PLANNING DESIGN ENVIRONMENT



Site 5, Hanson Road, Moston
Code for Sustainable Homes
Ecological Assessment

FINAL

April 2010

Redrow Homes Lancashire Ltd
Redrow House
14 Eaton Avenue
Buckshaw Village
Chorley
Lancashire
PR7 7NA

Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

T 01925 844001
F 01925 841002
E tep@tep.uk.com
W: www.tep.uk.com

Written:	Checked:	Approved:
LAC	KS	



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Section A1: Contact Details

Ecologist's Details

Company name: TEP – The Environment Partnership

Company address: Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Contact name: Lynsey Crellin

Contact telephone number: 01925 844066

Developer / Client Details

Company name: Redrow Homes Lancashire Ltd.

Company address: Redrow House
14 Eaton Avenue
Buckshaw Village
Chorley
Lancashire
PR7 7NA

Contact name: Peter Dartnell

Contact telephone number: 01772 643700

Section A2: Development Details

BRE Reference Number:
To be confirmed by the Client
BRE Client Number:

Development Name: Site 5, Hanson Road, Moston

Development Address: Hanson Road, Moston, Manchester, M40 5EW

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Section B1: ecologist's qualifications

B1.1 Do you hold a degree (or equivalent qualification, e.g. N/SVQ level 5) in ecology or related subject?

Yes☑ No ☒

If yes, please provide details: BSc. (Hons) Biology with Industrial Experience

B1.2 Are you a practising ecologist with a minimum of 3 years relevant experience within the last 5 years? *Relevant experience must clearly demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment and will include acting in an advisory capacity to provide recommendations for the ecological protection, enhancement and mitigation measures e.g. ecological impact assessments.*

Yes ☒ No ☑

If yes, please provide details

B1.3 Are you bound by a professional code of conduct and subject to peer review?[1] *i.e. a **full member** of one of the following organisations will be deemed suitable: Chartered Institution of Water and Environmental Management (CIWEM); Institute of Ecology and Environmental Management (IEEM); Institute of Environmental Management and Assessment (IEMA); Landscape Institute (LI).*

Yes☒ No ☑

If 'no' has been answered for any question in Section B1 then the requirements of a 'suitably qualified ecologist' under Code for Sustainable Homes has not been met. The ecology report CANNOT be used in the Code for Sustainable Homes assessment unless it is verified by an individual who is 'suitably qualified' (see section B2 below).

[1] *Peer review is defined as the process employed by a professional body to demonstrate that potential or current **full members** maintain a standard of knowledge and experience required to ensure compliance with a code of conduct and professional ethics*

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Section B2: Report Verification

Details on verifying an ecology report for a Code for Sustainable Homes assessment

B2.1 The verifier of the report must provide written confirmation that they comply with the definition of a 'suitably qualified ecologist' (as detailed above in Section B1).

B2.2 The verifier of the report must confirm in writing they have read and reviewed the report and found it to:

a. represent sound industry practice
b. report and recommend correctly, truthfully and objectively
c. be appropriate given the local site conditions and the scope of works proposed
d. avoid invalid, biased and exaggerated statements.

B2.3 Written confirmation from the third party verifier on all the points detailed under 1 and 2 above (for section B2) must be included in an appendix to this guidance (See Appendix 1)

If the appointed ecologist does not meet the requirement of a 'suitably qualified ecologist' and the report has not been verified by an individual who does meet these requirements, then the ecology report CANNOT be used in the Code for Sustainable Homes assessment

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Section C: Site Survey

C.1 Have the findings of the ecology report been based on data collected from a site survey(s)[2]?

Yes ☑ No ☒

If yes, please provide details to justify this (e.g. date (s) and scope of site survey (s))[3]

If 'no' has been answered to Question 1 of Section C then the ecology report CANNOT be used to determine compliance with the requirement of the relevant Code for Sustainable Homes credits.

[2] *The site visit(s) and survey(s) must be conducted at appropriate times of the year when it is possible to determine the presence, or evidence of the presence, of different plant and animal species*

[3] *The contents of the ecology report must be representative of the site's existing ecology immediately prior to the commencement of initial site preparation works.*

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Findings of Site Survey and Investigation

C.2 Site 5 covers an area of 27534m^2 and is centred on Ordnance Survey Grid Reference SD 874 012, located in Moston, north-east of Manchester city centre. A representative photograph of the site is shown below.

Figure 1 – Site 5 development site



C.3 Details of the site layout were provided by Redrow Homes. A site survey was undertaken by Lynsey Crellin in March 2010, after possession of the site by the developer, before initial site clearance works had commenced. Photographs of the site were taken during the visit to provide a record of its condition.

C.4 Aerial photographs show that the site was previously occupied by terraced housing. Redrow Homes have confirmed that demolition of the buildings was carried out by Manchester City Council prior to their involvement and therefore Redrow Homes are not deemed responsible.

C.5 The site survey involved desk based analysis before undertaking a site visit to establish the site condition and its locale. A walkover survey was felt to be the most appropriate method of survey based on initial desk based analysis.

C.6 Documents provided by Redrow Homes include:

a. Topographical Survey – drawing no. SDL 1719/1
b. Proposed Site Plan – drawing no. RED/M/S5/01G
c. Planting Scheme – drawing no. 3739.06 and 3739.07

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Current Ecological Significance

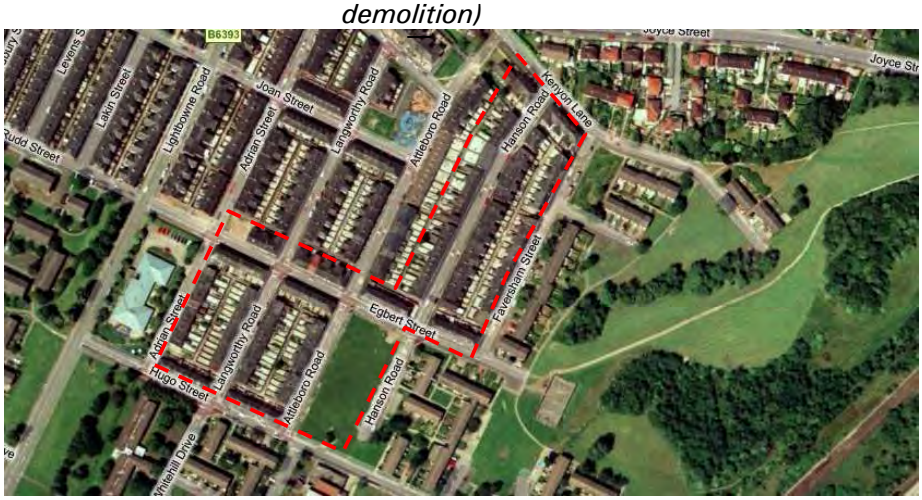
C.7 The site covers an area of 27534m^2 and is currently predominantly fertile grassland with a single living tree and areas of hardstanding.

C.8 Fertile grassland, hardstanding and residential properties form the majority of the local landscape. The wider landscape is predominantly urban interspersed with areas of greenspace. Broadhurst Park lies to the east of the site with areas of woodland and grassland.

C.9 The developable area in question is identified in the topographical survey (Drawing No. SDL 1719/1) located within Appendix 2 of this report and is the area on which the assessment has been based.

C.10 Figures 2 and 3 show the location of Site 5 at the local and wider landscape scale.

Figure 2 – Location of Site 5 within the local landscape context (prior to demolition)



- - - - Site 5 Boundary

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Figure 3 – Location of Site 5 in the wider landscape context



Site Habitats

Grassland

C.11 The majority of the site is fertile grassland which was seeded after demolition of the buildings. This habitat is deemed to have limited ecological value due to low structural diversity.

Hardstanding

C.12 There are areas of hardstanding across the site in the form of access, these areas are of no ecological value.

Lowland Woodland

C.13 There is a single live cherry tree in the centre of the site which is small but may have the potential to provide nesting habitat for birds. Lowland woodland must not be disturbed within the British bird breeding season[4] (March-September) unless a nesting bird survey has been carried out beforehand. The topographical survey shows another tree in the southern corner of the site, however this was found to be dead during TEP's site visit. Neither of the trees would provide bat roosting habitat.

[4] *All birds, their nests and eggs are protected by law under the Wildlife and Countryside Act 1981 – this makes it an offence, with certain exceptions , to deliberately take, damage or destroy the nest of any wild bird while it is in use or being built. It is also illegal to take and destroy the egg of any wild bird.*

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Fauna

C.14 The presence of protected species on site is considered unlikely as habitats across the site are generally poor, however if any protected species are suspected at any time works must cease immediately and an ecologist must be contacted for advice. The tree is too small to be considered as potential bat roosting habitat. Ordnance Survey maps show no ponds within 500m of the site boundary, therefore there are unlikely to be any implications for the development in relation to great crested newts.

C.15 The proposed site plan (RED/M/S5/01G) indicates that the cherry tree will be felled to facilitate the development. This must be undertaken outside of the British bird breeding season (March- September) unless a nesting bird survey is carried out beforehand.

C.16 The pictures below show examples of the site.

4.



5.



Figures highlighting: 4) Single ornamental cherry tree.
5) Grassland and hardstanding.

Section D: Details from site survey

D1.0 <u>Evaluation Criteria for Eco1: Ecological Value of the Site</u>

D1.1 Is the construction zone of low or insignificant ecological value[5]?

Yes☑ No ☒

[5] *The development site is defined as any land used for buildings, hard standing, landscaping, or site access; including areas used for temporary site storage, buildings and any other land where construction work is carried out (or land being disturbed in any way), plus a 3 metre boundary in either direction around these areas.*

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If yes, please provide a brief statement explaining how it has been deemed to be of low or insignificant value.

Assessment

D1.2 To satisfy Eco1, and obtain the 1 credit available, the developer must ensure wherever possible, development is on land that already has limited value to wildlife, discouraging the development of ecologically valuable sites.

D1.3 As described in section C.10 – C.15 prior to site clearance the site consisted of hardstanding and fertile grassland with a single living tree. Hardstanding is deemed to be of no ecological value and the grassland is deemed to be of limited ecological value due to low structural diversity.

D1.4 Although the cherry tree may have some potential to provide nesting habitat for birds, in general it is of limited ecological value due to its small size. Tree works should be carried out outside of the British bird breeding season (March-September), or a nesting bird survey undertaken beforehand.

D1.5 The presence of protected species on site is considered unlikely due to the lack of suitable habitat, however if protected species are suspected on site at any time, works must cease immediately and an ecologist must be contacted for advice.

D1.6 As there are no habitats on site of significant value to wildlife, ***1 credit*** can be awarded under Eco1.

D2.0 Evaluation Criteria for Eco2: Ecological Enhancement

D2.1 Has the developer / client required you to provide advice and recommendations for enhancing site ecology?

Yes ☑ No ☒

If yes, please provide a brief statement outlining all the key[6] recommendations and all your additional[7] recommendations

D2.2 The following recommendations have been based on the proposed site plan which identifies areas of new building, hardstanding and landscaping.

D2.3 The key site recommendations, all of which must be implemented are:

[6] *Key recommendations: the client / developer will be required to adopt / implement all key recommendations.*
[7] *Additional recommendations: the client / developer will be required to adopt / implement at least 30% of additional recommendations.*

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a. pesticide use such as weedkillers, insecticides, slug pellets and fungicides are to be kept to a minimum to prevent bioaccumulation within the animal food chain;
b. implement good horticultural practice within the planting scheme e.g. use peat-free composts and mulches and application of non-residual pesticides;
c. remove trees and shrubs outside of the March-September bird breeding season, or conduct a nesting bird survey beforehand;
d. ensure 50% of the tree planting within the scheme is native. Please note cultivars of native species are not considered to be native but will be assessed for their value to local wildlife;
e. ensure 30% of the shrub and herbaceous planting is native and 20% is of wildlife value; and
f. install bird boxes on at least 10% of the buildings.

D2.4 At least 2 of the following additional recommendations must be implemented
a. ensure 50% of the shrub planting is native, with 20% of wildlife value;
b. ensure 70% of all tree planting within the scheme is native planting;
c. ensure all turfed areas are planted with a seed mix containing at least 5 native species;
d. incorporate bird boxes on at least 20% of the buildings;
e. plant native climbers on at least 10% of the building and fence elevations; and
f. plant 200 bulbs within the landscaping scheme.

D2.5 Details of suitable plant species and specifications of wildlife boxes are contained within Appendix 3 and 4 within this report.

Assessment of Ecological Enhancement

D2.6 If all key and 2 additional recommendations as detailed above are implemented, then ***1 credit*** can be awarded under Eco2.

D3.0 Evaluation Criteria for Eco3: Protection of Ecological Features

D3.1 Are there any existing features / areas of ecological value[8] on the site and boundary area?

Yes☑ No ☒

If yes, please provide brief statement outlining the advice / recommendations given for protecting **all** existing features and areas of ecological value.

[8] *If a feature of ecological value is to be removed as part of the development works, e.g. site clearance, then this credit cannot be achieved. If you have deemed the development site to be of low or insignificant ecological value (Eco 1) then there will be no features of ecological value to protect. If there is an area(s) or feature(s) of low or insignificant ecological value you wish to advise be retained and enhanced / improved.*

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D3.2 Eco3 aims to protect existing ecological features from substantial damage during the clearing of the site and completion of construction works. The following protection measures have been produced following the completion of a site visit and review of the proposed plans.

D3.3 The hardstanding on site is of no ecological value, and the grass and cherry tree specimen are deemed to be of limited value to wildlife.

D3.4 The tree should not be disturbed or felled within the British bird breeding season (March-September) unless a nesting bird survey has been carried out beforehand.

Assessment

D3.5 As habitats across the site are deemed to be of limited ecological value ***1 credit*** can be awarded under Eco 3 provided tree works are carried out outside of the British bird breeding season (March-Sepember) or a nesting bird check is carried out beforehand.

D4.0 Evaluation Criteria for Eco4: Change of Ecological Value of Site

D4.1 Are you able to provide the following information for before and after construction habitat types; and an estimate of the number of floral species present per habitat type (based on appropriate censusing techniques and confirmed planting regimes)?

Yes☑ No ☒

D4.2 A detailed scheme has been provided by Redrow Homes and the following information can be provided:

a. a brief description of the landscape and habitats surrounding the development site;
b. the total site area before and after development; and
c. details of the site pre-construction.

a. description of landscape / habitats surrounding the development site

D4.3 It is important to assess the typology of the surrounding landscape as this is unlikely to change throughout the development. Urban development, fertile grassland, shrubs and trees form the majority of the local landscape. An illustrative example of the surrounding landscape of Site 5 is shown in section C.9 of this report.

b. the total site area before / after development

D4.4 The total area of the site is 27534m^2. This will remain unchanged before and after development.

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c. ecological diversity if the site pre / post construction

D4.5 Tables 1 and 2 show the areas of the different habitat type pre and post construction and the associated number of species per habitat type.

*Table 1 – Site details **before** development*

Habitat Type[9]	***Area of Habitat m²***	***No. Species per habitat type***
Hardstanding	8403	0
Fertile Grassland	19071	11.6
Lowland Woodland	60	0
Total:	27534	11.6

*Table 2 – Site details **after** development*

Habitat Type	***Area of Habitat m²***	***No. Species per habitat type***
Building Footprint	5832	0
Hardstanding	14494	0
Lowland Woodland	998	11*
Typical Garden Planting	6210	0
Total:	27534	0

*Native or wildlife-friendly species in planting schedule: Betula pendula, Malus tschonoskii, Pyrus callyerna 'Chanticleer', Sorbus aucuparia, Ceanothus thyrsifolius 'Repens', Cotoneaster dammeri, Escallonia 'Donard Seedling', Hedera helix 'Goldheart', Lavandula angustifolia ' Vera', Prunus laurocerasus 'Otto luyken', Senecio 'Sunshine'.

D4.6 Has your client / developer requested you to carry out the calculation for Eco 4 Change in Ecological Value of Site[10]?

Yes ☑ No ☒

If yes, please provide all stages of calculations and state what the total change is detailing:

a. ecological calculation before development
b. ecological calculation after development

D4.7 4 credits are available under Eco4 for steps taken to minimise reductions in the ecological value of the site and to encourage improvement / enhancement.

[9] *Habitat types will include natural areas, e.g. various grasslands and woodlands; as well as areas of the built environment, e.g. buildings, hard landscaping. The area of each habitat type when added together must always equal the total area of the development site.*

[10] *The calculation must be carried out in line with the methodology provided in the most current version of the Code for Sustainable Homes Guidance.*

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Credits are awarded as follows:

Credits Available	*Criteria*
1	Minor negative change: between -9 and -3
2	Neutral: between -3 and +3
3	Minor enhancement: between +3 and +9
4	Major enhancement: greater than +9

a. ecological calculation before development

D4.8 A topographical survey and proposed site plan has been provided by Redrow Homes and supplemented by habitat measurements from TEP. Table 3 shows the area of the different habitat types pre-construction and the associated number of species per habitat type.

D4.9 Fertile grassland is given a standard score of 11.6 species as defined in CSH guidance, therefore the site scores relatively highly prior to development due to the amount of grassland located on site.

*Table 3 – Ecological calculations **before** development*

A Plot type	*B Area of Plot (m2)*		*C Species No.*		*D Site Score (species x plot area)*
Hardstanding	8403	x	0	=	0
Fertile Grassland	19071	x	11.6	=	221224
Lowland Woodland	60	x	0	=	0
(1) Total site area =	27534		(2) Total =		221224
Totals Site Score / Total Site Area = (2)/(1) =					**8.03**

D4.10 The ecological diversity of the site prior to development is 8.03.

b. ecological calculations after development

D4.11 Drawing No. RED/M/S5/01G (Planning Layout) has been provided by Redrow Homes and shows that under the proposed scheme all fertile grassland and lowland woodland will be removed to make way for the development.

D4.12 Areas of new landscaping have been identified as well as areas of hard landscaping throughout the development. Where new habitats are being created or where floral species are being planted as part of a landscape design, only those species which are native or have known attraction to local wildlife can be

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included in the calculations. Information within the following tables has been calculated from the planting schedule.

D4.13 Table 4 shows the area of the different habitat types post construction and the associated number of species per habitat type. Following on from this further assessment will then be undertaken to determine the number of species required to enhance the ecological diversity of the site and therefore, obtain a higher score within Eco4.

*Table 4 – Ecological calculations **after** development*

A Plot type	*B Area of Plot (m2)*		*C Species No.*		*D Site Score (species x plot area)*
Building Footprint	5832	x	0	=	0
Hardstanding	14494	x	0	=	0
Lowland Woodland	998	x	11	=	10978
Typical Garden Planting	6210	x	0	=	0
(1) Total site area =	27534		(2) Total =		10978
Totals Site Score / Total Site Area = (2)/(1) =					**0.40**

The ecological diversity of the site after development is 0.40.

*Table 5 showing the **change** in ecological value prior to and post development*

Total no. of species after development		*Total no. of species before development*	*Total change in species*
0.40	-	8.03	**-7.63**

Currently the proposed development would achieve ***1 CSH Credit*** under Eco 4 due to there being a minor negative change in species score of between -3 and -9 native or wildlife-friendly species.

D4.14 Up to 4 credits can be gained under Eco4. Table 6 demonstrates how enhancements may be undertaken to the habitat types on site to achieve an enhanced score.

Table 6 – Ecological calculations post development (Enhanced to achieve 2 credits)

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A Plot type	B Area of Plot (m2)		C Species No.		D Site Score (species x plot area)
Building Footprint	5832	x	0	=	0
Hardstanding	14494	x	0	=	0
Lowland Woodland	998	x	11	=	10978
Typical Garden Planting	3105	x	0	=	0
Wildlife Garden Planting	3105	x	42	=	130410
(1) Total site area =	27534		(2) Total =		141388
Totals Site Score / Total Site Area = (2)/(1) =					**5.14**

The enhancements outlined in Table 6 above would result in a neutral change in ecological value of -2.89. Based on this assessment ***2 CSH credits*** could be awarded under Eco4.

D4.15 The enhancements outlined above include:

- Half of the area currently designated as typical garden planting (turf only) in the planting scheme (3105m^2) will need to be designated as wildlife garden planting. Further information on wildlife garden planting can be found below and in Appendix 5.
- Areas of wildlife garden planting will need to include at least 42 species which are native or of known wildlife value which differ from the 11 already included in the planting scheme (see Table 2). See appendix 3 for a list of recommended species. Please note this list is not exhaustive but provides an indication of species which could be included.

Wildlife Garden Planting

D4.16 The characteristics of a wildlife garden can be widely interpreted as space that provides food and shelter to local fauna and is rich in structural and floristic diversity. The elements of a wildlife garden which provide benefit to local wildlife are; fruit or berry bearing plants, plants used for cover and access to water. Below is a description of how TEP believes the gardens of new residential developments can be considered wildlife gardens.

D4.17 Each garden should include features which provide both shelter and foraging opportunities, a lawn is of some wildlife value if accented by broad structured planting using native species and is planted in a manner that encourages ecological diversity e.g. no use of pesticides or insecticides.

D4.18 In urban areas wildlife gardens have the potential to encourage insects and, therefore, support local bird life. Where trees cannot be introduced into each

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garden the erection of a pergola or trellis with native climbers will add alternative structural diversity. The following enhancements must be undertaken within each individual garden for it to be considered wildlife friendly (see appendix 4 for an illustration of the enhancements) ;

- At least 70% of planting must be native or of known wildlife value (see appendix 3);
- To encourage structural diversity each garden should include a native tree, native hedge or pergola with trained native climbers;
- Shelter for local fauna should be provided in the form of a bat or bird box (see appendix 3);
- Foraging opportunities must be available in the form of a fruit/berry producing plant or a bird table;
- At least one planting bed should be incorporated within the garden design and this bed should range in width to encourage planting for structural diversity;
- Pesticide use such as weedkillers, insecticides, slug pellets and fungicides are to be kept to a minimum to prevent any cumulative effects within the animal food chain; and
- Good horticultural practice should be implemented within the planting scheme e.g. use peat-free composts and mulches and application of non-residual pesticides.

D4.19 Up to 4 credits can be gained under Eco4. Table 7 demonstrates how enhancements may be undertaken to the habitat types on site to achieve an enhanced score of 3 credits.

Table 7 – Ecological calculations post development (Enhanced to achieve 3 credits)

A Plot type	*B Area of Plot (m2)*		*C Species No.*		*D Site Score (species x plot area)*
Building Footprint	5832	x	0	=	0
Hardstanding	14494	x	0	=	0
Lowland Woodland	998	x	11	=	10978
Wildlife Garden Planting	6210	x	48	=	298080
(1) Total site area =	27534		(2) Total =		309058
Totals Site Score / Total Site Area = (2)/(1) =					**11.22**

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The enhancements outlined in Table 6 above would result in a positive change in ecological value of +3.19. Based on this assessment ***3 CSH credits*** could be awarded under Eco4.

D4.20 The enhancements outlined above include:

- All of the area currently designated as typical garden planting (turf only) in the planting scheme (6210m^2) will need to be designated as wildlife garden planting. Further information on wildlife garden planting can be found above and in Appendix 5.
- Areas of wildlife garden planting will need to include at least 48 species which are native or of known wildlife value and which differ from the 11 already included in the planting scheme (see Table 2). See appendix 3 for a list of recommended species. Please note this list is not exhaustive but provides an indication of species which could be included.

D4.21 Site 5 may have the potential to achieve 4 credits under Eco 4, however this would require areas of hardstanding to be converted to a diverse habitat type such as wildflower meadow. Information on achieving further credits will be provided on request.

D4.22 Enhancements to the development scheme will be subject to review based on amendments to the landscape scheme and the production of a planting schedule. TEP will review any landscaping proposals and planting schedules and assess whether further credits may be awarded.

Section E: Summary

E.1 Details of the development layout were made available by Redrow Homes, additionally this information was supplemented by a site visit and desk based study of the site. Information provided was used to inform category 9 of the BRE's Code for Sustainable Homes Assessment.

E.2 Site 5, Hanson Road is located in the Moston area of Manchester. The site is currently predominantly amenity grassland with a single living ornamental cherry tree and areas of hardstanding in the form of access.

E.3 Proposed site plans indicate that the tree on site is to be removed to accommodate the development. Any clearance must be carried out outside of the British bird breeding season (March-September), or a nesting bird survey undertaken beforehand.

E.4 As described in paragraph C.13, the presence of protected species on site is considered unlikely, however if great crested newts or any other protected

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species are suspected on site at any time works must cease immediately and an ecologist must be contacted for advice.

E.5 As there are no features of significant ecological value present on site, ***1 CSH credit*** can be awarded under Eco1.

E.6 If all key recommendations and two of the additional recommendations are implemented within the development scheme then ***1 CSH credit*** can be awarded under Eco2.

E.7 Provided tree works are undertaken outside of the British bird breeding season, or a nesting bird survey carried out beforehand ***1 CSH credit*** can be awarded under Eco3.

E.8 Based on an assessment of the current landscape scheme ***1 CSH credit*** can be awarded under Eco4. If enhancements as proposed within Tables 6 and 7 were introduced into the scheme then a possible 3 credits may be available under Eco4. 4 credits are potentially also available but this may involve modifications to the scheme which would prove unfavourable to both the developer and residents due to cost and loss of amenity space. Further advice regarding this is available on request.

E.9 From categories Eco1 to Eco4 (inclusive), based on the current information provided a total of ***4 CSH credits*** are available to the developer, providing all key and 2 additional recommendations are adopted under Eco2. If enhancements were undertaken in line with those identified under Eco4 then a possible ***6 CSH credits*** are potentially available.

E.10 If an amended scheme is to be produced further information in relation to detailed landscape scheme and planting plan will need to be provided before further credits may be awarded.

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THE CODE FOR SUSTAINABLE HOMES

Section F: Report Validation

Signature of validation

I confirm the information provided in this document is truthful and accurate at the time of completion.

Name of ecologist: LINDSEY CUNNIFF

Signature of ecologist: L Cunniff

Date: 19.04.10

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TEP

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Appendix 1:
Report Verification and Ecologist CV

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Warrington, Cheshire, WA3 7BH

16th April 2010

Our Ref: 2320.005
Your Ref:

Lindsey Cunniff is dealing with this matter
Direct Dial: **01925 844006**
Email: **lindseycunniff@tep.uk.com**

BREEAM Office
BRE
Garston
Watford
WD25 9XX

Dear Sir / Madam

REDROW SITE 5, MOSTON – CODE FOR SUSTAINABLE HOMES ECOLOGICAL ASSESSMENT VERIFICATION CONFIRMATION

In accordance with the report verification section of the Redrow Site 5 Code for Sustainable Homes ecological assessment (reference 2320.003) please accept this letter as written confirmation that I comply with the criteria of a suitably qualified ecologist.

I hold a Masters degree in Landscape Planning & Management, from Manchester University, and am a Chartered Landscape Architect (Management Division). Therefore, in accordance with the suitably qualified ecologist guidelines I am bound by a code of conduct and am subject to peer review maintaining the high standards of knowledge and experience required to ensure compliance with the codes of conduct.

I have been practising ecology for over 3 years and I am a Principal Environmental Consultant in a multi-disciplinary environmental practice. I have enclosed a copy of my CV which provides detail of the wide range of environmental projects in which I have been involved.

I can confirm that I have read and reviewed the report as referenced above and can certify that the report:

- Represents sound industry practice
- Reports and makes correct, truthful and objective recommendations
- Is appropriate to the local landscape context and the scope of the development proposed
- Does not present invalid, biased or exaggerated statements.

Please accept this written confirmation as my acceptance of the content of the report in its entirety in accordance with the criteria listed above. If you have any queries then please do not hesitate to contact me and I will be happy to discuss the matter further

Yours faithfully

Lindsey Cunniff
Principal Environmental Consultant
TEP

Enc: Curriculum Vitae

ISOQAR 4016 ISOQAR 4016 ISOQAR 4016 INVESTORS IN PEOPLE

Partners
Ian Grimshaw
BA(Hons) MA(LM) MSc MRTPI CMLI

Francis Hesketh
BSc(Hons) CMLI MICFor CEnv MIEEM

Cath Neve
BSc(Hons) MA(LM) CMLI

Genesis Centre, Birchwood Science Park, Warrington, WA3 7BH T: 01925 844004 F: 01925 844002 E: tep@tep.uk.com W: www.tep.uk.com
TEP is the trading name of The Environment Partnership LLP. Registered No: OC345681

PLANNING DESIGN ENVIRONMENT

LINDSEY CUNNIFF MLPM (Hons) MLI

ENVIRONMENTAL CONSULTANT

Qualifications Masters of Landscape Planning and Management, University of Manchester (2004)
Member of the Landscape Institute

Employment

2005 to date	TEP – The Environment Partnership
2004 - 2005	Landscape Manager, Groundwork

Summary

Lindsey has a Master's degree in Landscape Planning and Management, and is a Chartered Landscape Architect (Management Division). She is a proficient environmental project manager experienced in production of feasibility studies, strategy and action planning, green infrastructure planning, management plans, protected species schemes, EcoHomes and BREEAM assessments and contract management.

Lindsey understands local and landscape scale planning and management ensuring a holistic approach to green infrastructure and greenspace strategy. Further to this Lindsey has a strong understanding of applied and emerging policy and strategy at local, regional and national level ensuring that all projects accord with the strategic objectives of partners and stakeholders and that these objectives are embedded within the project.

Consultation including stakeholder workshops are often an integral part of projects delivered by TEP's environmental regeneration team. Lindsey has a wide range of experience in preparing and delivering consultation events ensuring they are tailored to both the needs of the client and the audience to which they are being addressed.

Work at TEP to date has included the ongoing development and promotion of the concept of Green Infrastructure planning. She has been involved in work in the North West, East and West Midlands and South Hampshire. Lindsey is also developing the greenspace strategy offer of TEP.

Lindsey has also been involved in a number of habitat creation and protected species projects for a number of large housing developers including Persimmon Homes and Redrow Homes. This has involved community liaison, submission of licences for the disturbance of protected species and supervision of contracts for the translocation of species.

This understanding of ecology in relation to development has allowed Lindsey to apply this knowledge to the production of EcoHomes and BREEAM assessments. Lindsey has been instrumental in the development of EcoHomes within TEP and has developed a wide client base that relies on this service ranging from assessors, house builders, housing associations and construction companies.

Lindsey has also undertaken work on behalf of English Partnerships as part of the green estates term contract. Lindsey manages the administration of a traveller management contract covering all EP land within the North of England facilitating the eviction and cleansing of sites following a traveller incursion.

Prior to commencing employment at TEP, Lindsey worked for Groundwork St Helens, Knowsley, Sefton & Liverpool this background enables her to bring a strong community dimension to the environmental regeneration team.

ENVIRONMENTAL REGENERATION

Project: East Midlands Green Infrastructure Scoping Study

Client: East Midlands Regional Assembly

Identification of a number of regeneration priority areas across the East Midlands where investment in Green Infrastructure will lead to wide public benefit. Working with stakeholders, the current provision of Green Infrastructure and the multi-functionality of the component greenspaces is being determined, together with the extent to which this provision meets accepted standards. Finally, barriers and opportunities to Green Infrastructure delivery are being identified.

Project: Making the Most of the North West Coast

Client: North West Coastal Forum

Making the Most of the North West Coast contains a suite of locally relevant, small scale projects that was originally submitted to the ERVNE programme.
The strategic and policy relevance of the MMNWC programme was investigated and, through a detailed evaluation process, the potential social, economic and environmental benefits of the programme and its constituent projects were analysed. Those projects that were most likely to efficiently deliver a range of benefits, together with an assessment of potential funding sources and a series of recommendations for the programme's implementation and long term operation were presented in a MMNWC Programme Portfolio.

Project: West Midlands Brownfield to Greenspace Scoping Study

Client: West Midlands Regional Observatory

The Brownfield to Greenspace Study sought to identify the most efficient and effective way of dealing with brownfield land in the West Midlands.
Through stakeholder consultation and strategic analysis, the potential for developing a PBRS for the region was investigated, and options put forward as to how such a system could be supported and utilised by partners across the West Midlands.

Project: Lancashire Woodland Vision

Client: Lancashire County Council

The preparation of a woodland vision for each of the Landscape Character Areas defined in the Lancashire Landscape Character Assessment and Strategy. The vision will seek to guide the development of woodlands and the associated activities across Lancashire.

Project: Stepping Stones Community Woodland and Greenspace Project

Client: Stepping Stones Countryside Management

The project looked to analyse the feasibility of establishing a community forest around Leicestershire. This involved detailed mapping of current land uses coupled with functional analysis of each parcel of land which may play a role in the development of the green infrastructure resource.
The feasibility study led to a further commission focussing on the production of a strategy and action plan which will guide the development of the community woodland and greenspace project.

Project: Sefton Key Improvement Sites

Client: Sefton Council

The delivery of a Neighbourhood Renewal Fund project focusing on the physical environmental improvement of areas of derelict, underused and neglected land highlighted by the local community as local detractors. The project is grounded in the principal of community involvement with local residents, guiding the selection of sites, the use of materials and designs to be utilised within the programme.

Project: South St Helens and North Halton Bridleway Feasibility Study

Client: St Helens Council

The production of a feasibility study to identify safe off-road routes for horse riders and cyclists following the identification of a significant deficit of safe routes within the two Boroughs. The route will be developed as a key tourism resource increasing the sustainability of the rural economy through the provision of opportunities for diversity and expansion.

LAND STEWARDSHIP

Project: Term Consultancy for Landscape Management, Arboriculture and Traveller Liaison

Client: English Partnerships

Delivery of traveller liaison services for English Partnerships covering the North of England, facilitating the eviction and ensuing cleansing of English Partnerships Land after a traveller incursion.

Project: Kersall High School Woodland Management Plan

Client: Miller Homes

Production of a woodland management plan to ensure the long term management and stewardship of an area of mature woodland adjacent to a proposed residential development. Vision and objectives were developed to guide the site management is conjunction with recommendations for the enhancement of site ecology and the proposed works and methods required to ensure the continuing enhancement of the woodland resource.

ECOLOGY

Project: Buckton Grange Reservoir

Client: Redrow Homes

The delivery of ecological support in relation to the remediation of the Buckton Grange Reservoir. Detailing ecological implications for breeding birds, invertebrates and amphibians during remedial works and putting forward recommendations for the mitigation of any possible negative effects on site ecology.

Project: Field Farm, Buckley

Client: Persimmon Homes

Provision of ecological support for the residential development of the Field Farm site. Involving the production of licences for the disturbance of great crested newts and badgers, habitat creation and mitigation works, production of site management plan, development and agreement of commuted sum figures to secure the ongoing management of the site and, letting of a capital works contract to undertake habitat enhancement works.

Project: Pentre Lane

Client: Persimmon Homes

Submission of licence for the disturbance of great crested newts and supervision of the contract on site.

Project: Kersall High School EcoHomes

Client: Miller Homes

Assessment of the change in ecological value of the former Kersall High School Site Salford identifying the ecological impact that the redevelopment of the site will have on the existing site ecology. Recommendations were put forward to the client in relation to the enhancement of the site to ensure the development has a positive impact on site ecology.

Project: The Works BREEAM Offices

Client: Co-Design Architects

Analysis of the ecological impact using BREEAM Offices guidance 2006 of the redevelopment of an area of derelict land into Office Space including recommendations for ecological enhancement of the development site. The project also involved the production of a site management plan to ensure the long-term stewardship of the landscape features within the site.

Project: Staley House Bespoke BREEAM

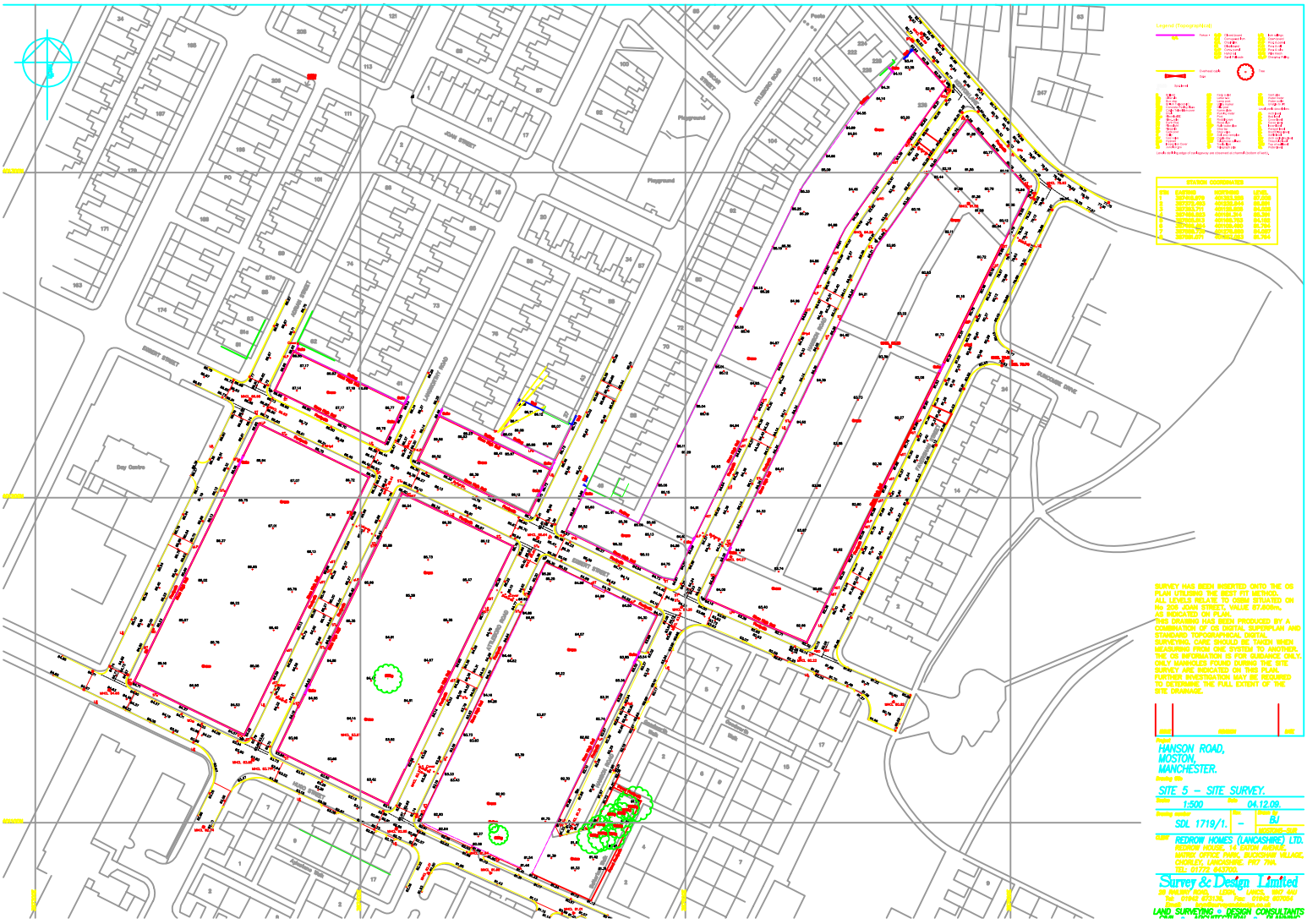
Client: Rowlinson Construction

Assessment of the ecological value of communal open space surrounding key worker accommodation in Stalybridge. The assessment calculated the ecological value of the site prior to after completion of the development using the ecological calculator provided by BRE. The report also included the production of a site management plan to guide long-term management of the site. The assessment was undertaken using bespoke guidance produced for the site by BRE.

Appendix 2:
Developable Area

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Legend (Topographical)
STATION COORDINATES
SURVEY HAS BEEN INSERTED ONTO THE OS PLAN UTILISING THE BEST FIT METHOD. ALL LEVELS RELATE TO OSBM SITUATED ON No 205 JOAN STREET, VALUE 97.407mm, AS INDICATED ON PLAN.
THIS DRAWING HAS BEEN PRODUCED BY A COMBINATION OF OS DIGITAL SUPERPLAN AND STANDARD TOPOGRAPHICAL DIGITAL SURVEYING. CARE SHOULD BE TAKEN WHEN MEASURING FROM ONE SYSTEM TO ANOTHER. THE OS INFORMATION IS FOR GUIDANCE ONLY. ONLY MANHOLES FOUND DURING THE SITE SURVEY ARE INDICATED ON THIS PLAN. FURTHER INVESTIGATION MAY BE REQUIRED TO DETERMINE THE FULL EXTENT OF THE SITE DRAINAGE.
Project
HANSON ROAD,
MOSTON,
MANCHESTER.
Drawing title
SITE 5 – SITE SURVEY.
Scale 1:500
Date 04.12.09.
Drawing number SDL 1719/1.
Rev –
Drawn BJ
Location Plan
Client
REDROW HOMES (LANCASHIRE) LTD.
REDROW HOUSE, 14 CATON AVENUE, HAYRIX OFFICE PARK, BUCKSHAW VILLAGE, COCHLEY, LANCASHIRE. PR7 7NA.
TEL: 01772 643700.
Survey & Design Limited
29 Hallgate Close, Leyland, Lancs, PR7 1HU
Tel: 01772 623135, Fax: 01772 857084
Email: surveydesign@btconnect.com
LAND SURVEYING & DESIGN CONSULTANTS

Appendix 3

Suggested species list for planting scheme

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Suggested species lists for planting schemes (native and exotic)

a) Vascular Plants (native herbs, bulbs/tuberous and grasses/sedges)

Native Herbaceous Species suitable for housing areas (grassland, borders, shade)		
Botanical Name	**Common Name**	**Comments**
Achillea millefolium	Yarrow	
Achillea ptarmica	Sneezewort	damp
Ajuga reptans	Bugle	shade
Alliaria petiolata	Garlic mustard	shade
Cardamine flexuosa	Wavy bitter-cress	shade
Cardamine pratensis	Cuckoo-flower	damp
Centaurea nigra	Knapweed	
Eupatorium cannabinum	Hemp agrimony	
Filipendula ulmaria	Meadowsweet	damp
Galium mollugo	Hedge bedstraw	
Geranium pratensis	Meadow cranesbill	
Geranium robertianum	Herb Robert	shade
Geum urbanum	Herb Bennett	shade
Glechoma hederacea	Ground-ivy	shade
Hypericum maculatum	Imperforate SJ-wort	
Hypericum perforatum	Perforate SJ-wort	
Hypericum tetrapterum	Square-stemmed SJ	damp
Hypochaeris radicata	Cat's-ear	
Lathyrus pratensis	Meadow vetchling	
Leucanthemum vulgare	Ox-eye daisy	
Linaria vulgaris	Common toadflax	
Lotus corniculatus	Birds-foot trefoil	
Medicago lupulina	Black medick	
Myosotis sylvatica	Wood forget-me-not	
Persicaria bistorta	Bistort	
Plantago lanceolata	Ribwort plantain	
Primula vulgaris	Primrose	shade
Prunella vulgaris	Self-heal	
Pulicaria dysenterica	Fleabane	damp
Ranunculus acris	Meadow buttercup	
Rumex acetosa	Common sorrel	
Silene dioica	Red campion	
Silene vulgaris	Bladder campion	
Sonchus arvensis	Corn sow-thistle	
Stachys sylvatica	Hedge woundwort	

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Stellaria holostea	Greater stitchwort	
Succisa pratensis	Devil's-bit scabious	
Trifolium pratense	Red clover	
Trifolium repens	White clover	
Veronica chamaedrys	Germander speedwell	shade
Vicia cracca	Tufted vetch	
Vicia sepium	Bush vetch	

Bulbs and Tuberous Species		
Botanical Name	**Common Name**	**Comments**
Allium ursinum	Wild garlic	shade
Crocus nudiflorus	Autumn crocus	Non-native
Crocus vernus	Spring crocus	Non-native
Crocus x stellaris	Dutch crocus	Non-native
Galanthus nivalis	snowdrop	Non-native
Hyacinthoides non-scriptus	Bluebell	shade
Iris foetidissima	Stinking iris	
Iris pseudacorus	Yellow flag	
Muscari armeniacum	Grape-hyacinth	Non-native
Narcissus cultivars	Garden daffodil	Non-native
Narcissus pseudonarcissus	Wild daffodil	
Ornithogalum angustifolium	Star- of - Bethlehem	Non-native

Native Grass Species and Sedges		
Botanical Name	**Common Name**	**Comments**
Agrostis capillaris	Common bent	
Agrostis stolonifera	Creeping bent	damp
Alopecurus pratensis	Meadow foxtail	
Anthoxanthum odoratum	Sweet vernal-grass	
Brachypodium sylvaticum	False-brome	shade
Carex flacca	Glaucous sedge	damp
Carex hirta	Hairy sedge	
Carex nigra	Common sedge	damp
Cynosurus cristatus	Crested dog's-tail	
Deschampsia cespitosa	Tufted hairgrass	damp
Deschampsia flexuosa	Wavy hairgrass	shade
Festuca ovina	Sheep's fescue	
Festuca rubra	Red fescue	
Holcus lanatus	Yorkshire fog	
Holcus mollis	Creeping soft-grass	

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Luzula campestris	Field woodrush	
Melica uniflora	Wood melick	shade
Milium effusum	Wood millet	shade
Poa annua	Annual meadowgrass	
Poa pratensis	Smooth meadowgrass	
Poa trivialis	Rough meadowgrass	

b) Woody Species: North-West, Native Trees, Shrubs and Climbers

Native Woody Species		
Botanical Name	**Common Name**	**Comments**
Alnus glutinosa	Alder	
Betula pendula	Silver birch	
Betula pubescens	Downy birch	
Corylus avellana	Hazel	
Crataegus monogyna	Hawthorn	
Cytisus scoparius	Broom	
Frangula alnus	Alder buckthorn	Damp acid area
Fraxinus excelsior	Ash	
Hedera helix	Ivy	
Ilex aquifolium	Holly	
Lonicera periclymenum	Honeysuckle	
Malus sylvestris	Crab apple	
Populus nigra betulifolia	Black poplar	Not N of Ribble
Populus tremula	Aspen	
Prunus avium	Wild cherry	
Prunus spinosa	Blackthorn	
Quercus petraea	Sessile oak	
Quercus robur	Oak	
Rosa arvensis	Field rose	
Rosa canina agg.	Dog-rose	
Rosa pimpinellifolia	Burnet rose	
Rubus fruticosus	Bramble	
Rubus idaeus	Raspberry	
Salix caprea	Goat willow	
Salix cinerea	Grey willow	
Salix pentandra	Bay willow	

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Salix purpurea	Purple willow	
Salix repens	Creeping willow	
Sambucus nigra	Elder	
Solanum dulcamara	Bittersweet	
Sorbus aucuparia	Mountain ash	
Taxus baccata	Yew	
Tilia cordata	Small-leaved lime	
Ulex europaeus	Gorse	
Ulmus glabra	Wych elm	
Viburnum opulus	Guelder-rose	
Long-established exotics (Archaeophytes)		
Salix alba	White willow	
Salix fragilis	Crack willow	
Salix viminalis	Osier	
Tilia x europaea	Lime	

c) Exotic Wildlife Friendly Species,
From "Gardening with Wildlife in Mind", English Nature, 2005

Exotic Herbaceous Species suitable for attracting wildlife to housing areas		
Botanical Name	**Common Name**	**Comments**
Aubretia deltoidea	Aubretia	
Monarda didyma	Bergamot	
Rudbeckia hirta	Black-eyed Susan	
Borago officinalis	Borage	
Primula chungensis	Candelabra primula sp	Damp areas
Cynara cardunculus	Cardoon	
Nepeta x faassenii	Catmint	
Malva sylvestris	Common mallow	
Chrysanthmum segetum	Corn marigold	
Onopordon acanthium	Cotton thistle	
Euphorbia cyparissias	Cypress spurge	
Hesperis matronalis	Dame's violet	
Verbascum nigrum	Dark mullein	
Lamium orvala	Dead-nettle	
Foeniculum vulgare	Fennel	
Tanacetum parthenium	Feverfew	

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Geranium renardii	French cranesbill	
Centaurea macrocephala	Giant hardhead	
Cephalaria gigantea	Giant scabious	
Echinops bannaticus	Globe thistle	
Solidago spp	Goldenrod species	
Lunaria biennis	Honesty	
Sedum spectabile	Ice-plant	
Stachys lanata	Lambs lugs	
Melissa officinalis	Lemon balm	
Pulmonaria officinalis	Lungwort	
Aster spp	Michaelmas daisies	Single varieties only
Linaria purpurea	Purple toadflax	
Centranthus ruber	Red valerian	
Geranium macrorrhizum	Rock cranesbill	
Mentha suaveolens	Round-leaved mint	
Salvia officinalis	Sage	
Saponaria officinalis	Soapwort	
Scabiosa atropurpurea	Sweet scabious	
Symphytum tubersosum	Tuberous comfrey	
Lamium album	White deadnettle	
Achillea filipendulina Gold Plate	Yarrow	

Exotic Shrub and Tree Species suitable for attracting wildlife to housing areas		
Botanical Name	**Common Name**	**Comments**
Berberis x stenophylla	Berberis	
Buddleia davidii	Butterfly bush	
Buddleia globosa	Orange-ball tree	
Ceonothus divergens	Californian lilac	
Caryopteris x clandonensis	Caryopteris	
Prunus lauroceraus	Cherry laurel	
Clematis tangutica	Clematis species	Climber
Clematis montana	Clematis species	Climber
Olearia macrodonta	Daisy-bush species	
Escallonia spp	Escallonia species	

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Robinia pseudoacacia	False-locust	
Pyracantha angustifolia	Firethorn	
Ribes sanguineum	Flowering currant	
Fuchsia magellanica	Fuchsia	
Hebe Midsummer beauty	Hebe	
Leycesteria formosa	Himalayan honeysuckle	
Amelanchier lamarckii	June-berry	
Lavandula angustifolia	Lavender	
Choisya ternata	Mexican orange-blossom	
Myrtus communis	Myrtle	
Pyrus communis	Pear	
Prunus lusitanica	Portugal laurel	
Rosmarinus officinalis	Rosemary	
Pinus sylvestris	Scot's pine	
Cotoneaster fridgidus	Tree cotoneaster	
Parthenocissus quinquefolia	Virginia creeper	
Cotoneaster horizontalis	Wall cotoneaster	

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Appendix 4:
Information on Bird Boxes

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Genesis centre, Birchwood Science Park
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Information on Bird Boxes & Sparrow Terraces

Suppliers (prices correct as of Oct 2003):

Alana Ecology
The Old Primary School
Church Street
Bishop's Castle
Shropshire
SY9 5AE

Tel: +44 (0)1588 630173
Fax: +44 (0)1588 630176
Email: sales@alanaecology.com

Sparrow Terrace, Stone Colour



House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof. Made from long-lasting, breathable woodcrete. Stone colour. No maintenance required.
Dimensions 245 x 430 x 200 mm.
Weight 13kg. Designed for fixing to walls (not suitable for fences or sheds due to the weight of the box).

A02085 ***Sparrow Terrace, Stone Colour*** (also available in brown)
£34.00 net ***£39.95 inc VAT***

Schwegler 9A House Martin Double Nest



These woodcrete nests are durable and ready for immediate use when birds return each summer. Easily fixed under the eaves on the outside walls of buildings, at least 2 metres from the ground. The backing board may be painted to match the building.

Model 9A is a double unit with two nests mounted side by side on a backing board, as shown. Model 9B is similar to the 9A above but with one single nest
A02018 ***Schwegler 9A House*** Martin Double Nest
£22.09 net ***£25.96 inc VAT***
A02019 ***Schwegler 9B Single House*** Martin Nest
£12.72 net ***£14.95 inc VAT***

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Schwegler 1B Bird Box, natural brown



The most popular box for garden birds, the 1B appeals to a wide range of species, and is the official nest box of National Nest Box Week. The box can be nailed to the trunk of a tree, or hung from a branch. Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance. Woodcrete, 23cm high x 16cm diameter. With standard 32mm diameter entrance hole

Up to 2) £15.28 net ***£17.95 inc VAT*** (3+) £14.43 net
£16.96 inc VAT

The Bird House



A decorative yet practical nest box designed for fixing to a tree trunk, wall or fence using the bracket on the back. It will attract similar species to the standard 1B box. Robust and durable Schwegler woodcrete construction

A02084 The Bird House, £22.09 net, ***£5.96 inc VAT***

Gable Nest Box



A substantial wooden bird box with a gable roof and 28mm entrance hole. Made of 15mm thick softwood, external dimensions 14.5cm x 14.5cm x 26cm high (to top of gable). Suitable for the smaller garden birds.

A03008 Gable Nest Box, £8.47 net, ***£9.95 inc VAT***

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Wooden Bird Box



A simple wooden bird box with sloping roof, suitable for the smaller garden birds. Made from substantial 2cm thick softwood. 14cm w x 18cm d x 26cm h (backplate 33.5cm h). The standard model has a 32mm diameter entrance hole attractive to a wide range of smaller garden birds.

A03004 Wooden Bird Box, £8.47 net, ***£9.95 inc VAT***

Roosting Pockets



These attractive roosting/nest pockets can be used by wild birds in autumn, winter and spring. The birds can save energy during the colder months by roosting in a sheltered place. These pockets also provide a warm nesting place in the spring for smaller birds such as wrens. Made from natural materials. The pockets have a wire at the back to fix onto a branch, or they can be stapled or nailed to a fence or trellis with plant cover. Pack of 3 assorted roost pockets (styles may vary).

A02090 Roosting Pockets, £6.77 net, ***£7.95 inc VAT***

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Appendix 5:
Wildlife Garden Appendices

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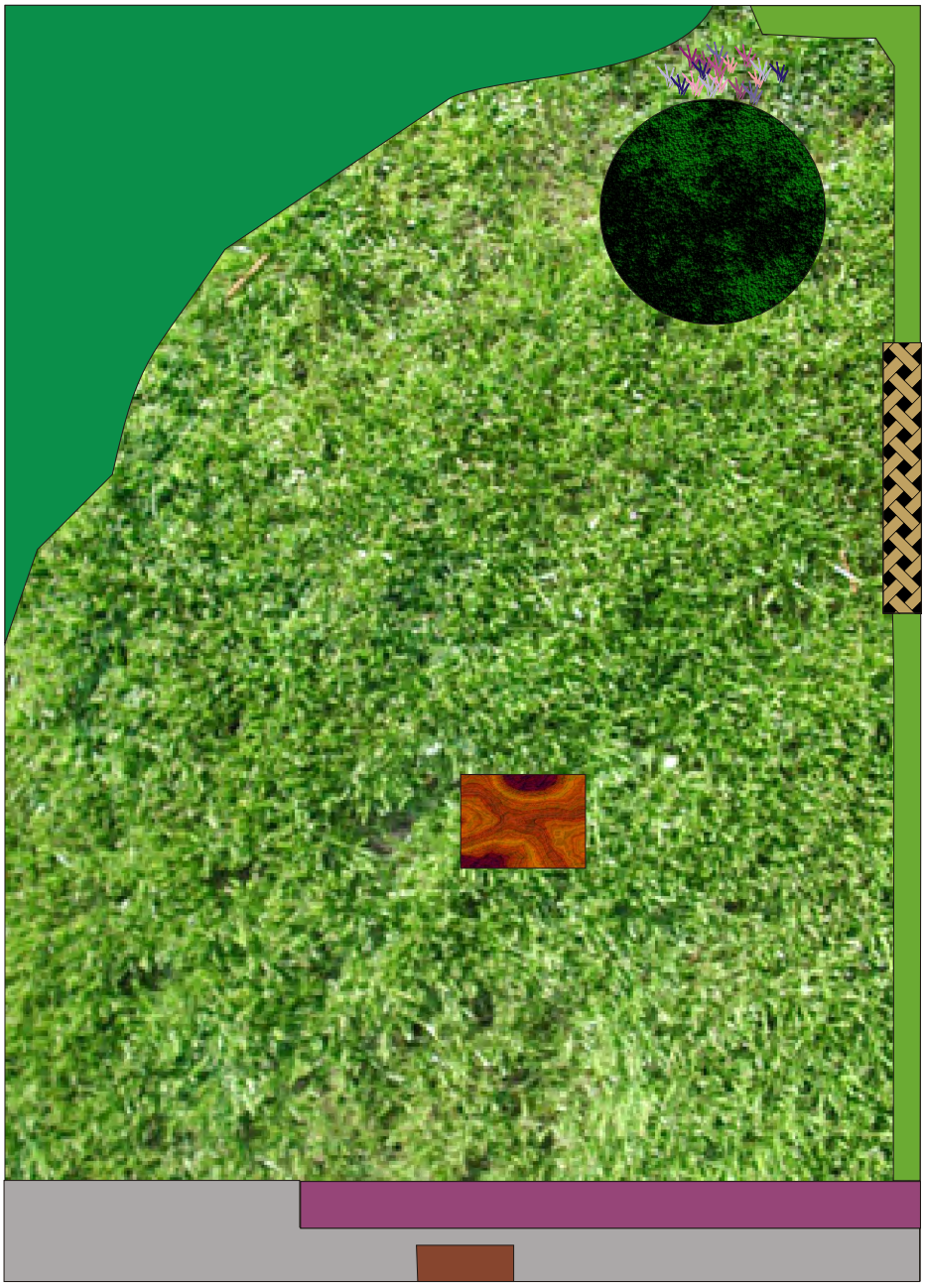
Genesis centre, Birchwood Science Park
Warrington, Cheshire, WA3 7BH

Wildlife Garden Planting

The diagram below illustrates how wildlife friendly features could be added into new gardens. It would not be necessary for a garden to have all of the features illustrated in the diagram below for it to be considered as having wildlife value, however each of the elements bulleted here should be included.

- At least 70% of planting must be native or of known wildlife value (see appendix 3)
- To encourage structural diversity each garden should include a native tree, native hedge or pergola with trained native climbers
- Shelter for local fauna must be provided in the form of a bat or bird box (see appendix 3)
- Foraging opportunities must be available in the form of a fruit/berry producing plant or a bird table
- At least one planting bed should be incorporated within the garden design and this bed should range in width to encourage planting for structural diversity
- pesticide use such as weedkillers, insecticides, slug pellets and fungicides are to be kept to a minimum to prevent any cumulative effects within the animal food chain; and
- good horticultural practice should be implemented within the planting scheme e.g. use peat-free composts and mulches and application of non-residual pesticides.

A lawn accented by native plants, varying in species and height provides nectar and pollen for insects throughout the spring & summer and seeds for birds in autumn. Planting bright sensory species alongside hardstanding is visually appealing and attracts butterflies, bees and other insects. Since cavities in mature trees are becoming increasingly scarce the introduction of bird boxes encourages tits into gardens. A list of native plant species and species of known wildlife value can be found in appendix 3 of the report.



Key

- Asymmetrical Lawn
- Native Tree (avoid forest canopy species)
- Bird table
- Native hedge
- A broad structured planting bed
- Hardstanding
- Bulb Planting beneath tree or hedge canopies
- Trelis or perolga with native climbers
- Bird box, bat box or sparrow terrace
- Scented bedding plants & Cottage flowers richer in nectar than modern cultivars

Whilst we appreciate that the success of each individual garden will depend on its future management, introducing native plants & structure into new housing developments will benefit the local fauna and lesson the ecological impact clearance and construction activities.