

**Ecological Assessment and Arboricultural Impact Assessment with
Proposed Planting Scheme**

**Calder Farm Caravan Site
Settle Road
Bolton-By-Bowland
Clitheroe
BB7 4NT**

John Metcalfe BSc Hons (Ecology)
Rural Futures
78a Main Street
Warton
Carnforth
LA5 9PG



07791 488410

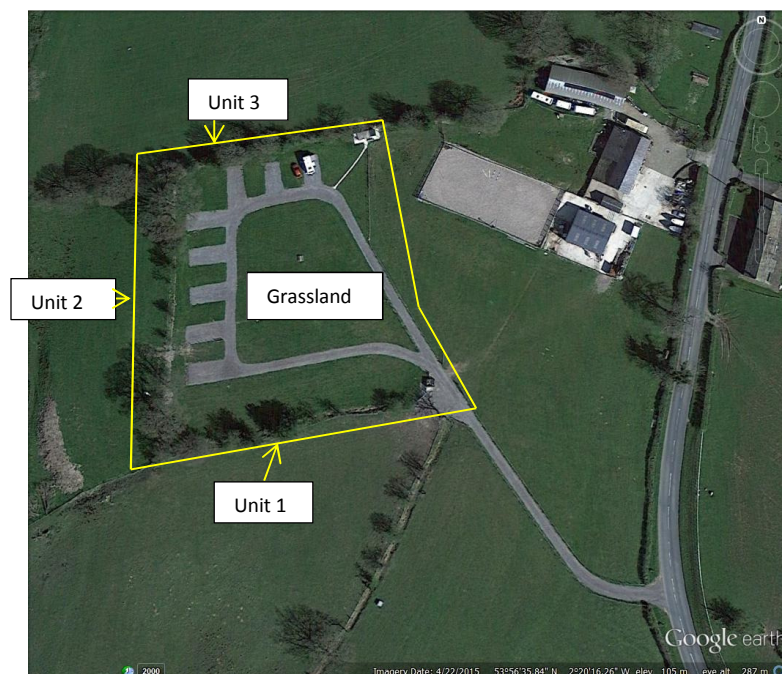
johnm@ruralfutures.co.uk

Ecological Assessment and Arboricultural Impact Assessment with Proposed Planting Scheme - Calder Farm Caravan Site

This study provides an ecological assessment of Calder Farm Caravan Site including a survey of the grassland and boundary features. The current stock of trees and shrubs on boundary lines are recorded and details of proposed supplementary planting are provided. The impact of the proposed works in relation to trees, grasslands and wildlife are considered and protection measures are identified.

A detailed description of the proposed planting scheme which will be carried out on the site and in the surrounding area is provided.

Site Description



Area of study showing survey units.

Site Location: SD779497

The site is located west of Settle Road. The site has a west southwest sloping aspect (approx. slope 1:15). The site is bounded on three sides by relic hedgerow with occasional mature trees on the north, south and west. These boundaries are also accompanied by sheep netting fencing to maintain as stock-proof barrier. The eastern boundary is sheep netting. Access is via a stone track fenced with sheep netting fencing on each side. A wire fence boundary with scattered relic hedgerow trees runs from the south east corner of the site in a south westerly direction.

The majority of the internal site is grassland which is mown regularly for caravan and camping activities. A stone track has been formed around the site with 8no hardstanding pitches for caravans radiating along the northern and western sides.

The grassland area is well drained with no wet areas within. The boundaries comprising trees and shrubs are formed on an earthen bank (dry kest). An open drainage ditch runs along the southern boundary.

Designations:

- The site sits within the Forest of Bowland Area of Outstanding Natural Beauty (FoBAONB).
- Less Favoured Area (LFA) designation - Disadvantaged.
- There are no Sites of Special Scientific Interest (SSSI) within the area.
- MAGIC shows there are no Biodiversity Action Plan habitat or species within the area
- Farm Bird Assemblage include curlew, twite and lapwing.

Survey Method

The survey was carried out on 24th October 2016. Conditions were dry and sunny. The study involved a walk over survey covering all areas of the site and habitats within. Tree and grassland species were recorded. The boundary survey was divided into individual units which are described with recorded species listed.

Unit 1

The southern boundary is a mixture of mature trees with overgrown hedgerow species. The boundary is mainly single individuals to the east becoming dense with mature trees to the west. The open ditch on the northern side of the boundary is dry.

Tree/shrub species:

<i>Fraxinus excelsior</i>	Ash
<i>Crataegus monogyna</i>	Hawthorn
<i>Sorbus aucuparia</i>	Rowan
<i>Alnus glutinosa</i>	Alder
<i>Ilex aquifolium</i>	Holly
<i>Corylus avellana</i>	Hazel
<i>Rumex</i> spp	Bramble



Ash



Rowan



Alder



Holly, Rowan, Hawthorn

Unit 2

The western boundary is a mixture of mature trees and small trees which have developed from hedgerow. The central section of the boundary is sparse with denser areas to the south and north.

Tree/shrub species:

<i>Quercus robur</i>	Oak
<i>Malus sylvestris</i>	Crab apple
<i>Fraxinus excelsior</i>	Ash
<i>Crataegus monogyna</i>	Hawthorn
<i>Alnus glutinosa</i>	Alder
<i>Ilex aquifolium</i>	Holly



Oak



Crab apple



Individual hawthorn trees with large gaps.

Unit 3

The northern boundary is a more complete boundary of mature trees and overgrown hedgerow plants which have developed into small trees.

Tree/shrub species:

<i>Quercus robur</i>	Oak
<i>Malus sylvestris</i>	Crab apple
<i>Fraxinus excelsior</i>	Ash
<i>Crataegus monogyna</i>	Hawthorn
<i>Alnus glutinosa</i>	Alder
<i>Ilex aquifolium</i>	Holly



Mature oak and holly



Hawthorn, alder and oak

Understory vegetation.

The ground flora under the tree/shrub boundaries dominated by rank grass species with occasional herbs.

Species recorded:

Grasses

<i>Arrhenatherum elatius</i>	False oat grass
<i>Lolium perenne</i>	Rye grass
<i>Poa trivialis</i>	Rough stalked meadow grass
<i>Dactylis glomerata</i>	Cocksfoot
<i>Festuca rubra</i>	Red fescue
<i>Alopecurus pratensis</i>	Meadow foxtail
<i>Agrostis</i> sp	Bent grass

Herb species

<i>Centaurea nigra</i>	Knapweed
<i>Rumex acetosa</i>	Sheep sorrel
<i>Urtica dioica</i>	Nettle
<i>Rumex</i> spp	Common dock
<i>Cerastium fontanum</i>	Mouse ear

Grassland

The central area of the site is regularly mown and is a mixture of common grass and herb species .

Species recorded

<i>Lolium perenne</i>	Perennial rye grass
<i>Poa trivialis</i>	Rough stalked meadow grass
<i>Festuca rubra</i>	Red fescue
<i>Agrostis</i> sp	Bent grass
<i>Poa annua</i>	Annual meadow grass
<i>Cerastium fontanum</i>	Mouse ear
<i>Stellaria media</i>	Chickweed



Ecological value of the site

Boundaries

The ecological value of the site is associated with the boundary trees and hedges. The varied structure of the trees and shrubs provides valuable habitat and food sources for wildlife. Trees and shrubs allow nesting opportunities for birds and shelter for small mammals. Seed bearing species such as rowan, hawthorn, holly and crab apple offer sustenance for a range of species including, birds, small mammals and invertebrates. The linear nature of the boundaries also provide foraging habitat for bats although these are preferably alongside watercourses.

Well maintained hedgerows provide linkages for breeding populations. The northern boundary offers potential in this respect although the western and southern boundaries have large gaps which break the connectivity for smaller mammals.

Grassland

Regularly mown grassland has limited wildlife value. The grasses do not have the opportunity to seed and regular disturbance prevents opportunities for nesting. The site receives no fertiliser and some invertebrate species will occupy the area. The openness of the area will also allow free flight for foraging birds and bats.

Impact of Development

A plan showing the proposed works is attached as Appendix A.

The proposed works involve the creation of 5 no additional hard standings for caravans. 4 no pitches will be positioned off the existing hardcore track on the southern boundary. An additional pitch will be created on the eastern boundary. The construction of the pitches will involve the removal of topsoil to a depth of approximately 200mm and topping with 25mm hard core material.

The loss of improved grassland will have no ecological impact. The grassland provides limited habitat and food sources for wildlife.

The creation of the additional pitches will not extend within 2m of the existing ditch on the southern boundary. The ditch is approximately 40mm deep and already forms a natural safeguard for tree roots on the dry bank. No tree branches overhang the site and no pruning will take place.

Recommendations

The formation of additional pitches will not create any negative ecological impacts to grasslands. To ensure the development does not cause any damage to trees and shrub species it is recommended that a Tree Protection Scheme is implemented. All works will be carried out in accordance with BS5837 Trees in Relation to Construction.

Works

The construction of the pitches involves the use of mechanical equipment and machinery. Risks to existing trees include:

- Damage to tree bark and limbs due to abrasions from excavators and lifting equipment
- Severing of tree roots
- Spillage of fuel/chemicals

Protection Measures

- In accordance with BS5837 a Construction Protection Zone (CPZ) will be determined around the retained trees and identified by a Tree Protection Fence (TPF).
- The fencing will be erected at a distance 12 times the diameter of the trunk measured at 1.5m from the ground (Single stemmed trees).
- Notices will be fixed on the TPF displaying the words "Construction Exclusion Zone – Keep Out"

The proposed project involves a supplementary planting scheme which will involve the planting of hedgerow and tree species on existing boundaries. The applicant will also be carrying out a hedgerow creation scheme which includes boundaries outside this planning application.



The existing boundaries will be planted to form a complete hedgerow filling in all gaps within the boundary structure. The planting will be limited to hedgerow planting as existing trees and shrubs provide structure and additional boundary trees are not required.

Proposed species will include:

New Hedgerow Scheme

The new hedgerow scheme is part of a general hedgerow scheme which the applicant is undertaking across his landholding. These hedgerows will also include boundary tree planting. A total of 366m of hedgerow will be planted. The hedges are along existing wire fence boundaries and will be protected from stock by a further wire fence. These structures may be assisted by grant funding under the new Countryside Stewardship Scheme.

Proposed species will include:

Hedgerow species

<i>Crataegus monogyna</i>	Hawthorn
<i>Corylus avellana</i>	Hazel
<i>Ilex aquifolium</i>	Holly
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Rosa canina</i>	Dog rose

Hedgerow plants will be planted at 6 plants/m
in two staggered rows

See Appendix B for general planting and
maintenance specifications.

Tree species

<i>Quercus robur</i>	Oak
<i>Betula pubescens</i>	Birch
<i>Sorbus aucuparia</i>	Mountain ash
<i>Malus sylvestris</i>	Crab apple



New hedgerow will be planted either side of the access track.



New hedgerow to be planted on eastern boundary fence



New hedgerow to be planted on existing boundary to south of caravan site

Ecological benefits of the planting scheme

The supplementary planting and creation of new hedgerow will significantly improve the value of the area for wildlife. Connectivity for breeding populations will be improved and the chosen species include seed bearing plants which will provide additional food sources. Additional habitat and nesting opportunities will be created with linear foraging opportunities for bats and birds.

Proposed Development



Appendix B

PLANTING SPECIFICATION

General

All trees and shrubs shall conform to the relevant parts of B.S. 3936

Rejection of Plants

Any plant material, which does not meet the requirements of the specification, or is unsuitable or defective in any way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced.

Planting

All planting material shall generally be planted between November and March in open cool weather. Planting shall not take place in frosty, snowy or waterlogged conditions. Where approved, pot or container grown plants may be planted outside the described season, but adequate watering shall be supplied. Torn or damaged roots and branches shall be clearly pruned prior to planting.

Planting of Transplants or Shrubs

The nature of the material to be planted is variable and the contractor shall allow for planting to be properly carried out in all cases as described in B.S. 4428: 1989 5.8 Woodland, 5.9 Shrubs. All plants shall be planted at the same depth, or very slightly deeper, as they were grown. Roots shall not be bent, broken or forced into inadequate pits or notches. Plants shall be upright, firmed in and wind resistant, with no air pockets around the roots. All pots and root wrappings shall be carefully removed prior to planting. All pots and wrappings arising shall immediately be picked up and stored ready for removal to tip. Plants shall be planted at the specified centres. On slopes this shall be in the horizontal measure.

Tree Planting

Trees shall conform to BS 3936 and be planted in tree pits of the following sizes unless directed otherwise:

Whips 600 x 600 x 400 up to 2 metres high

Selected standards 1000 x 1000 x 600 up to 4.25 metres high

Extra heavy standards 1200 x 1200 x 900 up to 6.00 metres high.

Excavated subsoil shall be carted off the site to tip. The bottom 250mm of the pit shall be dug and broken up. Backfill shall be retained topsoil as specified unless directed otherwise. Where footpaths or services are closer than 2 metres to tree pits they shall be protected by an approved root barrier. 'Re-root' barrier systems are approved.

Tree Ties and Stakes

Trees shall be twin staked with cross bar. Ties shall be approved nail-on type with cushioned spacer such as Toms, or other equal and approved. Nails shall be flat headed galvanised and shall hold the ties securely into the stake. Ties shall not be over tight on the tree stems. The following ties available from J Toms Ltd are approved: Feathered Type 04, Select standards Type L1, Extra heavy Standards Type L3.

Compost for Planting Pits

Compost shall be a proprietary product, bark based incorporating fertilisers and improving additives. Compost shall be added to and mixed with topsoil backfill at a rate of 20% by volume. The type of compost shall be approved before its delivery on site, and the details of the product shall be supplied. Cambark planting compost is approved.

MAINTENANCE

All dead, diseased, damaged plants must be replaced for up to 10 years with a tree of the same species and of similar size to that originally planted.

Pruning

At appropriate time, prune plants to remove dead, dying or diseased wood and suckers to promote healthy growth and natural shape. Dress cut ends exceeding 25mm diameter with fungicidal sealant.

Watering

All plants will be watered to field capacity weekly during the months April – July for a minimum of 5 years. Watering will take place as required beyond this period in prolonged dry periods.