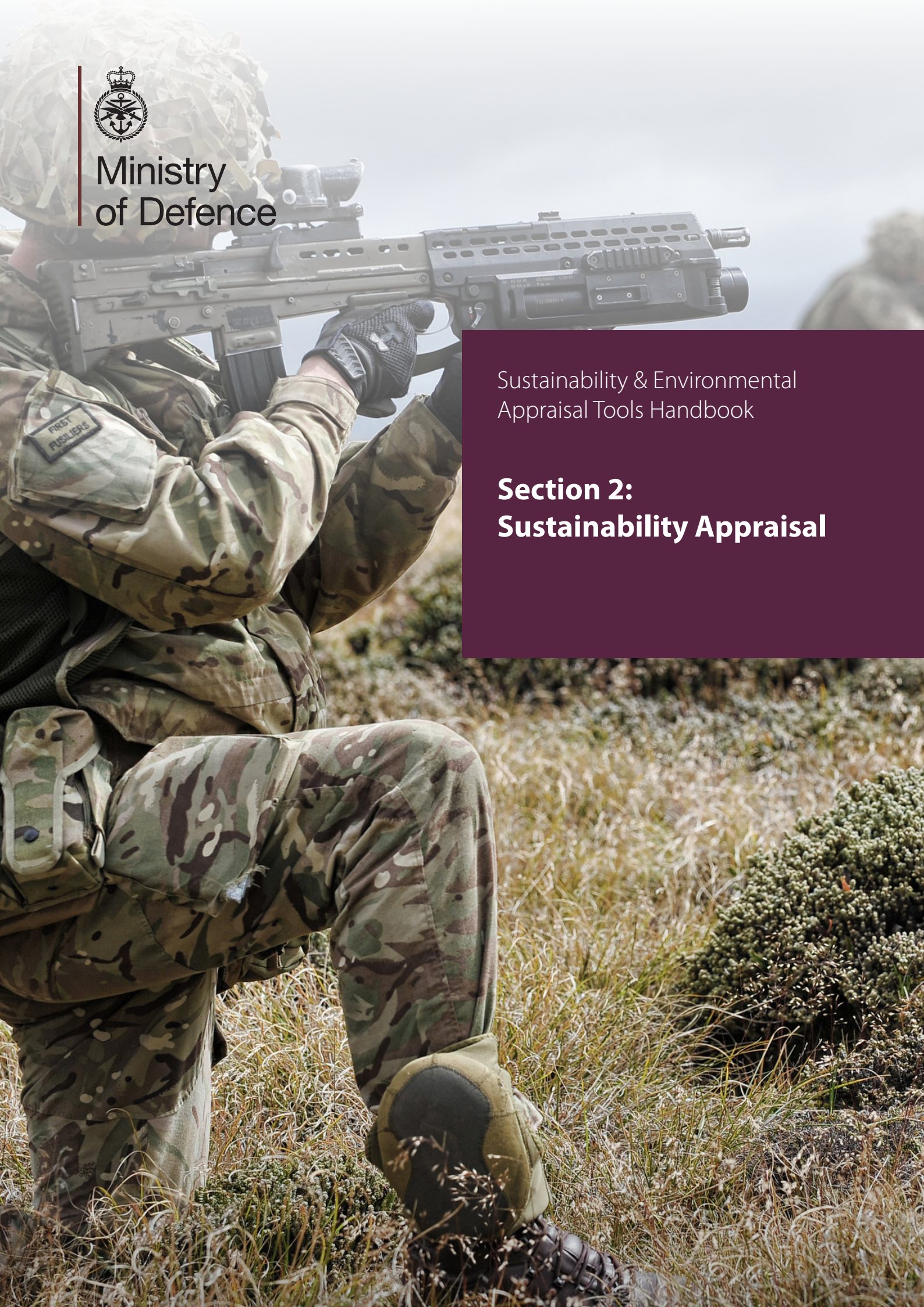


Sustainability & Environmental
Appraisal Tools Handbook

Section 2:
Sustainability Appraisal

Contents

How to use this Guidance

This guidance forms Chapter 2 of the MOD Sustainability and Environmental Appraisal Tool Handbook ('the Handbook'). It provides practical information on how to undertake a Sustainability Appraisal.

Chapter 2.1:	Explains what Sustainability Appraisal is and why it is important to MOD.
Chapter 2.2:	Provides practical guidance on how to undertake a full Sustainability Appraisal.
Chapter 2.3:	Provides practical guidance on how to undertake an abbreviated form of Sustainability Appraisal for minor change and maintenance programmes.

Who is the guidance aimed at?

This guidance provides Requirement Mangers, Project Managers and Project Team Leaders advice on how and when to complete a Sustainability Appraisal.

Box 2.1 – Sustainability Guidance & Policy

Sustainability Appraisal Guidance and Implementation:

Defence Infrastructure Organisation (DIO) Sustainability Support Team:
DIOSDEUS-SusDevSpt@mod.gov.uk

Sustainability Policy

JSP 850 – Infrastructure and Estate Policy

MOD is always seeking to learn from good practice to improve the ways that guidance is provided. Please email any **suggestions or feedback** to DIOSDEUS-SusDevSpt@mod.uk

What is Sustainability Appraisal?

2.1.1 Sustainability Appraisal is a process that helps to ensure sustainability 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 enhancement opportunities.

2.1.2 Many sustainability issues reflect common sense and good practice and are compatible with long-term business efficiency. Sustainability Appraisal provides 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/P.

2.1.3 Sustainability Appraisal is objectives-led. This means that each P/P/P is judged against sixteen sustainability objectives (Table 2.1) which together reflect the priorities for sustainability in MOD.

Table 2.1 – Sustainability Themes & Objectives

Sustainability theme	Sustainability objective
A Travel & Transport	Minimise the amount of traveling required.
B Water	Reduce total water consumption, maximise efficiency of use and minimise the risk of water pollution and flooding.
C Energy	Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.
D Noise &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 other pollutants
F Waste	Reduce waste production and promote reuse, recycling and recovery.
G Sustainable Construction	Minimise expansion onto green sites, explore refurbishment before building afresh and design sustainability features into new buildings.
H Sustainable Procurement	Ensure that all Departmental procurement takes full account of sustainability principles.
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 & 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.
L Landscape & Townscape	To protect and enhance the character of landscapes and townscapes.
M Health, Safety & Wellbeing	Maximise opportunities to promote healthy, safe and secure environments in which to live and work.
N Communities, Amenities, & Social Value	Promote MOD as a good neighbour and support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.
O Climate Resilience	Improve resilience to current and future climate hazards.
P Economy & Employment	Help maintain and encourage a strong, diverse and stable economy.

Why is Sustainability Appraisal Important?

2.1.4 To accord with the mandate for mainstreaming sustainable practices into Defence business, all estate strategies, policies, decision-making processes and associated programmes, plans, projects (including estate rationalisation and disposal) and related activities shall be subject to relevant sustainability and environmental appraisal. The outcomes (risks and opportunities) shall be used to inform decisions to deliver a sustainable and resilient estate and support the delivery of Government requirements and targets. **As a minimum a Sustainability Appraisal shall be undertaken at the earliest opportunity.**[1]

2.1.5 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.

2.1.6 Sustainability Appraisal can also help project teams to:

- Identify, analyse and down select options; develop the preferred option, draft tender questions/contract clauses, monitor sustainability impacts and opportunities.
- Develop investment appraisals and business cases. The Investment Appraisal Committee (IAC) will expect to see how sustainability issues have been addressed within business cases.
- Identify and reduce the environmental, social and economic risks for the P/P/P that may otherwise lead to refusal of planning consent, increased through-life project costs, Public Inquiry, reduction in operational capability or bad publicity.
- Understand possible enhancement opportunities e.g. whole life cost savings, reputational benefits, increased resilience.
- Demonstrate in a systematic and auditable way that a broad range of social, economic and environmental issues have been systematically considered and have influenced decisions.
- Complete an initial, high-level 'screen' to give early warning of issues requiring further assessment allowing project managers to prepare for the associated time and resource.
- Support the requirements of the Sustainable MOD Strategy and wider government sustainability objectives and targets.

Box 2.2 - What does sustainability mean for the defence estate?

As a major landowner, developer, employer, service provider and consumer, MOD has a crucial role to play in promoting sustainability. The MOD owns some 228,000 hectares of land and foreshore and holds rights over a further 204,900. Around a third of the owned estate is classed as 'built' and includes naval bases, airfields, living accommodation, scientific facilities, storage and distribution centres and offices, making the MOD the UK's largest property manager. The rural estate makes up the remaining two thirds of the owned estate and is comprised mainly of training areas and ranges. The Department also uses significant estate overseas. This diverse estate has many outstanding features of national importance, including 171 Sites of Special Scientific Interest, 846 listed buildings and over 700 scheduled monuments.

1 JSP 850 – Infrastructure and Estate Policy

When is Sustainability Appraisal Required?

2.1.7 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 (but are not limited to):

- Strategic change or rationalisation of the estate
- Property construction, refurbishment or redevelopment
- Changes in estate maintenance or management
- Relocation of units (military and civilian)
- Changes in estate or infrastructure use
- Changes in military training
- Procurement of new equipment
- Disposal and acquisition
- Minor change and maintenance programmes

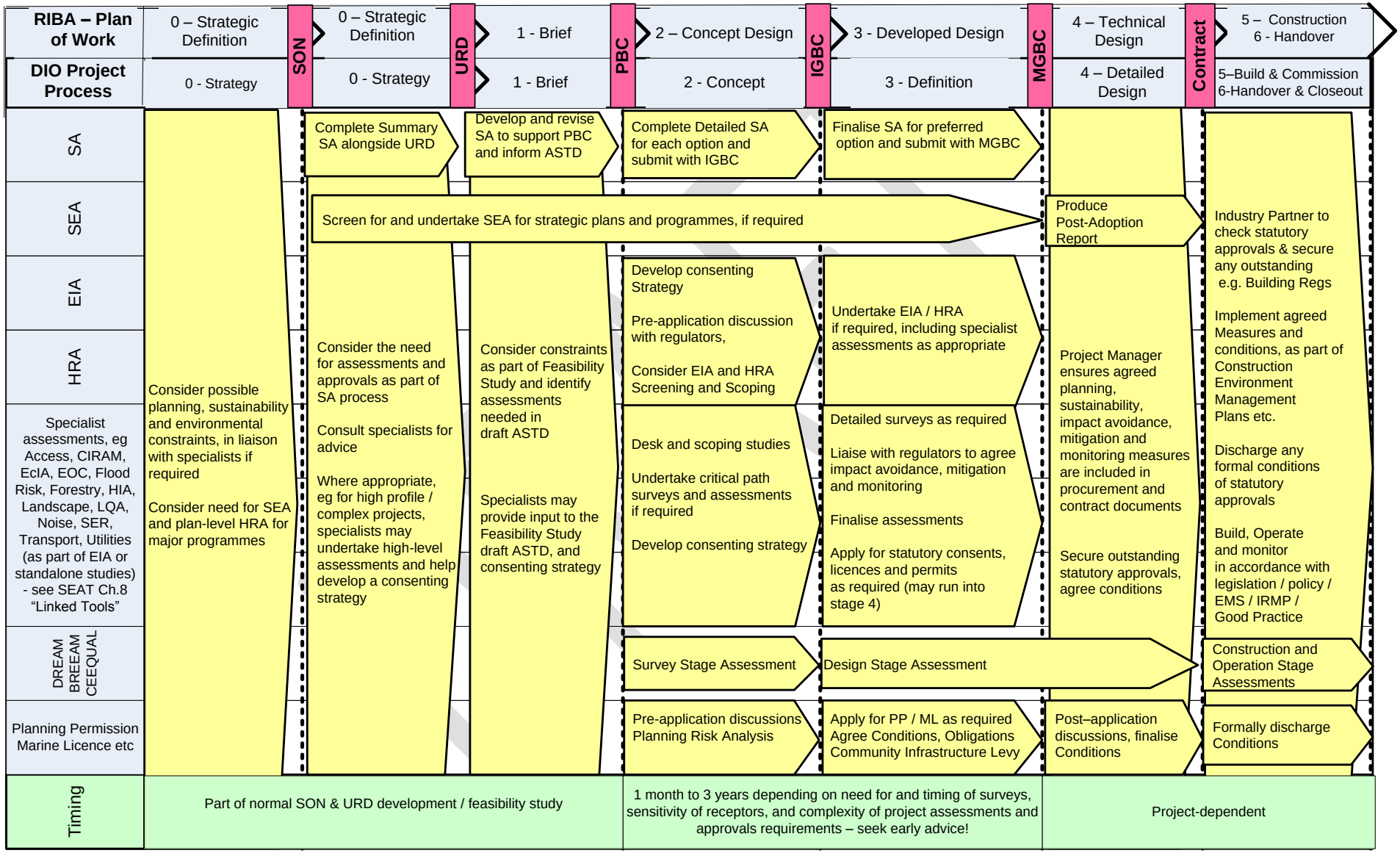
2.1.8 Sustainability Appraisal should equally be applied to all overseas P/P/Ps following the process detailed below. To accommodate host nation legislation, regulation and guidance a separate suite of appraisal forms have been developed [Appendix 2A: Overseas] and should be used in preference to others.

2.1.9 Minor change and maintenance programmes often require a simplified approach to Sustainability Appraisal. Para 2.3.1 provides guidance on how to apply Sustainability Appraisal to this type of activity.

2.1.10 Figure 2.1 illustrates the relationship between Front Line Commands, DIO, approval points, Sustainability Appraisal and other environmental assessments.

2.1.11 There are two major exceptions where Sustainability Appraisal, as described in this Handbook, may be inappropriate. Firstly, in 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 3 of the Handbook for guidance on whether a SEA is required.

Figure 2.1 – Relationship between Project Processes and Environmental and Sustainability Appraisal Tools

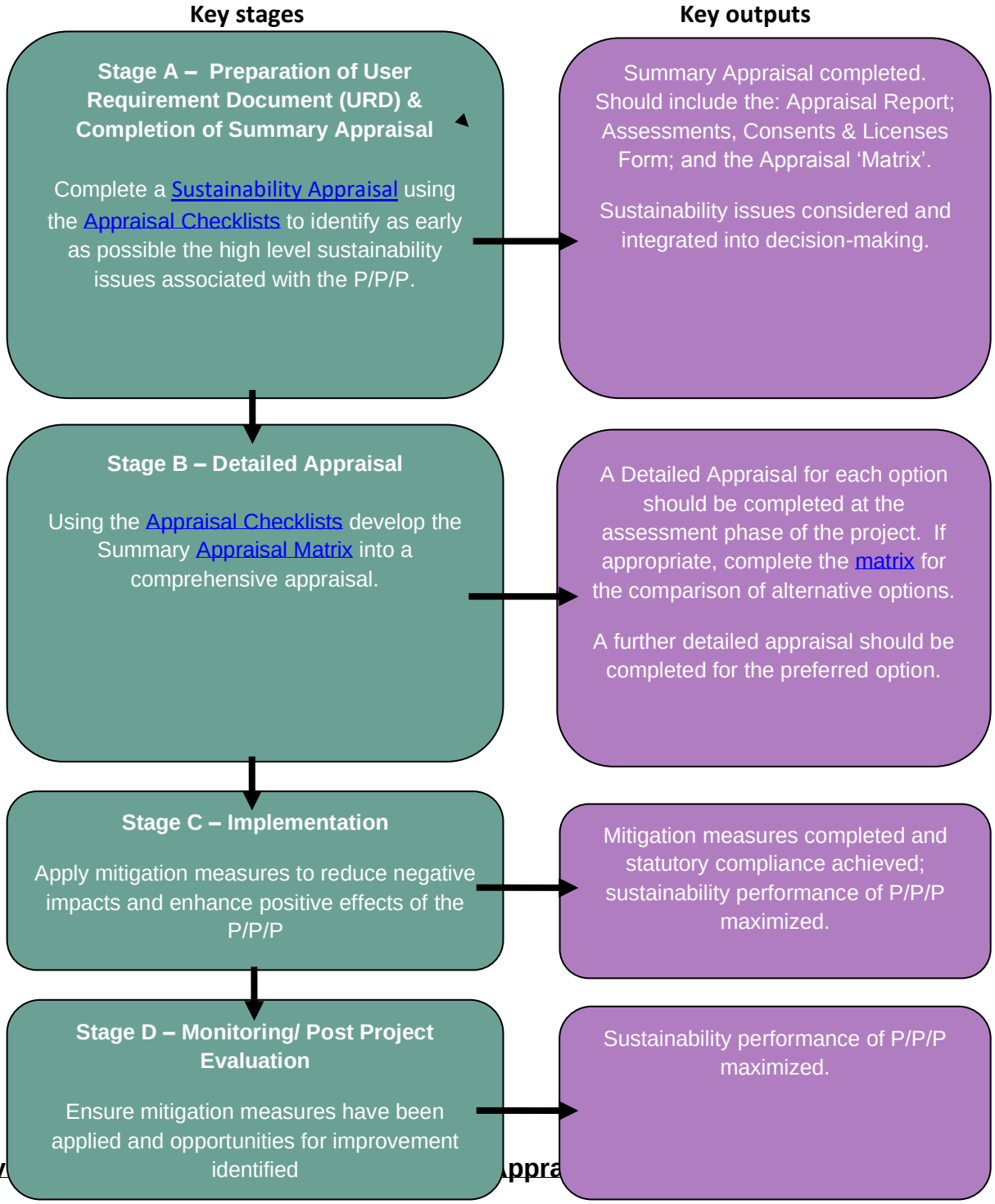


SON – Statement of Need; URD – User Requirement Document; ASTD – Assessment Study Task Directive; PBC / IGBC / MGBC – Preliminary / Initial Gate / Main Gate Business Case; SEA – Strategic Environmental Assessment; SA – Sustainability Appraisal; EIA – Environmental Impact Assessment; HRA – Habitats Regulations Assessment; CIRAM – Climate Impact Risk Assessment Methodology; EcIA – Ecological Impact Assessment; EOC – Explosive Ordnance Clearance; HIA – Heritage Impact Assessment; LQA – Land Quality Assessment; SER – Socio-Economic Report; DREAM/BREEAM – Defence Related/ Building Research Establishment Environmental Assessment Methodology; CEEQUAL - Civil Engineering Environmental Quality Assessment; PP & ML – Planning Permission & Marine Licence; EMS – Environmental Management System; IRMP – Integrated Rural Management Plan

How to undertake a Sustainability Appraisal

2.2.1 This section 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 2D which can be used at any stage of the Sustainability Appraisal to help ensure that it meets MOD requirements. In the case of minor change and maintenance programmes please refer to Para 2.3.1.

Figure 2.2 - Key stages and outputs of a Sustainability Appraisal



Key **Appra**

2.2.2 As Figure 2.2 illustrates there are four key stages to completing a Sustainability Appraisal.

STAGE A – SUMMARY APPRAISAL

2.2.3 The aim of the summary appraisal is to identify as early as possible the likely high-level sustainability risks and opportunities associated with the P/P/P. It should be completed and finalised in conjunction with the User Requirement Document. Details on completing a Summary Appraisal can be found at Para 2.2.12.

STAGE B – DETAILED APPRAISAL

2.2.4 The aim of the detailed appraisal is to provide a comprehensive assessment of the likely sustainability impacts, mitigation measures and requirements for further assessment. It builds on the findings of the summary appraisal but is more quantified and detailed. It should be completed during the assessment phase of the project and inform the development of each option. For estate projects, evidence that the appraisal has informed the development of the preferred option must accompany the Initial Gate Business Case.

2.2.5 Building on previous appraisals, a further detailed appraisal should be completed for the preferred option and accompany the Main Gate Business Case. Details on completing a Detailed Appraisal can be found at Para 2.2.12.

STAGE C – IMPLEMENTATION

Ensure that a strategy is in place to implement the actions identified by both the Summary and Detailed Appraisal. There is no single best way of achieving this; however, the following measures have proved successful in MOD:

- Incorporate actions into design briefs, contractors' specifications, risk registers etc…
- Identify individuals to take responsibility for actions and provide the time and resources necessary to complete the work.
- Include sustainability as an item at project meetings to ensure actions are being delivered.
- Actions may also be integrated into management systems such as: Sustainable Development Action Plans; Environmental / Sustainability Management Systems (E/SMS); Integrated Rural Management Plans (IRMP); Construction Environmental Management Plans etc…

STAGE D – MONITORING & POST PROJECT EVALUATION

2.2.6 Where practicable, put in place a strategy to monitor the sustainability impacts of implementing the P/P/P (e.g. E/SMS).

2.2.7 Ensure that sustainability features as part of the post project evaluation. A post project review should evaluate how the appraisal process helped ensure sustainability considerations and policy requirements were integrated into the P/P/P.

Responsibility for completing a Sustainability Appraisal

2.2.8 Responsibility for ensuring the Sustainability Appraisal is completed sits with the Project Team Leader, lead decision-maker, Project Manager or Requirements Manager (i.e. the post that holds responsibility at each stage of the P/P/P).

2.2.9 On estates projects the Requirements Manager 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 Project Manager and on to the Contractor/Partner (although these responsibilities can be delegated to environmental or sustainability specialists, or commissioned from consultants, the responsibility remains with the MOD to ensure that an SA is completed and that it meets the required standard).

Sustainability Appraisal Workshops

2.2.10 A collaborative approach to Sustainability Appraisals leads to better decision making and better outcomes. Consequently, it is valuable for the Sustainability Appraisal to involve the wider team of people responsible for delivering the P/P/P. An effective way of involving people is to invite them to an appraisal workshop. When organising a workshop:

- Invite a wide range of people involved in the P/P/P to get a range of knowledge and opinion. The involvement of end-users or 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;
- Ensure relevant specialists (e.g. DIO environmental advisors or Environmental Protection Officers) are invited. Depending on the nature and scale of the P/P/P, consider inviting external organisations e.g. the Environment Agency or local Town or Parish council.
- Circulate Sustainability Appraisal materials (e.g. appraisal template [Appendix 2A] and appraisal checklists [Appendix 2C]) and information about the P/P/P in advance so that attendees can become familiar with the appraisal method and likely issues.
- 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.
- In all instances, organisers are urged to carefully plan workshops in an attempt to minimise costs and maximise the use of time with attendees.

2.2.11 Sustainability 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 2.1. **In all instances users are advised to utilise and exhaust internal MOD expertise and resources prior to seeking external consultant support.**

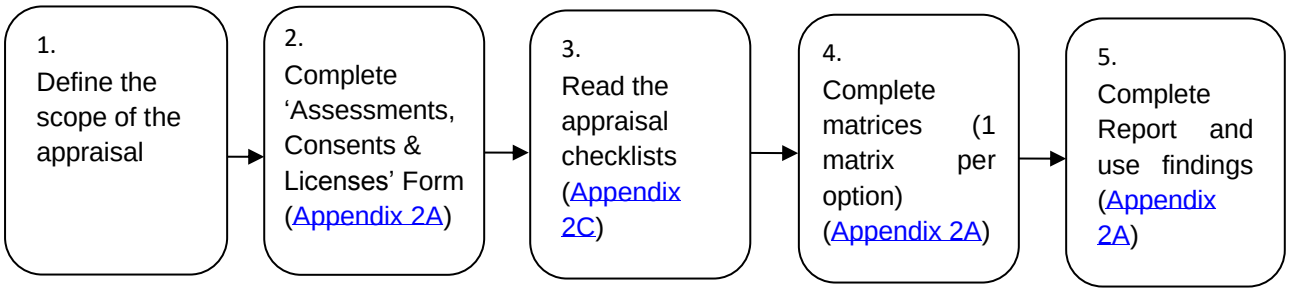
Completing a Summary & Detailed Sustainability Appraisal

2.2.12 The key outputs of a Summary and Detailed Sustainability Appraisal are:

- A completed sustainability appraisal report
- A completed 'Assessments, Consents & Licenses' Form
- A completed matrix or matrices if alternative options have been appraised.

2.2.13 These outputs are achieved by following five key steps.

Figure 2.3 Five Appraisal Steps



STEP ONE – DEFINE THE SCOPE OF THE APPRAISAL

2.2.14 Clearly define the scope of the P/P/P that will be appraised, including alternative options if these are available. Record any exclusions and underlying assumptions.

2.2.15 The impacts of the P/P/P should be appraised against the 'business as usual' or 'do nothing' scenario; i.e. the situation that would exist without the P/P/P being implemented.

2.2.16 If completing a detailed appraisal, ensure the findings of the summary appraisal are known and built upon.

STEP TWO – COMPLETE THE APPROVALS AND CONSENTS FORM – APPENDIX 2A

2.2.17 Complete the 'Assessments, Consents & Licenses' form (Appendix 2A) to highlight the need for other assessments e.g. 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 funding, risks and time that these assessments might require.

STEP THREE – READ THE APPRAISAL CHECKLISTS - APPENDIX 2C

2.2.18 Familiarise yourself with the potential issues and impacts as outlined in the appraisal checklists (Appendix 2C) and how the elements of the P/P/P may relate to each sustainability objective.

STEP FOUR – COMPLETE APPRAISAL MATRIX (OR MATRICES) – APPENDIX 2A

2.2.19 Remember to complete a separate matrix for each P/P/P option that is appraised and allocate an impact for the P/P/P against each sustainability objective. Begin by assessing the likely sustainability impact of the P/P/P against each sustainability objective by giving a score on the scale from A (major positive impact) to E (major negative impact). Record the score with a '✓' 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.

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

2.2.20 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

2.2.21 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.

2.2.22 Sustainability Appraisal does not give 'right' or 'wrong' answers. The purpose is to explore and record the issues and demonstrate how they have been addressed. Remember that:

- Nearly all P/P/Ps will have both 'positive' and 'negative' impacts. Negative impacts are not necessarily detrimental to the success of a P/P/P. 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 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 potential impacts and exploring ways to address them.
- The Sustainability Appraisal may be audited or requested by an external stakeholder. Consequently, avoid bias in the Appraisal towards un-warranted positive scores.

2.2.23 Use the criteria in Table 2.2 to help determine whether impacts are likely to be major or minor.

Table 2.2 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 features or resources	Will not affect valuable features or resources
High risk environmental standards will be breached	Low risk environmental standards will be breached
Likelihood that protected sites or features will be affected	Protected sites or features will not be affected
Long term / permanent / irreversible	Short term / temporary / reversible

2.2.24 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.

Table 2.3 – Typical short term sustainability impacts and their resulting long-term impacts

Short term impacts	Long term impacts
Noise dust and disturbance arising from construction & demolition activities.	Energy savings from construction of more energy efficient buildings.
Temporary loss in public access to MOD land or facilities.	Better public access to MOD land or facilities.
Reduction in local economic activity resulting from withdrawal of MOD presence.	Release of land for employment and business use.

2.2.25 Provide commentary to explain each score and summarise the main positive or negative issues and impacts. If 'no impacts' or uncertain impacts are recorded, you must use the 'commentary' box to explain why this is the case.

Box 2.3 – Additional tips for impact prediction and scoring

- The aim of a Sustainability Appraisal is to understand the sustainability issues affecting the 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.
- Impacts are considered throughout their lifecycle, i.e. from acquisition of raw materials, through construction or operational, to decommissioning and disposal.
- A precautionary approach must be adopted when stating whether there is an impact or not. Sustainability Appraisal should identify potential issues, rather than generate definitive statements. Lack of certainty, baseline information or data is not a basis for deciding that there are no impacts.
- Boundaries have to be set on the appraisal scope, but the P/P/P may generate indirect or off-site impacts. Some impacts of a P/P/P may be minor in themselves, but when considered in combination with other activities nearby or at the same time give substantial cumulative (overall) impacts.

2.2.26 Use the 'action required' boxes to summarise:

- Requirements for further assessments or research and their potential cost.
- Enhancement opportunities. Where there are no negative impacts, but measures are adopted to achieve a positive move towards the sustainability objectives.
- How negative impacts can be avoided, reduced or mitigated against. This may be achieved through changing a specific part of the P/P/P or including new provisions.
- Where negative impacts cannot be mitigated but can, as a last resort, be compensated for.

STEP FIVE – REPORT AND USE FINDINGS

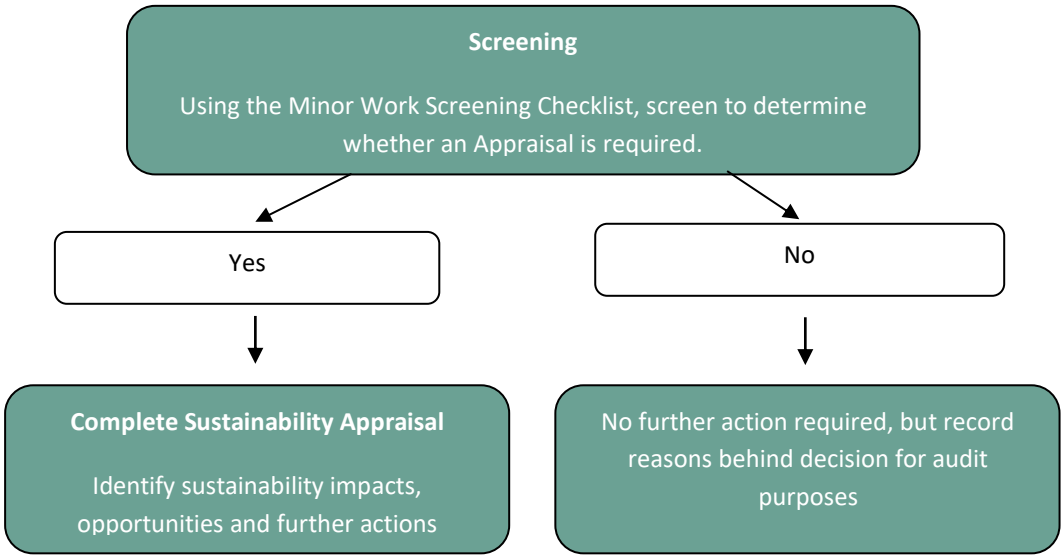
2.2.27 Compile a brief covering report to accompany the 'Assessments, Consents & Licenses' form and completed matrix/ matrices. The appraisal report should provide sufficient background information on the P/P/P e.g. a map to identify the land to be affected; the change in people/platforms/infrastructure, a description of the activities to be undertaken and an indicative timeframe. The appraisal report should also set out how the appraisal has been undertaken, and a summary of its key findings.

Sustainability Appraisal and Minor Change and Maintenance programmes

2.3.1 Not all estate activity requires a full Sustainability Appraisal. However, appropriate levels of Sustainability Appraisal should be completed for services and works.

2.3.2 This section provides practical guidance on how to apply the Sustainability Appraisal process to minor change and maintenance programmes.

Figure 2.4 - Application of Sustainability Appraisal to minor change and maintenance



2.3.3 Begin by screening the minor change or maintenance programme 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.

2.3.4 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 major sustainability impacts or opportunities for innovation. Use the Minor Work Screening Checklist at 2.3.7 to help think about what type of issues could arise. 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 undertake a Sustainability Appraisal has to be based on a pragmatic judgement. The DIO Sustainable Development Support Team (Box 2.1) can provide advice to assist your decision.

2.3.5 Types of minor change and maintenance programmes that may attract an appraisal:

- Replacement of boilers
- Small scale office refurbishment
- Replacing or retiling a roof
- Resurfacing or extending a road
- Constructing a small car park

2.3.6 Complete a Sustainability Appraisal as early as possible whilst there is still scope and time to influence the type of work undertaken and take advantage of opportunities to improve sustainability performance.

Minor Change and Maintenance Screening Checklist

If the works are a simple task of small-scale routine maintenance (e.g. changing a carpet or replacing a fire door), and you can answer 'No' to all of the questions in the screening checklist below, a Sustainability Appraisal (SA) is not required. If you answer 'Yes' to any of these questions it is likely that a SA will be required. Additional notes to support your decision are provided for each question. The DIO Sustainable Development Team can also provide advice.

Project/Works Title:	**Project/Works Ref:**			
Completed by:	**Date:**			
Question	**Yes**	**No**	**Unsure**	**Comments**
1. Does the requirement require planning permission or require further environmental assessments, licences or permits to facilitate delivery?				
2. Could the requirement directly or indirectly impact a protected site or area subject to any designation (e.g. SSSI, SAC, SPA, Ramsar Site, National Park or host nation arrangements etc.)?				
3. Could the requirement directly or indirectly impact upon protected species (e.g. newts, bats, birds, badgers, reptiles etc.) or other biodiversity features (e.g. hedgerows, scrub, water bodies, wetlands, grasslands) and associated species?				
4. Does the requirement have the potential to affect trees and/or their roots?				
5. Could the requirement directly or indirectly impact on a listed building, ancient monument or other known archaeology?				
6. Could there be any legal requirements/compliance issues to address (e.g. CDM, Building Standards and H&S Regulations such as Asbestos Regulations)?				
7. Could the requirement give rise to increased traffic, noise or vibration?				
8. Could the requirement result in potential contamination of air, soil or water (e.g. that cannot be managed solely through a Risk Assessment)?				
9. Is the requirement designed to improve utility efficiency or does it have the potential to deliver a measurable environmental benefit?				
10. Will the requirement generate significant amounts of waste?				
11. Is your requirement likely to be affected by a changing climate (e.g. increased rainfall, temperatures etc.)?				

Additional Notes:

1. This could be verified through the DIO Planning or the DIO Environmental Planning team
    a. Will there be a change in use of the building?
    b. Will there be a change to the exterior appearance of the building?
    c. Will there be a change to the footprint of the building / facility?
    d. Is engagement required with the Local Authority or external regulators?
    e. Further environmental assessments may include Defence Related Environmental Assessment Methodology (DREAM), Habitat Regulation Assessment (HRA), Environmental Impact Assessment (EIA) etc.
2. This could be verified using:
    a. Defra Magic Map;
    b. DIO Environmental and Planning Portal (Ensure the Natural Designations Layers are activated)
    c. Site knowledge (e.g. Environmental Management System (EMS) or Integrated Rural Management Plan (IRMP))
    d. Industry Partners risk controls measures (e.g. site environmental risk register (FR009) or environmental features map).
3. This could be verified through:
    a. A Biodiversity Checklist (examples are published by most Local Planning Authorities, e.g. https://www.westsuffolk.gov.uk/planning/planning_applications/upload/BiodiversityChecklistOct16.pdf
    b. Site survey by a suitably qualified and experienced professional ecologist
    c. Onsite EMS, IRMP or Site Ecological Data Catalogue
    d. Previous survey report, e.g. Preliminary Ecological Appraisal or similar
    e. Industry Partners risk controls measures (e.g. site environmental risk register (FR009) or environmental features map).
4. There should always be a bat preliminary roost assessment before any building demolition, roof refurbishment or tree felling works. Identify if there are trees or roots in the area of construction that could be affected.
    a. Industry Partners risk controls measures (e.g. site environmental risk register (FR009) or environmental features map).
    b. IRMP
5. This can be verified using:
    a. Defra Magic Map;
    b. DIO Environmental and Planning Portal (Ensure the Cultural Designations Statutory Layers are activated)
    c. Site knowledge (e.g. EMS)
    d. IRMP
6. This could be verified through site knowledge (e.g. EMS, asbestos register) or DIO Technical Services
7. This could be subjective and would depend on background environment. Consider that if these changes occurred would additional measures be required to mitigate any issues
8. Consider how current arrangements/ risk assessments manage any works or impacts
9. DIO RD Utilities or the Area Utility Manager could assist in this, any substantial efficiencies may require a full sustainability appraisal.
10. All waste should be disposed of in line with good practice. A full Sustainability Appraisal (as well as a Waste Management Plan) will be required for waste arisings that require additional management or a separate contract out of the normal day to day running of the site.
11. The local Climate Impact Risk Assessment Method (CIRAM) risk register, if available, can be reviewed to inform this and the DIO Climate resilience team can be contacted for advice. For instance:
    a. Will larger guttering be required to cope with increased precipitation?
    b. Is solar shading required?
    c. Is a more robust specification required to cope with weather extremes?

SUSTAINABILITY APPRAISAL:

REPORT

Completed by:		**Date:**
DETAILS ABOUT THE POLICY / PROGRAMME / PROJECT		
Title:	**Reference No:**	
Name and position of owner / manager / sponsor:		
Brief description: (e.g. change in people/infrastructure, activity to be undertaken, indicative timeframe etc.)		
Sites affected:		
Capital Cost / Funding Stream:		
SUSTAINABILITY APPRAISAL REPORT		
'Evaluation of requirements for Assessments, Consents & Licenses' completed/updated?		**Yes / No**
Appraisal Matrix completed/updated?		**Yes / No**
Appraisal Methodology	**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:	
Risks		

Description of key sustainability risks associated with the project:
Opportunities
Description of key sustainability opportunities associated with the project:
Implementation
Description of mechanisms in place for implementing key actions:
Monitoring
Description of mechanisms in place for monitoring sustainability impacts:

SUSTAINABILITY APPRAISAL:

EVALUATION OF REQUIREMENTS FOR ASSESSMENTS, CONSENTS AND LICENSES

If you answer 'unsure' to any of the questions please contact the relevant team for further guidance.

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

See Handbook Section 3 for information on legislation and requirements. Contact the DIO Environmental Planning Team for further advice and guidance on whether SEA is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Environmental Planning Team for advice on SEA?	**[DATE]**		
Will your project require SEA?			
Additional details:			

PLANNING PERMISSION

Contact the DIO Planning Team for further advice and guidance on whether planning permission is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Planning Team for advice on planning?	**[DATE]**		
Will your project require planning permission?			
Additional details:			

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

See Handbook Section 4 for information on legislation and requirements. Contact the DIO Environmental Planning Team *well before seeking development consent* for further advice and guidance on whether EIA is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Environmental Planning Team for advice on EIA?	**[DATE]**		
Will your project require EIA?			
Additional details:			

NATURAL ENVIRONMENT CLEARANCE & CONSENTS

See Handbook Section 5 for information on HRA requirements and Section 8 for linked tools such as Integrated Rural Management Plans, Marine Environment & Sustainability Appraisal Tool, Ecological Impact Assessment, Landscape Visual Impact Assessment, Forestry/ Arboricultural Impact Assessment, Health & Safety Tree Inspections. Contact the DIO Environmental Support & Compliance Team at an early stage for further advice and guidance on what Natural Environment Consents or Licences may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Could your proposal or project have a significant effect on a Special Area of Conservation (SAC), Special Protection Area (SPA) or a Ramsar site, i.e. will a 'Habitats Regulations Assessment' be required?			
Could your proposal affect a Site of Special Scientific Interest (SSSI), i.e. is a formal consultation with statutory bodies and possibly SSSI Assent required?			
Could your proposal or project affect protected species i.e. will a protected species methods statement or protected species licence be 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?			
Are desk studies, field surveys and/or Ecological Impact Assessment (EcIA) required to inform statutory assessments and scope the potential for wider ecological effects and opportunities?			
Is a Water Framework Directive Assessment required for activities or works that could affect the ecological or chemical status of rivers, estuaries or coastal waters?			
Could your proposal have a significant effect on a Marine Conservation Zone (MCZ) or Scottish Marine Protected Area (MPA), i.e. will a 'MCZ / MPA Assessment' be required?			
Additional details:			

HISTORIC ENVIRONMENT CLEARANCE & CONSENTS

See Handbook Appendix 2E (theme K) for information on policy and requirements. Contact the DIO Environmental Support & Compliance Team *at an early stage* for further advice and guidance on what Historic Environment Clearances or Consents may be 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 'DCMS Scheduled Monuments Policy Statement February 2013'?			

Do the following apply to the project or proposal?	Yes	No	Unsure
Is your project or proposal subject to National Planning Policy Framework (and the Scottish and Welsh equivalents), requiring archaeological evaluation before planning approval is granted?			
Have you consulted (via Defence Infrastructure Organisation) the County Archaeologist or relevant Statutory Heritage Body (English Heritage, Cadw, Historic Environment 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?			
Additional details:			

PUBLIC ACCESS AND RECREATION

See JSP 850 for information on policy and requirements. Contact the Environmental Support & Compliance Team *at an early stage* for further advice and guidance on whether Access clearances may be required.

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?			
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?			
Additional details:			

LAND QUALITY ASSESSMENT (LQA)

See Handbook Appendix 2E (theme I) and JSP 850 for information on policy and requirements. Contact DIO Environmental and Ordnance Liability Management Team *at an early stage* for further advice and guidance on whether LQA and/ or remediation may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does the potential for land contamination and pollution of controlled waters exist, i.e. have any historic activities taken place on the site(s) in your proposal with the potential to have caused land contamination or pollution? **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.			
Additional details:			

ENVIRONMENTAL PERMITTING/ POLLUTION PREVENTION AND CONTROL

See Handbook Appendix 2E (themes B, E, F, G & I) and JSP 850 for information on policy and requirements. Contact DIO Environmental Support & Compliance Team for further advice and guidance on whether an Environmental Permit (a PPC Permit in Scotland or Northern Ireland) may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Is an Environmental Permit required for discharges to land, water or air?			
Additional details:			

FLOOD, MARINE & COASTAL CONSENTS

See Handbook Appendix 2E (theme B) for information on policy and requirements. Contact DIO Maritime Engineering at an early stage for further advice and guidance on whether Marine Licence or Flood Defence Consent is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Is an Environmental Permit required for works that could affect inland waterways & lakes?			
Is a Marine Licence required for deposits or construction on the sea bed or works that could affect sea defences?			
Additional details:			

CLIMATE RESILIENCE

See Handbook Section 7 and Appendix 2E (Theme O) for information on policy and requirements. Contact the DIO Sustainable Development Support Team for further advice and guidance on whether a Climate Impact Risk Assessment (CIRAM) is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does the activity have the potential to be adversely affected by a changing climate and/or more extreme weather patterns in the future (i.e. does the infrastructure have a design life of over 20 years, is it in an exposed or vulnerable location, does it support critical defence/ national infrastructure?) If so, climate resilience and adaptation will need to be considered during the design stage. Climate resilience will form part of the EIA (if required) and may also be a material consideration in development consent.			
Has the site(s) had a CIRAM undertaken within the last five years? If not, the assessment may need to be undertaken or refreshed.			
If yes, has it been updated within the last year?			
Additional details:			

ADDITIONAL ENVIRONMENTAL ASSESSMENTS & MANAGEMENT

See Handbook Section 2, 6 & 8 for information on policy and requirements. Contact the DIO Sustainable Development Support Team for further advice and guidance.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does your proposal require a Socio-Economic Report (SER)?			
Does your proposal require a Defence Related Environmental Assessment (DREAM), Building Research Establishment Assessment (BREEAM), Civil Engineering (CEEQUAL) Assessment or Code for Sustainable Homes Assessment (CfSH).			
Will the project be registered with the Considerate Constructors Scheme?			
Is there a formal process for including any proposed mitigation measures or monitoring into the site Environmental Management System, Integrated Rural Management Plan or Integrated Estate Management Plan?			
Is the project's budget manager aware of the requirements for any additional studies or mitigation requirements?			

SUSTAINABILITY APPRAISAL:

MATRIX

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term						COMMENTARY	ACTION REQUIRED
		A	B	C	D	E		
A - Travel and Transport Limit the amount of travel, improve fuel efficiency and encourage sustainable transport solutions.	ST							
	LT							
B – Water Reduce water consumption through re-use and elimination of wastage. Protect groundwater and surface waters from chemical or biological contamination and physical changes in levels and flow regimes.	ST							
	LT							

C - Energy Reduce the amount of energy consumed, improve energy efficiency and support the use of low carbon technologies.	ST							
	LT							
D - Noise and Vibration Minimise disturbance and annoyance caused by uncontrolled noise and vibration.	ST							
	LT							
E - Air Quality Minimise air pollution, greenhouse gas and ozone depleting substances emissions	ST							
	LT							

F – Waste Use resources efficiently, reduce waste arisings to disposal and promote reuse, recycling and recovery.	ST							
	LT							
G – Construction and the Built Environment Ensure that projects provide optimum economic benefits whilst integrating sustainable construction principles.	ST							
	LT							
H – Sustainable Procurement Ensure that all Departmental procurement takes full account of sustainability principles and helps meet sustainability targets and objectives	ST							
	LT							

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 Conserve and, where appropriate, enhance biodiversity, having specific regard to designated sites, protected species, wider biodiversity and ecosystem services.	ST							
	LT							
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.	ST							
	LT							

L – Landscape and Townscape Protect and enhance the character of landscapes and townscapes.	ST							
	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, Amenities and Social Value Promote the MOD as a good neighbour and support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.	ST							
	LT							

O – Climate Resilience Improve resilience to short and long term climate hazards	ST							
	LT							
P – Economy and Employment Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all	ST							
	LT							

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

SUSTAINABILITY APPRAISAL (OVERSEAS):

REPORT

Completed by:		**Date:**
DETAILS ABOUT THE POLICY / PROGRAMME / PROJECT		
Title:	**Reference No:**	
Name and position of owner / manager / sponsor:		
Brief description: (e.g. change in people/infrastructure, activity to be undertaken, indicative timeframe etc.)		
Sites affected:		
Capital Cost / Funding Stream:		
SUSTAINABILITY APPRAISAL REPORT		
'Evaluation of requirements for Assessments, Consents & Licenses' completed/updated?		**Yes / No**
Appraisal Matrix completed/updated?		**Yes / No**
Appraisal Methodology	**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:	

Risks
Description of key sustainability risks associated with the project:
Opportunities
Description of key sustainability opportunities associated with the project:
Implementation
Description of mechanisms in place for implementing key actions:
Monitoring
Description of mechanisms in place for monitoring sustainability impacts:

SUSTAINABILITY APPRAISAL:

EVALUATION OF REQUIREMENTS FOR ASSESSMENTS, CONSENTS AND LICENSES (OVERSEAS)

If you answer 'unsure' to any of the questions please contact the relevant team for further guidance.

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

See Handbook Section 3 for information on legislation and requirements. Contact the DIO Environmental Planning Team for further advice and guidance on whether SEA is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Environmental Planning Team for advice on SEA?	**[DATE]**		
Will your project require SEA?			
Additional details:			

PLANNING PERMISSION [NB: Planning Permission not required in Cyprus or Brunei]

Contact the DIO Overseas LMS Team for further advice and guidance on whether planning permission is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Overseas LMS Team for advice on planning?	**[DATE]**		
Will your project require planning permission?			
Additional details:			

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

See Handbook Section 4 for information on legislation and requirements. Contact the DIO Environmental Planning Team *well before seeking development consent* for further advice and guidance on whether EIA is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Have you contacted the DIO Environmental Planning Team for advice on EIA?	**[DATE]**		
Will your project require EIA?			
Additional details:			

NATURAL ENVIRONMENT CLEARANCE & CONSENTS

See Handbook Section 5 for information on HRA requirements and Section 8 for linked tools such as Integrated Rural Management Plans, Marine Environment & Sustainability Appraisal Tool, Ecological Impact Assessment, Landscape Visual Impact Assessment, Forestry/ Arboricultural Impact Assessment, Health & Safety Tree Inspections. Contact the DIO Environmental Support & Compliance Team at an early stage for further advice and guidance on what Natural Environment Consents or Licences may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Could your proposal or project impact directly or indirectly on an internationally designated area (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA) or a Ramsar site, i.e. will a 'Habitats Regulations Assessment' be required)?			
Could your proposal or project impact directly or indirectly on an locally designated area? (i.e. is a formal consultation with statutory bodies required?)			
Could your proposal or project affect protected species i.e. will a protected species methods statement or protected species licence be required?			
Will your proposal or project affect trees covered by Tree Preservation Orders, Conservation Areas or otherwise is a Felling Licence required?			
Are desk studies, field surveys and/or Ecological Impact Assessment (EcIA) required to inform statutory assessments and scope the potential for wider ecological effects and opportunities?			
Is a Water Framework Directive Assessment required for activities or works that could affect the ecological or chemical status of rivers, estuaries or coastal waters?			
Could your proposal have a significant effect on a Marine Conservation Zone (MCZ) i.e. will a 'MCZ / MPA Assessment' be required?			
Additional details:			

HISTORIC ENVIRONMENT CLEARANCE & CONSENTS

See Handbook Appendix 2E (theme K) for information on policy and requirements. Contact the DIO Environmental Support & Compliance Team *at an early stage* for further advice and guidance on what Historic Environment Clearances or Consents may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Will your project or proposal impact directly or indirectly on a historic building or structure? This also includes the setting and curtilage of listed structures.			
Will your project or proposal impact directly or indirectly upon a Scheduled Monument under 'DCMS Scheduled Monuments Policy Statement February 2013'?			
Will your project require archaeological evaluation before consent is granted?			
Have you consulted (via Defence Infrastructure Organisation) the relevant Statutory Heritage Body/Host Nation Body for Heritage?			

Do the following apply to the project or proposal?	Yes	No	Unsure
Is the action likely to disturb the location of a wreck or aircraft?			
Will your project or proposal affect a Battlefield, or World Heritage Site?			
Is the Site in a Conservation Area?			
Additional details:			

PUBLIC ACCESS AND RECREATION

See JSP 850 for information on policy and requirements. Contact the Environmental Support & Compliance Team *at an early stage* for further advice and guidance on whether Access clearances may be required.

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?			
Are there likely to be any changes to statutory open access designation in the project area?			
Are there likely to be any changes to permissive (granted) access?			
Additional details:			

LAND QUALITY ASSESSMENT (LQA)

See Handbook Appendix 2E (theme I) and JSP 850 for information on policy and requirements. Contact DIO Environmental and Ordnance Liability Management Team *at an early stage* for further advice and guidance on whether LQA and/ or remediation may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does the potential for land contamination and pollution of controlled waters exist, i.e. have any historic activities taken place on the site(s) in your proposal with the potential to have caused land contamination or pollution? **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.			
Additional details:			

ENVIRONMENTAL PERMITTING/ POLLUTION PREVENTION AND CONTROL

See Handbook Appendix 2E (themes B, E, F, G & I) and JSP 850 for information on policy and requirements. Contact DIO Environmental Support & Compliance Team for further advice and guidance on whether an Environmental Permit (a PPC Permit in Scotland or Northern Ireland) may be required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Is an Environmental Permit required for discharges to land, water or air?			
Additional details:			

FLOOD, MARINE & COASTAL CONSENTS

See Handbook Appendix 2E (theme B) for information on policy and requirements. Contact DIO Maritime Engineering at an early stage for further advice and guidance on whether Marine Licence or Flood Defence Consent is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Could the project increase or decrease the likelihood of flooding events?			
Is a Marine Licence required for deposits or construction on the sea bed or works that could affect sea defences?			
Additional details:			

CLIMATE RESILIENCE

See Handbook Section 7 and Appendix 2E (Theme O) for information on policy and requirements. Contact the DIO Environmental Planning and Sustainability Team for further advice and guidance on whether a Climate Impact Risk Assessment (CIRAM) is required.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does the activity have the potential to be adversely affected by a changing climate and/or more extreme weather patterns in the future (i.e. does the infrastructure have a design life of over 20 years, is it in an exposed or vulnerable location, does it support critical defence/ national infrastructure?) If so, climate resilience and adaptation will need to be considered during the design stage. Climate resilience will form part of the EIA (if required) and may also be a material consideration in development consent.			
Has the site(s) had a CIRAM undertaken within the last five years? If not, the assessment may need to be undertaken or refreshed.			
If yes, has it been updated within the last year?			
Additional details:			

ADDITIONAL ENVIRONMENTAL ASSESSMENTS & MANAGEMENT

See Handbook Section 2, 6 & 8 for information on policy and requirements. Contact the DIO Environmental Planning and Sustainability Team for further advice and guidance.

Do the following apply to the project or proposal?	Yes	No	Unsure
Does your proposal require a Socio-Economic Report (SER)?			
Does your proposal require a Defence Related Environmental Assessment (DREAM), Building Research Establishment Assessment (BREEAM), Civil Engineering (CEEQUAL) Assessment or Code for Sustainable Homes Assessment (CfSH).			

Is there a formal process for including any proposed mitigation measures or monitoring into the site Environmental Management System, Integrated Rural Management Plan or Integrated Estate Management Plan?			
Is the project's budget manager aware of the requirements for any additional studies or mitigation requirements?			

SUSTAINABILITY APPRAISAL:

MATRIX (OVERSEAS)

SUSTAINABILITY THEME AND OBJECTIVE	IMPACT (✓) ST = short term, LT = long term						COMMENTARY	ACTION REQUIRED
		A	B	C	D	E		
A - Travel and Transport Limit the amount of travel, improve fuel efficiency and encourage sustainable transport solutions.	ST							
	LT							
B – Water Reduce water consumption through re-use and elimination of wastage. Protect groundwater and surface waters from chemical or biological contamination and physical changes in levels and flow regimes.	ST							
	LT							

C - Energy Reduce the amount of energy consumed, improve energy efficiency and support the use of low carbon technologies.	ST							
	LT							
D - Noise and Vibration Minimise disturbance and annoyance caused by uncontrolled noise and vibration.	ST							
	LT							
E - Air Quality Minimise air pollution, greenhouse gas and ozone depleting substances emissions	ST							
	LT							

F – Waste Use resources efficiently, reduce waste arisings to disposal and promote reuse, recycling and recovery.	ST							
	LT							
G – Construction and the Built Environment Ensure that projects provide optimum economic benefits whilst integrating sustainable construction principles.	ST							
	LT							
H – Sustainable Procurement Ensure that all Departmental procurement takes full account of sustainability principles and helps meet sustainability targets and objectives	ST							
	LT							

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 Conserve and, where appropriate, enhance biodiversity, having specific regard to designated sites, protected species, wider biodiversity and ecosystem services.	ST							
	LT							
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.	ST							
	LT							

L – Landscape and Townscape Protect and enhance the character of landscapes and townscapes.	ST							
	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, Amenities and Social Value Promote the MOD as a good neighbour and support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.	ST							
	LT							

O – Climate Resilience Improve resilience to short and long term climate hazards	ST							
	LT							
P – Economy and Employment Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all	ST							
	LT							

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

APPENDIX 2B:
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				
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, Amenities and Social Value				
O – Climate Resilience				
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

APPENDIX 2C: 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.

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

Good practice case study – St. Athan

The Defence Technical Academy (DTA) at St. Athan 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.

Appendix 2E: Contacts & Further Information

THEME B: WATER

Overall sustainability objective: To support provision of a resilient estate by reducing total water consumption through the elimination of wastage, and encouraging re-use where feasible.

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 design water efficient and flood resilient infrastructure developments;
- To respond to Defra's plans to reduce volumes of water that may be drawn from aquifers.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in present level of flood risk. Consider fluvial/river; tidal; coastal; surface groundwater and the combined risk of flooding.	Take account of present and future flood risk. Consider undertaking a Flood Risk Assessment. Ensure climate change is adequately considered (e.g. UKCIP09, CIRAM, EA). Increase resilience to flooding through location, layout and flood resilient design. Consider contributions to offsite, EA led, natural management initiatives in the upper catchments of water courses e.g. tree planting, creating/restoring channel and bank side features and creation of ponds.
Change in area under hard surfaces exacerbates flood risk / response to surface water management / connect surface water to public sewer.	Consider whether the location, sighting and design of new infrastructure developments could exacerbate existing risk. Implement Sustainable Urban Drainage Systems (SUDS) to help promote manage 'natural' approaches to manage floods and surface water drainage. Differentiate SUDS from drainage features, controlled waters and sewers, so as to avoid pollution to controlled waters. Explore opportunities to enhance flood storage capacity e.g. Surface Water Management Plans.
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion etc…	Undertake assessments to evaluate changes in water use and disposal, or to assess impacts on hydrological systems.
Construction or engineering works affecting physical, chemical or biological properties of inland, estuarine or coastal waterbodies.	Consider the need for a Marine Licence, Environmental Permit and/or Flood Drainage Consent. Consider the need for Water Framework Directive Assessment to take account of water body objectives, status and 'River Basin Management Plans'
Change in number of people and processes consuming / abstracting water.	Consult with appropriate authorities about changes in demand / abstraction / discharge / wastewater treatment. Work with Aquatrine to optimise water supply and infrastructure integrity. Educate project team / users about water and drainage issues.

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.	Explore the use of water saving devices e.g. dual flush toilets, push button showers / taps. Install flow meters to monitor consumption cycles. Minimise consumption of treated water by integrating rainwater harvesting e.g. 'grey' water for toilet flushing or 'industrial' processes.
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 etc... Consider climate change impacts e.g. changes in extreme precipitation.
Other water / drainage issues.	Projects which are not connecting into Aquatrine wastewater systems should consider whether there is a requirement to obtain Environmental Permits to allow discharge of sewerage/surface water to water courses.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Large reduction in people/ activities that use water combined with installation of water saving technologies.	Installation of water saving devices e.g. grey-water recycling, rainwater capture etc…	No Impact	Increase in people and activities to consume water. Increase in hardened surfaces. Discharges into surface/ground water.	Significant increases in surface or groundwater contamination. Permanent development and hardening of surfaces in flood-risk areas.

Good practice case study

Merville Barracks, Colchester Garrison

Home to 16 Air Assault Brigade, the Garrison at Colchester provides living and working accommodation for over 3,000 military personnel and 700 civilian staff. The site covers an area equivalent to 250 football pitches, with over 125 buildings including offices, catering facilities, a sports centre, medical facilities and workshops.

Thanks to the smart meters fitted, it was noticed that water was being used at a steady rate through the night. A leak detection survey revealed that toilet inlets were allowing water to continuously trickle into the bowl. Many modern toilets have internal overflows that run directly into the bowl so leaks may not be noticed.

Taken together with other water saving measures, fixing the toilet inlets led to water consumption being reduced by a third and lead to savings of 275,000 litres a day and a financial saving of over £275,000 a year.

Appendix 2E: Contacts & Further Information

THEME C: ENERGY

Overall sustainability objective: Deliver Defence in the most effective, efficient and sustainable way by meeting benchmarking, efficiency and Government sustainable development targets.

Sub-objectives:

- To improve energy efficiency and reduce the amount of energy consumed.
- To reduce the reliance on fossil fuels and support the use of low carbon technologies
- To ensure resilience to current and future environmental threats
- To comply with all legal/statutory obligations.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in number of energy consuming personnel on site.	Undertake assessments to evaluate current and projected energy use. Raise the awareness of energy consumption with relevant stakeholders and encourage behavioural change. Optimise occupancy of site and building space to minimise energy consumption For further information regarding support and opportunities relating to energy efficiency please contact DIO Energy Management Team and/or the local Area Utilities Manager.
Change in number of energy consuming buildings or energy consuming processes.	Undertake assessments to evaluate current and projected energy use. Base investment decisions on whole live energy consumption. Where possible, minimise the requirement for energy use e.g. consider building orientation, increased glazing, "sun-pipes" to distribute natural light etc…
Change in amount of energy saving technology installed in facilities.	Minimise energy consumption and improve energy efficiency. Payback can be achieved from upgrading lighting and heating controls in the short term, by installing energy efficient boilers in the medium term, introducing sustainable technology in the long term.
Change in balance of low carbon / fossil fuel energy used.	Consider sustainable ways of generating energy as an alternative to carbon-based energy sources, including where it can be used to support MoD's independence of off-site supply. Consideration should be given to obtaining electricity from low-carbon technologies (Wind, Hydro, Solar, Geothermal, Biomass).
Change in opportunity to explore integrated energy systems, Combined Heat, Power and Cooling, demand management.	Consider the use of smart grid technology, integrated energy systems, secondary power sources to improve security of supply, capacity limitations of distribution systems to and on sites export of energy and demand management support national grid stability. The Renewable Heat Incentive (RHI) is a Government financial scheme designed to increase the uptake of renewable heat technologies and reduce carbon emissions through financial incentives. For renewable low-carbon electricity technologies the Government has established the Feed-In Tariff Scheme (FITs) which can provide financial incentives and

	supports.
Change in through-life energy use of equipment.	Consider the through-life energy requirements of buildings/materials/equipment. Use Building Energy Management Systems (BEMS) to monitor and control energy requirements.
Ensure best practice is maintained and energy performance is considered.	Application of Government Construction – Common Minimum Standards. Procure 'white' goods in accordance with Government Buying Standards and Article 6 of the Energy Efficiency Directive.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Consideration of low carbon ways of generating energy	Some consideration of low carbon ways of generating energy	No Impact	Very limited consideration of low carbon ways of generating energy	No understanding or consideration of the 'strategic value' of energy efficiency

Good practice case studies

Logistic Services Bicester, a principle logistics site is classified as a high energy user spending £6m per year on utilities. The Management Support Team collaborating with the Industry Partner carried out a feasibility study on high usage warehouses to identify invest to save potential. The aim was to reduce costs, the carbon footprint and to make improvements to the working environment. Savings were made by switching the primary fuel from furnace fuel oil to natural gas, installing LED lighting, draft exclusions and boiler and pipe work modifications. Quick drop fabric doors were fixed to the outside of warehouses to ensure heat was retained. The team's innovative approach to improve existing infrastructure has achieved substantial energy savings.

Planning approval from Wiltshire County Council has given the green light for DIO work on a solar array at MoD Lyneham, which will meet the electricity needs for the new Defence College of Technical Training. It will consist of around solar 160,000 panels and cover an area of 83 hectares, bigger than 100 football pitches, and will generate enough electricity - 40 MW of power - to supply the college and create surplus for approximately 10,000 homes.

Appendix 2E: Contacts & Further Information

THEME D: NOISE

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). Use tools such as GNAT (Gunfire Noise Analysis Tool) and examine weather patterns to understand sound propagation.
Changes in noise level and/or frequency e.g. vehicles, aircraft, weapons	Educate the project team and users about the issues surrounding noise and vibration. Constraints associated with people, wildlife, building etc…need to be understood early in the project process. Where appropriate, consider noise modelling and noise compensation schemes. Promote behavioural changes and mitigation techniques that can alleviate impacts.
Change in volume and timing of heavy vehicles on roads, particularly though 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. Wherever possible, ensure materials are delivered in bulk. Develop and implement Green Travel plans.
Change in noise and vibration from demolition and construction activities	Undertake noise/vibration assessments and monitoring if significant disturbance is likely. Minimise the impact of vibration and noise pollution by encouraging contractors to register with the Considerate Constructors Scheme. Educate the project team about the impacts of noise and vibration from construction activities.
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	

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
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.

Appendix 2E: Contacts & Further Information

THEME E: AIR QUALITY

Overall sustainability objective: To minimise air pollution, greenhouse gas and ozone depleting substances emissions.	
Sub-objectives: • To achieve major long term reductions in greenhouse gas emissions and ozone depleting substances; and • To improve the quality of our air by minimising local and transboundary air pollution by gases and particulate matter.	
POTENTIAL ISSUES	**MITIGATION & ENHANCEMENT OPPORTUNITIES**
Changes in emissions from vehicle, aircraft and industrial processes.	Air quality assessments should be carried out when the potential impacts of the proposal are considered to be significant. Educate project team/end-users about air quality issues. Promote behavioural changes and mitigation.
Change in greenhouse gas and ozone depleting substances.	Take all measures that are technically feasible and cost effective to prevent and minimise emissions. Have a longer term strategy to reduce the potency and volumes of greenhouse gas and ozone depleting substances uses.
Change in amount of dust or smoke produced by construction or other activities.	Produce a "green" code of practice and/or Construction Environmental Management Plan. Adopt practices/technology to minimise dust from demolition, clearing, construction traffic etc… Monitor efficiency and emissions of boilers/vehicles/other sources of air contamination. Help minimise air pollution by encouraging contractors to register with the Considerate Constructors Scheme.
Change in amount of waste incineration or other combustion activities.	Waste reduction and recycling can help minimise gas release caused by incineration or landfill.
Change in the amount of vehicle use.	Vehicles produce exhaust emissions. Off-road and construction vehicles can raise dust and cause disturbance through noise and vibration. Encourage the use of alternative fuels and different means of transportation (e.g. rail). Develop and implement green travel plans.
Activity that affects the air quality of local area.	Ensure local authority is aware of any significant change in air pollution. If a local authority finds any places where the National Air Quality Objectives are not likely to be achieved, it must declare an Air Quality Management Area there. This area could be just one or two streets, or it could be much bigger.
Change in reliance on fossil fuels for energy generation.	Wherever possible consider renewable or low-carbon energy sources.

Change in production of atmospheric pollutants from industrial processes.	Use Best Available Techniques 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 natural ventilation and avoid e.g. desks near photocopiers.

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.

Appendix 2E: Contacts & Further Information

THEME F: WASTE

Overall sustainability objective: Efficient use of resources, reduction in waste arisings to disposal and promotion of reuse, recycling and recovery.

Sub-objectives:

- To manage waste in a sustainable manner and promote use of the waste hierarchy (Prevent, Prepare for reuse, Recycle, Recover).
- Work towards becoming a zero waste to landfill organisation.
- To reduce production of all waste through careful planning and procurement
- To promote resource efficiency
- To help deliver the MOD Waste Strategy

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Site Waste Management Plans (SWMP)	All sites should have a SWMP identifying waste streams, disposal routes and plans for future opportunities. Although not a legal requirement, construction projects should also have a SWMP. Look for opportunities to reuse excavation or demolition waste.
Efficient use of resources through sustainable design / procurement	Avoid or reduce waste through effective design. Procure and use resources efficiently to reduce the amount of waste produced. Estimate quantities accurately and work with suppliers to choose products that are locally sourced and have minimal packaging. Ensure that when the product is at the end of its effective use it can be prepared for re-use or recycled.
Change in opportunity to procure recycled, re-used or sustainably sourced materials	Identify the materials that could be used from recycled, recovered or sustainable sources. Take opportunities to maximise the use of recycled materials wherever possible.
Increase in amount of waste produced / change in opportunity to recycle, re-use or recover.	Where waste is unavoidable ensure waste facilities (e.g. recycling) have capacity and are appropriate. Maximise recycling, re-use and recovery. Include a full range of appropriate segregation facilities. Users will be encouraged to segregate waste when appropriate facilities are provided for the waste streams present.
Change in opportunity to use local services and suppliers.	Recycle/re-use waste as near to its source as possible to minimise unnecessary transport and to utilise local waste management facilities.
Change in amount of Special, Hazardous or radioactive waste produced.	Seek to minimise or avoid during design and production. If unavoidable ensure appropriate management and disposal.
Effective communication.	Educate the users and producers of waste (for example Site employed staff, project teams and site operatives) about the issues surrounding waste (e.g. tool box talks or site inductions). Promote behavioural

	change by ensuring that all site staff are aware of waste management expectations and practice.
Changes in waste produced through disposal of redundant equipment and materials.	Some equipment and materials will need to be removed by the Disposal Services Authority (DSA). This should be clarified prior to commissioning other contractors. If not a DSA disposal, work with environmental organisations and small businesses to explore local markets (e.g. for reconditioned/refurbished IT or WEEE).

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 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
- a cleaner site/improved housekeeping, including a significantly reduced number of skips on site
- enhanced stakeholder engagement; and

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.

Appendix 2E: Contacts & Further Information

THEME G: SUSTAINABLE CONSTRUCTION

Overall sustainability objective: Ensure that projects provide optimum economic benefits, whilst integrating sustainable construction principles.

Sub-objectives:

- Justification to procure and construct new facilities rather than re-use existing facilities,
- Account for the likely sustainability costs and benefits of construction in decision-making,
- Maximise efficient use of construction materials and promote use of sustainably sourced materials in line with Government policy,
- Design vision to comply with legislation, be driven by best practice and validated by robust environmental assessment methodologies
- Design to be completed in conjunction with users to achieve optimum performance
- Work with operators, users and maintainers after construction to ensure that planned performance is achieved in operation.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Opportunity to influence the design and layout of new buildings and facilities	Fire safety and Counter Terrorism Measures (CTM) will require careful evaluation. Good landscape and urban design should be considered at master planning stage. Work closely with end users / operators in alignment with 'Government Soft Landings' to ensure optimum layout for performance is achieved Utilise the appropriate appraisal tools to ensure opportunities for sustainable building design/construction are identified consistent with the Government Construction Strategy for design quality.
Change in opportunity to improve energy efficiency, reduce carbon emissions and improve user comfort and welfare	Integrate sustainable construction methods. As a minimum ensure the Government Buying Standards for Construction are met e.g. ensure all New Builds and Major Refurbishments have a Defence Related Environmental Assessment (DREAM). Consider using DREAM for smaller projects / partial refurbishments and CEEQUAL for civil engineering projects. Work closely with end users / operators in alignment with 'Government Soft Landings' to ensure that the skills, capabilities and understanding to operate and maintain the asset effectively have been considered. Ensure that clear targets are in place for operational performance, including user comfort and welfare.
Opportunity to optimise use of site. .	Consider refurbishing old facilities rather than building new. Examine cost-benefit of selecting existing brownfield site rather than expanding into new greenfield areas. Ensure efficient use of space at site and MOD level. Ensure any change

	in use of site is aligned with wider Footprint Strategy. Ensure new builds integrate flexibility of use into design to allow e re-use of buildings in the future
Change in amount of green space developed e.g. playing fields, 'greenfield' areas	Explore opportunities to increase/enhance greenfield, open space areas.
Materials for construction and refurbishment	Ensure compliance with Government standards for construction including Government Buying Standards and Common Minimum Standards for Construction.
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. Divert waste away from landfill and encourage re-use, recycling.
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. The re-use of buildings should take account of: 1) the intended purpose; 2) design-lifetimes; and 3) accommodation requirements.

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 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

The design for the Welbeck College was formulated on sustainable design principles and achieved an excellent Schools' Environmental Assessment Method rating. Each building was designed so that natural ventilation methods were utilised. Day lighting was at the core of the design and all lighting is controlled by presence detectors and time controls. Under-floor heating, dado trunking and solar shading were utilized. The college hall has retractable seating and adjustable acoustic attenuation to be used as a flexible space for assemblies, concerts, theatres and lectures. Sports pitches follow the contours of the land and conserve the existing wildlife habitat of ponds and mature woodland. An ecological management plan was developed for the whole site.

Appendix 2E: Contacts & Further Information

THEME H: SUSTAINABLE PROCUREMENT

Overall sustainability objective: Ensure that all Departmental procurement takes full account of sustainability principles and helps meet sustainability 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	
POTENTIAL ISSUES	**MITIGATION & ENHANCEMENT OPPORTUNITIES**
Achieve a Whole Life, Value for Money approach	Rigorously examine SON/URD to ensure sustainability is considered, negative impacts reduced and through-life benefits maximised. Consider Whole Life Costing modelling. Initiatives that increase capital cost may result in through life savings. 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 IAC business case.
Ensuring environmental minimum standards are achieved in construction.	Full application of Greening Government Commitments and Construction Common Minimum Standards.
Ensuring environmental minimum standards for products are achieved in the procurement.	Ensure full application of Government Buying Standards e.g. for electrical goods, food and catering services, construction projects and buildings etc. Supply chains to use EMS.
Ensuring sufficient opportunities exist for innovation	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 that sustainability features throughout the procurement process.	Sustainable procurement should be considered at earliest opportunity and considered in parallel with project lifespan. Sustainability should be included within the procurement specification and criteria included in tender process during the Pre-Qualification Questionnaire and Invitation to Negotiate/Tender stages. 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 DIO Integrated Project

	Guide is advised.
Change in opportunity to improve the 'Social Value' of the local area.	Look beyond the price of individual contracts and consider what the collective benefit to a community is when a contract is awarded. Under the Public Services (Social Value Act) 2012 public bodies in England and Wales are required to consider how the services they commission and procure might improve the economic, social and environmental well-being of the local area.

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

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 be built to Building Research Establishment Environmental Assessment Methodology (BREEAM). 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.

Appendix 2E: Contacts & Further Information

THEME I: GEOLOGY & 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 enhance soil quality	
POTENTIAL ISSUES	**MITIGATION & ENHANCEMENT OPPORTUNITIES**
Change in amount of soil e.g. erosion, deposition.	Consider further assessments to evaluate the quality and value of soil and geological resources.
Change in soil quality e.g. contamination, compaction.	Minimise the amount of soil-derived waste which is sent to landfill for disposal. Ensure that recycling is carried out where possible.
Change in ground stability, e.g. change in occurrence or severity of landslides and subsidence.	Evaluate and manage the aspects of the project which have the potential to introduce soil impacts; e.g. if soil is stripped before digging foundations, ensure that the soil is carefully handled and stored so that it can be used as topsoil or engineering fill.
Changes in the features on areas of geological importance e.g. SSSIs / RIGS.	Consult with internal stakeholders and Statutory Bodies. Educate the project team and end-users about the importance of the site. Consider preservation of features through methods of relocation or incorporation into the design.
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.
Changes in water drainage or irrigation can cause an accumulation of salt triggering salinisation.	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. The addition of organic matter and mulching or flooding and replanting can also improve the fertility of the soil.
Over-extraction or loss of geological resources (e.g. building aggregates).	Educate the project team and end-users about the value of geological and soil resources and promote non-exhaustive extraction methods.
Changes to the soil/geology of the area can affect surrounding vegetation or wildlife.	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.

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.

Appendix 2E: Contacts & Further Information

THEME J: BIODIVERSITY

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:

- To 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 estate management
- Contribute, as appropriate, to national biodiversity Strategies.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
General	Comply with legal requirements and policy commitments. Engage early with DIO ecologists, regulators and consultants to consider the need for Ecological Impact Assessment (EcIA), statutory assessments and approvals.
Development, construction or engineering activity or site disposals that may affect designated sites, protected species, wider biodiversity and ecosystem services.	Planning policy states that there should be 'no net loss of biodiversity'. Planning authorities normally require applications to be supported by an ecological study. Secure and monitor implementation of conditions of planning permissions, statutory approvals and CIRIA / industry best practice, e.g. Construction Environmental Management Plans and Toolbox Talks for all contractors and subcontractors. Consider not just the construction footprint but also the wider environment and landscape. Maintain or enhance diversity of habitats, retaining, creating or allowing development of woodlands, scrub, hedges, wetlands, ponds and grasslands. Create habitat corridors to link fragments. Use native broadleaved trees. Incorporate "wildlife-friendly" features e.g. bat and bird cavities in walls and roof spaces, culverts or passageways under roads, badger gates in fences
Change in military or estate management activities that may affect (indirectly or directly) on a designated site (e.g. SSSI, SPA, SAC Ramsar site, MCZ, MPA).	Issues may include habitat loss or damage; changes in hydrology or soil structure; noise or visual disturbance etc… For a full list refer to the 'operations likely to damage' for each SSSI and equivalent advice for other designations.. Update and implement IRMPs and/or EMSs.
Change in military or estate management activities that may affect legally protected species Protected species occur in rural areas and across the 'built estate'.	Survey evidence may be required to support a 'methods statement' or 'Protected Species Licence'. Identify and avoid or replace key habitat features used for feeding, resting and breeding. Identify and create buffer zones around sensitive areas, and plan activities at appropriate times Update and implement IRMPs and/or EMSs

Change in military or estate management activities that may affect biodiversity or ecosystem services	Survey and record species and habitats. Create site sensitivity maps and display as posters. Minimise herbicides and fertilisers / limit the area of regularly mown grass / allow wildflowers to seed / allow natural scrub regeneration on non-sensitive areas. Update and implement IRMPs and/or EMSs
Is there a change in 3rd party income generation, tenancies, licences, public access or recreation that may affect biodiversity and nature conservation?	Consider the requirement for statutory approvals, engagement with specialists and regulators, and restrictions or conditions on formal agreements or approvals for 3rd party activities. Many MOD sites have developed high wildlife value due to the lack of public access, especially dog-walking. Focus users away from sensitive areas or periods.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Substantial improvement in biodiversity and nature conservation value. e.g. habitat creation, removal of defunct military structures	Incorporation of significant wildlife friendly structures e.g. tree planting, bat boxes, bird boxes, improvements in grassland management, e.g. allowing long-grass areas.	ST: No significant impact on designated sites, protected species, wider biodiversity , species or ecosystem processes, LT: no significant impact and/or all impacts are fully mitigated or compensated	ST: Minor effects on protected species or designated sites Effects on wider biodiversity that are significant at the local level NB Minor LT effects on designated sites and protected species may not secure statutory approvals	ST: Moderate or major effects on protected species or designated sites Effects on wider biodiversity that are significant at the county or national level NB Moderate and major LT effects on designated sites and protected species are very unlikely to secure statutory approvals

Good practice case study

The Corsham PFI project undertook a wide ranging study to consider ecological issues before selecting a preferred bidder. Some detailed survey work and early EcIA identified significant protected species issues and potential indirect issues for nearby designated sites. Bat and great crested newt surveys, including radio-tracking of the endangered greater horseshoe bats satisfied statutory bodies that impacts can be addressed within the development design. The master plan avoided some impacts allowing substantial savings. Where biodiversity interest was affected, mitigation and compensation schemes include creation of newt ponds, management of woodland and grassland areas for foraging bats and the protection of known bat roosts.

Appendix 2E: Contacts & Further Information

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 in the management of the heritage assets;
- Protect and maintain current 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.	Educate the project team and end-users about the value of the historic environment. Develop component Historic environment management plans either independently (e.g. Conservation Management Plans) or within a site EMS/IRMP if present. Specific actions or tasks should be included within the site's IEMP as appropriate.
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.	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 DIO Historic Environment Teams, MOD Heritage/Historic Branches, Historic England/Cadw/Historic Environment Scotland/Department of Environment Northern Ireland, 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. 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. Utilise the Defence Related Environmental Assessment Methodology (DREAM).
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 where possible enhances the significance of the heritage asset and its setting.
Change in intensity of construction or engineering works.	Engage with contractors to ensure best practice in the management and maintenance of heritage assets
Change in maintenance regime affecting condition of historic buildings.	During construction works, take measures to protect all features of historic interest (signage or physical barriers to protect features from damage), including archaeology, internal features, trees etc.

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. Archaeological and Historic Building Advisers within DIO and the Services Historical Branches are able to advise as well as the statutory heritage bodies.

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.

Appendix 2E: Contacts & Further Information

THEME L: LANDSCAPE AND TOWNSCAPE

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

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 DIO Land Management Services (LMS) 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.
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. DIO 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.

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

High quality landscaping is a major feature at Andover. The 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.

Appendix 2E: Contacts & Further Information

THEME M: HEALTH, SAFETY AND WELLBEING

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;
- To promote good health and well-being.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change to building or interior layout that could significantly affect health, safety or well-being.	Explore opportunities to improve working spaces and accommodation use/occupant comfort, e.g. consider thermal comfort, ventilation and day lighting. Good risk management practice will improve workplace health and safety. A risk assessment is required as part of the design process in order to evaluate the health or safety impacts of the proposal. 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.
Change in roles, responsibilities and work patterns that may affect health, safety or well-being.	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
Change in equipment, processes, activities, external climate that could significantly affect health, safety or well-being.	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, Procedures for people (e.g. personal protective equipment); and Response to limit consequences of accidents that still occur. Explore opportunities to adapt workplaces and accommodation to be more resilient to the effects of external climate, including gales, floods and heat. Develop Heatwave/Gale/Flood plans for coping with disasters and increase awareness of how people can adapt to changes in climate.
Change to exterior layout that could significantly affect health, safety or well-being	Explore opportunities to improve the site design e.g. through the provision of green spaces and safe routes for cycling and walking

	Provide safe access, including for those whose mobility is impaired
The presence of unexploded ordnance on a site may be a hazard to either existing site users or contractors who break ground.	Follow policy for unexploded ordnance included in JSP 850 along with the associated guidance referenced as part of policy leaflet.

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.

Appendix 2E: Contacts & Further Information

THEME N: COMMUNITIES, AMENITIES AND SOCIAL VALUE

Overall sustainability objective: Promote the MOD as a good neighbour and support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.

Sub-objectives:

- To minimise disruption and nuisance to communities and local environments;
- To maximise opportunities for partnership-working and public involvement
- To encourage community involvement and volunteering by the MOD.
- To ensure that local utilities and social infrastructure is able to support MOD presence.

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in local environmental quality experienced by communities (e.g. noise, litter, traffic).	Explore opportunities to improve neighbourhood design. Utilise initiatives such as the Secured by Design Guides to ensure buildings and materials are designed for crime prevention. Educate the project team/end-users about the importance of relationships with local communities and social responsibility. Consider employment/training opportunities for the young through local schools.
Change in opportunity for community involvement (e.g. volunteering, community-support roles).	Seek opportunities for learning and skill transfer between the MOD and local communities. Promote/support joint neighbourhood management, e.g. involve the community in improving pathways and open spaces, creating ponds, wild butterfly/bee gardens, etc.
Change in opportunity to improve the 'Social Value' of the local area.	Look beyond the price of individual contracts and consider what the collective benefit to a community is when a contract is awarded. Under the Public Services (Social Value Act) 2012 public bodies in England and Wales are required to consider how the services they commission and procure might improve the economic, social and environmental well-being of the local area.
Change in opportunity for consultation, partnership working and information on the estate and its activities.	Set up focal points or committees to liaise with the community about day-to-day activities and new proposals. Liaise with Local Strategic Partnerships to develop effective ways of engaging local communities. Manage relationships via a site EMS and/or IRMP if present. Liaise and work with local parish councils and community groups
Change in land use that will affect estate tenants, other landowners or casual users.	Explore opportunities to promote, within safety and security parameters, shared facilities and public access to the rural Estate. Locate activities that are likely to disturb local communities as far away from residential areas and sensitive receptors whilst maintaining operational requirements. Deploy 'good neighbour' principles with adjoining landowners e.g. working together towards shared aims for the benefit of the wider (service and civilian) community.

Change in numbers of personnel requiring access to welfare, social or recreational facilities.	Educate the project team about the needs of service personnel, their families and the local community. Consider undertaking a study, in conjunction with DIO and the local planning authority, into the provision of infrastructure and amenities.
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.

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 are a good example of how MOD can work successfully with local people. It is MOD policy that any site designated as a Site of Scientific Interest (SSSI) is required 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.

Appendix 2E: Contacts & Further Information

THEME O: CLIMATE RESILIENCE

Overall sustainability objective: Improve resilience to short and long term climate hazards.

Sub-objectives:

- Incorporate climate resilience into the development, appraisal and evaluation of policies, programmes, plans and projects
- To avoid, reduce and manage existing vulnerabilities and future climatic risks affecting or arising from new developments and refurbishments, new policies, plans, strategies and programmes and incorporate resilience into design as appropriate
- Prevent inappropriate development in high climatic risk areas; and ensure development located in these areas is designed to be resilient
- Avoid maladaptation and take advantage of the opportunities
- Integrate climate resilience within other management areas e.g. water resource management, coastal defence and risk reduction strategies as appropriate

POTENTIAL ISSUES	MITIGATION & ENHANCEMENT OPPORTUNITIES
Short term activities	Ensure elements affected by the weather are managed by appropriate planning and building in flexibility, risks assessments e.g. to potential overheating, EMS and business continuity management.
Long term activities	Check site surroundings & existing baseline and whether the infrastructure activity will exacerbate existing risk. Consider how changes from a range of climate scenarios could influence the receiving environment or pose a risk to the infrastructure activity in the long term. Infra activities should be planned so that they avoid increased vulnerability to short term and long term climatic hazards. Resilience and flexibility should be built in where necessary. Consider undertaking a Climate Impact Risk Assessment (CIRAM) (check whether one is already available) to determine the significance of current and future level of risk. See Section 1 & 7 of the SEAT Handbook for advice.
Change in overheating risk (to occupants & assets e.g. airfields, equipment etc.)	Ensure activity takes account current vulnerabilities e.g. urban heat islands and future trends, including UK Climate Projections 2009 (UKCP09) projections for temperature. Use thermal properties of materials to improve cooling and retrofit energy efficient systems. Reduce solar heating through building orientation & design, using recessed windows, roof overhangs and shades.
Change in drought risk	Consider existing baseline e.g. water stress areas. Consider long term changes in potential water scarcity, supply and demand issues and Water Framework Directive status when planning

	and sitting infrastructure activities and address risks as necessary
Change to ground conditions risks	Ensure planning and design of the activity take account current vulnerabilities and future trends e.g. coastal erosion, landslide and subsidence risks
Change in flood risk	Consider all types of flood risk and the combined risk of flooding. Consider holistic flood management approaches, working with natural processes, sustainable urban drainage and storm management systems, green & blue infrastructure
Change in damp, rain penetration risk	Consider existing & future risks e.g. risks to H&S, equipment etc.

ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Planning, design and implementation of the activity takes full account of climate resilience consideration	Some consideration of climate resilience	No Impact	Very limited consideration of climate resilience	No understanding or consideration of the 'strategic value' of climate resilience

Good practice case study

Long term planning – Project Allenby/Connaught

MOD's Project Allenby/Connaught has incorporated climate resilience to the built estate at Aldershot, Tidworth, Bulford, Larkhill and Warminster Garrisons to ensure they provide support in response to the evolving needs of our troops and also adapt to the changing environment. The long term thinking includes incorporating water efficient fittings and water harvesting into the new and refurbish buildings, landscaping plans and planting indigenous and drought resistant tree varieties, researching the use of drought resistant grasses.

Building in flexibility – RMB Chivenor

The motor transport facilities at RMB Chivenor have been designed to minimise wind and overheating risks. As part of the development, flood defences were upgraded to protect RMB Chivenor facilities for at least 25 years and can be adapted thereafter.

Appendix 2E: Contacts & Further Information

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.
Change in quality / availability of local amenities and infrastructure	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 improve the 'Social Value' of the local area.	Look beyond the price of individual contracts and consider what the collective benefit to a community is when a contract is awarded. Under the Public Services (Social Value Act) 2012 public bodies in England and Wales are required to consider how the services they commission and procure might improve the economic, social and environmental well-being of the local area.
Change in opportunity to raise understanding of sustainable	Take advantage of opportunities to raise employee's awareness and

development.	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 for major relocations, ministerial commitments or where an Senior Responsible Owner deems it appropriate and beneficial to the completion of an MOD activity. For further information and guidance consult JSP 507 and Appendix 3G.

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.

Appendix 2E: Contacts & Further Information

APPENDIX 2D: QUALITY ASSURANCE CHECKLIST

Alternative options
• 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
• The Sustainability Appraisal has been applied at an appropriate level and completed in a timely manner • Both positive and negative effects are considered, and the duration of effects (short, or long-term) is addressed. • Assumptions and uncertainties are made explicit. • Consultation is done at appropriate ways and times.
Mitigation measures
• Measures envisaged to prevent reduce and offset any adverse effects of implementing the initiative are indicated. • Issues to be taken into account in implementation of the initiative are identified. • The need for more detailed environmental assessment work identified (where appropriate).
Decision-making and information on the decision
• 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
• 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
• 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 adverse effects. • Impacts or improvement measures captured in appropriate management or action plans to ensure delivery (e.g. EMS, CEMP)

APPENDIX 2E - CONTACTS & FURTHER INFORMATION

General	Travel	Water	Energy	Noise	Air Quality	Waste	Sustainable Construction	Sustainable Procurement
Geology & Soils	Biodiversity	Historic Environment	Landscape & Townscape	Health, Safety & Wellbeing	Communities, Amenities & Social Value	Climate Resilience	Economy & Employment	General

General

- Sustainability Guidance & Implementation:
  DIO Sustainable Development Support: DIOSDEUS-SusDevSpt@mod.gov.uk
- Sustainability Policy:
  FMC Capability Infrastructure:
  https://modgovuk.sharepoint.com/sites/defnet/HOCS/Pages/Finance-and-Military-Capability-Infrastructure.aspx
- Advice and Assurance on Safety and Environmental Protection:
  TLB Chief Environment & Safety Officers (CESO) and Environmental Focal Points

- MOD JSP 850: Infrastructure and Estate Policy -
- Sustainable Development in MOD - brings together MOD sustainable development publications
- Sustainable MOD Strategy 2015- 2025 - identifies five priority areas for action over the next 5-10 years
- Sustainable MOD Annual Report
- Secretary of State for Defence policy statement on health, safety and environmental protection
- Greening Government Commitments - Setting out the targets that central government departments and their agencies must meet
- The National Planning Policy Framework - sets out the Government's planning policies for England and how these are expected to be applied
- Department for Environment, Food and Rural Affairs (DEFRA) - UK government department responsible for safeguarding the natural environment
- Environment Agency - executive non-departmental public body, sponsored by DEFRA.
- Scottish Environment Protection Agency - Scotland's principal environmental regulator
- Natural England - government's adviser for the natural environment in England
- Northern Ireland Environment Agency – a Northern Ireland Executive conservation agency for the natural and built environment
- Natural Resources Wales - principal adviser to Welsh Government about issues relating to the environment and its natural resources
- UK Green Building Council: Campaigns for a sustainable built environment
- Considerate Constructors Scheme - commits companies to respect the community, protect the environment, secure everyone's safety and value their workforce.
- Government Buying Standards - Mandatory standards for central government procurement

Travel & Transport	• Department for Transport • Planning Practice Guidance - Provides advice on when transport assessments and transport statements are required. • Sustrans - charity enabling people to choose healthier, cleaner and cheaper journey • Green Travel Plans – advice from the Environmental Transport Association
Water	• Water Policy & Advice DIO Utilities Team DIOSDEUS-WaterPolicy@mod.gov.uk • Aquatrine Water Supply and Consumption Data Advice DIO Aquatrine: Tel: 07802 534138 • Climate Resilience Advice DIO Climate Resilience Officer: DIOSDEUS-SusDevSpt@mod.gov.uk
	• Sustainable MOD Strategy – Waste Management 2015-2025 • Environment Agency - Flooding • Centre for Ecology and Hydrology - organisation focusing on land and freshwater ecosystems and their interaction with the atmosphere • Water UK - Forum representing water industry, government and stakeholders • Sustainable Drainage Systems (SUDS) - Resources for those involved in delivering SUDS • Future Water: The Government's Water Strategy for England (11 June 2011) • Water Framework Directive • Planning Practice Guidance - advises on how planning can ensure water quality and the delivery of adequate water and wastewater infrastructure. • Planning Practice Guidance - advises on how planning can take account of the risks associated with flooding and coastal change in plan-making and the application process
Energy	• Energy Policy & Advice: DIO Utilities Team DIOSDEUS-EnMgtAH@mod.gov.uk • DIO Area Utilities Managers Contact List
	• DIO Information Note 02/14 Energy Performance of Buildings Directive – information and guidance on the application of the EPBD on the Defence estate • Defence Related Environmental Assessment Methodology - MOD's own environmental performance assessment tool for new build and refurbishment projects • Energy Demand Reduction in Business and the Public Sector - what the government's

	doing about energy demand reduction in industry, business and the public sector • The Energy Efficiency Strategy: The Energy Efficiency Opportunity in the UK – a strategy to maximise existing policy and realise the wider energy efficiency potential that is available in the UK economy • Low Carbon Technologies - What the government's doing about low carbon technologies • Zero carbon non-domestic buildings - evidence base on energy and carbon emission performance standards for new non-domestic buildings and the zero carbon ambition • Common Minimum Standards for procurement of the built Environments in the public sector: sets out the relevant mandatory standards which construction project team members in Government should implement • L2A Conservation of Fuel and Power in new buildings other than dwellings – supports the energy efficiency requirements of the Building Regulations • L2B Conservation of Fuel and Power in existing buildings other than dwellings - supports the energy efficiency requirements of the Building Regulations
Noise	• Environmental Protection UK - provides policy analysis and advice on air quality, land quality, waste and noise • Planning Practice Guidance - Advises on how planning can manage potential noise impacts • Directive 2002/49/EC (Environmental Noise Directive) • Environmental Noise Regulations 2006 • Government policy on environmental quality - how the government is working to improve air quality, reduce noise and other nuisances in the environment • Noise Mapping - produced by Defra to meet the requirements of the Environmental Noise (England) Regulations 2006 • Gunfire Noise Analysis Tool - enables the UK MOD to model, monitor and report on gun noise levels at artillery ranges.
Air Quality	• Environmental Protection UK - provides policy analysis and advice on air quality, land quality, waste and noise • DEFRAs: UK-AIR: Air Information Resource • Air Quality England - a resource for local air quality information and air quality data provision • Government policy on environmental quality - how the government is working to improve air quality, reduce noise and other nuisances in the environment • Environment Agency – Air pollution resource • Planning Practice Guidance - Provides guiding principles on how planning can take account of the impact of new development on air quality • Sick Building Syndrome –a range of symptoms thought to be linked to spending time in a certain building, most often a workplace
Waste	• Waste Policy & Advice: DIO Utilities Team DIOSDEUS-WWWaste@mod.gov.uk

	• MOD Disposal Sales Agency (DSA) – MOD organisation with the sole authority to dispose of all MOD surplus equipment in the UK and overseas • Sustainable MOD Waste Management Strategy 2015-2025 • WRAP - Organisation helping businesses and individuals reduce waste, develop sustainable products and use resources in an efficient way • Planning Practice Guidance - Provides information in support of the implementation of waste planning policy. • BRE SMARTWaste - can assist in the management and reduction of waste outputs, impacts and costs. • Waste & Recycling - What the government's doing about waste and recycling
Sustainable Construction	• Sustainable Construction Advice: DIO DREAM Team: DIO-DREAM@mod.gov.uk
	• Defence Related Environmental Assessment Methodology - MOD's own environmental performance assessment tool for new build and refurbishment projects • CEEQUAL - evidence-based sustainability assessment, rating and awards scheme for civil engineering projects • Building Research Establishment (BRE) – BRE helps government, industry and business to meet the challenges of our built environment • Government Construction Strategy - brings together documents relating to government construction • Government Buying Standards - Mandatory standards for central government procurement • Considerate Constructors Scheme - commits companies to respect the community, protect the environment, secure everyone's safety and value their workforce • Common Minimum Standards - the mandatory standards which construction project teams in government should implement. • Constructing Excellence – helping improve industry performance in order to produce a better built environment • Design Quality Indicator - tool to enable buildings and spaces create economic and social value • CIRIA - the construction industry research and information association
Sustainable Procurement	• Government Buying Standards - Mandatory standards for central government procurement • Public Services (Social Value Act) 2012 - public bodies in England and Wales are required to consider how the services procure might improve the economic, social and environmental well-being of the local area • CIRIA - the construction industry research and information association • WRAP – resource to help procurers reduce waste by making sustainable choices when

	procuring products and services • Guidance to the flexible framework - a self assessment mechanism that allows organisations to measure and monitor their progress on sustainable procurement • Sustainable Procurement Platform - access point for procurers, policy makers, researchers and other stakeholders • IEMA Guide to ISO 20400 - a new standard covering sustainable supply chains.
Geology & Soils	• DIO Geology & Soils Advice: Ann-Marie.Deloughry966@mod.gov.uk
	• MOD: Land Contamination Management Guide • British Geological Survey - provider of objective and authoritative geoscientific data, information and knowledge. • Contaminated Land UK - information on contaminated Land and brownfields in the UK • Geological Society - oldest national geological society in the world • Geologists Association - actively promotes the study of geology. • Safeguarding our Soils - A Strategy for England - outlines the Government's approach to safeguarding our soils for the long term. • Planning Practice Guidance - land affected by contamination • Contaminated Land – gov.uk resource • CL:AIRE - body promoting sustainable remediation of contaminated land and groundwater
Biodiversity	• Ecology Advice: DIO Ecologists: DIO-EcologyTeam@mod.uk • Local MOD or Unit Conservation Groups • There are many local and specialist groups that can provide advice on specific sites and species, or who have access to data and records.
	• Joint Nature Conservation Committee - public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation • Marine Life Information Network (MARLIN) for Britain and Ireland - comprehensive resource of information about the marine environment of the British Isles • Royal Society for the Protection of Birds (RSPB) - conservation charity focus on conserving the UK's wildlife and restoring and protecting its natural habitats • Scottish Natural Heritage - funded by the Scottish Government to promote care for and improvement of the natural heritage • Wildlife Trusts - network of 47 County wildlife trusts • Planning Practice Guidance - Explains key issues in implementing policy to protect biodiversity
Historic Environment	• Historic Environment Advice: DIO Archaeology & Historic Buildings: Richard.Osgood273@mod.gov.uk

	• Army – ArmyPersOps-Heritage-C1@mod.uk • RAF – Air-COS-RAFHeritageHd@mod.uk • Navy – TBC • Local archaeological/heritage interest groups
	• Historic England - government service championing England's heritage • Historic Environment Scotland - body to investigate, care for and promote Scotland's historic environment • CADW - historic environment service working for an accessible and well-protected historic environment for Wales • Northern Ireland Environment Agency – a Northern Ireland Executive conservation agency for the natural and built environment • Council for British Archaeology - educational charity working to involve people in archaeology and to promote the appreciation and care of the historic environment • Chartered Institute For Archaeologists - leading professional body representing archaeologists working in the UK and overseas • Institute for Historic Building Conservation - represents conservation professionals in the public and private sectors in the United Kingdom and Ireland • Planning Practice Guidance - Advise on enhancing and conserving the historic environment
Landscape & Townscape	• DIO Environmental Planning DIOTS-ENVPTEAMWDC@mod.gov.uk
	• Campaign to Protect Rural England – body campaigning for a beautiful and living countryside. • Landscape Institute - The Landscape Institute is the Royal Chartered institute for landscape architects • Planning Practice Guidance – Landscape • Planning Practice Guidance – Townscape • Guidelines for Landscape and Visual Impact Assessment
Health, Safety & Wellbeing	• MOD JSP 375: Health and Safety Handbook • MOD JSP 392: Instructions for Radiological Protection • MOD JSP 426: MOD Fire Safety Policy • Health and Safety Executive (HSE) –independent regulator for work-related health, safety and illness • Planning Practice Guidance - the role of health and wellbeing in planning

Communities, Amenities & Social Value	• Department for Communities & Local Government • Public Services (Social Value Act) 2012 - public bodies in England and Wales are required to consider how the services procure might improve the economic, social and environmental well-being of the local area • The Nuffield Trust - charity that finances recreational and welfare amenities and facilities that are likely to be of lasting benefit to the Armed Forces • The Countryside and Rights of Way Act 2000 • Planning Practice Guidance - open space, sports and recreation facilities, public rights of way and local green space • Planning Practice Guidance - guidance on the operation of the Community Infrastructure Levy • Local Partnerships - for the benefit of the public sector and the delivery of public services and infrastructure • Armed Forces Covenant -sets out the relationship between the nation, the government and the armed forces
Climate Resilience	• Climate Resilience Advice DIO Climate Resilience Officer: DIOSDEUS-SusDevSpt@mod.gov.uk
	• UK Climate Change Risk Assessment 2017 - UK Climate Change Risk Assessment 2017 • Building a Climate Resilient Estate - Building a Climate Resilient Estate, and how to implement the outcomes of CIRAM • Embedding Climate Resilience - Embedding climate resilience in land use & management • Committee on Climate Change Adaptation Sub-Committee - Find out about key climate risks, government adaptation policy and progress, and adaptation measures. • Natural England Green Infrastructure Guidance – Details the multiple benefits of Green Infrastructure for climate resilience • Met Office - Averages tables show observed data for specific climate stations across the UK • UK Climate Projections (2009) User Interface - Provides future climate projections for specific land grids. It is recommended that the high emissions scenario and the 2050s are selected to generate projections. • MOD JSP 892: Risk Management - MOD JSP 892: Risk Management
Economy & Employment	• MOD JSP 507: MOD Guide to Investment Appraisal and Evaluation • Public Services (Social Value Act) 2012 - public bodies in England and Wales are required to consider how the services procure might improve the economic, social and environmental well-being of the local area