d. Commitment to monitor site construction waste

The objective of monitoring site construction waste is to identify methods of waste reduction, reuse and/or recycling.

1. Confirmation is required that the site's construction waste is being monitored. Confirmation can either be in the form of:
   a. a site specific waste policy or procedure,
   b. specification,
   c. letter of appointment or
   d. other formally written document.

2. This point can be awarded where the client or contractor confirms that BRE's SMARTStart™ (part of the SMARTWaste ™ system) scheme is to be used.

Notes:

1. Targets for waste minimisation during the construction process can be set using DTI's Environmental KPI benchmarks or BRE's Environmental KPI benchmarks. These documents do not specify targets but facilitate projects in setting appropriate targets by providing benchmark figures(see references section for further details).

2. BREEAM does not require targets to be met but is encouraging the process of setting, monitoring and reporting against targets.

3. The implementation of a Site Waste Management Plan, will also help to manage the site construction waste produced. Data obtained from monitoring site construction waste can then be used to check performance against benchmarks set for site construction waste and the effectiveness of any solutions implemented.

4. For details on creating a Site Waste Management Plan see DTI's Voluntary Code of Practice: Site Waste Management Plans, Guidance for Construction Contractors and Clients or alternatively continuous improvement measures such as BRE's SMARTAudit waste reduction tool can be used. In England, DEFRA are looking to regulate for the use of Site Waste Management Plans by April 2007.

5. There are two Environmental KPI's used for waste generation on site. Firstly, waste from the construction process measured by waste generated in m^3 per $100m^2$ of floor area. Secondly, waste measured from the construction process by waste generated in m^3 per £100,000 of project value. Constructing Excellence produces annual benchmarks for the second KPI. Significant reductions in waste and better management can be achieved through good design, improved logistics, better on-site construction practices and re-use/recycling wherever possible. The national average figures for construction waste are still evolving. Data from all types of construction sites is continuously collected, with the aim of developing benchmarks for different types of construction and waste. BRE's

SMARTWaste System automatically calculates the Environmental KPI's for a project from the waste data collected and input into the system. Environmental KPIs have been used to benchmark waste minimisation for a number of schemes, including Greenwich Millennium Village and Chiswick Park.

e. Commitment to sort and recycle site construction waste

1. Waste must either be:
   a. recycled on site or
   b. sorted on site and collected for recycling.

2. Confirmation is required that the site's construction waste will be sorted into at least five of the following categories and reused/recycled as appropriate. This confirmation can be in the form of a site specific waste policy or procedure, specification, letter of appointment for a waste / recycling contractor, or other formally written document:

Key Waste Group	Examples of Products in the Key Waste Group
Ceramics *	Bricks, ceramic tiles, clay roof tiles, ceramic toilets and sinks
Inert *	Soils, clays, sand, gravel, natural stone
Metals *	Radiators, metal formwork, metal sinks, cables and wires, metal bars
Packaging	Pallets, cardboard, bubble wrap, cable drums, wrapping bands, polythene sheets
Plastic	Gutters and downpipes, DPC, upvc windows and doors, socket boxes
Concrete *	Concrete pipes, kerb stones, paving slabs, concrete rubble, solid blocks
Insulation	Glass fibre, mineral wool, purlboard, breather paper
Miscellaneous	Office waste, canteen waste, vegetation, ad hoc materials
Plaster / Cement	Plasterboard, render, plaster, cement, fibre cement sheets, mortar
Timber *	Plywood, chipboard, noggins, battens, doors, windows, mdf, timber off cuts and surplus materials
Liquids and Oils	Hydraulic oil, engine oil, lubricating oil, transmission oil, liquid fuel, cleaning agents, mould oil
Architectural Features	Chimneys, façades, fireplaces, roof tiles and reclaimed bricks.

3. In some cases such as minor refurbishments/fit outs it will not be feasible to recycle 5 of the key waste groups. This may be because the materials are not present or because

there is insufficient quantity (i.e. less than 4.5m³ of material). In such cases the point may be awarded if all applicable groups on the list above are being reused/recycled.

4. It should be possible to recycle the five basic materials (marked*) locally, other recyclable material groups will be dependent on local facilities / sites. Note: www.bremap.co.uk can be used to locate the nearest recycling facilities.

5. Where space on site is too limited to allow waste materials to be segregated, a waste contractor may be used to separate and process recyclable materials off site. Where this is the case, sufficient documentary evidence must be produced which demonstrates that segregation of materials is carried out to the correct standards and that materials are re-used / recycled as appropriate.

f. Commitments to adopt best practice policies in respect to air (dust) pollution

1. Confirmation is required of the site's procedures to minimise air / dust pollution. This can include
   a. 'dust sheets',
   b. regular proposals to damp down the site in dry weather,
   c. covers to skips etc.

2. The site team must indicate how this information is disseminated to site operatives.

Note;

1. DTI/BRE publications 'Control of Dust from Construction and Demolition Activities' and Pollution Control Guide Parts 1-5 provide good practice guidelines on construction related pollution (refer to References)

g. Commitment to adopt best practice policies in respect to water (ground and surface) pollution

1. Confirmation is required of the site's procedures to minimise water pollution following best practice guidelines outlined in the following documents.
   a. PPG 1 – General guide to the prevention of pollution. Environment Agency
   b. PPG 5 – Works in, near or liable to affect watercourses. Environment Agency
   c. PPG 6 – Working at demolition and construction sites. Environment Agency

2. The site team must also indicate how this information is disseminated to site operatives.

Commitment to source timber used during construction from sustainably managed sources

1. 80% of timber used during construction, including formwork, site hoardings and other temporary site timber used for the purpose of facilitating construction, is to be procured from sustainably managed sources, independently certified by one of the top two levels as set out in the Responsible Sourcing of Materials credit, MW8, in the Materials section.

2. Re-used timber from off site can be counted as equivalent but reusable formwork only complies if it meets the above criteria.

3. This credit can be awarded where all the timber used is reclaimed timber

APPENDIX 4. BUILDING USERS GUIDE M12

User Guide Contents

The list below indicates the type of information that should be included to meet the needs of the Facilities Management (FM) Team/Building Manager and the general users (staff).

1. Building Services Information
   a. **General User** - Information on heating, cooling and ventilation in the building and how these can be adjusted, e.g. thermostat location and use, implications of covering heating outlets with files, bags etc., and use of lifts and security systems.
   b. **FM** – As above plus, a non technical summary of the operation and maintenance of the building systems (including BMS if installed) and an overview of controls.

2. Emergency Information
   a. **General User** - Include information on the location of fire exits, muster points, alarm systems and fire fighting systems.
   b. **FM** – As above plus, details of location and nature of emergency and fire fighting systems, nearest emergency services, location of first aid equipment.

3. Energy & Environmental Strategy
   This should give owners and occupiers information on energy efficient features and strategies relating to the building, and also provide an overview of the reasons for their use, e.g. economic and environmental savings. Information could include:
   a. **General User** – Information on the operation of innovative features such as automatic blinds, lighting systems etc., and guidance on the impacts of strategies covering window opening and the use of blinds, lighting and heating controls
   b. **FM** - As above plus, information on airtightness and solar gain (e.g. the impact of leaving windows/doors open in an air conditioned office, or use of blinds in winter with respect to solar gain); energy targets and benchmarks for the building type, information on monitoring such as the metering and sub-metering strategy, and how to read, record and present meter readings.

   a. **General User** – details of water saving features and their use and benefits, e.g. aerating taps, low flush toilets, leak detection, metering etc.
   b. **FM** – As above plus, details of main components (including controls) and operation. Recommendations for system maintenance and its importance, e.g. risk of legionella.

5. Transport Facilities
   a. **General User** – details of car-parking and cycling provision; local public transport information, maps and timetables; information on alternative methods of transport to the workplace, e.g. car sharing schemes; local 'green' transport facilities.
   b. **FM** - As above plus, information on conditions of access, maintenance and appropriate use of car parking and cycling facilities, e.g. number of spaces provided.

6. Materials & Waste Policy
   a. **General User** – Information on the location of recyclable materials storage areas and how to use them appropriately.
   b. **FM** – As above plus, information on recycling, including recyclable building/office/fit out components, waste storage and disposal requirements; examples of Waste Management Strategies and any cleaning/maintenance requirements for particular materials and finishes.

7. Re-fit/Re-arrangement Considerations
   a. **General User** – an explanation of the impact of re-positioning of furniture, i.e. may cover grilles/outlets, implications of layout change, e.g. installation of screens.
   b. **FM** - As above plus, environmental recommendations for consideration in any refit. Relevant issues covered in BREEAM should be highlighted, e.g. the use of natural ventilation, use of Green Guide 'A' rated materials, re-use of other materials etc., the potential impact of increasing occupancy and any provision made in the original design to accommodate future changes.

8. Reporting Provision
   a. **General User** – Contact details of FM/manager, maintenance team, and/or help desk facility; and details of any building user group if relevant.
   b. **FM** – As above plus, contact details of suppliers/installers of equipment and services and their areas of responsibility for reporting any subsequent problems.

9. Training
   Details of the proposed content and suggested suppliers of any training and/or demonstrations in the use of the building's services, features and facilities that will be needed. This could include:
   a. **General User** - Training in the use of any innovative/energy saving features.
   b. **FM** – As above plus, training in emergency procedures and setting up, adjusting, and fine tuning, the systems in the building.

10. Links & References
    This should include links to other information including websites, publications and organisations. In particular, the 'Carbon Trust' programme should be referenced and links provided to its website and good practice guidance.

11. General
    Where further technical detail may be required by the FM Team or manager there should be references to the appropriate sections in the Operation and Maintenance Manual.

APPENDIX 5. INTERNAL AND EXTERNAL LIGHTING LEVELS HW5

Compliance requirements

Design

At this stage the following demonstrates compliance;

1. Illuminance (lux) levels are specified in accordance with Part Two of the CIBSE Code for Lighting 2002 and its 2004 Addendum [1]. As well as principal functional areas, this includes all ancillary areas (as applicable) such as:
   a. Store rooms and cold stores
   b. Plant and control rooms
   c. Toilet, washroom and shower areas
   d. Circulation areas, corridors and stairwells
   e. Indoor car parks (where applicable).

2. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7, 'Lighting for offices' [2]. Compliance checking should be carried out against guidance in sections 3.3, 4.6, 4.7, 4.8 and 4.9 of the Guide. This gives recommendations highlighting:

   a. Limits to the luminance of the luminaires, to avoid screen reflections. Manufacturers' data for the luminaires should give this information. For uplighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a calculation, usually by computer, is required here.

   b. Recommendations for direct lighting, ceiling illuminances, and average wall illuminances. This may depend on room layout and reflectance. Where final room room finishes are darker, an extra calculation or verification by measurement will be required.

3. **External Lighting** - Lux levels must be specified in accordance with CIBSE Lighting Guide 6, '*The outdoor environment*'. [3] External areas that must comply include (where applicable):
   a. Covered and open pavement areas
   b. External circulation areas and entrances
   c. Surface car parks (i.e. uncovered car parks)
   d. Access roads (following the recommendations in BS5489 Part 1) [4]
   e. Direction signs & notice boards
   f. Outdoor work and storage areas
   g. Bicycle racks
   h. Delivery, refuse and rubbish areas
   i. Garage forecourts
   j. Subways, stairways and foot bridges
   k. Cash machines
   l. Roadways, general movement (following the recommendations in BS5489 Part 1)
   m. Walkways, perimeter zones, security:
   n. Recreational and club sports:
   o. Sports facilities

APPENDIX 6. CYCLIST FACILITIES T5

4. Cycle rack requirements;
   a. Racks are covered and protected from the rain, and designed to allow both a wheel and the frame to be locked securely to the structure **OR**
   b. Racks are provided for building occupants in a locked shed with CCTV surveillance and where cycle racks are provided for other cyclists (i.e. visitors) these must be provided in accordance with the above. Fixtures to lock bikes are not required for locked sheds.
   c. There are a minimum distance of 0.8m between cycle racks to enable cycles to be moved in and out easily without moving others..
   d. Other structures such as railings, lampposts, etc. do not comply in any instance.
   e. Adequate lighting is provided in accordance with BS5489 Part 1 – Lighting of roads and amenity areas.
   f. The racks are within 0-50m of the main building entrance
   g. Cyclist facilities are in a prominent position, close to and in view of building entrances.

5. Shower requirements;
   a. One shower is provided for every 10 cycle storage racks.
   b. These are available for others to use in addition to cyclists.

6. Changing facilities and lockers requirements;
   a. Lockers are either in or adjacent to the changing rooms.
   b. Each locker is at least 400mm high by 200mm wide by 400mm deep to allow space for a cycle helmet, spare shoes and waterproof clothing.
   c. The number of lockers is at least equal to the number of cycle spaces provided, and both male and female users should be catered for.
   d. Changing facilities are a minimum of $1m^2$ per cyclist to allow enough room for a locker (where provided in the changing space) and seat. Toilet cubicles do not count as changing facilities unless there is sufficient private space equipped with coat hooks and lockers. The size of a standard disabled WC compartment (as defined in Approved Documents Part M) gives an indication of the space required for this use.

7. Drying space requirements (for wet clothes);
   a. This is a specially designed and designated space (a plant room does not comply) and heating/ventilation should be provided.

8. The use of single wheel bike rack holders provide less security and can cause damage to cycles, therefore they do not comply with the requirements of this credit. The provision of 'Sheffield' type stands or equivalent would qualify as these are recognised as being particularly secure.

9. The proximity of racks to building entrance requirement is flexible provided all other requirements are met. However the assessor must be able to justify any variance whilst exercising a degree of common sense. If for example not every rack is within 50m of the building entrance then the credit may still be awarded.

APPENDIX 7. TRAVEL PLAN T8

1. A travel plan has been developed as part of the feasibility and design stages.

2. The travel plan is structured to meet the needs of the particular site and takes into consideration the findings of a site specific transport assessment that covers the following (as a minimum):
   a. Current local environment for walkers and cyclists
   b. Public transport links serving the site
   c. Current facilities for cyclists

3. The plan demonstrates how and what measures have been, or will be taken to minimise the impact of traffic, as a result of the new development.

4. The findings of the travel plan have been used to steer the design of the development in order to meet the travel plan objectives. This must be demonstrated by the project/design team using specific examples such as:
   a. Providing parking priority spaces for car sharers
   b. Providing dedicated cycle storage facilities and cycle lanes on site (adjoining lanes off site where applicable)
   c. Negotiating improved bus services, i.e. altering bus routes or offering discounts
   d. Restricting and/or charging for car parking
   e. Making the site pedestrian friendly, i.e. safe crossing points, direct routes, well lit and sign posted to other amenities and public transport nodes.

5. The travel plan addresses the following types of travel:
   a. Commuter journeys;
   b. Business travel;
   c. Visitors/customers;
   d. Deliveries;

6. The travel plan includes a package of measures that address constraints and opportunities for the following:
   a. Walking;
   b. Cycling;
   c. Public transport;
   d. Use of the private car for travel to work;
   e. Mopeds/motorcycles;
   f. Reducing the need to travel;
   g. Visitors/customers;
   h. Deliveries.

BREEAM

APPENDIX 8. RESPONSIBLE SOURCING OF MATERIALS GUIDANCE MW8

Compliance requirements

Design

At this stage the following demonstrates compliance;

1. The majority of materials in the following elements within the building must be responsibly sourced.
   a. Roof
   b. Frame
   c. Walls (external)
   d. Floors (ground, upper)
   e. Foundations/substructure
   f. Doors
   g. Windows

The following describes how this can be demonstrated for the purposes of this credit;

2. For each of the elements above determine what proportion of the following materials (by volume) form part of the element.
   a. Metals (steel, aluminium etc.)
   b. Concrete (including blocks, tiles etc.)
   c. Brick
   d. Stone
   e. Glass
   f. Composites
   g. Timber
   h. Plastics
3. All materials which form less than 10% of a total element can be excluded from this credit assessment.

4. For each element, select the materials making up the largest contribution by volume (up to a maximum of four).. These should amount to at least 80% of the total remaining materials (after point 3. above). If these do not form the required 80%, contact BRE on how to proceed.

5. Enter this percentage (or volume if used) into the "Volume" column of the 'Responsible sourcing calculator'.

6. The next step is to determine which of the materials identified meet the requirements for responsible sourcing. Within this credit BREEAM defines four 'tiers' of compliance which can be used to gain credits. Points are allocated according to the rigorousness of the method used to demonstrate responsible sourcing (see table below).

Credit structure				
Tier level	**Issue assessed**	**Max points available per element**	**Evidence / measure assessed**	**Examples of compliant schemes**
1	Legality & responsible sourcing	3	Certification scheme	FSC, CSA
2	Legality & responsible sourcing	2	Certification scheme	PEFC, SFI with CoC
3	Legality & responsible sourcing	1.5	Certification scheme/ EMS	Certified EMS at process and extraction stage (see note 6&7)
4	Legality & additional issues	1	Certification scheme/EMS	MTCC, Verified timber*, SGS timber tracking programme, Tropical forest trust, certified EMS at process stage (see note 6&7)

* Verified timber, as outlined here, is a third party certification scheme which demonstrates legal sourcing of timber.

Timber demonstrates compliance via timber certification schemes and currently other material industries are likely to demonstrate compliance through an EMS certification scheme at either the process stage or the process and extraction phases for each material. Chain of custody, third party certification schemes, covering other materials, may be developed in the future and these may comply. Seek guidance from BRE on the acceptability of any such schemes.

7. In the calculator add the percentages (or volumes) of each material which comply with Tiers 1-4. An explanation of what is required for each of these tiers is detailed in Checklist A7

8. At least 80% of each material entered into the calculator must comply with one or more of the tiers outlined to gain points. The following scale is then used to award credits;

   a. ≥15 points — 3 credits awarded
   b. ≥10 points — 2 credits awarded
   c. ≥5 points — 1 credit awarded

9. The calculator determines the number of credits achieved based on the percentage of compliant material in each element, and the overall percentage of compliant elements.

   Example of tiers and percentages within an element;

Element	**Main material(s)**	**Tier/measure**	**% proportion of element**	**Points**
Roof	Steel	Tier 3 , EMS	90%	1.5 points
Roof	Steel & Timber	Tier 3 EMS & Tier 2 certification scheme	40+40%	Determined by the calculator

10. Fixings, adhesives and additives are to be excluded from the assessment of this credit.

11. Where any non certified timber is used in the development the developer/supplier must confirm, in a letter, that it comes from a legal source and that it is not included on the CITES list (see BREEAM definition of legality – Note 10 in 'Compliance requirements', and Note 3 in 'Information required to demonstrate compliance').

Information required to demonstrate compliance

The information used to determine compliance must be fully referenced in the assessor's report with a brief commentary provided on all the information identified below.

Design

At the design and fit out stages examples of information that could be provided include copies of, design drawings, specification and preliminary documents, letters of correspondence or minutes from meetings signed off by all parties.

For this credit, written confirmation from suppliers and manufacturers is also required as outlined below.

Specific documentation required at this stage;

1. A copy of the specification or letter of intent which states the relevant materials will come from a certified source (EMS or timber certification).

2. For materials certified through the EMS route any one of the following must also be provided;

   a. If suppliers are unknown, a letter of intent to use suppliers who can provide an EMS certificate (or equivalent) for the process and/or extraction stages of their product (see Checklist A7, Table 2 for process / extraction definition).

   b. ISO 14001 certificate **OR** signed and dated letter from manufacturer to the developer outlining the following ISO 14001 accreditation information, name of the certifying body, certificate approval date, certificate expiry date, certificate approval number.

   c. EMAS certificate **OR** signed and dated letter from manufacturer to the developer outlining the following EMAS accreditation information, name of the certifying body, certificate approval date, certificate expiry date, certificate approval number.

   d. For SME's (generally companies of less than 30 staff) confirmation that the company EMS is structured in compliance with BS8555 2003 (or equivalent) and the EMS has completed phase audits one to four as outlined in BS8555. This evidence can be found from company documentation demonstrating the process and typical outputs from phase four audits such as an EMS manual/paperwork and guidance to staff. Where independent certification is obtained to demonstrate these phases, the certificates can be used as evidence.

3. For materials certified through the timber certification scheme route the following must also be provided;

   a. A letter from timber suppliers confirming that all timber used in the building has been or will be legally sourced.

   b. Where the stage of assessment allows (i.e. if the design is sufficiently progressed and suppliers have been identified), order forms and/or purchase invoice slips from the suppliers confirming that a full chain of custody (CoC) can be met for all elements gaining the credits. Ideally a copy of the CoC certificate (s) should be supplied. As a minimum the CoC number must be included if the timber supplier has been identified.

c. Written confirmation is also required from the timber suppliers confirming that all timber species (and source see note 8, Compliance requirements) used in the development are not listed on any of the CITES appendices for endangered or threatened species (Appendix I, II, or III).The following statement must be provided and signed by the timber supplier(s) and included in the assessment report.

"I confirm that none of the timber species used within this development are identified on the CITES list (Appendices I, II and III)" **OR**

"I confirm that none of the timber species used within this development are identified on the CITES list (Appendices I and II) and where a timber species used in the development is listed in Appendix III of the CITES list, I confirm that it has not been or will not be sourced from the country seeking to protect this species as listed in Appendix III"

Timber species compliance can be established by searching using the common or scientific name of the tree species on the CITES website (www.cites.org/eng/resources/species.html). See the 'Additional information' section for further details on CITES.

4. Evidence supplied must be consistent where there is more than one potential supplier for an element, and letters of intent from all such suppliers should be provided as outlined above.

APPENDIX 9. LONG TERM IMPACT ON BIODIVERSITY LE6

Compliance requirements

Design

At this stage the following demonstrates compliance;

Mandatory Requirements

A suitably qualified ecologist (as defined in Enhancing Site Ecology, LE5), appointed prior to commencement of activities on site, must confirm in writing that:

1. All relevant UK and EU legislation relating to protection and enhancement of ecology has been, or will be, complied with during the design and construction process.

2. An appropriate management plan is produced covering at least the first 5 years after project completion. This is to be handed over to the building occupants and includes:
   a. Management of any protected features on site,
   b. Management of any new, existing or enhanced habitats,
   c. A reference to the current or future site level Biodiversity Action Plan.

3. Where there is a commitment to produce a management plan, information is provided detailing:
   a. Scope of management plan

   b. Key responsibilities, and with whom these responsibilities lie, e.g. owner, landlord, occupier, FM, other.

Additional Requirements

1. The contractor is required to nominate a 'Biodiversity Champion' with the authority to influence site activities and ensure that detrimental impacts on site biodiversity are minimised in line with the recommendations of a suitably qualified ecologist, as defined in Ecological Value of Land and Protection of Ecological Features, LE3.

2. The contractor is required to train all relevant site work-force on how to protect site ecology during the project. Specific training should be carried out for all the site work-force to ensure they are aware of how to avoid damaging site ecology. Training should be based on the findings and recommendations for protection of ecological features highlighted within a report prepared by a suitably qualified ecologist.

3. The contractor is required to record actions taken to protect biodiversity and monitor their effectiveness throughout key stages of construction. The requirement commits the contractor to make such records available where publicly requested.

4. The client requires that a new ecologically valuable habitat, appropriate to the local area, be created. This includes habitat that supports nationally, regionally or locally important biodiversity, and/or which is nationally, regionally or locally important itself; including any habitat listed in the UK Biodiversity Action Plan (UK BAP), Local Biodiversity Action Plan (LBAP), those protected within statutory sites (e.g. SSSIs), or those within non-statutory sites identified in local plans.

5. The client requires the contractor to programme site works to minimise disturbance to wildlife. For example, site preparation, ground works, and landscaping have been, or will be, scheduled at an appropriate time of year to minimise disturbance to wildlife. Timing of works may have a significant impact on, for example, breeding birds, flowering plants, seed germination, amphibians etc. Actions such as phased clearance of vegetation may help to mitigate ecological impacts. This additional requirement will be achieved where a clear plan has been produced detailing how activities will be timed to avoid any impact on site biodiversity in line with the recommendations of a suitably qualified ecologist.

6. The client requires actions to be taken to protect/enhance biodiversity, take full account of the UK Biodiversity Action Plan (UK BAP) and use local biodiversity experts (e.g. the local wildlife trust) to help identify ecologically important habitats/species on site. A suitably qualified ecologist can advise on incorporating UKBAP issues into the project (information is also available at: www.ukbap.org.uk).

Note;

1. A Biodiversity Champion does not have to be an ecologist or ecological expert but must have sufficient authority and time on site to influence activities and ensure that they have minimal detrimental impact on biodiversity).

2. Local biodiversity expertise should be sought, at, or before, the design stage to help identify species of local biodiversity importance on site. It is likely that their recommendations will draw on the Local Biodiversity Action Plan (LBAP) where one exists.

3. The steps taken in the above requirements will depend on the nature of the site and the surrounding areas. It is likely that either all, or none, of the optional items will apply. Where the optional items and the mandatory management plan are deemed, in writing by the appointed, suitably qualified ecologist not to be applicable, all credits can be awarded. However, all other mandatory items must be met. This is likely to be the case in the majority of assessments in central town/city areas which have a high proportion of existing development and no existing external landscaped areas within the boundary of the assessed site.

4. Where a site is deemed to have no ecological value, e.g. a brownfield city centre site, it is still necessary to employ a suitably qualified ecologist to achieve this credit. The ecologist must confirm that all the mandatory items (1) and (2) have been achieved and provide guidance on how to achieve optional items (6) and (7). Note that in such cases, mandatory item (2) and additional requirements (6) and (7) are likely to be applicable in relation to any ecological enhancements (e.g. green roofs, bird boxes, etc.) adopted in order to achieve the Enhancing Site Ecology credit (LE5).

5. The refurbishment of a listed building may be exempt from the credit requirements if they conflict with the need to maintain the building's listed features, or are counter to the conservation requirements. However confirmation is still required from a suitably qualified ecologist that all possible requirements/enhancements have been achieved before the credit can be awarded (i.e. if no ecological advisor has been appointed then this credit cannot be awarded).

6. Where only some of the additional items are applicable BRE should be contacted for advice on awarding the credit.

Information required to demonstrate compliance

The information used to determine compliance must be fully referenced in the assessor's report with a brief commentary provided on all the information identified below.

Design

At the design and fit out stages examples of information that could be provided include copies of, design drawings, specification and preliminary documents, letters of correspondence or minutes from meetings signed off by all parties.

Specific documentation required at this stage;

1. Evidence/confirmation for each of the above actions or requirements where they have been implemented/achieved.

APPENDIX 11. Ecological Value of Land & Protection of Ecological Features (LE3)

Ensure all existing features of ecological value on the surrounding site and boundary area are adequately protected from damage during clearance, site preparation and construction as listed below;

a. Trees of over 100 mm trunk diameter, and/or of significant ecological value, are to be protected by barriers. Barriers must prohibit construction works in the area between itself and the tree trunk. Minimum distance between tree trunk and barriers must be either the distance of branch spread or half tree height, whichever is the greater.
b. In all cases trees must be protected from direct impact and from severance or asphyxiation of the roots.
c. Hedges and natural areas requiring protection must either have barriers erected and be protected, or, when remote from site works or storage areas, be protected with a prohibition of construction activity in their vicinity.
d. Watercourses and wetland areas are to be protected by cut-off ditches and site drainage to prevent run-off to natural watercourses (as this may cause pollution, silting or erosion).

See overleaf for Checlist A4:

Section 1: Ecological features of the site.		
Instruction: criteria 1.1-1.5 can be used to determine the presence of existing ecological features across the total site. However, if YES is recorded against **any** question in Section 1 for the *construction zone*, then it cannot be defined as *land of low ecological value* and the credit cannot be awarded. If the *construction zone* records a NO against **all** the questions in Section 1 then proceed to Section 2.		
1.1	Does the site contain any trees or hedges above 1m high or with a trunk diameter greater than 100mm?	YES ☐ NO ☐
1.2	Are there any ponds, streams or rivers on, or running through the site?	YES ☐ NO ☐
1.3	Is there any marsh or other wetland present on the site?	YES ☐ NO ☐
1.4	Are there any meadows or species-rich grassland present on the site?	YES ☐ NO ☐
1.5	Is there any heath land such as heather present on site?	YES ☐ NO ☐
Section 2: Type of land to be used for the new building		
Instruction: in addition to answering NO to all the questions in Section 1, if YES is recorded against one or more of the questions in Section 2 then the *construction zone* can be defined as *land of low ecological value*. This credit can then be awarded, as long as all features of ecological value (as defined in Section 1) in the surrounding site and boundary area are adequately protected from damage.		
2.1	Does the *construction zone* consist of land which is entirely within the floor plan(s) of existing building(s) or building(s) demolished within the past 2 years?	YES ☐ NO ☐
2.2	Does the *construction zone* consist of land which is entirely covered by other constructions such as sporting hard surfaces, car parking or such constructions which have been demolished within the past two years?	YES ☐ NO ☐
2.3	Does the *construction zone* consist of land which is contaminated by industrial or other waste to the extent that it would need decontamination before building?	YES ☐ NO ☐
2.4	Does the *construction zone* consist of land which is a mixture of either existing building, hard surfaces and/or contaminated land?	YES ☐ NO ☐
2.5	Does 80% of the land within the *construction zone* comply with statements 2.1, 2.2 or 2.3 and the remaining 20% of the ground area of the building extend into land which has been either; a. Used for single-crop arable farming for at least 5 years, OR b. Consists of regularly cut lawns and sports fields	YES ☐ NO ☐

APPENDIX 12. Mitigating Ecological Impact (LE 4)

Table 1: General Landscape Types

Pastural	Mainly grasslands.
Arable	Land dominated by cereals and other arable crops, as well as intensively managed grasslands.
Marginal Upland	Areas which are on the periphery of the uplands, and which are dominated by mixtures of low intensity agriculture, forestry and semi-natural vegetation.
Upland	Land generally above a height suitable for mechanised farming and frequently dominated by semi-natural vegetation.
Building & Derelict Land	Land currently or previously occupied by buildings.

Table 2: Vegetation Plot Types

Crops/weeds	Mostly highly disturbed vegetation of arable fields and their boundaries includes cereal and vegetable crops.
***Tall grassland/herb**	Typical vegetation of overgrown lowland field boundaries, ditches and roadside verges.
Fertile grass	The bulk of agriculturally improved grasslands, intensive pasture and silage crops; but also includes mown areas of improved grasslands for recreational and amenity purposes, as well as resown roadside verges.
***Infertile grass**	A diverse group of semi-improved and semi-natural grasslands; includes acidic to basic, wet to dry grasslands, and tall-herb vegetation mainly present in the lowlands; often found on stream sides and roadside verges.
***Lowland wooded**	Includes wooded vegetation of hedges and broadleaved woods in the lowlands.
***Upland wooded**	A varied group of acidic vegetation types usually associated with upland woods, including: semi-natural woodland; conifer plantations; bracken and wooded streamsides.
***Moorland grass/mosaic**	Typically grazed moorland vegetation, including extensive upland acidic and peaty grassland, and species-rich but very localised flushes.
***Heath/bog**	Mostly heather moorland, blanket bog and montane heath, but also lowland heath and raised bog.
***Wildlife Garden Planting**	Garden planting that uses native species and those that have a known attraction or benefit to local fauna, based on the advice of a suitably qualified ecologist.