic Statement: Contaminated Land*](#)
- [DEFRA: Land and Soil Quality Contamination information resource](#)
- [DEFRA: Pollution Prevention and Control information resource](#)
- [DEFRA: 2004: *First Soil Action Plan 2004-2006*](#)
- [DEFRA: 2005: *Controlling Soil Erosion*](#)
- [DEFRA: 2005: *How to protect Hampshire's soils by function and soil type*](#)
- [Department for Communities and Local Government: Planning Policy Statements, including PPS9 \(*Biodiversity and Geological Conservation*\), PPS10 \(*Waste Management*\), PPS14 \(*Development on Unstable Land*\) and PPS23 \(*Planning and Pollution Control*\)](#)
- DETR: 2000: Circular 2/2000 *Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990*
- [DEFRA: Soil](#)
- [Environment Agency: Soil](#)
- [European Commission links](#)
- [European Topic Centre on Terrestrial Environment](#)
- Royal Commission on Environmental Pollution: 1996: *Sustainable use of soil*. Report Cm 3165.

[UK Government Sustainable Development information resource](#)

THEME J: BIODIVERSITY AND NATURE CONSERVATION

Overall sustainability objective: Conserve and, where appropriate, enhance biodiversity as part of estate stewardship, to contribute to the UK commitment to halt the loss of biodiversity by 2010 and afterwards, whilst ensuring the provision of defence capabilities.

Sub-objectives:

- Be an exemplar in the management of designated sites where compatible with military requirements;
- Ensure natural environment requirements and best practice are fully integrated into the estate management;
- Contribute, as appropriate, to the UK Biodiversity Action Plan (and Country Biodiversity Strategies).

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in effect (indirect or direct) on a designated site (particularly SSSI, SPA, SAC or Ramsar site). Sites may be designated for terrestrial or marine habitats, plant, mammal, bird, reptile, amphibian, fish or invertebrate species, as well as geomorphological and geological features.	<p>Issues may include direct or indirect physical habitat loss or damage; changes in hydrology or soil structure; noise or visual disturbance; release of toxic contaminants, nutrients, dust or invasive species, and may include distant affects. For full lists of activities that may affect a designated site refer to the list of 'operations likely to damage' each SSSI.</p> <p>Any potential impact on a designated site will require ecological impact assessment and should be discussed with a specialist environmental adviser at the earliest opportunity.</p> <p>Explore opportunities to enhance SSSI condition in support of SOGE targets (see below).</p>
Change in effect on a species of conservation concern (including European or UK Protected Species or local biodiversity action plan species). (eg all bats, badgers, nesting birds, most reptiles and amphibian, water voles, otters, certain rare plants). Protected species occur in many buildings and across the 'built estate'.	<p>Desk study and field survey may be required to identify possible species issues. A 'protected species license' application may be required, supported by detailed surveys and mitigation plans.</p> <p>Survey and reporting may be expensive, may take 3 months or more, and are usually only possible at certain times of the year. Therefore early consultation with a specialist is highly recommended.</p> <p>Identify and avoid or replace key habitat features used for feeding, resting and breeding. Identify and create buffer zones around sensitive areas, and where practicable, carry out potentially disturbing activities at appropriate times to avoid breeding, migration or other sensitive seasons.</p>
Change in site activities or operation that may affect biodiversity and nature conservation.	<p>Survey and record species and habitats. Create site sensitivity maps and display as posters throughout site to identify locations of protected species and sensitive habitats.</p> <p>Minimise herbicides and fertilisers, and limit the area of regularly mown grass. Reducing mowing saves maintenance costs. Allow wildflowers to seed wherever possible. Mow paths through tall meadow areas to maintain access. Allow natural scrub</p>

	regeneration on non-sensitive areas
Change in site use (i.e. acquisition or disposal) that may affect biodiversity and nature conservation.	Consult a specialist at the earliest opportunity.
Is there a change in public access or recreation that may affect biodiversity and nature conservation?	Many MOD sites have developed extremely high wildlife value due to the lack of public access, especially dog-walking. If access could increase then guided walks, paths and car parks should be designed to focus users away from sensitive areas.
Change in construction or engineering activity that may affect biodiversity and nature conservation.	<p>Planning policy is that there should be 'no net loss of biodiversity'. Planning authorities normally require applications to be supported by an ecological study (a 'Desk Study and Extended Phase 1 Habitat Survey') to consider potential ecological issues on a site, and assess whether any detailed survey and mitigation or licenses may be required.</p> <p>Consider not just the construction footprint but also the wider environment and landscape, including what is 'beyond the wire'. Maintain or enhance diversity of habitats, retaining, creating or allowing development of woodlands, scrub, hedges, wetlands, ponds and grasslands. Create habitat corridors or stepping stones to link fragments. Use native broadleaved trees rather than ornamental shrubs and conifers which have limited value.</p> <p>To minimise adverse impacts of wastewater and run-off, consider the construction of reed beds as a purification system.</p> <p>Vary grassland sward heights, and incorporate "wildlife-friendly" features (e.g. bat and bird cavities in walls and roofspaces, culverts or passageways under roads, badger gates in fences, hedgehog ramps in cattle grids, exit ramps in water tanks), green roofs on buildings.</p> <p>Construction management plans and toolbox talks for all contractors.</p>
Other biodiversity and nature conservation issues.	To provide nesting opportunities for birds and bats in both the rural and urban environment, erect bird and bat boxes.

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	BIODIVERSITY <ul style="list-style-type: none"> Departments to meet or exceed the aim of having 95% of Sites of Special Scientific Interest (SSSIs) in sole ownership or control in target condition by 2010.
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WHY THIS THEME IS IMPORTANT TO MOD

- J1. Biodiversity encapsulates the variety of life on earth, including all species of plants and animals along with their genetic variation and the complex ecosystems of which they are a part. Biodiversity enables us to obtain such necessary goods as food, clothing, medicine, and fuel. Equally important are the ecosystem services that biodiversity provides, such as

clean air and drinkable water. Locally, biodiversity contributes to the distinctive character of an area, be it a mountain, woodland or even an urban area, and enriches quality of life. UK wildlife has suffered significant losses over recent years, mirroring similar losses worldwide.

J2. Common threats to biodiversity include:

- Direct habitat loss, e.g. vegetation removal, greenfield construction;
- Reduction in habitat quality by introducing substances to air, land and water that affect the growth of flora and fauna;
- Habitat fragmentation, whereby large areas become broken up by built developments, new transport routes or removal of hedgerow "corridors". Dividing and confining populations in smaller areas increases stress, makes them less resilient to habitat loss and disease and reduces the variety in the gene pool;
- Removal of elements that sustain an ecosystem, e.g. restricting water flow to a marshy habitat;
- Disturbance by people, vehicle, vessels, aircraft and equipment and other activities, especially during breeding or feeding; and
- Poor or inappropriate land management.
- Introduction of invasive alien species that out-compete natural species;
- Unsustainable rates of hunting, fishing and harvesting;
- Threats to habitats and species as a result of climate change;

J3. Conservation of wildlife relies on protecting habitats, something that is assisted by legislation, protective designations and planning policy; and by protecting sensitive and threatened species against disturbance, injury and death. As a Government Department, the MOD must comply with UK legislation and policy.

J4. In 1992, the UK signed the Biodiversity Convention at the UN Conference on Environment and Development in Brazil (the Rio Earth Summit). This committed the UK to develop strategies for biodiversity protection and, as a result, Biodiversity Action Plans have been published for a wide range of priority habitats and species, giving targets and action for conservation. The Rio commitment also promoted measures to ensure biodiversity is addressed in policies, plans and projects. Furthermore, the Gothenburg European Council 2001 committed the UK to the Countdown 2010 target, that biodiversity decline should be halted by 2010.

J5. Other relevant international conventions include:

- The Ramsar Convention on Wetlands of International Importance , 1971,;
- The Bern Convention on the Conservation of European Wildlife and Natural Habitats, 1979, which aims to ensure conservation and protection of all wild plant and animal species and their natural habitats.

Relevant European legislation includes:

- EC Birds Directive (European Community Council Directive on the Conservation of Wild Birds (79/409/EEC)) which generates Special Protection Areas (SPAs);
- EC Habitats Directive (European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC)), which generates Special Areas for Conservation (SACs);
- EU Water Framework Directive, 2000, which aims to ensure 'good status' of all waters (including surface, transitional, coastal and groundwater) by 2015; and

- J6. International, European and national commitments are captured in UK legislation, the key legislative requirements are (this list is not exhaustive):
- The Wildlife and Countryside Act (WCA) 1981, under which Sites of Special Scientific Interest (SSSIs) wild birds and certain listed plants and animals are protected (England and Wales);
 - The Wildlife (Northern Ireland) Order 1985, which designates and protects Areas of Special Scientific Interest (ASSIs) and protected species in Northern Ireland;
 - The Nature Conservation (Scotland) Act 2004 which requires public bodies to 'further' the conservation of biodiversity in their activities (applies in Scotland only).
 - The Natural Environment and Rural Communities (NERC) Act 2006, which places a duty on public bodies such as the MOD to 'have regard' to the purpose of conserving biodiversity in their activities
 - The UK Habitats Regulations (The Conservation (Natural Habitats, &c.) Regulations 1994), which apply the European Directives to the UK (Habitats Regulations 1995 in N. Ireland); and
 - Offshore Habitats Regulations, 2004 which extends the network of SACs and SPAs beyond the 12 Nautical Mile limit to up to 200 Nautical Miles.
- J7. In the UK, nationally important sites are designated SSSIs and National Nature Reserves (NNRs). Regionally and locally important features are designated as non-statutory Local Nature Reserves (LNRs), and Sites of Importance for Nature Conservation (although names of local designations vary). Designated sites are a 'material consideration' in planning applications, and statutory bodies may also need to be formally notified of any new or changed activity that could damage a SSSI,
- J8. Internationally important sites are designated as Ramsar Sites, SPAs and SACs and have very strong legal protection. If a plan or project could have a significant impact on a feature for which the designation was applied, a Habitats Regulations Assessment must be undertaken – see Section 5, explaining who makes the decisions, when they are needed and the stages involved.
- J9. Many military site areas have limited built or agricultural development and public access. As a result most of the estate has become a haven for species and habitats that would have otherwise declined, and than a third of the area (83,000 ha) has been designated as nationally or internationally important. Restrictions of shipping, fishing and public access at coastal firing ranges benefit many rare coastal plants and animals.
- J10. Any patch of green and open space, shrubs, hedgerows or trees can provide locally or regionally important habitats for wildlife, and maintenance regimes e.g. grass cutting, can strongly influence the number and diversity of species. A number of protected species such as most birds, bats, badgers and great crested newts frequently occur in buildings and developed areas.
- J11. MOD policy on nature conservation is in Chapter 5 of JSP 362 - the Defence Lands Manual, including Declarations of Intent with Natural England, Countryside Council for Wales and Scottish Natural Heritage, and a Memorandum of Understanding with Defra and the devolved administrations, which explicitly state the MOD's commitment to nature conservation and stakeholder liaison.
- J12. In response to targets under the Framework for Sustainable Operations on the Government Estate (the Framework), a MOD Strategic Statement for Biodiversity was produced detailing strategic objectives for action.

- J13. The Department of Communities & Local Government (CLG) introduced Planning Policy Statement 9 (PPS9) on Biodiversity and Geological Conservation in 2005. PPS9 sets out planning policies on protection of biodiversity and geological conservation through the planning system.
- J14. Sustainability Appraisal presents an opportunity to build policy commitments and targets into the project or proposal from the earliest stages.

MOD ACTIVITIES AND IMPACTS

- J15. Construction and engineering can directly destroy and fragment habitats under the immediate footprint, and can cause temporary habitat loss in the vicinity where vehicles and plant operate. Construction also create noise that may be disturbing to animals, and raise dust that can inhibit plant growth. Structures and hard surfaces can alter water infiltration and flow patterns and change the species balance. Construction and refurbishment can present opportunities to create habitat e.g. bat roosts, new native woodlands and wetlands (especially as part of sustainable urban drainage systems).
- J16. Site acquisition and disposal has implications for biodiversity. The conservation interest of new sites should be assessed so that MOD can manage it effectively. Similarly, if MOD is selling a site, its conservation value should be assessed, its status and any protected species or designated sites, should be fully considered.
- J17. Military training could impact on biodiversity on land or at sea and if there are significant changes in training (e.g. numbers of people or vehicles, location, timing and duration), ecological implications should be considered. Disturbance or stress may be caused by noise and movement of people, vehicles, aircraft, vessels and ordnance. Vegetation can be removed by trampling, vehicle tracks or wheels, and damaged by explosives, or dredging.
- J18. Ecological factors should be considered when assessing other activities on the estate, e.g. under the MOD Wider Markets Initiative where, subject to operational constraints, other organisations have been able to "rent" areas of land or buildings for activities such as orienteering, vehicle rallies or filming.
- J19. Changes in estate management and maintenance regimes should also be assessed. Increased opportunity for public access on the estate may also result in people, vehicles and dogs disturbing wildlife.
- J20. Impacts of conservation regimes themselves should also be considered as activities that promote one species or habitat and may be detrimental to other features. For example, installing stone roads for non-tactical vehicle manoeuvring helps alleviate widespread soil and vegetation impacts but may contribute to habitat fragmentation and wildlife disturbance by opening up new areas to recreational vehicles.

MITIGATION OR ENHANCEMENT OPPORTUNITIES

- J21. To inform mitigation measures and enhancement opportunities, consider the following:
- Contact the site Conservation Group or Environmental Protection Focal Point, and DE's Environmental Advisory Services (EAS) for advice and support.

- Undertake or commission a desk study of existing information for the site. This should collate information held by the Conservation Group, EAS, local records centres, and data held on [DE's Geographic Online Data for Estates \(GEODE\) database](#).
- Aerial photography can be invaluable in planning and undertaking further survey work, and can form a useful backdrop for presenting assessment results.
- If not already available, undertake or commission further field surveys and assessments to evaluate the ecological baseline and potential impacts. Surveys may include "Extended Phase 1 habitat survey" which gives an initial assessment of the type, extent, value and sensitivity of habitats. Phase 1 survey should inform and target further "Phase 2" survey work such as detailed habitat, plant, bird, mammal, reptile or invertebrate surveys.
- Educate the project team and end-users about the value of diverse habitats and species, and promote and secure behavioural changes and mitigation measures to avoid or minimise negative impacts.

J22. Develop management plans for nature and woodlands, within a site Environmental Management System or Integrated Rural Management Plan

- Farm tenancy or commercial partnering agreements should include appropriate clauses on the protection of local habitats and species.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
The removal of defunct military structures provides space for the creation of habitat e.g. pon	Incorporation of wildlife friendly structures e.g. culverts & passage ways under roads in the design of facilities - benefit wildlife/ address fragmentation.	No Impact	Direct disturbance, loss of or permanent damage to habitats or species protected at local or national level.	Direct disturbance, loss of or permanent damage to habitats or species protected at the European or international level.

Good practice case study – Corsham PFI

The Corsham PFI project has undertaken a wide ranging study to consider environmental issues before selecting a preferred bidder. Whilst a relatively strategic process, stakeholder engagement and some detailed survey work was needed to identify key issues. Early biodiversity appraisal work at Corsham since 2002 has identified significant protected species issues and potential indirect issues for nearby designated sites such as SSSIs and SACs. Bat and great crested newt surveys, including specialised radio-tracking of the endangered greater horseshoe bats has now satisfied statutory bodies that impacts can be addressed within the design of the new developments. In this case the development master plan has been developed using biodiversity information gained, primarily avoiding impacts and thus making substantial savings to the project. Where biodiversity interest has been affected mitigation and compensation schemes have been developed including the creation of great crested newt ponds, the management of woodland and grassland areas for foraging bats and the protection of known bat roosts.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs Environmental Focal points for each TLB
- Defence Estates Property Directorate, Sustainable Development Team, Bath – Tel: 01225 883523
- Defence Estates Environmental Advisory Services, Natural Environment Team, Westdown Camp – Tel: 01980 674665
- Establishment, base or Unit Environmental focal points
- Local MOD or Unit Conservation Group, if applicable

External

- [Countryside Council for Wales \(Welsh Statutory Body\)](#)
- [Environment and Heritage Service Northern Ireland \(Northern Ireland Statutory Body\)](#)
- [Joint Nature Conservation Committee \(UK Government's wildlife advisory body\)](#)
- Local Authorities (for National, Regional and Local Biodiversity Action Plans, records and data collection)
There are many more local and specialist groups that can provide advice on specific sites and species, or who have access to data and records.
- [Marine Life Information Network \(MARLIN\) for Britain and Ireland](#)
- [Natural England](#)
- [Royal Society for the Protection of Birds \(RSPB\)](#) – Tel: 01767 680551
- Scottish Biodiversity Forum – Tel: 0131 244 6540
- [Scottish Natural Heritage \(Scottish Statutory Body\)](#)
- [UK Biodiversity Partnership](#)
- [Wildlife Trusts](#) (network of 47 County wildlife trusts) – Tel: 01636 677711

INFORMATION AND REFERENCES

- Defence Estates *Business Management System, Support Processes 2.7*
- [Defence Estates: 2006: Defence Estates Strategy 2006, In Trust and On Trust](#)
- MOD: JSP 362: *Defence Lands Manual* (Chapter 5, Natural Environment (Conservation))
- MOD: JSP 418: *Sustainable Development and Environment Manual* (Volume I, Chapter 14 and Volume 2, Leaflet 3)
- [MOD: Strategic Statement: Biodiversity](#)
- DEFRA: 2003: *Sites of Special Scientific Interest: Encouraging Positive Partnerships*
- [JNCC: 2001: Review of Marine Nature Conservation](#)
- [Department for Communities and Local Government: 2006: Planning Policy 9 Biodiversity and Geological Conservation](#)
- [Securing the Future - UK Government Sustainable Development Strategy](#)
- [UK Biodiversity Action Plan information resource](#)
- [UK Government Sustainable Development information resource](#)

THEME K: HISTORIC ENVIRONMENT

Overall sustainability objective: To protect and where possible enhance the MOD historic environment in recognition that it is an integral part of cultural heritage and the role it plays in supporting defence capability.

Sub-objectives:

- MOD continues to be an exemplar within Government in the management of the heritage assets;
- Protect and maintain our heritage assets for the benefit of our and future generations;
- Manage our heritage assets to reflect the ethos and heritage of MOD and to promote a “sense of place” for those who work on, live on and visit the MOD estate;
- Promote our heritage assets and support public and educational access where possible;
- Work to reduce the heritage assets at risk on the MOD estate.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Chance of activity affecting known heritage assets including their curtilage and setting	<p>Educate the project team and end-users about the value of the historic environment, and promote behavioural changes and mitigation measures to alleviate negative impacts.</p> <p>Develop component Historic environment management plans either independently (e.g. Conservation Management Plans) , or within a site EMS and IRMP if present. Specific actions or tasks should be included within the site's Integrated Estate Management Plan (IEMP) as appropriate. Refer to EBMS and other guidance.</p>
Potential for heritage assets, not previously recorded or identified, affecting the planning for the proposed activity. This can include archaeological remains as well as above surface assets (of local, national and MOD interest).	As early as possible, undertake further assessments to establish the presence of archaeological, cultural or built heritage and likely impacts of the proposal. Consult the Historic Environment Team, MOD Heritage/Historic Branches, EH's Government Historic Estates Unit, County Archaeologist or local archaeological and heritage groups for professional advice.
Establish significance of heritage assets	Assessment of significance of heritage assets may be required
Change in intensity of training near heritage asset (e.g. driving, firing, digging, noise, vibration) & location of project impacting on landscape or heritage/historic significance of site.	Ensure that the design and location of new development is sensitive to and seeks to enhance the heritage asset and its setting. Refer to <i>DREAM</i> and <i>DEEP</i> .
Design and use of materials of project impacting on landscape or heritage/historic significance	Ensure that the design, use of materials and location of new development is sensitive to and wher possible enhances the significance of the heritage asset and its setting. Refer to <i>DREAM</i> and <i>DEEP</i> .

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in intensity of construction or engineering works	Engage with contractors to ensure best practice in the management and maintenance of heritage assets under MOD stewardship.
Change in maintenance regime affecting condition of historic buildings	During construction works, take measures to protect all features of historic interest (Use signage or physical barriers to protect features from damage), including archaeology, internal features, trees etc. For example, utilise protective membranes (geotextiles) under construction and engineering projects to spread the load and minimise damage to deeply buried features.
Is there a change in land management regime which may affect the historic environment? e.g. forestry, ploughing, recreation or other third party activity	Ensure that the project team is aware of heritage and ethos value of the site and that it is appropriately considered during all parts of the project process. Historic Environment Advisers within DG Ops EAS and the Services Historical Branches are able to advise as well as the statutory heritage bodies.
Acquisition or disposal of sites that may have historic environment features or may be of heritage or historical significance	
Refurbishment or change of use of historic buildings or those with a heritage significance	
Other archaeological and historic environment issues	

WHY THIS THEME IS IMPORTANT TO MOD

- K1. MOD has a rich and diverse historic environment on its UK estate and overseas. It is responsible for over half of the Government's historic environment assets, a valuable proportion of the Nation's heritage. It is diverse, ranging from prehistoric monuments and tenanted farmhouses on the Training Estate; to Horse Guards Parade and MOD Main Building in Whitehall; to the historic dockyards, barrack blocks and iconic World War II airfields. Recently, statutory protection has also been extended to 20th Century military structures reflecting the increasing historic importance placed on the two World Wars and the Cold War.
- K2. MOD has inherited many of its historic environment sites, for example the pre-historic archaeology on Salisbury Plain or country houses. As the guardian for these important assets, MOD is responsible for their stewardship. However, MOD and its forerunners have also created their own history through significant events that are reflected on the estate such as the Trenchard and Cold War airfields; the historic dockyards and barracks; together with iconic training centres such as RMA Sandhurst and the Britannia Royal Naval College. These defence-related features are within the scope of the Sustainability Appraisal, whether they currently receive statutory protection or not.

Box H.1: What is Historic Environment

MOD considers the historic environment in its widest context both in the UK and overseas, on land and at sea. This includes:

- features which receive statutory protection such as listed buildings, scheduled monuments and conservation area;
- features that are protected through the planning system such as field monuments, World Heritage Sites, Historic Battlefields and Historic Parks and Garden;
- Those features that are considered to be of “heritage and ethos” value to MOD;
- historic landscapes (ranging from prehistoric landscapes to military airfields);
- other local or vernacular heritage estate features such as traditional farm buildings and field walls in national parks and Areas of Outstanding natural beauty; and
- Maritime archaeology including designated wreck sites.



MOD heritage and ethos sites are defined as:

- "A location, facility, building or structure in, on, over, under or from which a commendable event or events of significance in the history of the Services or Defence, and pertaining to its ethos, occurred or to which it is directly associated".
- Naval wrecks and RAF, and foreign air force, crash sites both on land and at sea.
- Service memorials, including War Memorials.

- K3. In the UK, MOD is responsible for over 700 listed buildings, in excess of 9,000 archaeological monuments (of which more than 900 are scheduled) and nine Registered Parks and Gardens. Areas of the MOD estate fall within the majority of UK World Heritage Sites and a number of MOD sites have been designated as, or are within, Conservation Areas. Overseas, MOD is responsible for important historic environment features such as the Classical remains on the Cyprus Sovereign bases, buildings within the proposed World Heritage Site of “Fortress Gibraltar” and a number of features on training areas in Germany.
- K4. There are also an important range of historic environment features that are not statutorily protected but are nevertheless of heritage interest both to MOD and to local communities. Examples include, the sound mirrors on Hythe Ranges, the chalk ANZAC cap badges on Salisbury Plain and includes local signage and street furniture. MOD recognises the importance of these features to the Services and also to local communities.

Historic Environment Supports Defence Capability

- K5. Some of the Nation's most valuable historic environment assets are under MOD guardianship. For example, the pre-historic landscapes and archaeology of Salisbury Plain and Otterburn have been preserved initially through our military presence and in more recent times by informed estate management. MOD has a duty of care to ensure the sustainable future of these important sites and there is great stakeholder interest in the management of these assets and an expectation of high stewardship standards. It is important that MOD maintains and builds on its reputation for good stewardship.
- K6. Historic environment features receive a level of protection either through primary legislation, where they have statutory designations as Listed Buildings or Scheduled Monuments or where they are material considerations within the planning system e.g.

field archaeology, World Heritage Sites, Registered Parks and Gardens or Historic Battlefields etc. The relevant historic environment legislations and planning policies are given in the Information and References Section. As a Government Department and following the removal of Crown Immunity from the Planning Acts, MOD must comply with UK legislation and policies that support preservation of the historic environment.

- K7. Under Planning Policy Guidance (PPG) 16 (Archaeology and Planning) and equivalents issued by the devolved administrations equivalents, the County Archaeologist can request an archaeological evaluation, at the developers expense, if it is thought that there is a risk to archaeology. Conducting a thorough Sustainability Appraisal and any necessary archaeological evaluation, can reduce the risk of delay and unforeseen expense for projects when they reach planning approval stage. Evaluation can comprise desk research, non-invasive surveying and trial trenching. Unless the County Archaeologist is engaged early on and evaluations undertaken prior to applying for planning permission, there can be large impacts on project design, timetables and budgets.
- K8. The historic dockyards, airfields and barracks are all physical reminders of the past both as monuments to the great event and reminders of the everyday lives of previous generations of service personnel. This environment provides Service and civilian personnel with a feeling of history and heritage that imparts a sense of ethos, place and belonging. This strengthens and enhances the *esprit de corps* of the Services, reinforces its sense of identity and contributes to its effectiveness as a world class fighting force.
- K9. Historic environment features, including archaeological remains, are often fragile and vulnerable to damage, and are irreplaceable. They may constitute the only evidence of the past development of our civilisation so should be treated as a finite, non-renewable resource.
- K10. It is important to look beyond individual sites, buildings and features as the whole landscape bears the imprint of successive generations of human activity. Change has always been a vital aspect of the historic environment and it is not possible or desirable to "freeze" what we have inherited from previous generations. However, change must be managed carefully to ensure that future generations can develop their own understanding of the past.
- K11. In response to targets under the Framework for Sustainable Development on the Government Estate (the Framework), a MOD Strategic Statement for Heritage was produced detailing strategic objectives for action. The Statement can be located from the web-link given at the end of this theme.

MOD ACTIVITIES AND IMPACTS

- K12. MOD undertakes numerous activities that have potential to impact on historic environment features, the heritage value or landscape integrity of a site. Construction, engineering, demolition activities and disposal of buildings and sites are particularly relevant because:
- excavations and foundations can destroy or damage buried features removing forever the physical evidence of our past. More sympathetic capping, though less destructive, reduces opportunities for excavation and study and can still have a detrimental affect on the remains;
 - historic environment features and their heritage importance can be irreplaceably lost or damaged;

- insensitive design and location of new developments can impact negatively on the heritage integrity of a monument, historic building or site; and
 - insensitive disposal of sites can also lead to a loss of heritage value.
- K13. The design and location of new buildings and building refurbishment must be sensitive to and where possible enhance the historic fabric or heritage integrity of a site.
- K14. Development within Conservation Areas or which affects Listed Buildings or Scheduled Monuments must be cleared with the appropriate authorities (LPA, Statutory Bodies). Development must be sympathetic to its context and reflect the character and quality of the historic buildings in design, layout and materials. This must be also considered when MOD is considering, or actively, disposing of a building.
- K15. Professional advice must be sought for any development proposal as, even in areas where historic environment features have not been recorded, only a specialist will have an accurate perspective on likelihood of occurrence. With regards to archaeology, what lies under the surface cannot be predicted without trial investigations. Lack of records on many sites usually reflects lack of investigation rather than lack of features. Only major Defence Training Estates such as Salisbury Plain, Otterburn, Warcop, Willsworthy and Kirkcudbright have been mapped to the high standard of the National Mapping Programme (NMP).
- K16. Staff planning changes in intensity of live or dry field training, or introduction of new equipment, should consider impacts on the historic environment. Progressive attrition by trampling or vehicular movements can also lead to permanent, irreversible damage. Changes in the type or amount of explosive ordnance used may change cratering patterns on impact areas, which may contain archaeological features. Changes in blast wave patterns from different explosives or artillery may vary the vibration levels experienced by historic buildings.
- K17. Impacts are not solely restricted to military activities. Agricultural tenants embarking on ploughing regimes and Third Party Income Generation events such as off-road vehicle rallies or film production can also be very destructive. Increased public access could introduce trampling pressures and increase risk of unauthorised removal of artefacts. MOD holds ultimate responsibility for the activity of others on its estate.
- K18. Offshore activities e.g. underwater explosions, offshore firing, amphibious landings, dredging and anchor dragging, may disturb maritime archaeology.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Sensitive restoration and enhancement of monuments, buildings and consideration of heritage significance of site. Encourage public and educational access.	Avoidance of loss or damage through careful location of facilities and training activities and sensitive construction techniques.	No Impact	Permanent impact on the setting of national or internationally designated features of historic interest. Loss or damage to locally designated featured.	Direct loss of or permanent damage to national or international designated historic features or MOD heritage sites. Severe risk of damage to undiscovered features.

Good practice case studies

Albermarle Barracks Northumberland

Surveys, technical evaluation, research and liaison with the County Archaeologist and EH at Albermarle Barracks, Northumberland, enabled assessment of effects of increased tracked vehicle use on buried remains of Hadrian's Wall. Comparison of vibration and compression loads of MLRS and existing traffic confirmed that MLRS could use the existing road rather than build a diversionary 6-mile link road.

Robin Hoods Ball

Innovative and humane techniques have been applied to protect features from badger disturbance on Salisbury Plain. Robin Hoods Ball (a Neolithic causewayed enclosure) became colonised by badgers, which had to be excluded using DEFRA guidelines. A badger-proof fence was erected along the 1km perimeter and one-way gates allowed badgers out but not back in. Once the badgers were out, setts were filled in, and the fence will be monitored and maintained to prevent further entry.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

Defence Estates

- Defence Estates Property Directorate, Sustainable Development Team Bath – Tel: 01225 883523
- Defence Estates Environmental Advisory Services, Historic Environment, Westdown Camp – Tel: 01980 674707
- Defence Estates Principle Architect, Design and Conservation, Sutton Coldfield – Tel: 0121 311 2018
- Defence Estates Estate Advisers

MOD Heritage Sections

- **Army** – Col Tony Figg, Heritage Branch, DPS(A), Building 43, Trenchard Lines, Upavon, Pewsey, Wiltshire, SN9 6BE. Tel. 01980 615089. [HQ-AG-DPS\(A\)-Heritage RO1 Hd](#)
- **RAF** – Gp. Capt Steve Lloyd (Rtd), Deputy Head, Air Historical Branch, RAF Bentley Priory, Bldg 266 G8, Bentley Priory, Stanmore, Middlesex, HA7 3HH. Tel. 020 8838 7825. [AHB\(RAF\)&PCB\(AIR\)-1\(RAF\)1](#)
- **Navy** – Ralf Watkins, RNEO, RNEO, Room 605, COB II, HMNB Portsmouth, PO1 3NH. Tel. (9)380 27223. [RNEO-SO1STRATPOL](#)

External

- [Cadw](#)
- [English Heritage](#)
- [Environment and Heritage Service Northern Ireland](#)
- Government Historic Estates Unit of English Heritage – Tel: 020 7973 3802. [Email](#)
- [Historic Scotland](#)
- [Association of Local Government Archaeological Officers \(ALGAO\)](#) – Tel: 01287 205863
- [Council for British Archaeology](#)
- [Institute of Field Archaeologists](#) – Tel: 0118 931 6446
- Local archaeological/heritage interest groups
- [Scottish National Monuments Record](#)
- [Society for Protection of Ancient Buildings](#) – Tel: 0207 377 1644
- [Ulster Architectural Heritage Society \(Northern Ireland Listed Buildings\)](#)

INFORMATION AND REFERENCES

- Business Management System (BMS) 2.7.4 Historic Estate
- [Defence Estates: 2006: Defence Estates Strategy 2006, In Trust and On Trust](#)
- Defence Estates: *Design Excellence Evaluation Process* (DEEP)
- [Defence Estates: Defence Related Environmental Assessment Method \(DREAM\)](#)
- MOD: JSP 362: *Defence Lands Handbook* (Chapter 6 Historic Environment)
- MOD: JSP 434: *MOD Defence Construction in the Built Environment*
- MOD: *Annual Sustainable Development Report, SSD&C*
- MOD: *Conservation Manual for the historic environment on the Defence Estate*
- MOD: Historic Environment Assurance Reports
- [MOD: Strategic Statement: Heritage](#)
- *Biennial Conservation Report – The Government's Historic Estate 2003-2005 2006* English Heritage (and subsequent reports)
- [Council for British Archaeology: 2002: A Review of the Defence of Britain Project](#)
- DCMS and DTLR: 2001: *The Historic Environment: A Force for Our Future*
- DCMS: 1999: *Guidance Note, Disposal of Historic Buildings*
- [DCMS: 2003: Protocol for the Care of the Government Historic Estate](#)
- DEFRA: 2005: *Securing the Future – UK Government Sustainable Development Strategy*
- English Heritage: 1998: *Monuments of War: The Evaluation, Recording and Management of Twentieth Century Military Sites*. (PC 50505)
- English Heritage: 2000: *Twentieth Century Military Sites*. (PC 50563)
- English Heritage: 2002: *Taking to the Water: English Heritage's Initial Policy for the Management of Maritime Archaeology in England*
- English Heritage: 2003: *Historic Military Aviation Sites conservation management guidance*
- English Heritage: 2004: *Military Wall Art: Guidelines on its Significance, Conservation and management*
- Heritage Scotland: 2002: *Passed to the Future - [Historic Scotland's Policy for the Sustainable Management of the Historic Environment](#)*
- [National Mapping Programme](#)
- Statement by the Minister for Culture, Welsh Language and Sport, Jan 2004. Following Welsh Assembly consultation paper on the historic environments, "Review of the Historic Environment in Wales" March 2003
- [UK Government Sustainable Development information resource](#)

Legislation and Planning Guidance

- Ancient Monuments and Archaeological Areas Act 1979
- Historic Monuments and Archaeological Objects (NI) Order 1995
- Planning (Listed Buildings and Conservation Areas) Act 1990
- Planning (Listed Building and Conservation Areas) (Scotland) Act 1997
- Planning Order (NI) 1991 Planning (General Development) Order (NI) 1993
- Planning Policy Guidance (PPG) 15: Planning and the Historic Environment and PPG 16 Archaeology and Planning
- Planning Policy Statement 6 (PPS 6) Planning, Archaeology and Built Heritage
- Planning Policy Wales. Chapter 6 Conserving the Historic Environment
- National Policy Planning Guidance (NPPG) 5 Archaeology and Planning and NPPG 18 Planning and the Historic Environment (NPPG18)
- European Landscape Convention
- Protection of Military Remains Act 1986
- Protection of Wrecks Act 1973

THEME L: LANDSCAPE AND TOWNSCAPE

Overall sustainability objective: To protect and enhance the character of landscapes and townscape.

Sub-objectives:

- To ensure that planning and development take account of landscape and townscape issues for both statutory matters (e.g. planning applications) and where development is not specifically covered by statutory directions;
- To protect the landscape/townscape value of features of historic and cultural interest; and
- To contribute to the long-term enhancement of landscape characteristics and quality of life.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Effects of construction or development in (or immediately adjacent to) National Parks, Areas of Outstanding Natural Beauty or other areas subject to landscape designations.	It is essential that liaison takes place with the relevant Defence Estates Land Management Services (DE LMS) office to ensure that the National Park Authority or local planning authority is made aware of the likely development or change of use. MOD is required to discuss proposals with these stakeholders at the earliest opportunity (Defra Circular 12/96 refers).
Removal, development and replacement of natural landscape features such as trees, woodlands, hedgerows.	If changes to woodlands are proposed they should be sympathetic to the existing landscape characteristics of the area. The species mix for new planting should reflect the character of local woodlands, ideally using local stock. DE LMS can advise on approvals (felling licences, the Hedgerow Regulations, Tree Preservation Orders, tree species etc).
Alterations to the shape of the land through the creation of mounds or depressions.	Significant land re-shaping requires planning permission. Proposals should incorporate a Visual Appraisal to inform decision makers.
The potential to make a significant change within the landscape/townscape through the introduction or removal of new buildings or infrastructure, or changes to existing buildings or infrastructure.	If the Sustainability Appraisal highlights that landscape/townscape is a significant issue then advice should be sought on whether a landscape assessment should be commissioned from a suitably qualified person. Redundant buildings or infrastructure that is incongruous or has become an eyesore may be removed. However, a historic environment appraisal should be carried out to ascertain if the feature (even if dilapidated) has heritage interest. Note: demolition and site clearance could compromise the future planning case for disposal or defence re-development at that location.
The potential to create a visual intrusion into the nightscape e.g. installation of lighting or floodlighting.	Security lighting or flood lighting should be assessed to ensure that only essential illumination is provided and that light pollution is minimised.
Other landscape and townscape issues.	There is general concern over the removal or replacement of small-scale features that contribute to the quality of the landscape e.g. iron lamp-standards. Project Managers should consider opportunities to retain or replicate 'quality of life' features.

WHY THIS THEME IS IMPORTANT TO MOD

- L1. The environment we live in is a mix of natural and designed landscapes. They have a significant influence on quality of life and, as such, have strong economic, social and community values. The Government puts great store on the both protection of natural landscape and design which enhances the built and rural environment.
- L2. MOD recognises that both urban and rural places have positive features which contribute to their special character and help to create a sense of identity. These positive features include the natural landscape, regional building traditions and materials and other factors that make each place different. Many of the best places we live and work in are memorable, with a character which people can appreciate easily.
- L3. Many of the places which we now think of as being pleasantly distinctive grew in response to local circumstances, more often by accident than design. We should not ignore the power of this distinctiveness. The UK and Northern Ireland has been mapped and divided into Landscape Character Areas (LandMap in Wales). These should be used as a guide for any development which potentially affects the countryside in particular.
- L4. New developments that just replicate corporate designs or adopt the standard practices and products of the building industry generally fail to integrate within the overall landscape or townscape. Developments that respond sensitively to a site and its setting are more likely to create a place that is valued, pleasing to the eye and contribute to a sense of well-being and ultimately to operational effectiveness, recruitment and retention.
- L5. Some of our built sites are protected under Conservation Area or Listed Buildings/Scheduled Monument legislation and development will be closely scrutinised by the local planning authority and statutory consultees. However, some townscapes unique to defence, such as the pre-war RAF stations or landscape features such as World War I practice trenches - although not statutorily protected - are now valued. We should be aiming to preserve them, where this is a reasonable proposition, and to enhance the sense of identity these places provide.
- L6. England and Wales' finest landscapes have been conserved and enhanced through designations such as National Parks and Areas of Outstanding Natural Beauty (AONBs). There are two National Parks in Scotland and legislation is expected in Northern Ireland. National Parks and AONBs have a high level of protection against inappropriate development through the planning system. In addition, Defra Circular 12/96 (in revise) and the Environment Act 1995 place a duty on MOD to consult the National Park Authority early on, and to have regard for the purposes of the National Parks when exercising its' functions.
- L7. Although MOD occupies less than 3% of the National Parks, this represents some 30% of the Defence Training Estate. In addition, other training areas lie within AONBs in England and Wales or National Scenic Areas in Scotland. MOD is required, under Defra Circular 12/96 to carry out an appropriate sustainability or environmental appraisal for any new, renewed or intensified use of land in the National Parks.
- L8. Forestry operations which impact upon landscape character may be subject to legislation under the Forestry Act 1991. Many hedgerows are protected and removal is subject to assessment under the Hedgerow Regulations 1997.

L9. Coastal areas are general highly valued by the public and local government as they represent a scarce land resource. Coastal developments should be sensitive to their setting and minimise both visual and physical impacts on neighbouring sites.

MOD ACTIVITIES AND IMPACTS

L10. Landscape or townscape issues will become significant within the Sustainability Appraisal if activities such as the following are proposed:

- Construction or development in (or immediately adjacent to) National Parks, Areas of Outstanding Natural Beauty or other areas subject to landscape designations;
- Development or change that affects vernacular features or distinctive landscape and/or townscape elements;
- Removal or replacement of landscape features such as trees, woodlands and hedgerows;
- Alterations to the shape of the land through the creation of mounds or depressions;
- Introduction of new buildings or infrastructure or changes to existing buildings or infrastructure with the potential to generate significant change within the landscape/townscape; and
- Installation of lighting or floodlighting that has the potential to create a visual intrusion into the nightscape.

L11. Overall, it is important to note that the impact of MOD activities on landscape/townscape is inter-related with other factors such as biodiversity, forestry, access and recreation.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Demolition of redundant facilities that are eyesores, with a programme of land restoration.	Rebuild on existing footprints or refurbish existing facilities, with consideration of visual impacts and appearance.	No impact	Construction of new facilities on previously undeveloped land within existing military footprint.	Construction of low-storey, sprawling facilities on greenfield sites.

Good practice case study – Landscaping MOD Andover (Army site)

High quality landscaping is a major feature of Army site at Andover (formerly the Defence Logistics Operation headquarters) on the edge of the town of Andover in Hampshire. The 24 acre site, previously a disused airfield, includes offices, a technical building, officers' mess, crèche and car parking.

A woodland structure forms the basis of the design in an attempt to move away from the traditional manicured approach of MOD developments. The landscape provides a formal setting for the various buildings with the entrance plaza and semi-mature tree planting defining the major spaces and highlighting major pedestrian routes. The site includes:

- Modern, geometric gardens, with features such as timber decking, a pool and boxed headed trees, for the officers' mess;
- An ecological garden and pond;
- Prairie style perennial informal planting which provides year round colour, especially in the late summer and autumn, whilst also creating a varied habitat for wildlife; and
- Garden and play facilities for the crèche which include herbs and aromatic plants to attract wildlife and interest the children.

Careful consideration has been given to issues concerning security. Whilst the landscape design complies with strict security requirements it reduces the visual impact of security systems by screen planting.

The project was considered to be a great success and it won a number of awards and was a finalist for the Horticulture Week Best Landscape Project.

Internal

- Defence Estates Construction Support Team, Sutton Coldfield – Tel: 0121 311 3853
- Defence Estates Environmental Advisory Services, Sustainable Development Support Westdown Camp – Tel: 01980 674866 and Environmental Planning Team (Landscape Advisor), Catterick – 01748 875052

External

- [Campaign to Protect Rural England](#)
- [Commission for Architecture and the Built Environment \(CABE\) Space \(advice on design and open space\)](#)
- [Countryside Council for Wales \(Statutory Body responsible for landscape policy in Wales\)](#)
- [Natural England \(Statutory Body responsible for landscape policy in England\)](#)
- [Environment and Heritage Service Northern Ireland \(Statutory Body responsible for landscape policy in Northern Ireland\)](#)
- [Institution of Lighting Engineers \(professional body for lighting in the UK and Ireland\)](#)
- [Landscape Institute \(professional body for landscape architects\)](#)
- [Scottish Natural Heritage \(Statutory Body responsible for public access policy\)](#)

INFORMATION AND REFERENCES

- [Natural England\) : Countryside Character Initiative and Landscape Character Assessment](#)

- [Department for Communities and Local Government: 1997: *Lighting in the Countryside: Towards Good Practice*](#)
- [Department for Communities and Local Government: 2004: *Planning Policy Statement 7, Sustainable Development in Rural Areas*](#)
- [Department for Communities and Local Government: *By design, urban design in the planning system*](#)
- Institute of Environmental Management and Assessment: 2002: *Guidelines for Landscape and Visual Impact Assessment*
- UK Government Sustainable Development information resource

THEME M: HEALTH, SAFETY AND WELL-BEING

Overall sustainability objective: Maximise opportunities to promote healthy, safe and secure environments in which to live and work.

Sub-objectives:

- To reduce the incidence of work days lost due to work related illness and injury.
- To reduce work-related stress, excessive hours and improve the work/life balance
- To promote a healthy and productive working and, where relevant, residential environment; and
- To promote good health and well-being.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
<p>Change to building or interior layout that could significantly affect health, safety or well-being.</p> <p>Influx of new staff that may be unsure of health, safety or security procedures.</p> <p>Change in organisation roles, responsibilities and work patterns that may significantly affect procedures for health, safety or well-being.</p> <p>Change in staff numbers, workload and work patterns that may affect health or stress levels. Change in use or storage of substances that could significantly affect health, safety or well-being.</p>	<p>Explore opportunities to improve working spaces and accommodation use/occupant comfort, e.g. consider thermal comfort, ventilation and daylighting.</p> <p>Good risk management practice will improve workplace health and safety. A risk assessment is required as an integral part of the design process in order to evaluate potentially significant health or safety impacts of the proposal. Risk assessment requires:</p> <p>Identifying the hazards and those who might be harmed; Assessing the likelihood and consequence of harm; Implementing appropriate control measures to reduce risk to as low as reasonably practicable; and recording, reviewing and, where necessary, revising the risk assessment to reflect changes.</p> <p>Measures to offset potential negative impacts and risks, and provide ideas to enhance a proposal, include the following: Ensure proper account is taken of health, safety and well-being issues to ensure continuing fitness-for-purpose, promote behavioural changes and mitigation procedures to minimise negative aspects. Ensure employees and other relevant parties are fully trained to operate new equipment and understand the safety procedures in new buildings and sites. Utilise the range of Standard Operating Procedures, Codes of Practice and management systems for maintaining safety.</p>
<p>Change in equipment, processes, activities, external climate that could significantly affect health, safety or well-being.</p>	<p>To reduce risks the following hierarchy of principles should be applied: Elimination of the hazard; Substitution for a less hazardous substance or activity; Adapting to technological progress, Physical safeguarding and collective protective control measures (e.g. security devices or alarms); Procedures for people (e.g. personal protective equipment); and Response to limit consequences of accidents that still occur. Also as above.</p> <p>Explore opportunities to adapt workplaces and accommodation to be more resilient to the effects of external climate, including gales, floods and heat.</p> <p>Develop Heatwave/Gale/Flood plans for coping with disasters and increase awareness of how people can adapt to changes in climate.</p>

Change to exterior layout that could significantly affect health, safety or well-being	Explore opportunities to improve the site design, spatial arrangements of land uses and visual quality, e.g. through the provision of green spaces and safe routes for cycling and walking Provide safe access, including the needs of those whose mobility is impaired
Other health, safety or well-being issues.	

WHY THIS THEME IS IMPORTANT TO MOD

- M1. Health, safety and well-being contribute to, or substantially degrade, quality of life. They are important issues for MOD due to a combination of legislative requirements, the moral responsibility of MOD to its employees and the communities in which it operates and the cost implications of accidents. The Human Rights Act 1998 makes a statutory provision for citizens to enjoy a right to life, liberty and security, protection from violence, respect for privacy and peaceful enjoyment of possessions and protection of property.
- M2. In the workplace, this means that MOD seeks to minimise the number of events which give rise to workplace injuries, to mitigate such harm and also to prevent longer term occupational ill health, primarily a result of musculoskeletal disorders (bone, joint or muscle problems) and stress. This requires the careful design, selection and management of workplaces, work practices, processes, equipment and materials – as well as a trained, aware and motivated workforce.
- M3. Between June 2005 and June 2006, an estimated 2.7% of the industrial work force and 0.9% of non-industrial work force absence in MOD was the result of work-related ill-health or injury in MOD. The Secretary of State, in his Policy Statement requires (amongst other things) that: " We take reasonable care of our own health and safety, that of others who may be affected by our acts or omissions at work, and of the environment" and that this requirement is to be observed throughout Defence, reflecting the importance of health, safety and welfare of all members of the Armed Forces, civilian employees, contractors, and the public, to protecting the environment, and to implementing sustainable development policies.
- M4. It is Government policy that Health and Safety appraisals are undertaken on new policies, and that, before being introduced, change to organisational arrangements, processes or equipment is properly assessed for its impact on safety, the environment and sustainable development, and is suitably managed. DE operates within the MOD framework; as such, the ethos of HSE visions and initiatives is embodied within development of policy and guidance to assist implementation throughout the business. This includes the requirements contained within
- Revitalising Health and Safety.
 - Securing Health Together – A Long-term Occupational Health Strategy for England, Scotland and Wales.
 - A Strategy for Workplace Health and Safety in Great Britain to 2010 and beyond.
 - The Health and Safety of Great Britain – Be Part of the Solution (current strategy consultation document).
- M5. The primary piece of health and safety legislation is the Health and Safety at Work etc. Act (1974) (along with the Health and Safety at Work (Northern Ireland) Order 1978), which states that employers must take reasonable steps to ensure the health, safety

and welfare of their employees at work and all who may be affected by work activities. This Act also ensures that non-employees (e.g. the general public, contractors and contract staff) do not have their health and safety adversely affected by the employer's actions and, where necessary, it requires employers to give such people information about hazards and to control any 'noxious or offensive substances' from being released into the atmosphere.

M6. Other relevant, but not exhaustive, health and safety regulations include:

- Control of Noise at Work Regulations, where employers must prevent or reduce risks to health and safety from exposure to noise at work;
- Work at Height Regulations, to prevent the deaths and injuries caused each year by falls at work;
- Control of Substances Hazardous to Health Regulations, to control exposure to hazardous substances to prevent ill health;
- Management of Health and Safety at Work Regulations, promoting risk assessments of activities that could affect employees and others;
- The Health and Safety (Safety Signs and Signals) Regulations, to provide minimum requirements for the provision of safety signs at work;
- Construction (Design and Management) Regulations, aimed at improving the overall management and co-ordination of health, safety and welfare throughout all stages of a construction project;
- Personal Protective Equipment Work Regulations, dealing with the introduction of protective clothing;
- Health and Safety (Display Screen Equipment) Regulations, to prevent repetitive strain or other musculo-skeletal injury and eye problems during use of IT and related equipment;
- Manual Handling Operations Regulations, dealing with handling (e.g. lifting and carrying) of equipment, stocks and materials;
- Provision and Use of The Work Equipment Regulations, dealing with guarding of dangerous machines;
- Workplace (Health, Safety and Welfare) Regulations (as amended), dealing with maintenance of premises (there is linkage between these Regulations and the respective Building Regulations); and
- Health and Safety (First Aid) Regulations, where employers must make adequate provision for first aid.

M7. Fire safety is covered by the Regulatory Reform (Fire Safety) Order for England and Wales; the Fire Safety (Scotland) Act and the Fire Safety (Scotland) Regulations, the Fire and Rescue Services (Northern Ireland) Order. The requirements include a general duty to carry out a risk assessment and take precautions against fire. Fire safety is also covered by the respective Building Regulations (England and Wales; Northern Ireland; Scotland).

M8. Climate change will continue to have an impact on the health and comfort levels of staff. This affects productivity and can potentially have longer term associated health and safety implications, such as raised incidence of skin cancer among construction workers, condensation, damp and mould affecting air quality and exacerbating respiratory illnesses and heat stress for workers in building stock that has not been designed to withstand high external temperatures.

M9. Legislation and policy seek to promote healthy workplaces and work/life balance. The Working Time Regulations (as amended) regulate the numbers of hours worked and impose the need for breaks. The Health Work and Wellbeing Programme is a cross

departmental partnership that is part of a broader government agenda. The aim is to prevent people becoming injured or ill; keep them healthy in work and provide accessible support to enable them to remain in or return to work more quickly. This is one of a number of initiatives to improve working conditions and encourage staff to make healthy lifestyle choices, for example adopting HR practices, policies to reduce stress and schemes to encourage cycling.

MOD ACTIVITIES AND IMPACTS

M10.MOD undertakes many activities that could have health, safety and well-being implications, in relation both to its own staff and personnel, and to the wider community. The table below illustrates some of the main areas of impact.

	IMPACTS WITHIN MOD	WIDER IMPACTS
Health & Wellbeing	<ul style="list-style-type: none"> • <i>Change of working practices</i> - long hours, stress, travel, flexible and home working; • <i>Building design</i> – poor ventilation, lighting and office layout which can degrade the quality of the working environment and fitness-for-purpose; • <i>New operations and training</i> – post-traumatic stress disorder, fatigue, noise; • <i>New "industrial" processes</i> – exposure to hazardous materials and waste; and • <i>Procurement e.g. food and clothing</i> – poor diet, exposure to elements/ hazards. 	<ul style="list-style-type: none"> • <i>New operations and training</i> – noise, nuclear biological and chemical contamination, dust, stress; and • <i>New "industrial" processes</i> – emissions, discharges and noise.
Safety	<ul style="list-style-type: none"> • <i>Operations and training</i> – night manoeuvring, vehicles, trips, falls, equipment, explosives, fire risk; • <i>Construction, refurbishment, demolition</i> – vehicles and plant, scaffolding and ladders, lifting objects; • <i>New office arrangements</i> – DSE, and resulting musculo-skeletal injury, trip hazards, electrics; and • <i>Equipment procurement</i> – new hazards and training requirements. 	<ul style="list-style-type: none"> • <i>Operations and training</i> – equipment and vehicles on roads, public on training areas; and • <i>Construction</i> – heavy vehicles on roads.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of activities, substances or structures that have a significant risk of injury and ill health.	Technology, procedures and education in place to minimise health and safety risks.	No impact.	Increase in risk of injury and ill health.	Significant increase in risk of death, severe injury or ill health.

Good practice case study - Provision of sporting facilities for MOD staff and families



Aldershot Garrison is the Centre of Excellence for Army Sport. The Centre provides a wide range of facilities including a sports hall, swimming pool and fitness studio. Most of the sporting facilities are available for free to off duty military personnel, garrison based civil servants and dependants. By providing these facilities, MOD is actively encouraging its staff and service families to maintain healthier lifestyles.

THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- CESOs and Regional or Establishment Health and Safety Officers
- Defence Estates, Property Directorate, Health & Safety Team, Sutton Coldfield – Tel: 0121 311 2077
- MOD Safety, Sustainable Development and Continuity Division (SSD&CD) (for Departmental Health and Safety policy advice), Main Building, London

External

- [Health and Safety Executive \(HSE\)](#)
- <http://www.iosh.co.uk/Institute of Occupational>
- [Royal Society for the Prevention of Accidents](#)

INFORMATION AND REFERENCES

- MOD JSP 375: *Health and Safety Handbook*
- [MOD Policy on Equality & Diversity](#)
- [MOD Policy on Flexible Working](#)
- MOD JSP 392: *Instructions for Radiological Protection*
- MOD JSP 426: *MOD Fire Safety Policy*
- [MOD: May 2005: The Management of Safety and Environmental Protection in the Ministry of Defence: A Policy Statement by the Secretary of State for Defence](#)
- [Department of Health: 2004: Public Health White Paper – Choosing Health: Making healthy choices easier –](#)
- DETR: 2000: *Revitalising health and safety*
- [UK Government Sustainable Development information resource](#)

THEME N: COMMUNITIES AND SOCIAL VALUES

Overall sustainability objective: Promote MOD as a good neighbour which works with local communities to minimise disturbance and maximise positive social impacts.

Sub-objectives:

- To minimise disruption and nuisance to communities and local environments;
- To maximise opportunities for partnership-working, public involvement in decision making and access to environmental information; and
- To encourage community involvement and volunteering by the MOD.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in local environmental quality experienced by communities (e.g. noise, litter, traffic).	<p>Explore opportunities to improve neighbourhood design, e.g. incorporate green/open spaces.</p> <p>Utilise initiatives such as the Secured by Design tools to ensure buildings and materials are designed to British Standard for crime prevention, and that sites are laid out with minimal "dead" spaces.</p> <p>Ensure new personnel working on a site are aware of their social responsibility within the community. This should promote peaceful residence both on and near MOD sites.</p> <p>Refer to rural proofing guidance to take account of the particular needs and circumstances of rural areas (available via the Commission for Rural Communities website).</p> <p>Educate the project team/end-users about the importance of strengthening relationships with local communities and promoting social responsibility.</p>
Change in opportunity for community involvement (e.g. volunteering, community-support roles).	<p>Seek opportunities for education, learning and skill transfer between the MOD and local communities.</p> <p>Promote/support joint neighbourhood management, e.g. consult/involve/invite the community in improving pathways and open spaces, creating ponds, wild butterfly and bee gardens, etc.</p> <p>Promote old and young occupants participation in joint community activities.</p>
Change in opportunity for consultation, partnership working and information on the estate and its activities.	<p>Promote widespread, regular and consistent communication and reporting.</p> <p>Set up focal points or committees to liaise with the community and/or its representatives (e.g. parish councils), about both day-to-day activities and new proposals. Liaise with Local Strategic Partnerships to develop effective ways of engaging local citizens and communities. Plans to manage relationships with local communities and estate tenants can be established within a site Environmental Management System and Integrated Rural Management Plan if present.</p> <p>Ensure better integration of social impacts into Environmental Management Systems (EMS).</p>

Change in land use that will affect estate tenants, other landowners or casual users.	<p>Ensure that mixed land use is a quality of neighbourhood design. Explore opportunities to promote, within safety and security parameters, shared facilities and public access to the rural Estate. Co-ordinate the provision of information within the community, e.g. open days and exhibitions about generic estate activities, in order to promote better understanding of estate use and activities taking place on it.</p> <p>Locate activities that are likely to disturb local communities as far away from residential areas and sensitive receptors whilst maintaining operational requirements.</p> <p>Consult with local communities on new plans and proposals. MOD has instructions and Standard Operating Procedures for press releases and community liaison. Ensure any activities to involve or consult local communities and specific stakeholders are accessible to all groups.</p>
Other community or social issues.	

TARGETS FOR SUSTAINABLE OPERATIONS ON THE GOVERNMENT ESTATE	<ul style="list-style-type: none"> • All Departments to encourage staff to take an active role in volunteering in the community. • All Departments to conduct sustainability appraisals of office relocations.
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WHY THIS THEME IS IMPORTANT TO MOD

- N1. Managing MOD's social impacts is a key part of the Department's contribution towards sustainable development and an integral component of maintaining the ethos and reputation of MOD. The day-to-day running of MOD's land, buildings and operations, and staff movements, may positively or negatively affect the lives of local people, including staff and their families, tenant farmers, landowners, neighbouring residents, businesses, service providers, community and voluntary groups and town or parish councils. Identifying what matters to local communities and why, is key to establishing good relationships between MOD's sites and local people.
- N2. The MOD Estate Strategy 2006 sets out the importance of identifying specific features and facilities that could benefit local communities, and establishing how the communities can (or do) benefit from them. The Strategy promotes actions such as:
- Developing more cohesive Defence communities for staff and their families;
 - Establishing good relationships with the local community;
 - Working in partnership with local and regional planning bodies in the creation of sustainable communities; and
 - Continuing to build on links between Reserve Forces and Cadets and local communities.
- N3. The UK Sustainable Development Strategy highlights the role of Government Departments in promoting '*a just society that promotes social inclusion, sustainable communities and wellbeing*'. This means creating places where people want to live and work, which meet the diverse needs of residents, reduce inequalities, have high environmental quality and contribute to a good quality of life.

- N4. There is growing recognition and expectation that communities should be involved in processes and decisions that affect them (and to which they can contribute and influence), and have access to information about the environment. MOD can benefit because an informed public can bring a wide range of views into a discussion, helping MOD to take account of the many potential impacts of a decision. Areas of potential conflict can be identified and addressed at an early stage, minimising future delay. Consultation also provides opportunities to build trust and increase understanding of MOD activities. Sustainability Appraisal can itself provide a mechanism for public involvement in decision making.
- N5. In 2005, the UK ratified the United Nations' Aarhus Convention. The Convention grants the public the right of access to environmental information, the right to take part in decision making processes and access to justice to enforce environmental law. In the UK, several statutory instruments are in place to help implement the Aarhus Convention, including the Environmental Information Regulations 2004 (introduced under the Freedom of Information Act 2000).
- N6. Government policy such as that relating to the new planning framework (Planning and Compulsory Purchase Act 2004) focuses on considering the needs of all stakeholders at both a national and local level and, in some cases, makes public or stakeholder involvement a statutory requirement.
- N7. A SSDC&D led MOD Sustainable Community Strategy and Delivery Plan is being produced by summer 2009. The estate elements and their interfaces with the wider MOD will be a significant part of this strategy focus and it is important to build on actions in the 2006 MOD Estate Social Impacts Strategy.
- N8. DE is working with the Department of Communities and Local Government and Statutory Bodies, to promote social cohesion in communities. As stated in DE Sustainable Development Action Plan 09, Defence Estates will continue to set up community engagement schemes with local agencies and organisations and promote DE major establishments to have formal liaison arrangements with local communities. DE SDAP also aims to promote public access to the defence estate and facilities (rural, heritage buildings, some barracks facilities) where this is compatible with military training, operational requirements, safety, security and conservation. These are on-going actions.
- N9. Sustainability Appraisal presents an opportunity to build policy commitments and targets into the project or proposal from the earliest stages.

MOD ACTIVITIES AND IMPACTS

- N10. MOD undertakes many activities that could affect community relationships and social balance. Many of the Department's employees are drawn from the local workforce, there are service families in many areas and many communities are located near MOD's 240,000 hectare estate. Therefore, it is likely that many of MOD activities have potential to affect local people.
- N11. A long-term military presence creates a distinct ethos within a community. The expansion of personnel on a site, the reduction of military activities or the disposal of facilities will all affect wider communities.

N12. Activities are likely to affect local environmental quality, quality of life, health and wellbeing in both positive and negative ways. Each of these areas are covered in more detail elsewhere in the other technical guidance notes.

- Noise;
- Vehicle movements;
- Emission of pollutants and waste;
- Changes to and/or protection of habitats, archaeology and historic buildings; and
- Alterations to landscapes and public access or recreational amenities.

N13. Although MOD's primary role is to protect the UK and its interests, in peacetime, the Department undertakes many community-support roles, including:

- Crisis management and humanitarian assistance;
- Search and rescue;
- Fisheries protection;
- Counter drugs and terrorism operations; and
- Bomb disposal.

N14. Links are being built between key organisations, such as the Army Welfare Service, Wildlife Trusts and MOD conservation groups in order to deliver a suite of activities that bring together members of the community, engender a sense of belonging and social networking. Examples are:

- Outreach – Bulford Army Welfare Service - A joint community partnership project with Army Welfare Service (AWS), Wiltshire Wildlife Trust (WWT) and Defence Estates (DE).
- Awareness within the Community Initiative (AWTC) - Defence Estates Ops Housing and the prime contractor MODern Housing Solutions (MHS) are working on partnership with a number of local agencies and organisations across England and Wales to set up community engagement schemes/mechanisms that will benefit from improvements the local community.

N15. The Cadet and Volunteer Reserve Forces further integrate the Department into society, and projects and proposals that enhance any of these roles should be viewed positively. Relocation of MOD units locally affects the ability to deliver military aid to civil authorities.

N16. Many MOD activities are likely to be of interest to (and will affect relationships with) local communities, the general public and other stakeholder groups. District and county councils will have an interest in projects which may influence the implementation of Development Frameworks and other strategies for an area.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Activities well designed and located to minimise disturbance on local communities.	Active community liaison with respect to potentially disturbing activities.	No impact	Short-term, minor increase in disturbing activities.	Long-term installation of disturbing or unsightly activities near to communities.

Good practice case study – MOD Conservation Groups

MOD Conservation Groups are a good example of how MOD can work successfully with local people. Any site designated as a Site of Scientific Interest (SSSI) is required by law to have a Conservation Group. Additionally, sites with other nature conservation designations are actively encouraged to have a Conservation Group. The Group is usually chaired by the Head of Establishment and brings together MOD personnel, local Wildlife Trusts and interested individuals with the aim of monitoring and enhancing the conservation interest at the site. This not only benefits wildlife but also increases the well being of individuals and supports community relations.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- Defence Estates Property Directorate, Sustainable Development Team Foxhill, Bath – Tel: 01225 883523
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674866
- Director General Management & Organisation, DOMD External Relations Unit, Main Building, London – Tel: 020 7218 9187

External

- [Association of Parish Councils](#)
- Government Offices for the Regions
- Local Authorities
- Local Strategic Partnerships
- [Princes Trust Volunteers](#)
- Regional Development Agencies

INFORMATION AND REFERENCES

- [Defence Estates: 2006: *Defence Estates Strategy 2006, In Trust and On Trust*](#)
- [MOD: *Social Impacts Strategic Statement*](#)
- [Commission for Rural Communities – Rural Proofing Guidance](#)
- [DEFRA: Aarhus Convention and Environmental Democracy resource](#)
- [DEFRA: Local environmental quality information resource \(litter/graffiti/dog fouling/etc\)](#)
- Department for Communities and Local Government: 2003: Sustainable Communities: Building for the Future
- Department for Communities and Local Government: 2005: *Planning Policy Statement 1, Delivering Sustainable Development*
- [Department for Communities and Local Government: Neighbourhood Renewal Unit information resource](#)
- Department for Communities and Local Government: Social Exclusion Unit information resource
- DTI: Government Corporate Social Responsibility information resource
- [UK Government Sustainable Development information resource](#)

THEME O: INFRASTRUCTURE AND AMENITIES

Overall sustainability objective: To support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.

Sub-objectives:

- To contribute to the well-being of society of facilitating public access when this can be integrated with safety, security and operational requirements; and
- To ensure that local utilities and social infrastructure is able to support MOD presence.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Is there a likely change in numbers of personnel and families requiring access to welfare, social or recreational facilities?	Educate the project team about the needs of service personnel and their families and the expectations of the local community or visitors.
Is there a likely change in provision of facilities for welfare, social or recreation on site?	Apply for grants from the Nuffield Trust or from other sources that provide money for facilities that support service personnel and their families that would otherwise go unfunded. Seek ways in which welfare services can be given a cost-effective right to occupy MOD facilities. As Above.
Is there a likely change in impact on local utilities, amenities and infrastructure?	Undertake a study, in conjunction with Defence Estates and the local planning authority, into the provision of infrastructure and amenities.
Is there a likely change in public rights of way or highways in the project area?	Review public access provisions and seek to enhance the quality and certainty of access, without impacting on operational needs. Any scheme that proposes the stopping up of a Right of Way will require legal advice and the provision of a suitable alternative route.
Is there likely to be any change to statutory open access designation in the project area (Countryside and Rights of Way Act 2000 / Land Reform [Scotland] Act 2003) or a change in permissive (granted) access?	As Above
Other infrastructure and amenities related issues	

WHY THIS THEME IS IMPORTANT TO MOD

O1. The term infrastructure and amenities describes the mechanisms and facilities that physically underpin the smooth running of society's activities and support peoples' educational, health, social, cultural and recreational needs. It encompasses:

- Social and community facilities;
- Access to the MOD estate; and
- Transport and utility infrastructure.

- O2. The facilities provided in support of MOD's welfare, social, cultural and recreational needs are a vital element of support to MOD staff, both military and civilians. Service personnel and their families, civil servants and commercial partners, need access to good facilities and services that play a part in supporting them during their time in barracks, garrisons or on airfields. In addition, MOD can contribute to local communities and wider society by enabling access to land and facilities.
- O3. Quality of life for service personnel is strongly linked to the standards of accommodation and facilities available for daily living, welfare and use of leisure time. There is a need to ensure that the defence is truly part of the local community. One way to demonstrate this is to explore opportunities for the wider community to use MOD facilities where this is practicable. Such arrangements may include the use of sports pitches and recreational use of the MOD rural estate. This may be particularly beneficial in rural, isolated or disadvantaged areas.
- O4. MOD has a presumption in favour of public access to defence estate land, more detail is set out in the MOD Access & Recreation Strategic Statement (see references). This is generally controlled by Military Byelaws, which define the arrangements for access, for example, when firing ranges are not in use. There are areas that are not covered by Byelaws where access is subject to locally agreed non-statutory access or to the provisions of the Countryside and Rights of Way Act 2000 (CROW Act) (England and Wales) or the Land Reform (Scotland) Act 2003. It is MOD policy to review arrangements periodically to ensure that the presumption in favour of public access is being maintained.
- O5. MOD presence in an area may put pressure on local transport and utility infrastructure such as schools, roads and water supply. As proposals for construction of new or expanded facilities are considered in the planning process, there may be instances, given the nature and scale of development, when the local planning authority may require contributions from MOD towards social and community infrastructure. This is particularly likely when this infrastructure is operating at capacity and even small changes can have significant knock-on impacts.

MOD ACTIVITIES AND IMPACTS

- O6. MOD undertakes numerous activities that could affect the availability of infrastructure and facilities for both its own personnel, their families and the wider community. In general, the grant of a Service Encroachment is required for the temporary occupation of MOD owned facilities so that welfare activities can be made available. Professional advice should be taken from Defence Estates over the provision of facilities from charitable sources (e.g. The Nuffield Trust).
- O7. If there are plans for a significant expansion of the military presence in a town or area, the local planning authority will require MOD to support local infrastructure or community facilities, probably through a planning obligation (S106 Agreement). The opportunity should be taken to ensure that MOD service personnel and families benefit from this provision.
- O8. When sites are being disposed of, there may be opportunities for the local community to gain from access to land or facilities. For example, once MOD is no longer responsible for a site the Military Byelaws (which take precedence over the CROW Act) no longer apply. If the land was identified under the CROW Act as meeting the criteria for public

open access it will then be subject to the 'right to roam'. **Upon disposal of any land, MOD policy is to re-instate any known rights of way that were in existence prior to MOD ownership.**

- O9. Changes in the type or intensity of use of military training land can affect the amount of land or times available for public access. This can be perceived in a very negative way by local communities and needs explanation at both local and possibly national level.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Provision or promotion of public access to land or facilities.	Enhanced provision of welfare facilities.	No impact.	Reduction in opportunities for use of a well established welfare facility.	Removal of public access to land or facilities.

Good practice case study – Tidworth Leisure Centre



The Tidworth Leisure Centre opened in 2000. It is almost unique within UK army garrisons having been built by the MOD but operated in partnership with Kennet District Council and Wiltshire County Council and Army Library Services. The Centre is open seven days a week and is managed on a 'dual use' operational agreement basis between the MOD and Kennet District Council for the benefit of all members of the local community, garrison military units and their dependants. The Tidworth Leisure Centre charging policy agreed between Kennet District Council and MOD enables the Council to offset its staff costs by retaining all revenue income.

Services and facilities provided by Tidworth Leisure Centre include:

- A sports hall, swimming pool, fitness studio, squash courts and tennis courts;
- A library service, which is a combined partnership facility between the Army and Wiltshire County Library Service;
- The Army Welfare Service, which offers a Crèche facility for all members of the community, a families centre and a families advice bureau;
- A booking service for all Garrison sports facilities which may be used by military or civilian groups including an athletics and football stadium, a cricket ground and a hockey pitch.

The Tidworth Leisure Centre puts Tidworth at the forefront of Army sporting centres of excellence and provides a sports, leisure and welfare facility which is a focal point for all members of the community, both military and civilian.

Internal

- Defence Estates Environmental Advisory Services, Access Adviser, Warminster – Tel: 01985 222913

- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674866
- Defence Estates Land Management Services (Regional Offices)
- Defence Estates Property Directorate (licences etc.), Sutton Coldfield – Tel: 0121 311 3642
- Access and Recreation
Policy – Martin Coulson (94421) 2127
Ops – Richard Brooks (94381) 2913

External

- [Natural England \(Statutory Body responsible for public access policy in England\)](#)
- [Countryside Council for Wales \(responsible for public access policy in Wales\)](#)
- [Environment and Heritage Service Northern Ireland \(Statutory Body responsible for public access policy in Scotland\)](#)
- [Nuffield Trust \(finances recreational and welfare amenities and facilities that are likely to be of lasting benefit to the Armed Forces\)](#)
- [Scottish Natural Heritage \(Statutory Body responsible for public access policy\)](#)

INFORMATION AND REFERENCES

- [Defence Estates: Access and Recreation Strategic Statement and Defence Estates: Social Impacts Strategic Statement](#)
- [DEFRA: Information resource on the Countryside & Rights of Way Act 2000 \(CROW\)](#)
- Department for Communities and Local Government: 2002: *Planning Policy Guidance Note 17: Planning for Open Space, Sport and Recreation*.
- MOD JSP 362: *Defence Lands Handbook*
- [Scottish Executive: Information resource on the Land Reform \(Scotland\) Act](#)
- [UK Government Sustainable Development information resource](#)
- MOD Access & Recreation: [Intranet](#); [Internet](#).

THEME P: ECONOMY AND EMPLOYMENT

Overall sustainability objective: Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all.

Sub-objectives:

- To promote a strong, stable and diverse economy, with fair and open trade, whilst respecting the environment;
- To create conditions which promote sustained levels of employment;
- To provide job opportunities that are rewarding and develop skills, equality and opportunity for all; and
- To raise employees' awareness and understanding of sustainable development.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in number of jobs and related high value added economic activity.	Where impacts may be relatively substantial, carry out a more detailed study on the likely impact on local and regional suppliers, customers, employees and other stakeholders.
Change in opportunity for business creation and growth.	Use the MOD's influence as a development partner to attract private sector investment into the development of local infrastructure.
Short term adjustment costs / benefits resulting from decision (e.g. temporary increase in unemployment or need to retrain workforce).	Where there is to be a reduction in MOD presence, liaise with local authorities to identify possible alternative uses for land / assets being divested and respond positively to suggestions as to how this can be turned into an opportunity for the region, rather than a loss.
Improvement in quality / availability of local amenities and infrastructure, or vice versa.	Liaise closely with local authorities and communities over plans for any expansion in MOD presence, to maximise the positive economic impacts and minimise any negative consequences.
Change in activity or land use that may affect livelihood of estate tenants and commercial users.	Explore opportunities to bring otherwise unproductive land such as brown field sites back into use.
Change in opportunity for training and skills provision.	Identify opportunities for skill development and transfer, from discrete projects to longer term secondments and apprentices.
Change in opportunity to raise employee awareness and understanding of sustainable development.	Take advantage of opportunities to raise employee's awareness and understanding of what sustainable development means in MOD.
Major Relocations, Ministerial commitments and activities of a unique, novel or contentious nature.	Socio-Economic Reports(SER), may in a limited number of instances, be required. 1. Where a Ministerial commitment has been made. 2. Major Relocations - DASA DESA should be consulted on whether a SER is required for any major MOD relocation. 3. SRO Discretion. Where an SRO deems it appropriate and beneficial to the completion of an MOD activity. For further information and guidance consult JSP 507 and Appendix 3G.
Economic Effects	The simple economic effects questionnaire, as detailed within JSP 507, should be completed in order to assess economic impacts.
Other economy and employment issues.	

**TARGETS FOR
SUSTAINABLE
OPERATIONS ON THE
GOVERNMENT ESTATE**

- All Departments to conduct sustainability appraisals of office relocations.

WHY THIS THEME IS IMPORTANT TO MOD

- P1. Although MOD does not have a specific remit to develop economic policy or promote employment, it is committed to taking forward the Government's wider policy agenda in these areas. As such, it must consider the economic and employment impacts of its activities on the communities within which it operates. These impacts primarily arise from:
- Direct employment of personnel by MOD establishments;
 - Expenditure on goods and services by these personnel in the local economy; and
 - Expenditure on goods on services by MOD establishments in the local economy.
- P2. MOD expenditure with UK industry is substantial, totalling some £14.2bn in 2003/04, of which just over half (£8bn) was on what is commonly thought of as 'Defence Procurement', namely expenditure on predominantly war fighting equipment. The remaining £6bn was directed towards expenditure on works, buildings, land and services⁸ (integrating sustainable development into Defence Procurement as a whole is covered in more detail under Theme P: Sustainable Procurement).
- P3. MOD currently employs approximately 200,000 military personnel and just over 100,000 civilians, added to which are those employees providing contracted services such as facilities management and catering. It is also one of the largest providers of professional and vocational training within the UK.
- P4. Beyond these first round 'direct' effects, spending by MOD establishments and employees can have an 'indirect' and an 'induced' multiplier effect on the local economies where they are based. For every job supported by MOD expenditure in a particular region, additional employment may be created further down the supply chain, and also in local businesses such as shops, pubs and garages. Estimating the size of these indirect and induced effects is extremely challenging, as they vary significantly by location and type of activity. They are also susceptible to misinterpretation, particularly when considering the potential negative impacts of an establishment being scaled back or closed. As such, expert advice should always be sought when attempting to carry out an assessment of the regional economic impact⁹.
- P5. One of the six strategic aims for the MOD estate, as outlined in the Defence Estate Strategy 2006 is to have an estate of the right size to meet military needs. In the current strategic context this is likely to lead to a consolidation of the estate into fewer larger sites. Although the primary basis for relocation decisions remains value for money, MOD is committed to ensuring that wider factors such as the regional economic impact are taken into account, where they are significant.
- P6. MOD uses several tools to assess economic impacts. Sustainability Appraisal is run in parallel with Investment Appraisal (described in JSP 507) to assess the sustainability implications of different options. In addition, costs identified in the Sustainability

⁸ These figures are drawn from UK Defence Statistics 2005 and related DASA publications.

⁹ DASA-DESA (General Economic Advice) (see contacts section for further details)

Appraisal may be factored into the Investment Appraisal, where they have clear value for money implications¹⁰.

- P7. New policies may be subject to a full Regulatory Impact Assessment (RIA) where their impact is judged to be large enough to warrant detailed examination. Further guidance on this can be found on the [Department for Business Enterprise & Regulatory Reform Reform's website](#).
- P8. Finally, MOD has a role to play in increasing awareness and understanding of sustainable development among its employees and hence increase the ability of individuals to make decisions consistent with sustainable development – one of the key themes of the UK Sustainable Development Strategy.
- P9. Following a recent review of the Framework for Sustainable Development on the Government Estate, the Government announced a new range of targets for Sustainable Operations on the Government Estate on 12 June 2006.

MOD ACTIVITIES AND IMPACTS

P10. The economic impact of a MOD establishment on the local community works through a number of different channels, beyond the direct effect on the individuals it employs.

- Firstly, there is the 'indirect effect' which arises from expenditure by the establishment on suppliers from the local region, and then the resultant secondary expenditure by these contractors on their own suppliers and so on.
- Secondly, there is the 'induced effect' which is associated with expenditure by employees / military personnel on goods and services local to that particular establishment, along with similar expenditure by the employees of local suppliers whose jobs are dependent on its indirect expenditure.
- There are also potential third order effects which result from the effect a MOD establishment has on the usage of, and investment in local infrastructure. For example, a substantial increase in personnel at a particular establishment may place heavy demands on local transport infrastructure and public amenities.
- However, caution must be exercised when attempting to quantify these impacts. Although an expansion in the MOD presence in a region may create jobs, it may also crowd out activities which would otherwise have occurred. Similarly, whilst a reduction in MOD presence may lead to a reduction in employment in the short run, this will tend to be rapidly reversed as redundant workers find new jobs¹¹.
- It is also worth stressing again that MOD does not have any specific role with regard to general macro economic policy. The rationale behind decisions will be defence and where necessary, national priorities and value for money to the UK taxpayer must take precedence. This derives from the fact that whilst increased employment is desirable, when this is funded through government expenditure it is not without cost. The taxes

¹⁰ Advice from DASA-DESA (Appraisal and Evaluation) should be sought whenever this is being considered.

¹¹ Surveys of the impact of defence closures suggest that the majority of redundant workers find new employment within two years. A useful survey of these results can be found in Hartley, K. and Hooper, N. (1995) 'Study of the Value of the Defence Industry to the UK Economy', Report to DTI, MOD, SBAC & DMA, Centre of Defence Economics, University of York.

needed to fund such spending have a significant distortionary effect on the economy, such that the promotion of employment is best left to general macro economic policy and the pursuit of the most cost effective solutions by spending departments.

- Finally, MOD's activities will affect the welfare of its employees. There may be opportunities for employees to undertake training, obtain qualifications and develop new skills. Employees' experiences will also affect their awareness and understanding of what sustainable development means in MOD.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Stimulates significant new area of economic activity e.g. MOD related technological spin-off.	Leads to the creation of, or improvements in local amenities and infrastructure, and resultant economic activity.	No impact.	Leads to loss of significant local amenities previously sustained by spending by MOD employees.	Significant withdrawal from an area resulting in a major fall in economic activity, exacerbated by high costs of adjustment e.g. due to geographical isolation.

Good practice case study – Disposal of RAF Sites in London

MOD recently decided to close six under-utilised sites in London to concentrate operations at RAF Northolt. The sites comprise brownfield land in prime development locations and the assessment carried out by MOD showed that the cost of re-development at RAF Northolt could be met by selling the sites and returning them to public use. Redevelopment of the sites will be primarily for housing and incorporate some mixed-use development and employment land. English Partnerships have recognised the combined potential of the sites and have established a partnership with the relevant London boroughs and Defence Estates to facilitate a coordinated site release to maximise local social and economic benefits.



THEME SPECIFIC CONTACTS & FURTHER INFORMATION

Internal

- Defence Estates Property Directorate, Sustainable Development Team Foxhill, Bath – Tel: 01225 883523
- Defence Estates Environmental Advisory Services, Sustainable Development Support, Westdown Camp – Tel: 01980 674866
- Defence Analytical Services Agency, Directorate for Economic Statistics and Advice, Main Building, London – Tel: 020 7218 3118
- Director General Management & Organisation, DOMD External Relations Unit, Main Building, London – Tel: 020 7218 9181

External

- [Department for Education and Skills](#)
- [Department of Trade and Industry](#)
- [Local Authority planning and economic development units](#)

- [Office of Government Commerce](#)
- [Regional Development Agencies](#)

INFORMATION AND REFERENCES

- MOD: JSP 507: *MOD Guide to Investment Appraisal and Evaluation*
- [Department for Communities and Local Government \(general economic information\)](#)
- [HM Treasury: Green Book \(guidelines on economic appraisal of Government policies\)](#)
[UK Government Sustainable Development information resource](#)

Appendix F: Socio-Economic Report (SER)

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3F.1 SOCIO ECONOMIC REPORTS (SER)

What is a SER?

Originally SER was a mandated policy requirement to ensure decision makers had an overview of the socio-economic context of forthcoming MOD civilian/service proposals with employment consequences that could have a significant effect across the UK. The SER also formed part of the submission for Main Gate proposals and as such it was incorporated within the Investment Appraisal. The primary driver for SER stemmed from a ministerial requirement that a political, social and economic background should be provided separately to ministers to assist with their decision making process.

However, this requirement no longer exists and therefore SER need only be undertaken in a limited number of instances. In light of this change, Defence Estates no longer provides implementation support for SER and can only provide the information and worked examples contained within this guidance. Completed SER's may also be obtained from the Environmental Advisory Services team.

MOD civilian/service manpower changes can have a range of direct and indirect effects on the local and regional economies where they are based. For every job supported by MOD expenditure in a particular region, additional employment may be created further down the supply chain, and also in local businesses such as shops, pubs and garages.

Box 3F1: SER IMPLEMENTATION SUPPORT

Due to the limited number of instances where SER is likely to apply and with removal of SER as a universal ministerial requirement, Defence Estates no longer provides implementation support for SER and no longer maintains the database from which the SER can be produced. However, references are provided later in this guidance where it is possible to source the latest data to formulate an SER.

Project teams looking to implement SER and more in depth socio economic studies should utilise this guidance and the worked examples detailed within this section and where necessary, utilise external support.



What information is included in a SER?

The SER provides socio-economic information and presents publicly available statistical information on factors such as employment, health and housing at the local and regional scale. The SER also includes an indication of other MOD initiatives that are known to be taking place and the political landscape e.g. constituency data. This highlights potential cumulative employment or economic effects of MOD initiatives to the IPT and other decision makers.

It is important to note that SER only provides background information of the sites potentially affected by a proposal. It is not within the scope of the SER to provide any socio-economic analysis of the effects of the proposals or to provide recommendations for option selection.

Therefore, it is recommended for larger scale movements, potentially controversial projects, and proposals where multiple options are being considered, it may be appropriate to perform more in-depth data collation and social and economic analysis. Further guidance for this can be found in section 1.5.

Box 3F2: Scope of SERs

SERs only present baseline socio-economic information for the regions affected by MOD



proposals for manpower changes, to provide context. They do NOT provide any socio-economic analysis of the potential effects. Although SERs can help inform the decision making process, there is no mandated requirement to disclose SER outputs during any form of public consultation. However, decision makers may choose to provide this information where projects hold certain local and/or political sensitivities. The decision to include this information during any consultations should therefore be at the discretion of the Senior Responsible Officer.

Detailed economic analysis will need to be undertaken separately for larger scale proposals that are likely to have significant socio-economic effects (see Section 1.5 and Appendix 1B for assistance).

Why Undertake SER?

The MOD employs over 230,000 service and civilian personnel¹² in the UK, which constitutes a large and varied community. Many employees are drawn from local workforces, and live in or interact with neighbouring populations.

Activities such as development of the MOD estate, site disposal and military activities can affect wider communities via changes in, for example, employment profiles, economic revenue, demands on local services and expenditure. This is particularly the case where MOD sites are located in rural areas or in small communities, where the MOD represents the main, or only, employer. A long military presence also creates a structure, culture and identity within a community.

Where applicable, the SER provides :

- Information on employment implications of proposed changes at MOD sites; I thought the SER specifically didn't provide an assessment of implications? The assessment should be made in the SA?
- An overview of strategic Top Level Budget Holder (TLB) initiatives / proposals potentially affecting personnel figures within the given region (to ensure that they are aware of other proposals affecting the same region);
- A socio-economic profile of potentially affected sites.

Benefits to Plans and Projects

The SER process can help TLBs integrate socio-economic considerations into the decision making process from the start, , and compliments the Sustainability Appraisal process under Theme P, Economy and Employment. The SER can flag up potentially controversial or cumulative employment impacts at an early stage, so that these can be addressed in a timely manner. Data held in the SER provides a useful baseline for further socio-economic analysis where this is required.

When is an SER required?

SER is only required in a limited number of situations:

- A ministerial commitment has been given that an MOD activity will produce a SER.
- Major MOD Relocations - Consult Defence Analytical Services Agency (DASA)/ Directorate of Economic Statistics and Advice (DESA) on the circumstances to determine whether the scale merits an assessment being produced.

¹² Defence Statistics 2008, DASA.

- Senior Responsible Officer (SRO) discretion - When considering the unique attributes of a project, the SRO may decide to undertake a socio economic assessment if it is deemed appropriate and/or beneficial to the completion of the MOD activity.

Box 3F3: Policy Requirements for SER

For further information on SER policy requirements refer to:

JSP 418 MOD Sustainable Development and Environmental Manual.
Chapter 14: Sustainability and Environmental Appraisals

JSP 507 MOD Guide to Investment Appraisal and Evaluation.



Box 3F4: Senior Responsible Officer SER Discretion

The SRO can decide whether to carry out an SER and whether or not to include it within any forms of consultation. SROs may therefore choose to complete an SER but then not publish or consult upon it.

Providing a formal mechanism or criteria for SROs to use is not feasible due to the unique and individual attributes of many MOD activities. However, SROs should seek advice and guidance from DASA/ DESA in regard to the scale and nature of the activity. Whilst completion of an SER for unique, novel and contentious activities, if considered appropriate and beneficial, may support and aid decision making and/or public consultation. Discretionary application of SER should therefore be considered on a case by case basis.

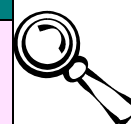


Timing

SERs, where necessary, are required at Initial Gate and/or Main Gate stage where proposals being considered by the Investment Appraisal Board (or equivalent for lower value proposals), falls under any of the criteria above. Often a key determinant is whether or not the proposed changes in expenditure or employment are likely to have a substantial impact on the local economy, or are large in absolute terms. For example, 500 job losses in the centre of London are likely to have a negligible impact on the local economy, but 50 job losses falling on an isolated town or village would have a much more substantial impact. Therefore a pragmatic approach is required in the application of SER (as above, DASA/ DESA should be consulted in regard to major MOD relocations).

Once again it should be highlighted that SER only presents socio-economic information for the areas that could be affected by MOD proposals. Where detailed information is not held for options at Initial Gate, background socio-economic data for the relevant areas can be gathered (to help identify any major issues), and the SER can be refined for Main Gate approval.

SERs requested by Ministers must be included in any Ministerial Submission that may need to be submitted for a proposed change/project.

Box 3F5: Examples of Projects undertaking SER

- **Defence Procurement Agency / Defence Logistics Organisation Co-location Project**

This project developed co-location options for DLO and DPA as part of their merger to form Defence Equipment and Support (DE&S). An SER was produced to accompany the Initial Gate Business Case for site expansion/ vacation of sites located over 4 UK regions. This provided a context to Initial Gate proposals and informed the requirement for more detailed analysis as the project proceeded towards Main Gate.

- **Defence Training Review (DTR)**

DTR IPT invited commercial solutions to modernise and improve MOD's training systems and estate, via a tendering process divided into two training 'packages'. An SER was produced for bidder proposals for each of the packages; package 1 comprising ten sites (located over four regions), and package 2 including 19 sites (located over seven regions). Due to the scale and complexity of the project, the SER was used as a basis for the DASA and the DESA to provide a detailed economic analysis of the proposals to accompany the SER at Main Gate submission.

Who is responsible for preparing the SER?

It is the responsibility of the IPT or DE Project Manager to prepare the SER for its proposals. SERs, where applicable, should be undertaken prior to any decisions being made on the options for site closures or relocations to allow the context (e.g. job loss in a socially deprived region) of those decisions to be understood. The SER will also highlight any need for more in-depth economic analysis which will then have to be programmed in and financed. However, due to the limited number of instances where SER will be applicable, no further implementation support is available beyond this guidance.

DE Property Directorate Sustainability Team is the policy lead for SER guidance and they liaise with the Director General Management and Organisation (DGMO) External Relations Unit to ensure that factors such as the Lyons Review are taken into account. Any queries or feedback on the content or application of SERs should be directed to the Property Directorate; contact details are given below.

Box 3F6: Further advice and guidance

For further advice on the requirement to undertake an SER please contact:

**Policy:**

DE Property Directorate
Sustainable Development Team
Room 14, K Block
Foxhill
Bath
BA1 5AB
Contact: Sus Dev1b1
Mil. 9355 83106
Civ. 01225 883106
sustainable.development@de.mod.uk

Implementation: (for completed SERs ONLY – Implementation support is no longer available)

DE Operations Directorate
Environmental Advisory Services
Westdown Camp
Tilshead

SP3 4RS

Mil. 94325 4869

Civ. 01980 674869

estsustainability@de.mod.uk

TLB CESO Focal Points (See Appendix J)

DESA DASA Tel. (9)621 83118

3F.2 GUIDANCE ON IMPLEMENTING THE SER

Undertaking the SER

Where an IPT identifies the requirement to undertake a SER they should carry out the following steps:

1. Identify sites affected by the project and associated personnel changes (approximations are adequate at this stage).
2. Review worked examples to ascertain SER approach and obtain up to date data from the references detailed later in this guidance.
3. Produce the initial SER using this guidance.
4. Identify whether further work is required in order to provide qualitative and / or quantitative analysis of potential socio-economic impact (i.e. does the SER indicate potentially significant socio-economic impacts or potential areas of conflict e.g. due to project(s) cumulatively affecting a large number of employees in a given region?)
5. Carry out or procure work as required (in consultation with MOD advisors; see contacts).
6. Present findings to aid decision making process and if necessary add to Ministerial Submission and Investment Appraisal.

Box 3F7: Resources required to carry out the SER

A member of the project team will need to co-ordinate the SER, and is likely to draw upon other team members to provide data such as staffing levels and site descriptions. It is not necessary for the SER to be carried out by a subject matter expert. However, it is useful if they have a good knowledge of the proposal, options and site locations.

Liaison with the project team's Sustainability Appraisal focal point is strongly recommended.

The basic SER is not necessarily a hugely labour intensive exercise, for example a proposal which includes 5 sites spread over 3 regions should take no more than 2 working days to complete (in addition to consultations).

Detailed analysis (where required) can be a lengthy process, so the SER should be initiated early in the project cycle to allow time for further work by DASA/ DESA.



Summary of the Information contained in the SER

The following information should be included in the SER:

- Introduction to the issue and purpose of the project.
- For each affected region:
 - Baseline socio-economic conditions (the political baseline may also be necessary when the SER is going to be included within a Ministerial submission);
 - Other known/forthcoming MOD projects.

For each affected site:

- Brief description (history, location, proposed changes);
- Service and civilian manpower figures, where available (where exact numbers are not known, some approximations should be given to provide a context to the proposals);
- Forecast changes in manpower at the sites affected;
- Appropriate baseline socio-economic information.

- Detailed Information contained in the SER

The guidance below describes the content of the SER and explains how to obtain the necessary data. An example SER is presented in Section 1.4 to illustrate how this information should be presented. It is important to bear in mind that the level of detail required will depend upon the extent of the proposals.

Box 3F8: Tip for initiating the SER

Determine the site locations to provide an indication of the number of local and regional areas involved.

Obtain the **postcode** of each site involved as soon as you initiate the SER. This will facilitate data collection from the relevant websites.



Regional Information

Regional Profiles

A regional profile provides a geographical and socio-economic context to the project proposals. The aim is to give a broad indication of the resilience of the regional economy to changes in employment. Relevant data includes regional characteristics such as economic performance trends, breakdown of employment sectors, and potential opportunities or barriers to regional development.

Box 3F9: Obtaining the Regional Profiles

DE EAS no longer update regional profiles; therefore it is recommended that IPTs use the sources provided in Section 1.3 to ensure that the data provided is current and relevant to the project.



Cross-TLB context

The cross-TLB (Top-Level Budget-holder) context seeks to give decision-makers a holistic view of other MOD initiatives in the region which may have employment consequences. This allows the identification of potential cumulative or balancing effects across the region and should highlight associated concerns / political sensitivity.

Cross-TLB SER information should be provided as a list of MOD initiatives that may have employment consequences within or between regions. Examples include relocation, co-location and disposal options. IPT's should review the Defence Estates Development Plan (as well as consulting TLB CESO and CEstO focal points) as it centralises all anticipated plans and programmes across the MOD for the next 20-25 years. Project teams should therefore consult this document in order to put their plan, programme or project into context with other known MOD development activities.

Site-Specific information

The demographic and economic characteristics of the areas surrounding affected sites will provide a more localised context to the proposals. This section provides guidance on socio-economic aspects that the project team may wish to include, and the available sources of information. For an example of how this information can be presented, see Annex 1A (?)

Localised SER information should include the following:

- Site Description;

- Political context; (only if the SER is required as part of a Ministerial submission)
 - Affected constituencies;
 - Names of relevant MPs.
- Socio-economic context:
 - Employment data;
 - Crime statistics;
 - Census information e.g. health, house tenure, education;
 - Deprivation data

For consistency and ease of comparison the information is often presented at the local authority, regional and national levels. However, depending on the proposal it may be more appropriate to consider data at the constituency or travel to work area (TTWA) level.

The TTWA is defined as a zone in which at least 75% of the resident economically active population work, and of everyone working in the area, at least 75% live. The Office of National Statistics (ONS) has classified 243 TTWAs using 2001 Census information on home and work addresses, based on complete 2001 wards.

Obtaining the Required Data

Socio-economic information is available on government websites. Guidance on obtaining and presenting information is described below.

Site Description

A brief description of the site will provide a context to the proposals. Useful information includes the general location, proximity to settlements / conurbations, site history, site users, facilities and future use if known.

Political data (when SER is required as part of a Ministerial submission)

The constituency in which the site is located and the name and political affiliation of its MP should be included in the SER. For a large or potentially broad-ranging project it may be appropriate to also provide details of neighbouring constituencies. A useful website through which to obtain this data is <http://findyourmp.parliament.uk/> which provides the relevant MP upon entering a postcode or constituency name.

The ward, local authority district, constituency and region of a site is displayed by the **nomis** website (see below) by entering the postcode.

Socio-economic / demographic data

Socio-economic / demographic data such as geographic and political context, employment data, and indices of deprivation should be included in all SERs as a minimum.. There is a great deal of detailed data available, however as a general rule, the level of detail included should be roughly proportional to the scale and significance of the proposal. The data can be accessed via a range of sites, which are described below.

Employment Data

Initial statistics of interest are likely to be:

- Employment rate (expressed as % economically active population in employment);
- Jobs Seekers Allowance Claimant rate;
- Proportion of economically active and inactive residents in the area.

All this information is all available on the [Nomis](#) website. Nomis provides a useful introduction to a site's location, demographics, and employment baseline data.

Box 3F10: Tips for using Nomis

Nomis provides labour market statistics from the Office of National Statistics. It contains labour market and related population data for local areas from a variety of sources including the Annual Population Survey (APS), Labour Force Survey (LFS), Census of Population, Jobseeker's Allowance claimant count, DWP benefits, Annual Business Inquiry (ABI) and the Annual Survey of Hours and Earnings (ASHE). It uses the latest published figures and time series data.

Nomis offers two main ways to access data: **labour market profiles** and **detailed statistics**. **Labour market profiles** give you summary data from a range of sources for a single area; the **detailed statistics** options give you access to the full range of data allowing you to query a single data source in greater depth and for multiple areas.

A good starting point, especially if you are new to labour market statistics, is the **local authority profile**. This will give you a good overview of the main data sources along with background information in the “definitions and explanations” section at the end of the profile. You can get time series and data for all areas in the region from the local authority profile using the link at the top of each table.

To download **detailed statistics** you can choose between the **wizard** or **advanced query** options. Both give you access to the same range of data – the advanced query offers a greater range of facilities but with less guidance.

We recommend you start by using the **wizard query** and, when you have gained familiarity with this, move to the **advanced query** if you require extra functionality such as saving queries for re-use and creating user-defined areas.

Source: National Statistics (from Nomis website: www.nomisweb.co.uk).

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Box 3F11: : Example data provision by nomis**1.1 Total Job Seeker's Allowance claimants**

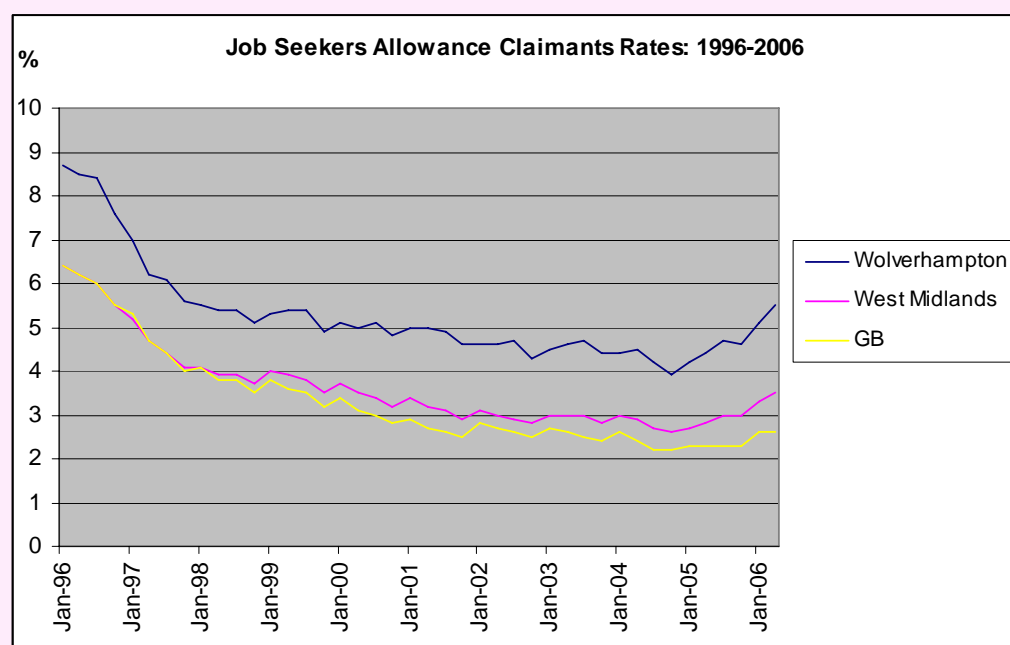
The percentage figures show the number of JSA claimants as a proportion of resident working-age people.

- view time-series
- view all areas in this government office region

	Wolverhampton (numbers)	Wolverhampton (%)	West Midlands (%)	GB (%)
All People	7,993	5.5	3.4	2.6
Males	5,953	7.8	4.9	3.7
Females	1,980	2.9	1.8	1.4

Source: Claimant count with rates and proportions (May 2006)

Using 'view time series' link, a table of results can be accessed for JCA rates over a 10-year period. This data can be exported and converted to graph format as below.



Source: National Statistics (from Nomis website: www.nomisweb.co.uk).

Crown copyright material is reproduced with the permission of the Controller of HMSO

The local authority profile defaults to provide Local Authority District, regional and national data. This is provided as a 'snapshot in time' using the most recent data and can be expanded to show trends over a longer period. An example of the data provided on nomis is shown below. Nomis also provides more in-depth data such as work sector employment structure and household income.

Crime data

Crime statistics for England and Wales are provided by the Home Office (<http://www.crimestatistics.org.uk/output/page1.asp>). Reported crime rates are presented at the local authority, regional and national (England & Wales) level. They are provided on a quarterly basis and for the purpose of SER are presented at an average quarterly rate.

Crime figures for Scotland are provided by the Scottish Executive (<http://www.scotland.gov.uk/>). Northern Ireland crime statistics are available from

http://www.psnipolice.uk/index/updates/updates_statistics/update_crime_statistics.htm.

Note that these are calculated differently to those for England & Wales so care must be taken in drawing comparisons.

Census Data

The national census gathers a wide range of information which can be accessed for the purpose of the SER. Data used in the basic SER includes statistics on health, qualifications and house tenure.

Census 2001 Data for England & Wales is available from the Office of National Statistics (<http://www.statistics.gov.uk/census/>). The relevant sources of information are displayed below. It is worth bearing in mind that the information dates back to 2001 and will not be renewed until 2011.

Table 3F1: Examples of consensus data			
Parameter	Table Title & Unit Surveyed	Table Ref.	Expressed as
Health	Health and provision of unpaid Care (All people)	KS06	General Health: Percentage of people who's health was 'Good'
Qualification	Qualifications and Students (People aged 16-74)	KS13	Percentage of people aged 16-74 with: Highest qualifications attained level 4/5* *First degree, Higher degree, NVQ levels 4 and 5, HNC, HND, Qualified Teacher Status, Qualified Medical Doctor, Qualified Nurse, Midwife, Health Visitor).
House Tenure	Tenure (All Households)	KS18	Percentage of households: Owner Occupied** **includes 'Owns outright' & 'Owns with a mortgage or loan' & 'Shared ownership'

Bear in mind that the census data considered above does not include Scotland and Northern Ireland. The appropriate websites are provided in Section 3F.4.

The census holds a vast quantity of information and project teams may wish to expand the data search depending on the focus of the proposals.

Indices of Multiple Deprivations The section below is difficult to follow - needs to be in much plainer English.

Indices of Multiple Deprivation (IMD) are used to indicate the geographical distribution of deprivation. This is typically calculated for small localised clusters of population (or 'neighbourhoods') for distinct measurable dimensions of deprivation (e.g. health and education) experienced by individuals (?). These small areas are then aggregated into larger areas, such as for the local authority. The IMD are calculated separately by the UK government administrations, and are therefore not directly comparable. These are described in more detail below.

England- [Click Here](#)

The English IMD 2004 is a measure of multiple deprivation at the small area (Super Output Area) (SOA) level. The IMD 2004 contains seven Domains of deprivation: income deprivation; employment deprivation; health deprivation and disability; education, skills and training deprivation; barriers to housing and services; living environment deprivation and crime. Where possible, the data is sourced from the 2001 Census..

Summary measures have been produced to describe or compare England's 354 districts. Six methods; termed 'Indices of Deprivation' (ID 2004) have been used to rank the local authority districts (where 1 is the most deprived and 354 is the least deprived), according to different deprivation emphases. No one single method has been recommended for use, from the ranks of Local Concentration, Extent, Income Scale, Employment Scale, Average of [Super Output Areas](#) (SOA) Ranks and Average of SOA Scores.

Wales: [Click Here](#)

The Welsh Index of Multiple Deprivation (WIMD 2005) ranks the deprivation of lower level Super Output Areas (LSOAs) and is also comprised of seven separate domains of deprivation: income, employment, health, education, housing, access to services and environment. WIMD provides an indication of the area's deprivation relative to other areas in Wales.

Scotland: [Click Here](#)

The Scottish Index of Multiple Deprivation (SIMD) 2004 is based on 31 indicators across seven domains of Current Income, Employment, Housing, Health, Education, Skills and Training and Geographic Access to Services and Telecommunications. It is constructed at Ward and Unitary Authority level. Scores for wards are averaged across Unitary Authorities for Scotland (where 1 is the most deprived and 32 is the least deprived).

Northern Ireland: [Click Here](#)

The new Northern Ireland Measures of Deprivation (2005) comprise seven ward-level Domain Deprivation Measures: Income Deprivation; Employment Deprivation; Health Deprivation and Disability; Education, Skills and Training Deprivation; Geographical Access to Services; Housing Stress; and Social Environment. These have been combined into a Multiple Deprivation Measure for the 566 wards in NI. These have been summarised at the 26 Local Government Districts (LGDs) level via 6 ranking methods (similar to those described for England), where 1 is the most deprived and 26 is the least deprived.

In addition the following have been developed: a supplementary ward level Child Poverty Measure; Income and Employment Deprivation Measures at Enumeration District (ED) level; an Economic Deprivation Measure at ED level; and two ward level summaries of the ED level Economic Deprivation Measure.

Limitations to SER and Options for Further Analysis

As indicated in this guidance, the SER merely provides background information relating to potentially affected sites for a particular project. It is not within the scope of the SER to provide an analysis of the effects of the proposals on local or regional socio-economic conditions or to provide recommendations to decision makers.

Where a plan or project is judged to have potentially significant employment or political consequences from the context data presented in the SER, it may be appropriate to perform a more in-depth analysis. Factors considered may include direct and indirect employment implications, workforce structure, effects on the community and infrastructure provision such as education and health services. For advice on performing further work or seeking external expertise please contact DASA/ DESA (Directorate of Economic Statistics and Advice - Defence Analytical Services Agency) (see Section 1.4 for contact details).

Consultation with Local Authorities

Where large personnel moves are expected to occur, this will have implications for the support of their families, for example the availability of sufficient places at appropriate schools and NHS GP and dental practices. In this case project teams should consult with Local Authorities, Primary Care Trusts and other key service providers to discuss the support requirements that would be needed as a result of a proposed move. This will allow potential

requirements to be addressed at an early stage. For further information please contact SP Pol SC Families on (9)621 87759.

3F.3 USEFUL CONTACTS AND GUIDANCE MATERIALS

Internal Contacts

Defence Estates Professional Services Team Tel. (9) 4381 2909
(completed examples only – implementation support is no longer available)

DGMO DOMD External Relations Unit Tel. (9)621 89181 / (9)621 89187

DESA DASA Tel. (9)621 83118
 Directorate of Economic Statistics and Advice (Defence Analytical Services Agency)

Service Personnel Policy Service Conditions Tel. (9)621 87759.

External Guidance Materials

UK Statistics

<http://www.statistics.gov.uk> UK official statistics, reflecting Britain's economy, population and society at national and local level. Links to 2001 Census data.

<http://www.nomisweb.co.uk/> Up to date statistics for local areas in on a wide range of subjects including population, employment, health and housing.

<http://www.crimestatistics.org.uk/output/page1.asp> Crime statistics for England and Wales.

England Statistics: Click [HERE](#)

Wales Statistics: Click [HERE](#)

Scotland Statistics

[Scottish Indices of Deprivation](#)

[Scottish Executive, Analytical Services Division- Labour Market Statistics](#)

<http://www.scottish.parliament.uk/msp/>

www.healthscotland.com

www.careers-scotland.org.uk

[Information on Scottish neighbourhood statistics can be found on the following link](#)

The hierarchy of information levels in Scotland is as follows:

- Data Zone covers an area of 750 people- created due to stable geography. This is small area level data to look at pockets of demography.
- Intermediate geography size covers 2500-6000 people
- Health Board boundaries

Note within these levels there are some mismatches e.g. Clyde and Glasgow interface.

NORTHERN IRELAND STATISTICS

- The Northern Ireland census of population is normally taken every ten years and is carried out by the [Census Office for Northern Ireland \(CONI\)](#).
- Northern Ireland <http://www.nio.gov.uk/index.htm>

ADDITIONAL SOCIO-ECONOMIC INFORMATION SOURCES

- **Local Authorities** <http://www.direct.gov.uk/Homepage/fs/en> This website provides a wide range of public service information, including lists of local councils throughout the UK. These include county, city, borough and district councils and unitary authorities.
- **Local Government Associations:**
[Regional LGAs in England and Wales](#)
[Welsh Local Government Association](#)
[Convention of Scottish Local Government](#)
[Northern Ireland Local Government Association](#)
- **Government Offices for the English regions** <http://www.gos.gov.uk/national>
- **Regional Assemblies:**
 East Midlands Assembly: <http://www.emra.gov.uk/>
 East of England Regional Assembly: <http://www.eera.gov.uk/>
 Greater London Authority: www.london.gov.uk
 North East Assembly: www.northeastassembly.gov.uk
 North West Regional Assembly: www.nwra.gov.uk
 South East Regional Assembly: www.southeast-ra.gov.uk
 West Midlands Regional Assembly: www.wmra.gov.uk
 Yorkshire and Humber Assembly: www.yhassembly.gov.uk
- **Regional Development Agencies**
 England's RDAs <http://www.englandsrdas.com/home.aspx>
[Welsh Assembly Government's Department of Enterprise, Innovation and Networks](#)
 (formally Welsh Development Agency)
 Scottish Enterprise <http://www.scottish-enterprise.com/>
 Invest Northern Ireland <http://www.investni.com/>
- **Cabinet Office** Social Exclusion Unit information resource
www.socialexclusionunit.gov.uk
- **Department of Communities and Local Government (DCLG)**
 Neighbourhood Renewal Unit Information resource www.neighbourhood.gov.uk
 Creating Better Communities <http://www.communities.gov.uk/index.asp?id=1139865>

[Location Choice: Choosing Locations on Government Business](#)
- **Department of Trade and Industry** Government Corporate Social Responsibility Information resource- www.societyandbusiness.gov.uk
- **Sustainable Development information for the English Regions**
 London – [London Sustainable Development Commission](#)
 North East – [Sustaine](#)
 North West – Action for Sustainability <http://www.nwra.gov.uk/sustainabledevelopment>
 West Midlands – [Sustainability West Midlands](#)
 East Midlands - [Promoting Sustainable Development Group](#)
 East of England – [Sustainable Development Roundtable](#)
 South West – [Sustainability South West](#)
- **Government Relocation Portal:** Click [HERE](#)
- **Lyons Review:** Click [HERE](#)

3F.4 SER EXAMPLE

The following pages provide a fictitious example to show how the results of the SER can be presented. The adopted format will depend on the nature of the proposal, the information required by the project team and the level of detail to which the SER is conducted. The black font shows example wording for the SER, and green font suggests actions to the author for inputting project-specific information. An electronic version of the template is available from the EAS Environmental Planning Team.

Box. 3F12: Example SER

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Appendix A Indices of Multiple Deprivation

1.0 INTRODUCTION

Socio-economic Reports (SERs) provide a socio-economic context for any given plan, programme or project. Additionally, where they are required as part of a Ministerial submission, they should also provide a political context,

SERs are only necessary in a limited number of instances and usually where proposed changes/projects have significant employment consequences. The triggers are 1. Ministerial commitments 2. Major MOD relocations .SRO discretion. They provide information on localised socio-economic factors and an indication of the current level of MOD involvement in a given region. The SER forms part of the submission for Main Gate proposals and is incorporated within the Investment Appraisal.

This report accompanies proposals for *Project Example*.

1.1 PROJECT BACKGROUND

The Tactical Armaments School was formed in 2002 and is currently on three sites, Site A [Bordon will serve as an example], Site B and Site C. It currently includes 1100 service and

civilian personnel, and its agreed outputs from Apr 09 are Training & Education, Tactical Development, Operational Analysis, and Support to the Front Line.

IN ACCORDANCE WITH SENIOR MANAGEMENT BOARD STATED OBJECTIVES IT HAS BEEN DECIDED THAT THE TACTICAL ARMAMENTS SCHOOL SHOULD CO-LOCATE TO A SINGLE SITE BY 2012, TO ALLOW VACATION OF SITE C FOR DISPOSAL, AND TO PRODUCE OPERATIONAL EFFICIENCIES. A NUMBER OF OPTIONS HAVE BEEN CONSIDERED WITHIN THE BUSINESS CASE, AND THE PREFERRED OPTION IS PRESENTED WITHIN THIS REPORT.

[FOR THE PURPOSE OF THIS EXAMPLE ONLY ONE OPTION IS CONSIDERED, HOWEVER IT WILL OFTEN BE APPROPRIATE TO CONSIDER A NUMBER OF OPTIONS BEFORE IT IS REDUCED TO A FINAL PREFERRED OPTION AS THIS WILL HELP TO INFORM THE DECISION MAKING PROCESS].

In brief, the preferred option is to collocate the Tactical Armaments School at Site A. This will occur in two phases as staff are housed in existing buildings (by interim period 2009) and new purpose-built offices (Steady state 2012). 550 staff will be moved from Site B (350 by interim period of 2009), to allow backfill of personnel proposed under a separate workstream. Site C will be fully vacated by 110 staff in the period 2009-2012, and the site offered for alternative use / disposal.

1.2 APPROACH

3 sites (located over 2 regions) are considered in this report. The political context, regional economic trends and socio-economic information have been presented for each site's locality. For this purpose data was gathered from the Office of National Statistics, regional government websites and census (2001) data. The Indices of (Multiple) Deprivation of local area districts are also displayed. These take into account a range of factors including health, employment, crime, education, housing and living environment. They are calculated differently in the devolved administrations and can be presented in different ways. Further information is displayed in Appendix A. A summary table of the statistics (including sources of information) can be found in Section 4.

Cross-TLB information was obtained from draft regional briefs produced by Defence Estates, and presents known and possible change to the Defence Estate (primarily involving investment and infrastructure changes). This provides an indication of potential cumulative impacts to regions relating to MOD; however it does not provide a comprehensive account of all MOD initiatives affecting personnel movements in the area.

This report provides localised background information of the sites potentially affected by *Project Example*. It is not within the scope of the SER to provide an analysis of the effects of the proposals on local socio-economic conditions or to provide recommendations to decision makers.

2.0 SITES INFORMATION

2.1 SOUTH WEST REGION

2.1.1 Regional Profile [Provided by DE EAS and updated as required]

The South East has the largest regional Defence industry footprint in the UK and employs 67,951 service and civilian posts (1 April 2002).

Comparisons of economic performance with other UK regions (for the period 1997-2003) indicate that the South East achieved the fastest growth and highest absolute level of Gross

Added value (GVA) per head, the highest growth in productivity, and lowest unemployment rate. Its absolute productivity level is the second highest of the regions (after London). The South East is second only to the East of England in the proportion of regional GDP accounted for by R&D expenditure, and in terms of patents per million inhabitants.

Substantial regional variations occur within the region, and the high averages mask a number of underperforming areas. For example GVA per head in the Thames Valley was 60% higher than the national average in 2002, while the Isle of Wight was 39% below the national figure.

The South East region can be divided into three broad economic areas;

- The Inner South East; a relatively wealthy core around London, with a large number of knowledge-based and high-technology sectors;
- The Outer South East; a largely rural area of well-established market towns, with high business density and business start up rates, a highly skilled commuter workforce and high overall employment rates; and
- The Coastal South East; a less prosperous periphery with generally lower productivity and employment rates, relatively poor infrastructure and connectivity, and a high dependence on public sector employment, in addition to manufacturing and tourism sectors.

Key challenges to the South East include the impacts of climate change, energy and water supply to the large population density. Average travel to work times in the region are amongst the longest in Europe, and housing in the region is characterised by high demand and inelastic supply.

The Independent Review of Public Sector Relocation ('Lyons Review') (2004) resulted in a strongly enforced presumption against London and South East locations for new government bodies and activities. Any movement of staff into the SE or London must be cleared through the Treasury and supported by a sound Business Case (this area has now been increased to 'The Greater South East' which includes the East of England). Rationalisations, or moves within the Greater South East are strongly discouraged and alternative sites outside this area must have been looked at. In all cases where Staff movements are likely to occur within the Greater South East, DOMD-ERU must be informed.

2.1.2 Cross-TLB Context

[Provided by DE EAS and updated as required]

2.1.3 Bordon [Example site]

Background

Bordon Garrison is occupied by the School of Electrical and Mechanical Engineering (SEME). The site occupies approximately 700 hectares and is located close to the town of Bordon in Hampshire. The MOD has owned the land at the site since the turn of the last century. There has been major investment in the in the 1950's when large areas of the camp were developed, followed by further redevelopment in the 1970's.

The Garrison comprises a mix of barracks, MOD housing (quarters), vehicle maintenance buildings, tank training areas and open heath land. A mix of open space, residential and light industrial land borders the Garrison land. Two roads divide the site. The A325 Fareham to Longmoor road crosses the site in a north to south direction and a small local road (B3002) passes in a roughly east to west direction.

Political Context

Bordon is located within the Local Authority District (LAD) of East Hampshire and the

parliamentary constituency of North East Hampshire. The local MP is Rt Hon James Arbuthnot (Conservative Party).

Socio Economic Context of Local Area

The employment rate for East Hampshire is relatively high at 83.4%, which is 4% and 9% higher than the regional and national levels respectively. The percentage of Jobseekers Allowance claimants is correspondingly low, at 1% at the LAD level and 1.7% at the regional level. The proportion of the population qualified to degree level or higher in East Hampshire is 23.9%, which is above the regional (21.8%) and England & Wales (E&W) (19.8%) levels.

Household owner occupancy in East Hampshire (77.8%) is almost 4% and 10% higher than the regional and E&W averages respectively. The crime rate of the LAD (14.2 per 1000 population) is approximately half that of the E&W level and 8 counts below the regional figure. A high proportion (74.1%) of the East Hampshire population is in good health.

East Hampshire is ranked 328 for the Indices of Deprivation (ID 2004) (Average score), where 1 is the most deprived and 354 is the least deprived. The lowest rank (276) relates to Income Scale.

2.1.4 Site B

[Insert other regions / sites as required]

3.0 SUMMARY OF THE PROPOSAL AND ACTION REQUIRED

As shown in Figure 1, the proposals entail the full vacation of XXX School from Sites B and C over a 6 year period. Site B will be vacated by 2009. The overall personnel figures at site B are not expected to change significantly given the backfill of 530 personnel. Site C is expected to be vacated by 2012, to be made available for alternative use / disposal.

Location	Current Staff Levels 2006			Interim Stage 2009			Final (Steady State) 2012		
	Servic e	Civilia n	TOTA L	Servic e	Civilia n	TOTA L	Servic e	Civilia n	TOTA L
Site A	300	150	450	350	400	750	450	610	1060
Site B	50	500	550	0	200	200	0	0	0
Site C	100	10	110	100	10	110	0	0	0
TOTAL	450	660	1110	450	610	1060	450	610	1060

The local authority district socio-economic profiles for Sites A and C are very similar, and are typified by high employment, low crime rates and low levels of deprivation. Conversely Site B LAD has lower than average employment and a high proportion of Job Seekers Allowance claimants (in particular at the local ward level).....

[Insert observations as required, taking into account the relevant cross-TLB context which may interact with or are located close to these sites. Bear in mind the limited nature and geographic scope of data when making any observations. This section is important and you may wish to pull it forward into an executive summary]

This report provides a socio-economic context for these changes within the affected regions. Detailed work to determine the indirect / induced impact of civilian post movements has not been undertaken, however the scale of the project and results of the SER indicate that further work will be required. Consultation with Defence Economic Advisers and other Government departments is planned to assess the potential economic implications of the proposals, and the

local LA and LEA at Site A will be further consulted to address infrastructure requirements for personnel and their families.

4.0 SUMMARY STATISTICAL TABLES

The following tables provide the socio-economic context for the sites affected. Detailed work to determine the indirect/induced impact of civilian post movements has not been undertaken at this stage in the SER.

Table 1 Location Context

Site	Ward ¹³	Local Authority District (LAD)	Region - Gov't office region	County or Unitary authority	Constituency where site is located	MP for the constituency ¹⁴
Bordon	Whitehill Pinewood, Whitehill Hogmoor	East Hampshire	South East	Hampshire	North East Hampshire	Rt Hon James Arbuthnot (Conservative)
Site B						
Site C						

Table 2 LAD, (Regional) and National Socio Economic Statistics^{15,16}

Site	Claimant count %	Employment rate %	Economically Inactive %	Economically Active %
Bordon	1.0 (1.7)	83.4 (79.1)	14.1 (17.9)	85.9 (82.1)
Site B				
Site C				
Great Britain	2.7	74.5	21.7	78.3

Table 3 Neighbourhood Statistics. Location Context – Local Authority (Regional) and National¹⁷

Site	Good Health %	Population aged 16-64 qualified to degree level or higher %	Crime Rate ¹⁸	Owner occupied households %
Bordon	74.1 (71.5)	23.9 (21.8)	14.2 (22.8)	77.8 (74.0)
Site B				
Site C				
England & Wales	68.6	19.8	26.3	68.9

Table 4 Indices of Multiple Deprivation (England) 2004¹⁹

Site	Local Authority	Rank of Average Score	Rank of Average Rank	Rank of Extent	Rank of Local Concentration	Rank of Income Scale	Rank of Employment Scale
e.g. Bordon	East Hampshire	328	328	298	331	276	291
Site B							
Site C							

3F.5 GUIDANCE ON WHEN TO CARRY OUT IN-DEPTH SOCIO-ECONOMIC STUDIES

Extract from *Guidance on Location Choice: Choosing Locations for Government Business - Integrating wider economic and regional policy objectives into location decisions*. Published in February 2006 by the Department of Communities and Local Government (formerly Office of the Deputy Prime Minister).

Paragraphs 26 to 27 (Page 11) on Proportionality:

It is not the intention to create an overly burdensome set of arrangements and central public sector bodies should look to apply the framework proportionately, according to the scale and likely impact of a given relocation. Ultimately this requires judgement (which should not be based purely on numbers of staff but also type of activity), but a guide to what is likely to be appropriate in different situations is set out below:

- The **smallest and/or least consequential relocations** (e.g. relocating a unit of 20 back-office staff) need only follow the guidance on drawing up an options list. A preferred option can then be chosen with reference to the business case alone.
- **Medium-sized relocations** (e.g. a unit of 200 back-office staff; or 50 senior policy staff) and/or those likely to have moderate wider impacts should attempt to perform a broad ranking of location options for wider impact (e.g. using the economic impacts questionnaire at Annex A), using this to inform a judgement about the optimum location. Quantification of impacts will generally not be required.
- **Larger relocations** (certainly all those involving over 500 staff), and/or those likely to have large wider impacts should follow the full approach. This involves a quantified examination of the cost-effectiveness of job creation, where business case and wider impact rankings suggest different preferred options (see Annex B).

Note that the categorisation of relocations into the above small/medium/large categories will need to take account of the actions of other central public sector bodies where they are also considering moving to the same places. This reinforces the need for coordination with OGC who will advise on whether an organisation's approach to assessment is appropriate given other developments in the location.

APPENDIX 3G: MINOR NEW WORKS CHECKLIST

Job title:	Job reference:
Checklist completed by:	Date:

Sustainability objective	Significant impacts		Significant opportunities		Explanation	Further action required
	YES	NO	YES	NO		
A - Travel and Transport Minimise amounts of travelling required, particularly via roads and private cars						
B – Water Reduce total water consumption, maximise efficiency of use and encourage reuse whilst minimising the risks of water pollution and flooding.						
C - Energy and Climate Change Minimise greenhouse gas emissions and total energy consumption, support the use of renewable energy rather than fossil fuel sources, and improve resilience to climate change.						
D - Noise and Vibration Minimise disturbance to people and wildlife from noise and vibration.						
E - Air Quality Minimise pollution of air with gases and particulates						

F – Waste Reduce waste production and promote reuse, recycling and recovery						
G – Construction and the Built Environment Minimise expansion onto green sites, explore refurbishment before building afresh, design sustainability features into new buildings and promote recycling of materials.						
H – Sustainable Procurement Ensure that all Departmental procurement takes full account of Sustainable Development principles and helps meet Sustainable Development targets and objectives.						
I – Geology and Soils Identify, reduce, manage and mitigate the introduction of threats to soil which can reduce soil extent, diversity or quality..						
J – Biodiversity and Nature Conservation Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife						
K – Historic Environment Protect and where possible enhance the MOD historic environment in recognition of its integral part of cultural heritage and the role it plays in supporting defence capability.						
L – Landscape and Townscape Protect and enhance the character of landscapes and townscapes.						
M – Health, Safety and Well-being Maximise opportunities to promote healthy, safe and secure environments in which to live and work.						

N – Communities and Social Values Promote the MOD as a good neighbour which works with local communities to minimise disturbance and maximise positive social impacts.						
O – Infrastructure and Amenities Support the welfare, cultural and recreational needs of MOD personnel and communities; contribute to the well-being of society by facilitating public access; minimise the disruption from MOD use of public facilities and supporting local infrastructure.						
P – Economy and Employment Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all.						

Full Sustainability Appraisal required?	YES	NO	Explanation:

APPENDIX 3H: QUALITY ASSURANCE CHECKLIST

Alternative options
<ul style="list-style-type: none"> • Realistic alternatives are considered. • The sustainability impacts (both positive and negative) of each alternative are identified and compared. • Reasons are given for the elimination of alternatives.
Prediction and evaluation of impacts
<ul style="list-style-type: none"> • Both positive and negative effects are considered, and the duration of effects (short, or long-term) is addressed. • The Sustainability Appraisal focuses on significant issues. • Assumptions and uncertainties are made explicit. • Consultation is done at appropriate ways and times.
Mitigation measures
<ul style="list-style-type: none"> • Measures envisaged to prevent reduce and offset any significant adverse effects of implementing the initiative are indicated. • Issues to be taken into account in implementation of the initiative are identified.
Decision-making and information on the decision
<ul style="list-style-type: none"> • The findings of the Sustainability Appraisal are taken into account in finalising and adopting the initiative • An explanation is given of how sustainability issues have been taken into account. • Reasons are given for choosing the initiative as adopted, in the light of other reasonable alternatives considered.
The Sustainability Appraisal report
<ul style="list-style-type: none"> • Explains the methodology used. • Explains who was consulted and what methods of consultation were used. • Identifies sources of information, including expert judgement and matters of opinion.
Monitoring measures
<ul style="list-style-type: none"> • Measures are proposed for monitoring • Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.) • Proposals are made for action in response to significant adverse effects.

Appendix 3I: Key Contacts

Advice on SA Policy

Defence Estates – Property Directorate, Sustainable Development
DE Prop-Sus Dev1b1 - 9355 84132

Advice on the Application and Completion of SA

Defence Estates - Environmental Advisory Services (DE EAS)
Hd of Sustainable Development Support Team 9 4325 4866

The Defence Estates Environmental Advisory Services (EAS) provides professional support for the implementation of MOD environmental policy. The Team comprises environmental specialists in seven functional areas: Sustainable Development, Environmental Planning, Natural Environment, Historic Environment, Conservation and PR. EAS provides assistance to Customer Estates Organisations (CEstOs), Chief Environmental and Safety Officers (CESOs), Military Units and MOD stakeholders in the UK and abroad.

EAS can provide assistance to those MOD activities which do, or which might require SA. This assistance includes:

- screening the requirement for the applicability of SA;
- giving advice and explanations of the policy and legislative issues;
- using practical experience gained from other SAs which have been/are being carried out;
- assisting in commissioning consultancy work through the OGC framework (see note below);
- carrying out a project management role and providing quality assurance support (in other words, ensuring MOD assume the “intelligent customer” role);
- providing advice on stakeholder liaison, partnerships, the role of statutory bodies, NGOs and other organisations.

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