

BREEAM UK Ecology Assessment Issues Consultation Document

September 2017



BREEAM UK Ecology Assessment Issues Consultation Document

September 2017

Contents

Introduction	3
Background	3
Evolving BREEAMs Ecology Assessment Issues: Your Opportunity to Help Shape the Content	4
Ecology Category Overview	5
Assessment Approach, Structure and Content Overview	5
Assessment Issue Structure and Content	7
Ecology Category Assessment Issues	9
Assessment Issue 1: Identifying and understanding the risks and opportunities for the site	10
Assessment Issue 2: Managing negative impacts on habitats and biodiversity	16
Assessment Issue 3: Enhancement of ecological value	21
Assessment Issue 4: Long term biodiversity management and maintenance	26
Rewarding the Achievement of Assessment Criteria in the Ecology Issues	31
Appendix A: Definitions	32
Appendix B: BREEAM Ecological Risk Evaluation Checklist	35
Appendix C: BREEAM Evidence Requirements (Extract from Scheme Documents)	39
Appendix D - Scope of the BREEAM Family of Schemes Used in the UK	47

Introduction

BRE Global is seeking input from a wide range of stakeholders who are involved in planning, specifying, delivering or maintaining Ecology related aspects of development/assets. This consultation document contains the proposed content of the revised Ecology category (part of the Land Use and Ecology category in most BREEAM schemes) following application of BREEAMs UK Strategic Ecology Framework.

It describes the proposed approach to ecological assessment and assessment issues containing detailed assessment criteria for review and comment. Please provide your feedback through this portal [here](#)

Background

The BREEAM family of schemes (which includes the Home Quality Mark (HQM) and CEEQUAL (the Civil Engineering Environmental Quality certification scheme) assesses, encourages and rewards environmental, social and economic sustainability throughout the built environment. The BREEAM schemes:

- encourage continuous performance improvement and innovation by setting and assessing against a broad range of scientifically rigorous requirements that go beyond current regulations and practice,
- empower those who own, commission, deliver, manage or use buildings, infrastructure or communities to achieve their sustainability aspirations,
- build confidence and value by providing independent certification that demonstrates the wider benefits to individuals, business, society and the environment.

BREEAM UK SEF Implementation into UK Relevant Schemes: Scope and Linkage to the Built Environment Lifecycle Stages

The BREEAM family of schemes spans the built environment lifecycle stages. Seven schemes are covered this the SEF implementation process and by this consultation process as indicated in Figure 1 below.

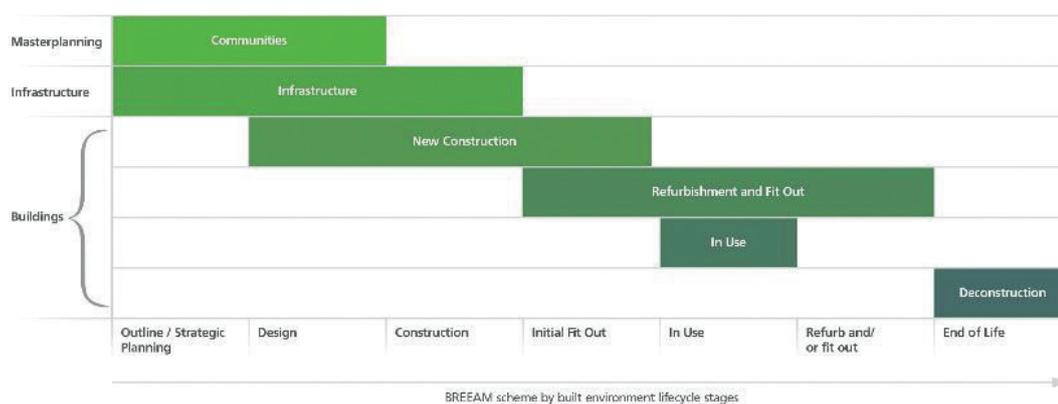


Figure 1 – Relationship of BREEAM schemes across the life cycle of the built environment

Ecology in BREEAM

Ecology is one of the key categories included in the BREEAM family of schemes, which relate to master planning, infrastructure and buildings (see Figure 1). The Ecology issues encourage project teams to identify ecologically valuable features and opportunities to protect and enhance habitats, and to mitigate unavoidable impacts. It also seeks to improve long term biodiversity management practices and strategies for assessed sites and associated areas. In addition it is generally accepted that Ecology can have wider benefits for society associated with wellbeing and economic efficiencies and more of these are also indirectly covered by this section in BREEAM.

Responding to developments in Ecological Best Practice

BREEAM's approach to assessing ecological impacts has remained unchanged since 1998 and has driven consideration of ecological impacts of the built environment across many projects. Recognising that there have been significant developments over the last decade in best practice for evaluating, protecting and enhancing ecological features and evolving policy areas (ecosystem services and natural capital), BRE Global's BREEAM team has worked with a wide range of stakeholders to understand how to move forward development of the Ecology assessment issues. To better reflect current best practice and respond to developing concerns and opportunities including currently developing areas including consideration of natural capital and ecosystem services. This work has included the UK Green Building Council, professional bodies such as Chartered Institute of Ecology and Environmental Management (CIEEM) and the Landscape Institute, and a range of consultants, developers, designers, constructors, managers and policy makers.

The Output – A Strategic Ecology Framework for BREEAM UK

The overall objective was to identify a consistent strategic framework for evaluating ecology related issues across BREEAM and BRE's related schemes. The first output was the BREEAM UK Strategic Ecology Framework (SEF) published in 2016. The SEF enables those working in the built environment to better understand the basis of BREEAM evaluations, and account for this in their future planning. The SEF is available at www.BREEAM.com/sef

Evolving BREEAMs Ecology Assessment Issues: Your Opportunity to Help Shape the Content

BRE has been in the process of implementing the SEF into BREEAM schemes used in the UK since its publication in 2016. In line with BREEAM overarching aim part of process includes engagement and consultation with a range of stakeholder groups on a range of topics. We developed factsheets outlining the Ecology related links, considerations and impacts specific to each scheme the SEF is applied to. They factsheets provide useful background and can be accessed here www.breeam.com/sef

An advisory group made of up Ecologists and Landscape Architects have been inputting into the application process. We are seeking and encouraging input from a wide range of stakeholders and very much welcome your input into this process. . Please provide your feedback through this portal [here](#)

The following seven schemes are covered by this consultation:

- BREEAM Communities
- BREEAM Infrastructure CEEQUAL combined scheme (in development)
- Home Quality Mark (in development)
- BREEAM UK Non Domestic New Construction (in development)
- BREEAM Domestic Refurbishment
- BREEAM UK Refurbishment and Fit out
- BREEAM in Use International

The broad aim and scope of each of the scheme in the BREEAM family covered by the SEF implementation process are summarised in Appendix D: Scope of the BREEAM Family of Schemes Used in the UK. Please see this section for more information.

Ecology Category Overview

BREEAM's Ecology category encourages project teams and facilities managers to reduce and manage impacts on the natural environment and local biodiversity/habitats and identify opportunities for enhancement. It does this by identifying ecological value on and around a site and the risks and opportunities that arise as a result of the design, construction and operation of an asset. It focuses on processes and actions that protect features of value, mitigate unavoidable impacts, and enhance habitats. Importantly, it also seeks to promote best practice regarding long term biodiversity management practices and strategies for assessed sites and ecologically associated surrounding areas to maximise the outcomes.

Assessment issues in this category relate to the use of land of low ecological value, mitigation and enhancement of ecological value, long term ecological and biodiversity management and seek to maximise the wider benefits to occupants and the broader society through provision of additional amenity and economic value in a manner which is context specific. There are four issues in which make up the Ecology category:

- Identifying and understanding the risks and opportunities for project
- Managing negative impacts on habitats and biodiversity
- Enhancement of ecological value
- Long term biodiversity management and maintenance

Assessment Approach, Structure and Content Overview

The following section sets out the approach taken to ecological assessment and outlines the structure of the assessment issues which form basis of the assessment process in the BREEAM family of schemes. A common approach was taken in the developing the assessment issues which apply to a range of life cycle stages and the following schemes:

- BREEAM Communities
- BREEAM Infrastructure Combined scheme (in development)
- Home Quality Mark (Domestic New Construction)
- BREEAM UK Non-Domestic New Construction
- BREEAM Domestic Refurbishment
- BREEAM UK Non Domestic Refurbishment and Fit out
- BREEAM in Use International

The intention is that all schemes will follow the overall approach set out in the Issues. But sometimes scheme specific details may be necessary to ensure clarity and appropriateness of the assessment content in order to maximise the benefits at each life cycle stage.

Approach to Ecological Assessment: Project Team Member or Ecologist routes

Whilst many sites will require input from an ecologist to determine the best solutions, the varied nature and scope of development sites means that some will not warrant this level of specialist input. BREEAM's goal is to promote the consideration of ecological value and its resulting benefits on all sites. This is to increase the chance of positive benefits for the natural environment and for those who will occupy, interact with or otherwise be affected by it. We have therefore developed assessment criteria that recognise meaningful actions taken involving levels of expertise that are appropriate to the specific project/asset risks and the life cycle stage under assessment. Two assessment routes are proposed:

- Ecologist assessment route – for sites where complex ecological systems are likely to be present
- Project team member assessment route – for sites where ecological opportunities and risks are limited in nature

Project team member assessment route: This route of assessment is only appropriate where the level of ecological risk associated with the site is of a level that can practically be understood and addressed by a project team member using general observation, non-specialist knowledge and publically available resources and information. This would be assessed by completing the Ecological Risk Evaluation Checklist - see Appendix B. A lower level of reward is available as this route does not involve the same level of input and expertise that would be available through using an ecologist.

Project types which may be suitable for project team member input include: sites where less complex ecological systems are likely to be present, or could be created, including on existing buildings including small new build developments urban replacement and infill projects, less significant refurbishment projects including minor external fabric and internal fit out works, small scale domestic refurbishment of dwellings and reused sites where occupation has ceased or demolition taken place in the recent past

Ecologist assessment route: This is the full and most comprehensive route of assessment which can take place and therefore result in the highest level of reward being available. It is conducted by a Suitably Qualified Ecologist (See Appendix A: Definitions). This route will be mandatory for more sensitive sites and optional for others.

Project types likely to need Ecologist input include: where statutory requirements or regulatory obligations apply, sites with high ecological value including sites where complex ecological systems are likely to be present, or could be created, including on buildings where there is the potential for wildlife use now or in the future.

Assessment Issue Structure and Content

BREEAM issues will be structured in a consistent manner in all future scheme updates. This ensures clarity and consistency in approach as well as aiding links across schemes and life cycle stages to ensure continuing assessment and to maximise benefits. The following table sets out the broad framework adopted by BREEAM across all of its schemes and the aims of each section and has been used to set out the ecology issues later in this document.

Issue section	Sub section	Content Summary
Issue title, ID & reference information	N/A	Made up of the assessment issue reference, title, number of credits available and any minimum standards requirements.
Aim	N/A	The objective of the issue is described with the impact it will mitigate.
Value and context statements	Value	Made up of a bullet pointed list of the key value the issues provides.
	Context	Short, concise, statement summarising the context within which the issue is being evaluated.
Assessment criteria	Requirements	States the performance requirements to be met to achieve the credit (s) or point (s) (scheme dependent)
	Assessment scope	Indicates where there are requirements additional to or not necessary to the building or project assessment. There can be two types of assessment scope note: 1. Assessment type classification 2. Assessment criteria applicability
	Methodology	A description of the recognised methodology/methodologies used to determine the credits or points (scheme dependent) achieved for a given level of masterplan, building or asset performance. Note It includes, for example, calculation procedures or guidance on how non-BREEAM schemes, standards or qualifications referenced in the assessment criteria relate to those criteria. Where options exist for calculations, standards/evidence provision then these should be separately described within this section.
	Compliance notes	Provides guidance that clarifies the application and interpretation of the main assessment (performance) criteria in relation to specific, but commonly occurring assessment circumstances. This could include how to assess compliance in a particular location or for a particular building or project type e.g. shell only. Note Compliance notes are a formal part of the assessment scheme but do not change the assessment criteria set out in the Technical Manual.
Evidence	N/A	Describes the type(s) of project information that must be provided by the project, design, construction team, client or other stakeholder and given to the BREEAM / HQM assessor to enable verification of the building's performance against the assessment criteria and so justify the award of credits or points (scheme dependent).

Definitions	N/A	<p>Necessary definitions to support correct interpretation of the assessment criteria and therefore allow for correct assessment.</p> <p>Definitions define terms that are:</p> <ol style="list-style-type: none"> 1. interpreted in a specific way for the purpose of BREEAM 2. ambiguous because: <ul style="list-style-type: none"> - meaning is unclear/unknown without specific guidance - term has a number of potential definitions in common usage <p>Definitions can either:</p> <ol style="list-style-type: none"> 1. be created or adapted for BREEAM specific purposes 2. be taken from external commonly accepted sources .
-------------	-----	---

Ecology Category Assessment Issues

The following section sets out the proposed issues to be used within all BREEAM scheme updates. These issues have been developed drawing on the SEF to help ensure relevant consistency and alignment with the industry practice in the UK. Whilst the intention is that all schemes will follow the overall approach set out in the Issues, scheme specific details may be required to ensure clarity, relevance and appropriateness of the assessment content and maximise the benefits at the each life cycle stage. There are four assessment issues proposed as follows:

Assessment Issue 1: Identifying and understanding the risks and opportunities for the site

Assessment Issue 2: Managing negative impacts on habitats and biodiversity on the site

Assessment Issue 3: Enhancement of ecological Value

Assessment Issue 4: Long term biodiversity management and maintenance

Assessment Issue 1: Identifying and understanding the risks and opportunities for the site

Aim

To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.

Value

- Demonstrate sound consideration of biodiversity and ecological sensitivity and ecosystem service provision related elements
- Avoid unforeseen risks associated with the wider ecological environment and biodiversity
- Provides the ability for construction works to be programmed successfully to minimise impacts on natural assets
- Maximise benefits associated with wellbeing, amenity and community arising from the adoption of good ecological design and management practices on a site and in its surroundings.
- Ensure an appropriate level of expertise is employed on the project to recognise both the level of risk and opportunity to increase ecological value in a manner that takes account of project construction and operational viability,

Context

Conserving habitats and biodiversity is important for life on earth. It supports the variety of living organisms on the planet as well as the interdependence that exists between them. Development and landscape management can have a significant impact on the broader environments that support and can have a potentially positive value on biodiversity. Thus it is important to understand the existing value and condition of sites, where possible promote the use of land that has low value and strive to minimise damage where this is not practical. It is also important to make decisions and take actions that support and where possible enhance the habitats and biodiversity of the site and surrounding areas.

Assessment Scope

Scheme	Applicable Scheme Assessment Scope
UK Refurbishment and Fit out	Part 1. All other Parts can be applicable for assessment if there is green space or ecology associated with the refurbishment works.
BREEAM in Use	Part 1 only
All other schemes	Issue applicable for all types of assessment

Assessment Criteria: Requirements

The following is required to demonstrate compliance:

Req. point	Master planning, Infrastructure and Buildings	BREEAM in Use
Req. 1	An appropriate level of expertise has been determined to demonstrate BREEAM compliance informed by using the BREEAM Ecological Risk Evaluation Checklist (see Appendix B).	Has the BREEAM Ecological Risk Evaluation Checklist been completed? (See Appendix B)
Req. 2	The level of expertise has been determined at a project stage that allows for the need to influence early site determination and, where necessary, master planning decisions.	If so which survey and evaluation ecological assessment approach was selected?
Req. 3	An appropriate level of survey and evaluation has been carried out to determine the ecological baseline of the site taking account of its zone of influence to establish: <ul style="list-style-type: none"> a. Current and potential future ecological value and condition of the site and, related areas within its zone of influence b. Direct and indirect risks to current ecological value c. Capacity to enhance the ecological value of the site and where relevant areas within the zone of influence 	Has a site-wide outcome/ long term ecological vision been established for the site?
Req. 4	<p>Liaising with representative stakeholders specific solutions, actions and / or measures have been identified, appraised and selected taking into consideration the following:</p> <ol style="list-style-type: none"> 1. mitigation hierarchy as follows: <ul style="list-style-type: none"> - avoidance - protection - reduce or limit negative impacts - on site compensation 2. capacity for enhancement or where this is viable off site enhancement 	
Req. 5	Site wide outcomes (appropriate to the scale and type of development) have been identified, considered and the optimal action selected liaising with representative stakeholders	

Also refer to the Methodology section for additional information on demonstrating compliance with these Requirements.

Assessment Criteria: Methodology

The following is required to demonstrate compliance:

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
<p>Survey and Evaluation</p>	<p>Completion of the BREEAM Ecological Risk Evaluation Checklist (See Appendix B).</p> <p>Where this indicates that the Project Team Member Assessment Route can be used no further survey or evaluation work is required.</p>	<p>Where either; the Ecologist route is chosen OR the completion of the BREEAM Ecological Risk Evaluation Checklist (See Appendix B) indicates that the Ecologist route is applicable, the following must be completed:</p> <p>Survey</p> <p>Consider the following as a minimum:</p> <ul style="list-style-type: none"> a. Determining the zone of influence for the site including neighbouring land and habitats b. Current flora, fauna (including permanent and transient species) and habitat characteristics (including but not limited to ecological features in or on built structures) c. Habitat connectivity and fragmentation d. Recent and historic site condition e. Existing management and maintenance levels/arrangements f. Existing ecological initiatives within the zone of influence g. Identification of, and consultation with, relevant stakeholders impacted / affected by the site. h. Local knowledge/sources of information <p>Evaluation</p> <p>Consider the following as a minimum:</p> <ul style="list-style-type: none"> i. Current value and condition of the site and, where relevant, associated areas in terms of: <ul style="list-style-type: none"> i. Features including habitats, food sources and connectivity ii. Broader biodiversity and ecosystem services benefits j. Direct and indirect risks to current ecological value: <ul style="list-style-type: none"> i. Sensitive areas and features on or near the site ii. Direct risks include those from, human activity (e.g. construction work), habitat fragmentation, diseased species or those which may be harmful iii. In-direct risks include water, noise, light pollution, etc. k. Capacity to enhance the ecological value l. habitat restoration and creation potential m. Impact of the proposed design, construction works and operation on site.

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
Liaison and collaboration with relevant stakeholders	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>liaison and where feasible collaboration between relevant stakeholders at appropriate times to support optimum site wide outcome and associated solutions, actions, measures identification, selection and implementation. Relevant stakeholders include but are not limited to:</p> <ul style="list-style-type: none"> • The client, owner, occupier • Design, project, facilities team • Local government • Local community groups / organisations / charities examples include: <ul style="list-style-type: none"> • the Wildlife Trusts • Bug life, • RSPB, • Bat Conservation Trust • Specialist consultants / organisations including: <ul style="list-style-type: none"> • Drainage engineer • Acoustic consultant • Landscape Architect
Determining the site wide outcome	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist Assessment Route column.</p> <p>The approach taken and considerations make should be appropriate to the scope and scale of the project.</p> <p>Depending on the approach taken specialist input may be required to adequately consider certain points.</p>	<p>Consider the following as a minimum:</p> <ol style="list-style-type: none"> a. Ecology focused topic areas <ol style="list-style-type: none"> i. Ecological value and benefit offered (pre, during and post asset maintenance / project completion) ii. Biodiversity and ecosystem services benefits offered pre, during and post asset maintenance / project completion iii. Local microclimatic conditions – iv. relevant ecosystem processes including hydrological, edaphic (soil) and successional factors v. Habitat connectivity and fragmentation vi. Opportunities to enhance the value of existing habitats and biodiversity, or to restore or create new, more valuable ones vii. Opportunities to align and integrate with existing ecological features and initiatives in the associated area. viii. The viability of on and off site compensation b. Opportunities for integrating ecology with wider site sustainability related activities and ecosystem service related benefits including as a minimum: <ol style="list-style-type: none"> i. Landscape <ul style="list-style-type: none"> • Landscape design • Heritage and local character • Green Infrastructure

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
		<ul style="list-style-type: none"> ii. Health and wellbeing: <ul style="list-style-type: none"> • Recreational space (including growing space, community agriculture or horticultural and allotment activities) • Water quality measures • Noise mitigation measures • Air quality control measures • Light pollution control measures iii. Resilience: <ul style="list-style-type: none"> • Climate change mitigation • Management of surface water run off • Flood risk management • Climate-sensitive urban design (heat island effect, thermal mass, shading, biotic cooling etc.) iv. Infrastructure: <ul style="list-style-type: none"> • Maximising the benefits of green infrastructure and optimising alignment with existing infrastructure on the site and associated areas. v. Community and end-user involvement vi. Control of pests vii. Life cycle costing and service life planning.
<p>Identification and selection of solutions / actions / measures</p>	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p> <p>Depending on the approach taken specialist input may be required to adequately consider certain points.</p> <p>A clear set of actions are identified by the ecologist based on the solutions selected, with reference to best practice guidance.</p>	<p>In addition to consideration of the Determining the site wide outcome and associated solutions / actions for the site methodology the following should also be considered:</p> <ul style="list-style-type: none"> a. Ecological, biodiversity and ecosystem services benefits accounting for: <ul style="list-style-type: none"> i. Local priorities. ii. Long term viability of the outcome/option. iii. Alignment with the sites function, amenity and value. b. Practicality, including consideration of : <ul style="list-style-type: none"> i. Timing and duration of implementing and realising the outcome and associated options. ii. Outline up-front and ongoing maintenance costs. iii. Long term management and maintenance implications. iv. Opportunities and barriers arising from management / procurement structures. v. Availability of appropriate skills and other resources.

Assessment Criteria: Compliance Notes

Ref	Title	Note
Compliance notes for this issue are dependent on the final assessment requirements and methodology. Once agreed notes will be added to the final scheme assessment issues as appropriate.		

Evidence (also see Appendix C)

Req. point	Interim design stage (all schemes excluding BIU)	Final/ post construction stage (all schemes excluding BIU)	BREEAM in Use Assessment
ALL	One or more of the appropriate evidence types listed in the BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.		

Assessment Issue 2: Managing negative impacts on habitats and biodiversity

Aim

To avoid or limit as far as possible negative impacts on habitats and biodiversity arising from activities on the site

Value

- Minimise onsite/near-site ecological damage
- help to conserve local natural ecosystems maintaining environmental assets for the community
- Supports activities to ensure that legislation, policy and guidance are followed for the good of the site and wider environment and to avoid legal issues
- Reduce the risk of local controversy over development and management strategies

Context

Programming of works on a site is driven by many factors but can often have a negative impact on habitats and biodiversity on a site or in surrounding areas. Many species are afforded legal protection and damage cause can result in prosecution leading to corporate or personal fines, prison sentences and reputational damage. The replacement of lost habitats is not straightforward and takes time to be successful. It is, therefore, important to follow the mitigation hierarchy (avoid, protect, reduce or limit, compensate) when making decisions about issues that impact on habitats, wherever possible limiting disruption and disturbance to local wildlife/ecological systems. Regardless, some disruption is likely to arise during both construction works and operation of the asset. The focus should therefore be on minimising disruption at these stages to maximise value and ensure that this is sustainable for the longer term.

Assessment Scope

Scheme	Applicable Scheme Assessment Scope
UK Refurbishment and Fit out	Part 1. All other Parts can be applicable for assessment if there is green space or ecology associated with the refurbishment works.
BREEAM In Use	Part 2 only
All other schemes	Issue applicable for all types of assessment

Assessment Criteria: Requirements

The following is required to demonstrate compliance:

Req. point	Master planning, Infrastructure and Buildings	BREEAM in Use
Req. 0 (pre requisite)	Assessment Issue 1 has been assessed.	A valid survey and evaluation exists. See BIU Part 1 assessment outputs for this category.
Req. 1	Liaising with representative stakeholders solutions, actions, measures selected during the assessment of Assessment Issue 1 have been defined and implemented during development/ fit-out / maintenance / management works in a way that avoids net loss in biodiversity in line with the mitigation hierarchy outlined in this issue.	Has the survey and evaluation been completed? If so, is the ecological baseline identified still relevant?
Req. 2	Development/ fit-out / maintenance / management works have been planned for and implemented at an early enough project stage to optimise benefits and outputs.	Has a site wide outcome / long term ecological vision been established for the site?
Req. 3	Development/ fit-out / maintenance / management works avoid negative impacts on habitats / features of ecological value on the site.	Is a maintenance and management strategy in place which aligns with the site wide outcome / long term ecological vision? Has this been reviewed to ensure it remains up to date / valid? What date was it created/reviewed? Have representative stakeholders been involved in the review process where relevant?
Req. 4	Where avoidance is not possible habitats / features of ecological value are protected from damage in accordance with best practice guidelines during development/ fit-out / maintenance / management works.	Does the maintenance and management strategy demonstrate the following: - During operation, maintenance and refurbishment work related to the asset, where habitats / features of ecological value are likely to be of risk, the following mitigation hierarchy of actions / measures must be undertaken in this order : o avoidance, where this is not possible o protection. Where this is not possible, o reduce or limit or control negative impacts on. Where this is not possible, o on site compensation to ensure no net loss of biodiversity

Req. point	Master planning, Infrastructure and Buildings	BREEAM in Use
Req. 5	Where protection is not possible existing site features or development/ fit-out / maintenance / management works identified as having current or future negative impacts, have been reduced, limited or controlled as far as possible.	<ul style="list-style-type: none"> - Are roles and responsibilities clearly defined? - Has the maintenance and management strategy been implemented by the relevant individuals? - Has a copy of the outputs been recorded and passed back to the relevant individuals / organisations (for example, building manager / landlords / facilities management team)?
Req. 6	Where features of ecological value cannot be protected or negative impacts avoided, limited or controlled on site compensation has taken place to ensure no net loss of biodiversity	
Req. 7	Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes.	

Also refer to the Methodology section for additional information on demonstrating compliance with these Requirements.

Assessment Criteria: Methodology

The following is required to demonstrate compliance:

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
<p>Roles and Responsibilities</p>	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>Ensure clear roles and responsibilities are in place to allow for the implementation of the solutions, actions, measures in line with the assessment requirement for this issue incorporating:</p> <ul style="list-style-type: none"> a. Allocation of roles and responsibilities to deliver the requirements of this assessment issue. b. Allocation of adequate resources (including financial, time, technical and skills). c. Procedures to promote effective implementation, and monitoring and feedback for continual improvement. d. Alignment with related activities and processes. e. Measures for effective Handover and collaborative activities where responsibility is transferred and / or shared, including transition to long term management and maintenance arrangements.
<p>Liaison and collaboration with relevant stakeholders</p>	<p>See Assessment issue 1</p>	<p>See Assessment issue 1</p>
<p>Liaison with relevant stakeholders when implementing solutions, actions measures</p>	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>Relevant project team member leads and coordinates liaison with relevant stakeholders to develop, finalise and implement solutions, actions, measures for the delivery of the site wide outcomes selected and associated actions / responsibilities.</p> <p>This should cover both the ecology and wider sustainability ecosystem service type benefits in a focused, practical, feasible and cost efficient way, including:</p> <ul style="list-style-type: none"> a. Responsibilities, relationships and management required for implementation including clear ownership of each task. b. Implementation timescales taking into consideration: <ul style="list-style-type: none"> i. When identified roles and responsibilities apply ii. Ecological seasonality requirements and limitations that may impact on implementation activities iii. Driven by existing/planned activities and processes on or near the site, or in the wider local area. iv. Project phasing and other local development activities underway or planned. c. Collaboration opportunities between relevant stakeholders at appropriate times to support implementation. d. Reducing and / or managing potential knock-on impacts (e.g. pollution, disturbance, etc.) of works. e. Contractual and other handover points. f. Long term management/maintenance requirements and outline costs.

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
Timescales and implementation/ delivery considerations	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>Timescales for implementing solutions / actions / measures take into consideration where relevant:</p> <ul style="list-style-type: none"> i. When identified roles and responsibilities apply ii. Ecological seasonality iii. Alignment with existing/planned activities and processes iv. Project phasing. <p>Enforceable contract requirements focus on the following:</p> <ul style="list-style-type: none"> a. Reducing and / or managing potential knock-on impacts (e.g. pollution, disturbance, etc.) of works. b. Contractual and other handover points. c. Long term management/maintenance requirements and outline costs.

Assessment Criteria: Compliance Notes

Ref	Title	Note
Compliance notes for this issue are dependent on the final assessment requirements and methodology. Once agreed notes will be added to the final scheme assessment issues as appropriate.		

Evidence (also see Appendix C)

Req. point	Interim design stage (all schemes excluding BIU)	Final/ post construction stage (all schemes excluding BIU)	BREEAM in Use Assessment
ALL	One or more of the appropriate evidence types listed in the BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.		

Assessment Issue 3: Enhancement of ecological value

Aim

To enhance the biodiversity of the site and areas within its zone of influence in support of local and regional priorities

Value

- Improving local biodiversity through increasing the connectivity, density and coverage of natural green spaces can:
 - o Provide corridors for wildlife to survive and flourish
 - o Introduce/reinforce local native flora or plant species
 - o Contribute to the protection of endangered species and associated wildlife
 - o Help to improve the health, wellbeing and potentially the productivity of occupants, users and neighbours through the provision of recreational space and an increased connection between people and the natural environment (biophilia).
- Increase property/asset values by increasing the amenity and desirability of living/ working in the local area.
- Raise awareness of the benefit of interacting with the natural environment.
- Support local, national and international efforts to slow down the loss of habitats and biodiversity by promoting net gain where possible.

Context

Improving the biodiversity of a site post-development through the introduction of appropriate flora and fauna as well as through the creation and enhancement of habitats and wildlife corridors, can major have impact on local, regional and/or national biodiversity. BREEAM focus on rewarding enhancement of local biodiversity, on the site under development or where that is not possible within its zone of influence.

Assessment Scope

Scheme	Applicable Scheme Assessment Scope
UK Refurbishment and Fit out	Part 1. All other Parts can be applicable for assessment if there is green space or ecology associated with the refurbishment works.
BREEAM In Use	Part 2 of the assessment only
All other schemes	Issue applicable for all types of assessment

Assessment Criteria: Requirements

The following is required to demonstrate compliance:

Req. point	Master planning, Infrastructure and Buildings	BREEAM in Use
Req. 0 (pre requisite)	Assessment issue 2 has been assessed and achieved.	Assessment issue 2 has been assessed and achieved.
Req. 1	<p>Liaising with representative stakeholders applicable solutions / actions / measures selected during the assessment of Assessment Issue 1 have been implemented in a way that enhances habitats / biodiversity on the site taking into account the zone of influence.</p>	<p>Does the ecological vision include provision for on-site enhancement of the habitats / biodiversity on site?</p> <p>Do you have policies and procedures which relate to onsite enhancement of ecology?</p> <p>Have you identified potential areas in which these policies and procedures can be amended to allow for onsite enhancement of ecological value?</p> <p>Are there ways to further enhance habitats / biodiversity to enhance the ecological value of the site in line with the vision?</p> <p>Has the vision, policies, procedures been implemented by the relevant individuals?</p> <p>Has a copy of the outputs recorded been passed back to the relevant individuals/organisations (for example, building manager / landlords/ facilities management team)?</p>
Req. 2	<p>Off-site enhancement has taken place where the outcomes of the survey and evaluation (assessment issue 1) have indicated that on site enhancement is not possible using input of a suitably qualified ecologist.</p>	<p>Where on site enhancement is not possible does the ecological vision include provision for off-site enhancement of the habitats / biodiversity on site?</p> <p>Do you have policies and procedures which relate to onsite enhancement of ecology?</p> <p>Have you identified potential areas in which these policies and procedures can be amended to allow for off-site enhancement of ecological value?</p> <p>Are there ways to further enhance habitats / biodiversity to enhance the ecological value of the site in line with the vision?</p> <p>Has the vision, policies, procedures been implemented by the relevant individuals?</p> <p>Has a copy of the outputs recorded been passed back to the relevant individuals/organisations (for example, building manager / landlords/ facilities management team)?</p>

Req. point	Master planning, Infrastructure and Buildings	BREEAM in Use
Req. 3	Off-site enhancement is carried out within the zone of influence for the site using input of a suitably qualified ecologist	Has off enhancement been carried out within the zone of influence for the site using input of a suitably qualified ecologist?
Req. 4	Development/ fit-out / maintenance / management works have been planned for and implemented at an early enough project stage to optimise benefits and outputs.	
Req. 5	Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes.	

Also refer to the Methodology section for additional information on demonstrating compliance with these Requirements.

Assessment Criteria: Methodology

Compliance with the above should be demonstrated taking account of the following factors:

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
Enhancing biodiversity	<p>Recommendations have been sought from recognised 'local' ecological expertise, specialist input and guidance (published guidance documents and information leaflets etc.) to inform the adoption of locally relevant ecological solutions / actions/ measures which enhance the site.</p> <p>Appropriate solutions / actions / measures would vary from one site to another but may include:</p> <ul style="list-style-type: none"> a. Planting of ecologically appropriate species or those with a known attraction or benefit to local wildlife b. Adoption of horticultural good practice (e.g. no or low use of residual pesticides) c. Installation of features to encourage existing local wildlife (such as nesting, roosting insect boxes) at appropriate locations on the site. d. Increase the porosity and texture of surfaces on site to encourage wildlife e. Introduce water into the environment to encourage birds and other wildlife f. Only ecologically appropriate floral species or those with a known attraction or benefit to local wildlife can be considered for the purpose of enhancing the ecological value of the site, except where explicitly recommended by an ecologist (justification must be provided). 	<p>Application of the BREEAM change in ecological value calculator tool to determine the change in ecological value and therefore the level of enhancement (under review)</p> <p>Some anticipated features of the tool:</p> <ul style="list-style-type: none"> - Promotes: - No net loss of biodiversity - Net gain of biodiversity - Includes a scale of ecological change against which BREEAM credits / points can be achieved
Off-site enhancement	<p>The methodology for this assessment route is as outlined in the Methodology for the Ecologist assessment route column.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>A suitably qualified ecologist has provided guidance and advice on possible areas for off-site enhancement within the zone of influence of the site</p> <p>The BREEAM change in ecological value calculator tool must be used to quantify the level of off-site enhancement.</p>
Liaison and collaboration with relevant stakeholders	See Assessment issue 1	See Assessment issue 1

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
Liaison with relevant stakeholders when implementing solutions, actions measures	See Assessment issue 1	See Assessment issue 1
Roles and responsibilities	See Assessment Issue 2	See Assessment Issue 2

Assessment Criteria: Compliance Notes

Ref	Title	Note
		Compliance notes for this issue are dependent on the final assessment requirements and methodology. Once agreed notes will be added to the final scheme assessment issues as appropriate.

Evidence (also see Appendix C)

Req. point	Interim design stage (all schemes excluding BIU)	Final/ post construction stage (all schemes excluding BIU)	BREEAM in Use Assessment
ALL	One or more of the appropriate evidence types listed in the BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.		

Assessment Issue 4: Long term biodiversity management and maintenance

Aim

To secure ongoing management and maintenance of the site, its habitats, ecological features and landscape to ensure intended outcomes are realised for the long term

Value

- Sound, well planned and monitored management practices give assurance that expected benefits and outcomes will be achieved over a long term in a sustainable and efficient manner.
- A landscape and habitat management plan assist site owners and occupiers to manage and improve site habitats and biodiversity on or near site for long term
- Helps to improve corporate and local image and demonstrate compliance with statutory requirements.
- Open and transparent management and maintenance arrangements can incorporate community involvement and education, thus improving social cohesion and the overall level of local positive environmental stewardship and awareness.

Context

Many well intentioned design aspirations are not realised in practice as sound management arrangements are not established and maintained during construction, handover and ongoing operation of a site/asset. This is especially the case where responsibility is transferred during or following specific projects or project stages.

An appropriate landscape and habitat management plan covering the aftercare of habitats and biodiversity on and near a site will help to ensure the long term sustainability of ecology features and actions undertaken as well as maintaining related benefits that arise as a result of improved ecological value on the site.

For a long term management plan to be valuable, it must be based on a robust understanding of the baseline ecological value of the site, potential risks to features of ecological value and a clear understanding of actions to mitigate impacts and where feasible to enhance habitats and biodiversity.

Assessment Scope

Scheme	Applicable Scheme Assessment Scope
UK Refurbishment and Fit out	Part 1. All other Parts can be applicable for assessment if there is green space or ecology associated with the refurbishment works.
BREEAM In Use	Part 2 of the assessment only
All other schemes	Issue applicable for all types of assessment

Assessment Criteria: Requirements

The following is required to demonstrate compliance:

Req. point	Master planning	Infrastructure and Buildings	BREEAM in Use
Req. 0 (pre requisite)	The Client/developer has confirmed that compliance will be monitored against all relevant UK, EU / International legislation / local best practice standards relating to habitats / biodiversity on site.	The Client/contractor has confirmed that compliance is/will be monitored against all relevant UK and EU / International legislation / local best practice standards relating to habitat / biodiversity on site.	The owner/landlord/facilities manager has confirmed that compliance is/ will be monitored against all relevant UK and EU / International legislation / local best practice standards relating to habitat / biodiversity on site.
Req. 1	Liaising with relevant stakeholders to identify appropriate long term landscape and habitat management and maintenance options and outcomes for the site and its surroundings	<p>Liaising with relevant stakeholders monitor and review implementation and effectiveness of the solutions / actions / measures over the period of the project considering the following:</p> <ul style="list-style-type: none"> a. Monitoring and reporting of outcomes and successes from the project b. The arrangements for a landscape and habitat management plan c. Ecological value maintenance / ecological coherence of the site and zone of influence d. Maintaining the site in line with the wider sustainability linked activities identified (broader ecosystems benefits) specification e.g. green roof etc. 	<p>Is the site monitored and reviewed during the year to ensure going monitoring of ecological value?</p> <p>Are the outcomes being reported to relevant groups / individuals?</p> <p>Have relevant policies and procedures been reviewed to check if they need updating?</p> <p>If they do so have they been updated and relevant groups / individuals made aware?</p> <p>Has a copy of the outputs recorded and been passed back to the relevant individuals/organisations (for example, building manager / landlords/ facilities management team)?</p>
Req. 2	A strategic landscape and habitat management plan is developed and agreed including an indicative timetable for implementation and clear responsibilities for its future implementation as the site is developed.	<p>Liaising with relevant stakeholders to develop and evolve management and maintenance solutions actions / measures considering appropriate responsibilities and funding mechanisms to help ensure their continued relevance for:</p> <ul style="list-style-type: none"> a. The arrangements for landscape management b. Ecological value maintenance / ecological coherence of the site and zone of influence c. Maintaining the site in line with the wider sustainability linked activities identified 	

Req. point	Master planning	Infrastructure and Buildings	BREEAM in Use
Req. 3	Where the strategic plan identifies responsibilities that lie outside of the control of the developer themselves, clear commitments and budgets are identified to allow these to be put in place at the appropriate time.	<p>A landscape and habitat management plan is developed, updated or evolved which includes actions and responsibilities prior to handover to give to relevant individuals which:</p> <ul style="list-style-type: none"> a. Covers the ecological value and condition of the site over the development life. b. Identify opportunities for ongoing alignment with activities external to the asset / development project which support the aims of BREEAMs Strategic Ecology Framework. c. Identify and trigger appropriate remedial actions to address previously unforeseen impacts. d. Clearly defines and allocates roles and responsibilities 	
Req. 4		<p>Domestic schemes only</p> <p>As part of the home information or owner/ tenant information supplied, include a section on Ecology and Biodiversity to inform the owner/ occupant of local ecological features, value and biodiversity on or near the site and highlight relevant actions that they can take to enhance value within the property that they own/occupy to help ensure its ongoing management and maintenance.</p>	

Also refer to the Methodology section for additional information on demonstrating compliance with these Requirements.

Assessment Criteria: Methodology

Compliance with the above should be demonstrated taking account of the following factors:

Area	Methodology for the Project Team Member Assessment Route	Methodology for the Ecologist Assessment Route
Liaison and collaboration with relevant stakeholders	See Assessment issue 1	See Assessment issue 1
Liaison with relevant stakeholders when implementing solutions, actions measures	See Assessment issue 2	See Assessment issue 2
Roles and responsibilities	See Assessment Issue 2	See Assessment Issue 2
Home information / owner /tenant information	<p>The methodology for this assessment route is as outlined in the Ecologist Assessment Route.</p> <p>The approach taken and considerations made should be appropriate to the scope and scale of the project.</p>	<p>This information pack should include the following content, as appropriate:</p> <ul style="list-style-type: none"> • Details of the ecological value within their property boundary (e.g. public and private gardens, green roofs), common areas (e.g. communal garden), and the surrounding area (e.g. public recreational space); • The benefits of the ecological value to them and the broader community; • Guidance on how they can make the most from the local ecology and contribute to its management. For example, by things they can do like planting ecologically appropriate species in their property, as well as things they should avoid doing(e.g. disrupting wildlife corridors); • Contact details for those responsible for the management and maintenance of the local ecology and sources of local information on biodiversity and ecological management including management companies and local wildlife trusts.

Assessment Criteria: Compliance Notes

Ref	Title	Note
		Compliance notes for this issue are dependent on the final assessment requirements and methodology. Once agreed notes will be added to the final scheme assessment issues as appropriate.

Evidence (also see Appendix C)

Req. point	Interim design stage (all schemes excluding BIU)	Final/ post construction stage (all schemes excluding BIU)	BREEAM in Use Assessment
ALL	One or more of the appropriate evidence types listed in the BREEAM evidential requirements section can be used to demonstrate compliance with these criteria.		

Rewarding the Achievement of Assessment Criteria in the Ecology issues

Recognition of the level of compliance with criteria within assessment issues in BREEAM is demonstrated by the awarding of credits or points scored using a simple calculation method. The value of these credits or points are linked to the overall category weighting related to ecology¹ which sets the relative importance of this category against other categories within the schemes. This means that a credit or point in one category may not necessarily make the same overall contribution to the overall assessment rating achieved as one in a different category. It is not possible to give specific values for all schemes at this stage in the scheme development / SEF implementation process but this will be contained within the scheme documents within the appropriate time.

While the credits and points may differ between schemes and the projects being assessed, the relative value of issues within the within the ecology related category will be broadly similar. The table below provides an indication this relative value by life cycle stage. Percentages are given as a range at present. These will be finalised as part of the relevant scheme development process relating to each scheme.

% of Category Value Allocated to Issue (Total category worth 100%)					
	Built Environment Lifecycle Stage	Master-planning	New Construction	Refurbishment and Fit Out	In Use
No.	Assessment Issue Title				
1	Identifying and understanding the risks and opportunities for the site	35% – 40%	20%	20%	15%– 20%
2	Managing negative impacts on habitats and biodiversity	35% - 40%	25% - 30%	25% - 30%	30% – 35%
3	Enhancement of ecological value	15% – 20%	30% - 35%	30% - 35%	15% – 20%
4	Long term biodiversity management and maintenance	5% - 10%	20%	20%	30% – 35%

In addition to the above, other factors will be taken into consideration such as:

- Scope of the assessment e.g. the number of assessment issues assessed, applicability of the assessment criteria (new construction project in comparison to retail fit out)
- The approach to ecological assessment e.g. ecologist versus project team member route.
- The benefit to the site e.g. on site measures rewarded higher than off-site compensation e.g.

In determining the above percentage ranges, higher levels of recognition are intended where:

- impact on the site is significant,
- the level of effort is high and expertise is comprehensive and
- benefits for ecology are evident where actions taken directly relate to the site under assessment

¹ Category weightings vary to reflect the risks and opportunities relating to specific sectors, built environment lifecycle stages and assessment types and therefore can vary from scheme to scheme.

Appendix A: Definitions

Definitions in the sections where sourced or adapted from existing industry used / accepted definitions. Definitions created for the purposes of BREEAM were defined with the input of advisory groups made of relevant stakeholder (Ecologists, Landscape Architect, and Contractors etc.)

Term	Definitions
Biodiversity	The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, landscape, ecosystem, habitat, communities, species, populations, individuals, genes and the structural and functional relationships within and between these different levels.
Biodiversity offsetting	Biodiversity offsetting is an approach to compensate for habitats and species lost to development in one area, with the creation, enhancement or restoration of habitat in another location.
Compensation	Measures taken to make up for the loss of, or permanent damage to, ecological features despite mitigation e.g. replacement habitat or improvements to existing habitats similar in terms of biological features and ecological functions to that lost or damaged. Compensation can be provided either within or outside the project site, in line with the following hierarchy: within site, adjacent to site and off-site (offsetting) as a last resort.
Connectivity	The degree to which the landscape facilitates or impedes movement between and across resource patches.
Ecological baseline	The ecological baseline is the ecological value of the site before construction / refurbishment / fit out. The ecological baseline is used to compare performance after construction/refurbishment/fit out to determine if it is the same or significantly changed. Note specific to BREEAM in Use The ecological baseline is used to compare performance at defined intervals e.g. at points of reassessment, to determine if performance is the same or significantly changed.
Ecological value	The importance, worth, or usefulness of a species, habitat or ecosystem in terms of its impact on other species and/or habitats, as well as the other environmental, social, cultural and economic value that can be delivered from species and habitats and their interactions (ecosystem services) specific to a geographical frame of reference.
Ecosystem	An ecosystem is a dynamic complex of plant, animal, and micro-organism communities and the non-living environment interacting as a functional unit. Ecosystems vary enormously in size; a temporary pond in a tree hollow and an ocean basin can both be ecosystems.
Ecosystem services	Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; economic value such as tourism and cultural/social services such as health and wellbeing, recreational, spiritual, religious and other non-material benefits.
Enhancement	Improved management of ecological features or provision of new ecological features, resulting in a net benefit to biodiversity, which is unrelated to a negative impact or is 'over and above' that required to mitigate/compensate for an impact.
Fragmentation	The breaking up of a habitat, ecosystem or land-use type into smaller parcels with a consequent impairment of ecological function, connectivity and long-term viability.

Term	Definitions
Green infrastructure	Multi-functional space, urban and rural, that can form a network or be self-contained, which is capable of delivering a wide range of environmental and quality of life benefits for local communities. It covers both 'green' and 'blue' (water environment) features of the natural and built environments. Examples include parks, open spaces, playing fields, woodlands, wetlands, grasslands, river and canal corridors, allotments, private gardens and living (green) roofs and facades.
Habitat	A place in which a particular plant or animal lives. Often used in the wider sense referring to major assemblages of plants and animals found together.
Handover	For the purposes of the SEF, Handover refers to any point in a sites / developments lifecycle where ecological or landscape related responsibilities, information or documentation, deemed to be crucial to the successful attainment of ecological aims and objectives, is passed from one organisation, group or individual to another. Handover strategies should be designed to support effective communication, monitoring and transition throughout the projects lifecycle. Handover can apply both between and within Tasks in the SEF.
Landscape	An area, as perceived by people, whose visual features and character is of environmental, social and/or economic value usually as a result of the action and interaction of natural and/or human factors e.g. aesthetic, heritage, scenic, cultural and leisure benefits.
Land-sea interface	The land-sea interface, also known as the Coastal Transition Zone, is the area of transition that links terrestrial and marine environments. In this zone ecological and physical processes from both the marine and terrestrial environments interact.
Mitigation	Adverse effects that cannot be avoided should be adequately mitigated. Mitigation measures minimize the negative impact of a plan or project, during or after its completion.
Site	For the purposes of BREEAM the site is considered to be the land enclosed by the boundary of the BREEAM assessment.
Site wide outcomes	Broad outcomes that impact across the site and allow for wildlife access and travel as well as providing appropriate links between habitats on or off the site itself.
Suitably Qualified Ecologist	<p>An individual achieving all the following items can be considered to be 'suitably qualified' for the purposes of compliance with BREEAM:</p> <ol style="list-style-type: none"> 1. Holds a degree or equivalent qualification (e.g. N/SVQ level 5) in ecology or a related subject. 2. Is a practising ecologist, with a minimum of three years relevant experience (within the last five years). Such experience must clearly demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment including; acting in an advisory capacity to provide recommendations for ecological protection, enhancement and mitigation measures. Examples of relevant experience are: ecological impact assessments; Preliminary Ecological Appraisals (PEA); Phase 2 habitat and fauna surveys; and habitat creation. 3. Is covered by a professional code of conduct and subject to peer review. Full members of the following organisations, who meet the above criteria, are deemed Suitably Qualified Ecologists for the purposes of BREEAM: <ol style="list-style-type: none"> a. Chartered Institution of Water and Environmental Management (CIWEM) b. Chartered Institute of Ecology and Environmental Management (CIEEM) c. Institute of Environmental Management and Assessment (IEMA) d. Landscape Institute (LI) e. The Institution of Environmental Sciences (IES).

Term	Definitions
Wildlife corridors	A physical link or other route that facilitates and encourages the passage or movement of animals between habitats both on and off site and so contributes to ecological networks in the area.
Zone of influence	<p>Areas of land or water bodies directly impacted by the site undergoing assessment. These areas can be adjacent to the site or can be areas that are dependent on the site but not physically linked including areas downstream from a site.</p> <p>Areas within the zone of influence can be negatively affected by changes on an assessment site but they also provide further opportunity to maximise enhancement activities.</p>

Appendix B: BREEAM Ecological Risk Evaluation Checklist

This checklist should be used to determine the assessment route (ecologist or project team member) applicable to the project. It is a high level checklist which evaluates the potential risk to habitats / features of ecological value on or within the zone of influence of the site. It does not provide a calculation of ecological value.

The checklist is structured in a way that identifies risk factors that require a limited degree of expert professional advice before the assessment route is selected. The nature of this service is outlined in the notes that follow the checklist **.

There are five sections in the checklist:

1. Statutory Requirements / Regulation Obligations
2. Zone of influence relating to the site
3. Existing Buildings and Structures on the site
 - a. Buildings or structures located on-site
 - b. Proposed Works to Existing Buildings or Structures
4. Existing Habitats / Ecological Features On-Site or directly Adjacent to the Site Boundary
5. Signature (to be completed where the checklist is used as evidence for Issue 1 for assessments using the Project Team Member Route)

The checklist should be completed by either the BREEAM / HQM assessor, using appropriate evidence submitted by the design team or completed by the design team and submitted to the assessor along with appropriate supporting evidence. The checklist answers must be based on an evaluation of the site prior to any site clearance or construction activities.

This checklist must be completed by a project team member or other professionally qualified client representative with responsibility for site wide planning/decision making. This completed checklist will form part of the evidence required by the BREEAM/HQM assessor.

Where outcomes of the checklist indicate that the project team member assessment route is appropriate for the assessment, the completed checklist would be acceptable in lieu of a survey and evaluation and in these instances can be used to demonstrate compliance against the relevant assessment requirement in Assessment issue 1.

Section	Questions	Y/N
1	<p>Statutory requirements / regulatory obligations on the site</p> <p>This section identifies key statutory / regulatory requirements that would automatically require the use of a Suitably Qualified Ecologist.</p>	
1a	<p>Do statutory authorities require any of the following for the project?</p> <ul style="list-style-type: none"> - ecological survey or statement to be prepared - an environmental impact assessment - strategic environmental assessment - an ecological impact assessment - habitat regulation assessment - water framework directive assessment 	Y/N
	<p>If the answer to any question in section 1 is YES, the Ecologist Assessment Route must be followed. If the answer to all questions in section 1 is NO, progress to section 2</p>	
2	<p>Zone of Influence related to the site</p> <p>The ecological value of a site impacts on the wider ecology in the area and cannot be seen in isolation from this. This section identifies local features that would require appraisal by an ecologist to determine the degree of risk arising from the development works.</p>	
2a	<p>Are any of the following major habitat types present within 100m of the site?</p> <ol style="list-style-type: none"> 1. Broad-leaved/mixed-leaved woodland* 2. Scrub including heathland (habitat/plants that thrive on acidic soils, such as heather and gorse) 3. Flower-rich meadow/grassland 4. Wetlands and surface water bodies (ditches, ponds, swales, lakes, marshland, fenland, reed bed) natural or man made 5. Coastal habitats 	Y/N
2b	Proximity to protected / ecological significant areas	
2b i	Is the development within 500m of a Non-Statutory Site, such as a Local Wildlife Site?	Y/N
2b ii	Is the development within 500m of a Site of Special Scientific Interest (SSSI)?	Y/N
2b iii	Is the development within 2km of a Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar site?	Y/N
2b iv	Is the site located within 10 m of a land-sea interface?	Y/N
	<p>If the answer to any question in section 2 is YES seek advice from a Suitability Qualified Ecologist** to determine whether the Project Team Member Route is appropriate. If the answer to all questions in section 2 is NO progress to Section 3</p>	

Section	Questions	Y/N
3	<p>Existing Buildings and Structures on the site</p> <p>Particular buildings can provide habitats for wildlife such as roosting spaces for legally protected birds and bats. This sections identify key building characteristics that present potential opportunities for wildlife that could be put at risk as a result of development activity.</p>	
3a	Buildings or structures located on-site	
3a i	Are there any existing buildings or structures located on your site?	Y/N
3a ii	<p>Do any of the structures on the site include:</p> <ul style="list-style-type: none"> - Buildings or outbuildings with open access which could allow entry for wildlife (including but not limited to barns and other agricultural buildings, covered sheds/shelters, open industrial buildings)? - Structures containing spaces that are either uninhabited or are infrequently accessed by people - Older buildings e.g. pre 1960 - Bridge like structures, aqueducts or viaducts - Underground structures including but not limited to cellars, sunken enclosed spaces tunnels, natural or man-made caves, mine workings, culverts etc.? - Any buildings in a derelict or decayed state? 	Y/N
	<p>If the answer to question 3a ii is YES seek advice from a Suitability Qualified Ecologist** to determine whether the Project Team Member Route is appropriate.</p> <p>If the answer to all questions in section 3a ii is NO progress to Section 3b</p>	
3b	<p>Proposed works to existing buildings and / or structures</p>	
3b i	<p>Will the proposed works (including structural alteration, construction, refurbishment or deconstruction) affect existing buildings/structures on-site with ANY of the following features/ materials:</p> <ul style="list-style-type: none"> - Buildings with weatherboarding and/or hanging tiles? - Plain/day-tiled pitched roof - Open soffits or soffits/eaves/gables with decayed boarding? - Open loft spaces? - Broken/ loose roof tiles of any type - Ridge tiles with decayed mortar jointing/bedding - Dense climbing vegetation - Agricultural or other buildings of traditional brick or stone construction and/or with exposed wooden beams greater than 20cm thick? - Buildings with turrets, clock/bell towers or similar structures - Observable bird nests, bat roosts etc. internally or externally (identifiable through visual inspection, signs of ingress/egress etc.). - A build-up of bird/bat droppings inside or outside? - Water management features including weirs, ponds, swales etc. 	Y/N
	<p>If the answer to any question in section 3b is YES seek advice from a Suitability Qualified Ecologist** to determine whether the Project Team Member Route is appropriate.</p> <p>If the answer to all questions in section 3 is NO progress to Section 4</p>	

Section	Questions	Y/N
4	Existing habitats / ecological features on site or directly adjacent to the site boundary This section identifies natural environments or features on or adjacent to the site which could be directly impacted or otherwise affected by the development works.	
4a	Are any of the following habitats/ features present on the site? 1. Hedgerows, woodland blocks / belts or scrub connected to woodland or hedgerows 2. Brownfield sites where the site has been vacant/disused for 2 years or more and scrub vegetation cover more than 25% (canopy cover) of the total site area is at least and at least 300mm in height 3. Trees i. With a trunk diameter of more than 75 mm (measured at 1.5 meters above ground level ii. Designated as veteran trees or protected by Tree Preservation Orders/Group Preservation Orders iii. Which are mature with cracks, crevices and holes/ or with dense climbing plants such as ivy iv. Are any trees and hedgerows described above to be removed or is there likely to be building activity within 15 metres of a tree with a trunk diameter of more than 75mm (measured at 1.5 metres above ground level? 4. Flower-rich grassland 5. Permanent or seasonal open water courses (rivers, streams or canals)**	Y/N
4b	Of the habitats / featured identified as being on the site, will any be affected by the development works?	Y/N
4c	Are there any surface water bodies such as lakes, ponds, ditches, swales, • within 8m of the site boundary or • directly connected through surface water runoff from areas of the site that are or will be developed?	Y/N
	If the answer to any question in section 4 is YES seek advice from a Suitability Qualified Ecologist** to determine whether you can proceed with the checklist and potentially Project team member route to determine whether the Project team member route is appropriate. If the answer to all questions in section 4 is NO the Project Team Member Route can be used to demonstrate compliance and should be signed by the relevant Project Team member.	
5	To be completed where the checklist is submitted as evidence of compliance with BREEAM Assessment Issue 1	
	Signature:	
	Date:	
	Name:	
	Company:	

* The Countryside Survey defines woodland as 'having over 25% canopy cover of trees and shrubs, over a metre high'. Broad-leaved woodland should be taken to mean broad-leaved, mixed and Yew woodland. ** The Countryside Survey defines the broad habitats of rivers and streams as running watercourses ranging from small headwater streams to large rivers. This broad habitat, along with wetlands, includes the open water itself and the vegetation along the water's edge.*** The Countryside Survey defines a hedge as 'a line of woody vegetation that has been subject to management so that trees no longer take their natural shape.'

<http://www.countrysidesurvey.org.uk> . Information on relevant priority habitats at national and local level can be found in the Local Biodiversity Action Plans in your area.

** Where the checklist identifies a need to consult with a Suitably Qualified Ecologist to determine whether or not the Project Team Route is appropriate, the ecologist would normally review basic pre development information on the site and outline development proposals as well as publically available information on the local area in order to reach a considered view as to the ecological risks associates with the proposed works.

1. Where these are deemed to be relatively insignificant due to the nature of the site, its location and the nature of development works being undertaken, the project may proceed using the Project Team Route.
2. Where the ecologist identifies risks to high value features and local ecosystems the Ecologist Route will be required.

BRE are currently discussing the nature of this service with its Ecology Advisory Group and CIEEM. It is likely that a small fee would be chargeable for this service:

Appendix C: BREEAM Evidence Requirements (Extract from Scheme Documents)

This section provides guidance to assessors and project teams on the types of evidence required to demonstrate compliance with BREEAM issues.

Set out the underlining principles / approach we would take in carrying out this development

Why does BREEAM require evidence?

BREEAM is a third party assessment and certification scheme operated in accordance with international standards to ensure the scheme is operated in a consistent and reliable manner. The BREEAM Assessor's assessment report and the BRE Global Quality Assurance process are core elements of BREEAM, ensuring consistency of, and confidence in, the BREEAM rating awarded by the assessor.

To maintain this consistency and credibility, all certification decisions must be based on verified and credible project information that can be traced, i.e. evidence based. This is not only important for compliance with the international standards but also manages risk to clients and BREEAM Assessors in the event that a certification outcome is challenged.

The assessment report and the BREEAM Assessor role

The role of the BREEAM Assessor is to gather project information and, in a competent and impartial manner, use it to assess performance against the BREEAM scheme. To award a BREEAM credit, the assessor must be satisfied that the evidence gathered demonstrates unambiguous compliance with all relevant criteria defined in the BREEAM scheme. All evidence must be referenced appropriately in the formal report produced by the assessor and made available on request from BRE Global Ltd for quality assurance checks.

Clear, ordered and well referenced evidence for each BREEAM issue and criterion addressed facilitates efficient quality assurance and certification. BREEAM Assessors can access further guidance on assessment report referencing in Assessor Guidance Note 01, and the 'Reporting process' webinar, both available from the Resources section of the BREEAM Projects website.

The BREEAM Assessor determines the BREEAM rating and their assessment report is a formal record of their audit against the criteria defined in the technical manual for a BREEAM scheme. The BREEAM certificate issued by BRE Global provides assurance that the service provided by the assessor (that is, the process of producing the assessment report) has been conducted in accordance with the requirements of the scheme. The certificate provides confidence in the assessor's performance and processes in determining a BREEAM rating.

Evidence types

Evidence does not necessarily need to be prepared specifically for the purpose of the BREEAM assessment. In many instances, the assessor should make use of readily available and prepared project information to demonstrate compliance.

BREEAM, therefore, seeks to avoid being prescriptive on the type of evidence required, although some issues do require specific documents to be provided.

The BREEAM Assessor and project team will find that many assessment issues require more than one piece or type of information to demonstrate compliance with one criterion. Alternatively, one piece of information may be sufficient to demonstrate compliance with multiple criteria.

To help project teams and the BREEAM Assessor understand how the different types of building information documentation they collate can be used as evidence at each stage of assessment, the evidence types are grouped broadly into three categories:

1. General evidence type
2. Specific evidence type
3. Other evidence type

For some assessment issues, the assessor will require a mixture of general and specific evidence types.

General evidence includes a broad list of defined building information commonly produced for a building project. One or more pieces of this type of information can be used to demonstrate compliance against one or more of the BREEAM assessment issues and criteria, as deemed appropriate by the BREEAM Assessor for the stage of assessment.

General BREEAM evidence types are listed in Table 9 and not specifically in the Evidence section within each BREEAM assessment issue. Not all general evidence types will be appropriate for all assessment issues and it is the responsibility of the assessor to ensure that the evidence specifically demonstrates compliance and is fully referenced in the assessment reporting tool.

Specific evidence is defined particular building information that must be provided to verify compliance with the relevant criteria for the BREEAM credit sought. In all cases this is the only type of evidence acceptable to BRE Global Ltd for that particular issue or criteria. If the specific evidence is not provided and referenced appropriately in the assessment report, the Quality Assurance checks will identify non-conformity and certification will be delayed. An example of specific evidence is a copy of the building regulations output document from the approved software for BREEAM issue Ene 01 which is listed in the evidence table for this issue.

When required, specific evidence is defined and listed in the Evidence section of the assessment issue for both the interim and final stages of assessment. Specific evidence required to demonstrate compliance with particular Criteria are listed, but this evidence alone may not be sufficient to demonstrate full compliance. Additional general evidence types may also be required. For example for Mat 01, to demonstrate compliance with criteria 1–5 at the design stage, a copy of the Mat 01

Calculator tools may be listed in the Evidence table. However, in addition to the Mat 01 Calculator tool, further evidence is required to demonstrate how the inputs for this tool have been determined, i.e. general evidence types such as building specifications or drawings etc., confirming the material specifications to be used. Not all BREEAM issues have specific evidence requirements.

Other types of evidence can be used to demonstrate compliance. This type of information provided by a client or design team, not listed in Table 9 or the Evidence section for each issue, can still be used. To avoid non-conformities and delays in certification, undefined alternative types of evidence must be credible, robust and traceable to the same assurance level as, or better than, specified or general evidence types. If in doubt, BREEAM should be contacted prior to accepting such evidence.

Written commitments at the interim stage of assessment – Design stage

At the interim design stage of assessment, letters or emails to demonstrate intent to comply with BREEAM criteria can be used; provided they meet the requirements for communication records. Such evidence must make clear the actions that will be undertaken and evidence that will be provided (or an understanding thereof) to ensure the project's compliance, particularly at the final stage of assessment, i.e. post construction. The party who makes the commitment must be clearly aware of the actions and evidence that needs to be supplied to demonstrate compliance with BREEAM at the final stage of assessment. For example, in many circumstances it would not be acceptable for the design team to copy and paste the BREEAM criteria into a formal commitment.

The commitment should specifically detail how criteria are to be achieved in the context of the assessment, and often copying and pasting the BREEAM criteria will not provide this detail.

While letters of commitment can play a role in demonstrating compliance, they are not a replacement for more formal and established types of project information. The assessor must not award credits where they have a reason to doubt the validity or intent of written commitments, or where it is not unreasonable to expect formal design or specification information to be available to confirm compliance.

Written commitments at the final stage of assessment – post construction

Two types of assessment can be carried out at the post construction stage, a post construction review of a design stage assessment, or a post construction assessment where no design stage assessment has been carried out. The 'Final post construction stage' column of the evidence table in each issue assumes that a design stage assessment has been completed. Where a design stage assessment has not been completed, the assessor will need to review both the 'Interim design stage' and 'Final post construction stage' evidence listed in the evidence table and ensure sufficient evidence is submitted with the assessment to demonstrate compliance with the criteria.

Evidence supplied at the post construction stage must be reflective of the completed building and must therefore demonstrate what has

actually been implemented. For example, if sub-meters have been specified at the design stage, evidence at the post construction stage would need to demonstrate that these have actually been installed. Appropriate evidence may be a site inspection report with supporting photographs or as-built drawings showing the location of the sub-meters.

Letters of commitment cannot be used to demonstrate compliance at the final, post construction stage of assessment. The only exception to this is where the criteria require an action to take place post construction, i.e. after handover and possibly during the building operation. An example could be a written commitment from the building owner or occupier making a commitment to conduct post occupancy evaluation. The BREEAM Assessor must not award BREEAM credits where they have a reason to doubt the validity or intent of written commitments or where it is reasonable to expect formal documentation, e.g. a schedule of services in a professional services contract.

Evidence principles that BREEAM Assessors and the BRE Global Ltd Quality Assurance work to

Where specific evidence is in the 'evidence' table within each assessment issue, this must be sourced and verified by the BREEAM Assessor.

Where no specific evidence is listed, this means there are potentially a number of different types of 'general' project information, as per Table 9 that the BREEAM Assessor can source and use to demonstrate compliance. It is the BREEAM Assessor's responsibility to source and verify the 'general evidence types' for each relevant criterion, where compliance is being claimed by the project team.

To determine whether 'general evidence types' are appropriate for an assessment issue, the BREEAM Assessor must consider the BREEAM evidence principles, see Table 8. Where the 'general evidence types' meet the principles outlined in Table 8 and the guidance provided in the 'robustness of evidence' section, where appropriate, such evidence is admissible for the assessment and the BRE Global Quality Assurance checks.

These principles are not listed in a hierarchical order and are all equally important when considering which evidence type to submit to demonstrate compliance for an assessment issue or criterion.

Table 1 BREEAM evidence principles

	Summary	Principle	Objective	A question to ask to check
1	Evidence for all criteria and all credits sought	Evidence demonstrates that ALL relevant* criteria and sub-criteria are achieved for each credit sought and where relevant, is provided to support compliance notes, definitions etc.	Completeness	Are all criteria and sub-criteria covered? Have all relevant compliance notes and definitions been addressed?
2	Unambiguous assessment	The assessment demonstrates unambiguous compliance and the evidence supports this assessment. Evidence (and supporting notes) clearly demonstrate to a third party reviewer that the criteria have been met.	Independent review compatibility	Would a third party (e.g. BRE Global Ltd) be able to confirm compliance and award the same credits based on the evidence submitted?
3	Robust	<p>a. Always ensure the evidence type selected is robust and relevant to the stage of assessment.</p> <p>b. Evidence selected contains all relevant basic information along with robust constituent parts that are needed.</p> <p>(see Robustness of Evidence in the next section for further details on both of the above)</p>	Proof that evidence is robust and from a reliable source	Using an assessor's judgment, is the evidence robust enough to demonstrate compliance with the criterion? Does the evidence contain all the relevant basic information? Is it fully auditable?
4	Use existing evidence	Existing project information demonstrates compliance. In most cases evidence should not need to be 'created' for BREEAM compliance purposes.	Minimize evidence and reduce time and cost of compliance	Does robust evidence that can be used already exist? Is more evidence needed

Robustness of Evidence

Robust evidence provides confirmation that the assessment has been carried out correctly and the building complies with the criteria for the BREEAM credits sought. The assessor should consider the following when gathering project information and evaluating whether the evidence provided is as robust as possible:

- Is there more than one piece of evidence that could be used to demonstrate compliance?
- Is the chosen evidence robust and appropriate to demonstrate that a particular criterion has been achieved?

Any evidence submitted for a BREEAM assessment must be robust in terms of its source and its traceability. The minimum information the assessor must expect to see when certain types of evidence are submitted is:

Communication records: Any communication records used as evidence provide clear confirmation of the site name, author's identity and role, the date and recipients identity.

Formal letters of correspondence: On company or organisation headed note-paper with a signature (electronic signatures are acceptable). Ideally letters should be a secured document. (Please see sections relating to written commitment for further information).

Meeting minutes: Include date, location and attendee information (names, organisations and roles), along with a record of the meeting and agreed actions.

Drawings: All drawings have the building or site name, phase (if applicable), title of drawing, date, revision number and a scale.

Specification: A specification clearly relates to the project under assessment, and has a date and revision number. Where sections of a specification are provided, the assessor should reference the extract and as a minimum submit the front page of the specification detailing the project name, revision number and date.

Site inspection report: A site inspection report includes the building or site name, date, author and summary text to detail what was witnessed, confirming compliance. Photographic evidence can be used to support the text in the report.

For other types of evidence not listed, the assessor should use this minimum information list as a guide to suitable evidence. As a minimum the evidence used to assess compliance must contain key information such as the project name, the author, date, revision numbers etc.

General evidence types

Ref	Document or evidence type	Description and notes
E1	As constructed information	Information produced at the end of a project to represent what has been constructed. This will comprise a mixture of 'as-built' information or drawings and surveys from specialist subcontractors and the 'final construction issue' from design team members.
E2	Building information model (BIM)	The BIM (or BIM files) used for the project containing relevant information or evidence of compliance.
E3	BRE Global correspondence reference number	For example the reference number for a BRE Global response to an assessor's technical query.
E4	BREEAM Assessor's site inspection report	A formal report based on the BREEAM Assessor's own survey of the site or building to confirm compliance with BREEAM criteria. An assessor's site inspection report will be distinct from their formal BREEAM assessment report, serving as a form of evidence of compliance in its own right, and it may include photographs taken by the assessor as part of the survey.
E5	Building contracts	The building contract (or excerpts or clauses from it) between the client and the contractor for the construction of the project. In some instances, the building contract may contain design duties for specialist subcontractors or design team members.
E6	Certificates of compliance (third party)	Examples include ISO 14001, BES 6001, FSC (Forest Stewardship Council), EPC (environmental profile certificate), EPD (environmental product declaration), Considerate Constructors etc.
E7	Communication records	Formal communication records between or from relevant project stakeholders or other third parties confirming an appointment, action or outcome. This may be in the form of a letter, meeting minutes, email correspondence, publication or another form of media (see also additional guidance on following pages).
E8	Communication strategy	The strategy that sets out when the project team will meet, how they will communicate effectively and the protocols for issuing information between the various parties, both informally and at information exchanges.
E9	Computer aided modelling results and outputs	Examples include thermal modelling, flooding, life cycle assessment, life cycle costing, ventilation modelling etc.
E10	Construction specification	The specification for the project or building.(6)
E11	Construction stage data and information	For example, purchase orders, metering data, log books, commissioning records, reports etc.
E12	Contractual tree	A diagram that clarifies the contractual relationship between the client and the parties undertaking the roles required on a project.
E13	Cost information	Project costs, including the cost estimate and life cycle costs.
E14	Design drawings (7)	Developed Design and Technical Design, including the coordinated architectural, structural and building services design. Site plans, drainage designs.
E15	Design programme	A programme setting out the strategic dates in relation to the design process. It is aligned with the Project Programme but is strategic in its nature, due to the iterative nature of the design process, particularly in the early stages.

E16	Design responsibility matrix	A matrix that sets out who is responsible for designing each aspect of the project and when. This document sets out the extent of any performance specified design.
E17	Feasibility study	Studies undertaken to test the feasibility of the Initial Project Brief for the site or in a specific context and to consider how site-wide issues will be addressed.
E18	Final project brief	The Initial Project Brief amended so that it is aligned with the Concept Design and any briefing decisions made during this stage.
E19	Other third party information	For example, maps, public transport timetables, product data or details, manufacturers' literature, government or EU standards or codes, EU labelling.
E20	Professional services contract	An agreement to provide professional or consulting services such as designing, feasibility studies, or legal or technical advice.
E21	Professional specialist reports	Professional reports resulting from specialist surveys, studies or test results, e.g. contaminated land, ecology, flood risk assessment, surface water run-off report, site investigation, acoustics, indoor air quality plan, low and zero carbon technologies study, transport analysis, commissioning reports, passive design analysis report, free cooling analysis report, life cycle assessment, landscape and habitat management plan etc.
E22	Project Execution or Quality Plan	The Project Execution Plan is produced in collaboration with the project lead and lead designer, with contributions from other designers and members of the project team. The Project Execution Plan sets out the processes and protocols to be used to develop the design.
E23	Project programme	The overall period for the briefing, design, construction and post completion activities of a project.
E24	Project roles table	A table that sets out the roles required on a project as well as defining the stages during which those roles are required and the parties responsible for carrying out the roles.
E25	Project strategy	The strategies developed in parallel with the Concept Design to support the design and, in certain instances, to respond to the Final Project Brief as it is concluded.
E26	Risk assessment	<p>The risk assessment considers the various design risks and other risks on a project and how each risk will be managed and the party responsible for managing each risk.</p> <p>Examples include strategies for sustainability, acoustics, handover, maintenance and operational, fire engineering, building control, technology, health and safety, construction, travel plan, sustainable procurement plan.</p>
E27	Schedule of services	A list of specific services and tasks to be undertaken by a party involved in the project which is incorporated into their professional services contract.
E28	Strategic or initial project brief	The brief prepared following discussions with the client to ascertain the project objectives, the client's business case and, in certain instances, in response to site feasibility studies.
E29	BREEAM AP output	<p>Examples of evidence that could be used to demonstrate compliance with some of the requirements of the BREEAM AP related criteria (in Man 01 and Man 03) include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Meetings minutes, communication records, formal notes of conversations and other statements reporting on discussions related to performance targets and maximizing performance. • Risks and opportunities documentation

E30	Responsible construction management documentation	<p>Examples of evidence that satisfy criteria 1 to 6 include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Company’s policy and procedure documents (including environmental management, pollution prevention, security) • Construction logistics plan • Responsibility matrix • Statement of confirmation by the ‘dedicated person on site’ • Training records • Photographic evidence • Records of communication with the neighboring community • Contracts / formal agreements • Reporting documents and logs • Reporting procedures <p>Evidence produced by third party schemes (e.g. CCS monitor’s report, FORS, CLOCS, Yellow Jacket documentation).</p>
-----	---	--

Appendix D - Scope of the BREEAM Family of Schemes used in the UK

The broad aim and scope of each of the schemes in the BREEAM family covered by the implementation process are summarised in this appendix.

Master planning	Infrastructure
<p>BREEAM Communities</p> <ul style="list-style-type: none"> • Medium to large scale developments, including new communities and regeneration projects • New build and mixed existing/new build/refurbishment schemes. • Provides a framework to support planners, local authorities, developers and investors through the master planning process, • Allows consideration of strategic issues before embarking on detailed procurement, building/infrastructure asset level design and construction, • Maximises opportunities to increase sustainability across the entire site are far greater. 	<p>BREEAM Infrastructure Combined Scheme (In development)</p> <ul style="list-style-type: none"> • All new construction and major refurbished (i.e. upgraded) infrastructure assets • Provides a framework for the integration of environmental and social sustainability issues into the procurement process from client specification, design and construction • Structured to ease use of the scheme by clients and their project teams at key stages in the design and construction process. • Covers the planning, design, and construction of all infrastructure and civil engineering works. • Certification will apply to whole project, strategy, design, and post-construction stages.

New construction – Buildings	
Home Quality Mark - HQM (Domestic)	Non Domestic
<ul style="list-style-type: none"> • All new-build domestic developments. The home is defined as 'a self-contained residential unit designed to accommodate a single household' (as with Approved Document L1A 2013 edition). • A new-build home is one that is a new standalone structure or a part of one that will come into operation and use for the first time after its completion. • Customer focused schemes which recognises new homes where performance meets best practice standards. 	<ul style="list-style-type: none"> • All new constructed non-domestic buildings at the design and construction stages. • Provides a number of assessment types, including: fully fitted, fully fitted ('simple' building), shell and core and shell only. • Part new-build, part refurbishment projects are included • Used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages • Support design teams minimise the environmental impact of buildings, by providing a robust, cost effective performance standard surpassing that required by regulations.

Refurbishment and Fit Out – Buildings	
Domestic (Refurbishment only)	Non Domestic (Refurbishment and Fit Out)
<ul style="list-style-type: none"> • Used to assess the environmental life cycle impacts of refurbishment projects including existing dwelling undergoing refurbishment, extensions, domestic conversions and change of use projects in the UK only. • Project types for which the scheme should be used: <ul style="list-style-type: none"> o Category 1: Alterations to existing dwellings and extensions o Category 2: Domestic conversions and change of use projects • Intended for use on self-contained dwellings, which may include a single dwelling or multiple dwellings within a street or block of flats. 	<ul style="list-style-type: none"> • Used to promote the delivery of sustainable refurbishment and fit-out, in order to mitigate the life cycle impacts of existing buildings on the environment in a robust and cost effective manner. • Provides a modular set of criteria that are applied depending upon the scope of works for a particular project type including: <ul style="list-style-type: none"> o Part 1: Fabric and Structure o Part 2: Core Services o Part 3: Local Services o Part 4: Interior Design • Companion scheme to the BREEAM New Construction 2014 scheme, covering the same scope and allowing a new build shell and core building to be further assessed at the fit-out stage later. • ‘Refurbishment’ encompasses a wide range of works to improve the performance, function and overall condition of an existing building. • ‘Fit-out’ encompasses a wide range of works, but is usually associated with internal works to the building including the first fit-out of a newly constructed building or re-fitting an existing building.

Operation – Buildings (BREEAM in Use)	
Non Domestic	Domestic N/A
<ul style="list-style-type: none"> • Used to mitigate the operational impacts of existing assets on the environment in a robust and cost effective manner. • The BREEAM In-Use assessment process is broken down into three Parts: <ul style="list-style-type: none"> o Part 1 – Asset Performance o Part 2 – Building Management o Part 3 – Occupier Management • Developed for use in any country. • Used by real estate owners, occupiers, developers and funders around the world 	

For more detail about the scope of the schemes in the BREEAM family covered by this work is available on line at the following links:

- BREEAM Communities
- Home Quality Mark
- BREEAM UK Non-Domestic New Construction
- BREEAM Domestic Refurbishment
- BREEAM UK Refurbishment and Fit out
- BREEAM in Use International

The BREEAM Infrastructure Combined Scheme is currently in development. An indicative scope of this scheme is provided on the next page.

Scope of infrastructure assessments

We are currently running two existing schemes for assessing the sustainability of infrastructure and civil engineering works: CEEQUAL and BREEAM Infrastructure (Pilot). We are developing a single, updated scheme that will combine CEEQUAL with learning from the BREEAM Infrastructure Pilot. We plan to launch this updated scheme in 2018.

The scheme will cover the planning, design, and construction of all infrastructure and civil engineering works. It will apply to both new construction and major refurbishments (i.e. upgrades) with assessment stages available at strategy, design, and post-construction.

In addition to assessing the whole project (planning, design, and construction), it will also be possible to complete reduced scope assessments of individual project stages (see figure 2 below).

Reduced scope assessments are already an existing feature in CEEQUAL, including the option of completing an 'Interim' Client & Outline Design Award as part of a Whole Project Award. The BREEAM Infrastructure Pilot can only be used to assess complete assets currently, but includes separate certification stages at strategy, design, and post-construction.

	Strategy	Design	Construction
Assessment scope	Whole project		
	Client & Outline Design		
	Client & Design		
		Design only	
		Design & Construction	
		Construction only	

Figure 2: Planned assessment scopes available for infrastructure projects at different project stages. Names are for illustration purposes only.

Table 2: Project types covered by infrastructure assessments

Project type	Project subtype
Aviation	Runway
	Associated assets
Data and communication	Cables
Energy	Renewables
	Refineries
	Power stations
	Transmission and distribution
Marine and coastal	Flood defence
	Harbours or ports
	Offshore platform
	Offshore wind farm
	Sea defence
	Outfall
Structures	Bridge or viaduct
	Platform
	Retaining wall
	Tunnel
Transport	Rail
	Road
	Tram
Water	Water supplies and distribution
	Wastewater and treatment works
	Flood alleviation schemes and river management