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ECOLOGICAL APPRAISAL REPORT

Accrington Road, Whalley

August 2012

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Envirotech NW Ltd

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Rev 4

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Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

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COMMENTS ON CURRENT STATUS AND ANY IMMEDIATE AND FUTURE ACTIONS NEEDED:

THE SITE SUPPORTS AN UNREMARKABLE ASSEMBLAGE OF COMMONLY OCCURRING PLANT SPECIES AS WELL AS LIMITED SCOPE FOR PROTECTED SPECIES.

THE POTENTIAL FOR DISTURBANCE OF OTTERS AND BATS ALONG THE RIVER CORRIDOR IS CONSIDERED TO HAVE MINOR SIGNIFICANCE IN THE LOCAL AREA AND CAN BE EASILY COMPENSATED FOR IN ANY FUTURE DEVELOPMENT.

THE PRESENCE OF GIANT HOGWEED (*HERACLEUM MANTEGAZZIANUM*) AND HIMALAYAN BALSAM (*IMPATIENS GLANDULIFERA*) ON THE EAST PERIPHERY OF THE SITE WILL NEED SPECIAL ATTENTION. ROUGH HORSETAIL IS RECORDED LOCALLY, SHOULD IT OCCUR ON THE DEVELOPMENT AREA TO THE EAST IT WILL BE TRANSPLANTED AND THEN PROTECTED FOR THE DURATION OF WORKS.

REPORT CONTROL SHEET

General Report Information	
Date of site risk assessment	14 th November 2011 / 11 th July 2012
Project lead signature	Andrew Gardner - Director
Date report issued	September 2012
Report approved by	Andrew Gardner - Director

RESULTS SUMMARY AND ACTIONS REQUIRED

Results

1. The main site supports habitat of limited value to wildlife.
2. The principal ecological constraint to development would be the potential for a minor impact on bats, otters and wolverines along the river corridor. The presence of Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan Balsam (*Impatiens glandulifer*) also needs to be considered.
3. Rough Horsetail was recorded locally, but not on the working area. The presence of Himalayan balsam may have resulted in its displacement from the site.

Actions Required

These actions are to meet compliance with current legislation, planning policy and best practice as recognised by the various statutory authorities. They are intended to fulfil ecological planning formalities and facilitate the implementation of the project.

1. The landscaping plan should incorporate wildlife friendly species.
2. Light spill onto the nearby river should be minimised to preserve the foraging potential of these areas for bats and otters.
3. Contractors should be observant for nesting birds during construction work affecting hedges.
4. A buffer should be established along the river corridor to enhance its functionality due to the existing banks, on both sides, being open and prone to disturbance.
5. New tree lines should be planted along the edge and within the site to create habitat linkage over and around the site.
6. Special precautions in respect of treating Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan Balsam (*Impatiens glandulifer*) will be required during soil exportation/ importation to prevent spread of these plants.
7. The absence of Rough Horesetail (*Equisetum hyemale*) will be reconfirmed prior to the commencement of work to clear Himalayan Balsam and Giant Hogweed from the riverbank. Rough Horsetail may need to be transplanted and protected during work should it occur.

1.0 Background

1.1 Extended Phase 1 Survey

1.1.1 The Extended Phase 1 survey was undertaken by Andrew Gardner BSc (Hons), MSc, MRICS, MIEEM, CEnv and Kate Statham BSc (Hons). The survey followed the Phase 1 habitat survey methodology (NCC, 1990) which is a standard technique for recording and mapping habitats. The survey involved walking the whole site, mapping and describing different habitats (for example: woodland, grassland, scrub).

1.2 Timing and Constraints

1.2.1 The Phase 1 survey was carried out on 29th November 2011 and 11th July 2012, the weather was dry, bright and warm throughout. The first survey timing was during early winter, the second during mid-summer. In this case the time of year did not pose any constraint. Similarly, the timing posed no problems for the baseline protected species assessment, and no constraints were encountered in respect of achieving the survey objectives.

2.0 Phase 1 Survey Results

2.1 Habitat Results

2.1.1 The site is known as land off Accrington Road, Whalley and comprises an open area of improved pasture bounded by species poor hedges and the River Calder. Other habitats on and adjacent to the site comprise emergent vegetation, tall ruderals, marshy grassland, scattered scrub and bare grounds. See figure 1 and 2 for the Phase 1 Habitat Plan and descriptive botanical and faunal target notes, hereafter referred to as BTN and FTN.

2.1.2 The habitats encountered on and adjacent to the site were (in no particular order):

- Improved pasture
- Marshy grassland
- Species poor hedges
- Wet ditches
- Tall ruderals
- Broadleaved scattered/parkland trees
- Emergent/ Bankside vegetation
- Semi-improved neutral grassland
- Invasive species
- Scattered scrub

2.2 Improved Pasture

2.2.1 The majority of the development site comprises improved pasture (Figure 1, BTN1). This appears to have been mown in the past for silage but there is little indication of agricultural improvement/ management in recent years. The sward is becoming long and dominated by coarse grass species. Species typical of improved pasture, not subject recent grazing or mowing, include Cocksfoot (*Dactylis glomerata*), Perennial Ryegrass (*Lolium perenne*), Yorkshire Fog (*Holcus lanatus*), Annual Meadow Grass (*Poa annua*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Crested Dog's-Tail (*Cynosurus cristatus*) and Fescue Sp. (*Festuca* Sp.) (See Plate 1 and 2)

2.2.2 Non grass species include Creeping Buttercup (*Ranunculus repens*), Meadow Buttercup (*Ranunculus acris*), Dandelion (*Taraxacum officinale*), Ragwort (*Senecio jacobaea*), Red clover (*Trifolium pratense*), Broad-leaved Willowherb (*Epilobium montanum*) and Broad-leaved dock (*Rumex obtusifolius*).

2.2.3 Small patches of Common nettle (*Urtica dioica*), Bramble (*Rubus fruticosus agg*) and Hogweed (*Heracleum sphondylium*) also occur along the hedge sides (Plate 3). Lesser celandine (*Ranunculus ficaria*) was noted (in flower) along the North and East side of the site (plate 4).



Plate 1 and 2- Improved pasture



Plate 3- Common Nettle, Bramble and Hogweed along hedge side



Plate 4- Lesser celandine in flower

2.3 Marshy Grassland

- 2.3.1 At the North side of the site a small wet flush in the field is dominated by Hard rush (*Juncus inflexus*) along with Soft Rush (*Juncus effusus*) and occasional Field horsetail (*Equisetum arvense*). Interspersed with these are grasses found within the adjacent pasture. (Plate 5 and Fig 1, BTN2).
- 2.3.2 To the Eastern side of the site, there is another area of marshy grassland on the bank of the River Calder. This area is dominated, almost exclusively, by Great Horsetail (*Equisetum telmateia*) (Plate 6 and Fig 2, BTN8).



Plate 5- Small area of marshy grassland to right dominated by Juncus Sp. giving way to grass species in surrounding field



Plate 6- Marshy grassland dominated almost exclusively by Great Horsetail (Equisetum telmateia)

2.4 Species poor hedges

- 2.4.1 Along the Northern boundary a hedge sits atop a bank to Accrington Road. A post and rail fence within the hedge has degraded. The hedge has been cut back from the roadside but Hazel (*Corylus avellana*) has been allowed to form spindly bushes within it. Along the Eastern

boundary is a second species poor hedge, separating the site from agricultural buildings. Through the centre of the site a remnant hedge has been allowed to grow, there is no structure or density to it at ground level. (Plate 7 and Fig1, BTN 3). This base of this hedge (to be lost) is grazed.

- 2.4.2 Tree species within the hedges include Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Ash (*Fraxinus excelsior*). None of the hedges meet Hedgerow Regulations criteria for protection.



Plate 7- Hedge through centre of the site which has grown up, no density or structure at ground level

2.5 Wet Ditches

- 2.5.1 A wet ditch runs down the East side of the site. The ditch is unfenced from the field and has an open shallow profile across its bottom with steep artificial banks. Flote-grass (*Glyceria fluitans*) is present within the channel. There is little cover or other aquatic vegetation associated with it. The ditch would be subject to grazing from livestock in the field and appears to be the sole water source for drinking (Fig 1, BTN 4 and Plate 8).



Plate 8- Open ditch with small flow open to field

2.5.2 The lack of bankside vegetation, flow and cover would render this channel low quality for Water Vole (*Arvicola amphibious*) (Fig 1, FTN1)

2.6 Tall Ruderals

2.6.1 Along the bank leading to Accrington Road to the North and a narrow strip along the river bank tall ruderals dominate. A fence runs parallel with the river on the river bank and isolates a footpath from the site. The footpath has a bare gravel/ mud surface. Dog faeces was noted along its length indicating this is a popular dog walking area (Fig 1, BTN5 and Plate 9).

2.6.2 Species are typical of such areas and include Cocksfoot, Hogweed, Dandelion, Annual Meadow Grass, Common nettle, Yorkshire Fog, Cocksfoot, False oat grass (*Arrhenatherum elatius*).



Plate 9 –Footpath along river bank with tall ruderals on either side.

2.6.3 Tall ruderal is the dominant habitat type which extends to the East. Dominant species present include Common Nettle (*Urtica dioica*), Ragwort (*Senecio jacobaea*), Willowherb (*Epilobium* sp.) and Bramble (*Rubus fruticosus*). Where the vegetation has been trampled, other species, such as Red Clover (*Trifolium pratense*), Cleavers (*Galium aparine*) and Dandelion (*Taraxacum* agg.) also occur. A small area is dominated by Thistle (*Cirsium* sp.) (Fig 2, BTN8) as well as certain areas dominated by Bramble, making access difficult (Plate 10 and Fig 2, BTN9).

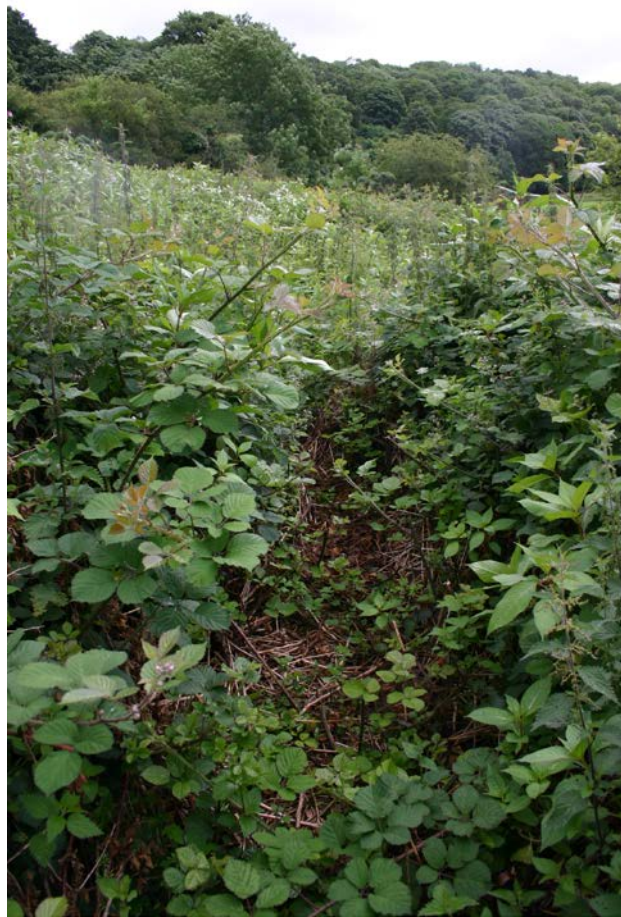


Plate 10 –Bramble to the East

2.6.4 The non-native invasive species Himalayan Balsam (*Impatiens glandulifer*) is interspersed with this vegetation in areas, particularly in close proximity to the river bank where it is dominant (Plate 11). The steepness of the bank and presence of Giant Hogweed make surveying this area difficult.



Plate 11 –Bramble to the East

2.7 Deciduous Trees

- 2.7.1 Along the waters edge semi-mature trees include Elderberry (*Sambucus nigra*), Alder (*Alnus glutinosa*), Ash and Crack Willow (*Salix fragilis*) (Fig 1, BTN6 and Plate 12). Within the site, along the remnant hedgerow and in the centre of the field are small Ash and Hawthorn. None of these trees have significant bat roosting potential.



Plate 12- Trees along river bank and Hawthorn bush in field with negligible roosting potential

- 2.7.2 A large mature Oak (*Quercus rober*) tree (Plate 13 and Fig 2, BTN10) is located in the second section of the site, close to the river bank. Due to its size and presence of knots, it is thought to have some roosting potential for bats (Fig 2, FTN3).



Plate 13- Mature oak with some potential for roosting bats

2.8 Emergent/ Bankside vegetation

- 2.8.1 Common Reed (*Phragmites australis*) grows along the river bank (Fig 1, BTN7). Water levels are stable along this part of the river due to a weir downstream. The bankside was inspected for indications of Otter (*Lutra lutra*). No spraints, tracks or runs were located, even at ideal sprainting sites at the side of the weir (Fig 1, FTN2)

2.9 Semi-improved grassland

- 2.9.1 Semi-improved grassland is present on the Northern boundary of the east side of the site. This habitat continues beyond the northern border and around the buildings to the North. This grassland sits between the definition of improved and semi-improved. Following our second visit to site we consider it more closely fits the second definition. Intensive management of the grassland appears to have ceased.
- 2.9.2 Dominant species include Cocksfoot (*Dactylus glomerata*), Yorkshire Fog (*Holcus lanatus*), Sweet Vernal Grass (*Anthoxanthum odoratum*) and False Oat Grass (*Arrhenatherum elatius*) (Plate14).



Plate 14- Semi-improved grassland

2.10 Invasive Species

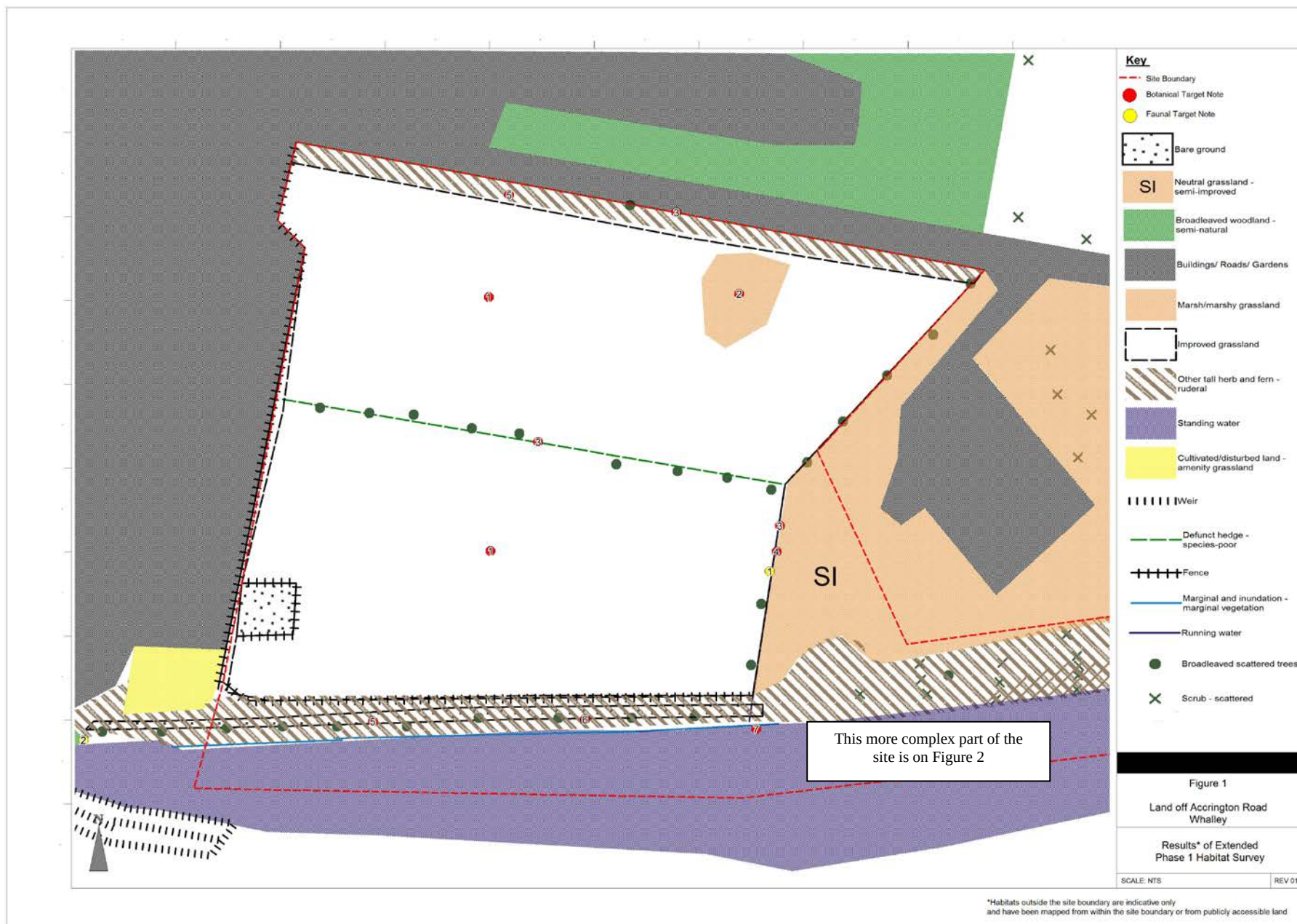
- 2.10.1 A number of invasive plant species occur in the eastern side of the site, notably the non-native species Himalayan Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).
- 2.10.2 Himalayan Balsam occurs through a large proportion of the site amongst the tall ruderal vegetation, there are however a number of areas where it is the dominant species and carpets sections of the river bank (Fig 2, BTN11). This not only causes negative impacts on the native flora, but as this species is an annual and when it occurs in such large stands and dies off in autumn, there is little holding the river bank together and so it becomes more susceptible to erosion.
- 2.10.3 In addition, there are a significant number of Giant Hogweed plants on the East side of the site (Plate 15 and Fig 2, BTN12). This species is not only non-native, it is also hazardous to humans. Its sap causes phytophotodermatitis (when bristles come into contact with the skin and then UV light) causing blisters and if it comes into contact with eyes, potential blindness.

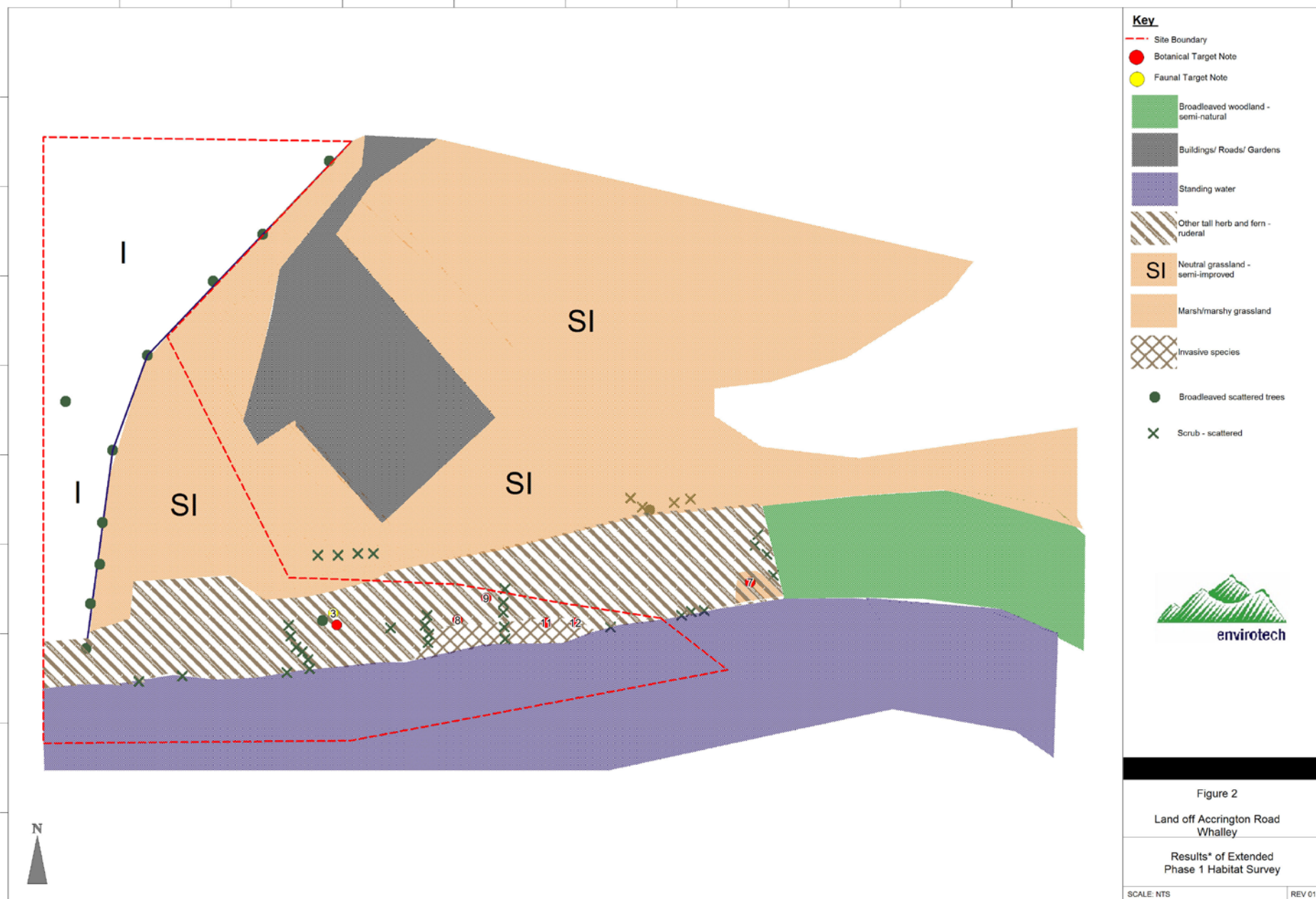


Plate 15- Giant Hogweed (*Heracleum mantegazzianum*)

2.11 Scattered scrub

2.11.1 The east side of the site features a number of scattered scrub trees. In some areas these have formed clusters with others standing alone. Hawthorn (*Crataegus monogyna*) is the dominant species, but Ash (*Fraxinus excelsior*), Willow (*Salix* sp.), Elder (*Sambucus nigra*), Hazel (*Corylus avellana*) and European Gorse (*Ulex europaeus*) also occur. None of these scrub trees show potential for roosting bats.





*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

3.0 SUPPORTING INFORMATION

3.1 Scope and objectives

This report was commissioned in respect of the proposed future development of fields off Accrington Road, Whalley. The objectives of this survey are:

1. To carry out an ecological assessment of the site to identify any habitats, species or features of nature conservation significance.
2. To undertake more in-depth surveys to assess the extent of any ecological risk identified.
3. To provide a concise written report of the results, making any appropriate recommendations to ensure compliance with wildlife law and recognised best practice.

3.2 General site description and methods

The site can be broadly divided into two parts, the main area being off Accrington Road and with a second narrow spur extending along the banks of the River Calder to the East.

The first part is comprised of two improved pasture fields bounded by roads, houses, improved pasture and the River Calder, with the second part is primarily dominated by tall ruderal vegetation, with some semi-improved grassland and scattered scrub.

Plans and photographs are provided earlier in this report.

3.3 Methodology

A consultation with the site agents was made on the 1st November 2011 following which the general site layout and adjacent environs were appraised. A search of the ecological records held by the NBN and Lancashire County Council was also made. A map showing the results of the search is shown at Figure 3. A second consultation with the site agents was made on the 11th July 2012, referring to the addition of the second part of the site along the Northern bank of the Calder to the development footprint.

There are several records of protected or notable species within 500m of the site on the datasets searched. Records of Rough Horsetail were found for the Eastern side of the site. No additional records searches were considered necessary based on our initial appraisal of the habitats associated with the site. The 500m buffer is sufficient to capture likely use of the site based on habitat fragmentation and availability.

The level of survey effort used for each species was derived from our assessment of the likely presence and susceptibility of each species to disturbance from the proposed development as well as its local abundance and level of protection/importance.

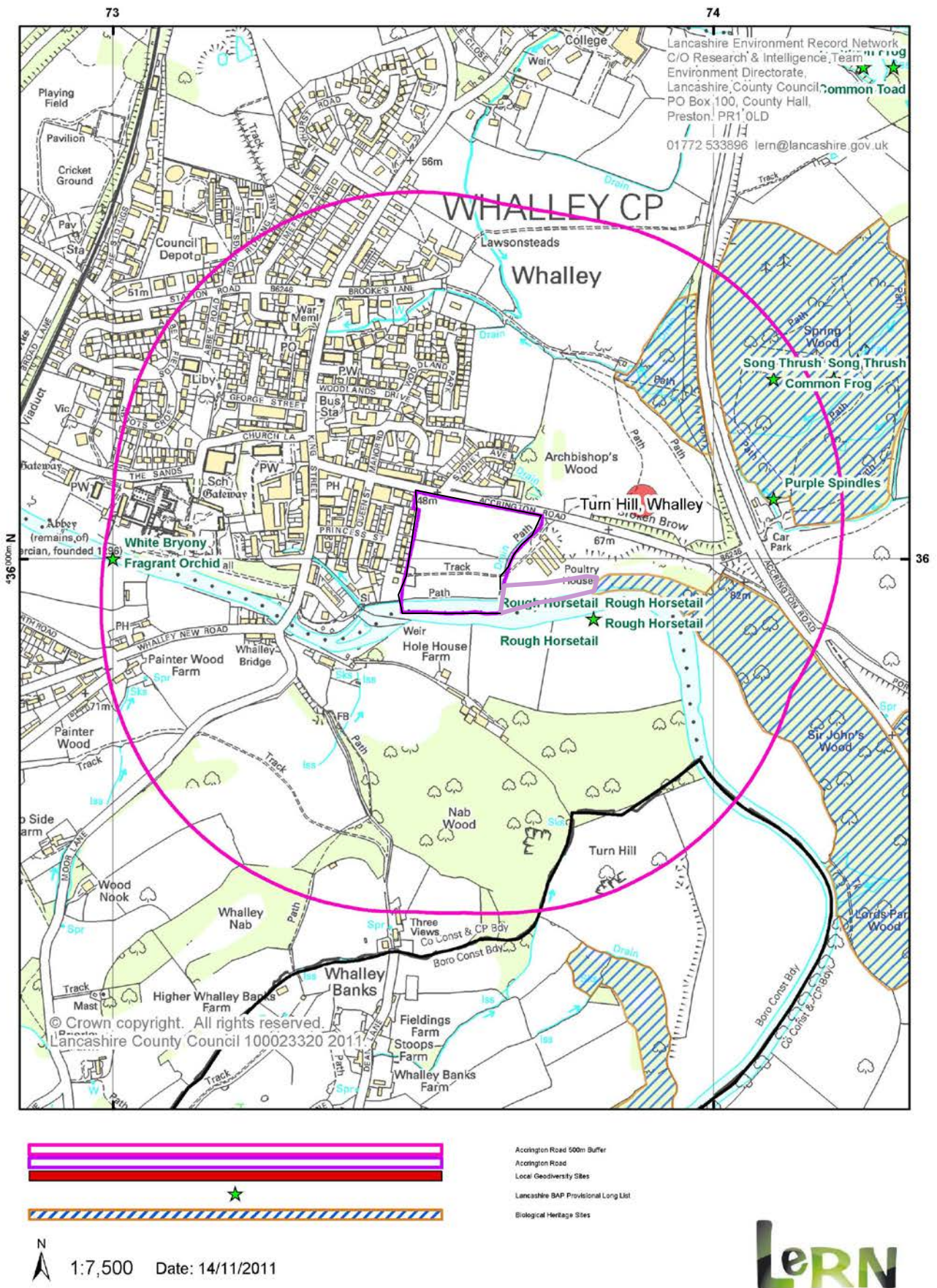


Figure 3. Protected/ notable species in proximity to the site

3.3.1 Bats

The survey was carried out in full accordance with the recommendations in NCC (1987), Mitchell-Jones (2004) and BCT (2007, 2012).

This comprised a close inspection of all trees and buildings adjacent to or on the site. Trees were assessed for the suitability of bat roosting according to the number of niches present such as deep cavities, flaky or deeply fissured bark, hollow stems and location in relation to potential foraging or commuting habitat. The orientation of the tree and level of shade or nearby obstruction to free flight were also considered as part of the evaluation process.

Buildings were assessed in relation to their ability to support roosting or foraging by bats.

The general habitat at the site was evaluated in terms of its suitability to bats for foraging or commuting.

A bat activity survey was not conducted as in accordance with BCT (2007, 2012) the site could be sufficiently well assessed from a daytime walkover survey to be reasonably confident in the absence of roosting bats and to make an assessment of possible impacts.

All typical (Council Directive 92/43/EEC, 1992) species of bat in the UK are protected under both UK and EU legislation. They are protected from deliberate disturbance, injury or killing. Any place they use for shelter is protected from alteration, obstruction or destruction, whether bats are present at the time or not.

3.3.2 Badger

The survey method was a scaled down version of the standard badger survey methodology as described in Harris et al (1989). In practice this comprised a generalized search of the whole site where suitable habitat was found, to a distance of 30m from the site boundaries, where this was possible, for feeding signs, habitual runs and footprints, hairs, droppings and latrines, scratching posts and actual setts.

Badgers are protected from deliberate disturbance when in an active sett and intentional killing or injury. The badger is the only UK species to be specifically covered by its own legislation the 1992 Protection of Badgers Act.

3.3.3 Birds

All nesting birds, other than pest species covered by specific exemptions where they are causing damage to livestock or crops, are protected from disturbance when actively nesting or rearing dependant young. An assessment of the sites potential to support nesting birds and observations for nesting behaviour during the surveys would reveal the indicative level of past and current use of the site and likely impact of the development on nesting/ foraging opportunities for birds. The trees, buildings and river bank were all inspected as a part of the other surveys which were undertaken.

3.3.4 Invertebrates

The survey for these species was based on assessing the habitat type and suitability of the site.

It is our opinion that the above methodology was sufficient to make a risk assessment of site works and determine the likely effect on these species. As such we consider the above methodology constitutes reasonable effort in this case.

3.3.5 Plants

The vegetation composition of the site was assessed with key plant and tree species being identified.

3.3.6 Water vole

A detailed inspection of all suitable water courses occurring within a distance of 15m of each site boundary, where this was possible, following the methodology described in Strachan (1998) was carried out.

In practice, the edge of the ditches were examined for evidence of water vole (*Arvicola amphibius*) usage including field signs such as latrines (piles of droppings used to mark territories), feeding remains, footprints, burrows, 'vole lawns' and actual sightings or the characteristic sound of animals diving into the water.

The first survey was undertaken at a time of year when watervole activity is much reduced and or would have ceased. It should however be noted that Lesser celandine was in flower at the time of the survey and the autumn had been exceptionally warm. Watervoles are likely to have been at least partially active at or immediately prior to the first survey. The second survey was undertaken during the peak of water vole activity.

3.3.7 Otters

A search for habitual use of the site by otters such as spraints, haul out points, feeding remains, holts, runs and slides was undertaken. Otters are active all year round and suitable sprainting sites were located along the River Calder and could be checked.

3.3.8 Great Crested Newt

There is no suitable habitat at or in proximity to the site. No additional assessment was considered necessary.

3.4 Limitations

None significant

4.0 RESULTS

4.1 Protected sites

Three Biological Heritage Sites found within or close to the buffer zone. These are Calder Bank, Sir Johns Wood and Park and Spring Wood.

Spring wood is isolated from the site by two busy roads, Sir Johns Wood and Lord Park Wood lie to the East but are connected with Park and Calder Bank which is close to the boundary but not within the development area.

These sites are designated for woodland and scrub and flowering plants and ferns.

The end of Park and Calder Bank BHS will not be affected by the development and has specifically been excluded from the proposed flood alleviation scheme.

Other than Rough Horsetail the plant species within the Park and Calder Bank BHS designation are well represented in the vegetation over the area where soil removal is proposed both within and outside the BHS boundary area.

The presence of Himalayan Balsam is likely to severely degrade the potential for the long term survival of *Equisetum Sp.* in this area. The species require similar ground conditions for growth, with Himalayan Balsam likely being the most competitive.

The lowering of ground levels adjacent to the boundary of Sir Johns Wood and Lord Park Wood BHS to the West should provide a large area of new damp ground which would be highly suitable for *Equisetum Sp.* There is however the potential for the rapid colonisation of the area by Himalayan Balsam and Giant Hogweed. Control measures will therefore be required for these species both before and after excavation of this area. It may also be possible to create vertical earth banks along the edge of the river, suitable for Sandmartin (*Riparia riparia*) and Kingfisher (*Alcedo atthis*).

Citations for these LWS are included in Appendix 1

4.2 Bats

There are no buildings on the site which will be lost and or partially modified by the proposal. All of the buildings adjacent to the site are of modern construction and or portal frame construction. They are considered to offer some albeit a low level of roosting potential. It is considered bat roosting sites are likely to occur within the housing estate to the West. There were however no bat records returned during the data search.

Bats are likely to forage along the tree lines on the river bank and over the still water above the weir on the boundary of the development site. Daubenton's (*Myotis daubentonii*) in particular prefer still water with tree lined river banks. The core development area is not however considered to offer significant bat roosting or foraging potential. The loss of tall ruderals to the east during re-profiling will be replaced by emergent and damp ground species of equal foraging value.

Trees on and within the site boundaries were all assessed in accordance with BCT (2007, 2012). All were found to be category 3 (negligible) roosting potential aside from a large mature Oak (*Quercus robur*) which is located in the Eastern side of the site. This was classed as a category 2 (Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.)

Based on habitat and daytime inspections, additional survey work is considered unlikely to provide additional information about the status of the site for bats. In accordance with BCT (2007, 2012) no additional survey work is therefore required.

Mitigation to provide and retain new tree lines down the edge of and through the site and the river and minimise light spill will be required to maintain and enhance the foraging potential of the site.

If the river corridor can be enhanced, with new bankside planting, it is considered there would be significant ecological gain from the proposal. Daubenton's (*Myotis daubentonii*) and other bat species would be able to commute and forage along the river bank. There would also be enhanced linkage with the BHS woodland to the East.

4.3 Badger

A detailed inspection of all suitable habitat at the site and to a distance of at least 30m from the site boundaries, where this was possible, revealed no active badger setts. No habitual runs, hair or scratch posts were found on or near suitable features on the site.

A search for snuffle holes (badger feeding signs) was made across the entire site. No indication of badger feeding was found.

Whilst badgers are believed to occur within 2km of the site, it is reasonable to assume that they do not have an active sett within 30m of the site boundary.

The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

4.4 Birds

Potential nest sites were located on the site in the dense scrub to the East. The core development area offers a limited potential for nesting birds. A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

There are habitats along the river bank which offer nesting potential for nesting birds but they would be subject to high levels of disturbance and predation from dogs.

The open grassland would also not offer optimal nesting sites for ground nesting birds. Trees around the edge of the site would provide hunting perches for raptors which would increase the risk of predation.

The impact on nesting birds is therefore considered likely to be minor. A check for nesting birds should be undertaken prior to the removal of any trees, hedges or scrub if this is in the period March-September inclusive.

The creation of a densely planted corridor along the river corridor and trees on the edge of the site may provide shelter for nesting birds and would enhance the potential for use of the site.

4.5 Invertebrates

A survey for invertebrates including, but not limited to solitary and mining bees and wasps and certain butterflies was triggered as a result of this site lying in proximity to semi-natural vegetation. The method of survey for these species was to assess the habitat type affected by development and therefore its likely importance at the local level to any of these species.

Trees on the site boundaries contain comparatively little rotten wood in their canopies.

Improved and semi-improved pasture, marshy grassland and scrub has some value to species such as common butterflies but this is not considered to be locally significant.

The significance of the site to invertebrates is likely to be limited in the local context although the habitat on site will support invertebrate species. Mitigation can be incorporated into the design and landscaping scheme with the careful selection of plant species and substrates for the garden areas.

4.6 Plants

Details of the plant species found on site are included in the target notes. Only common plant species were located. The species found within the site are largely generalists or associated with agricultural improvement. Himalayan Balsam and Giant Hogweed were both identified on the river bank to the East of the site. These plants will require removal/ treatment prior to the translocation of soil around the site.

Prior to the removal of soil from the East and treatment of Himalayan Balsam and Giant Hogweed the river banking should be re-checked for Rough Horsetail. Should this plant be found within the working area, it should be left in-situ until such a time as another part of the banking has been excavated to form a shallow, damp area, into which it and the soil around it can be transplanted.

Follow up monitoring of the establishment of the plant and Himalayan Balsam and Giant Hogweed control may also be required in this area.

The landscaping scheme should utilise native or wildlife friendly species. Mature trees on the site boundaries should be retained where it is possible and safe to do so on reflection of increased public access to the site.

4.7 Water voles

There were no indications of this species found along the river bank but the habitat here is suitable for the species and it may occur. A ditch down the East side of the site is considered to have negligible potential for use by the species.

No habitat potentially used by the species will be detrimentally affected by the proposal. The river bank is not subject to significant alteration. The removal of soil from the East side of the site will lower the ground level to create a new flood plain which should result in the growth of vegetation which is palatable to this species. No significant negative impacts on the species are therefore predicted.

The planting of willow along the river bank/ corridor would provide an additional food source for this species (particularly in winter) and provide more structural diversity at ground level than already occurs on the open and exposed river banks. The wildlife pond will also provide a far better ecological resource than the heavily trampled riverbank.

4.8 Otter

There were no indications of this species found along the river bank but the habitat here is suitable for the species and it may occur. There are pre-existing high levels of river bank disturbance.

The planting of willow along the river bank/ corridor would provide additional structural diversity at ground level than already occurs on the open and exposed river banks. Additional planting to form a buffer along the river and wildlife pond will also provide above ground holt/ couch sites. There is little that can be done to reduce disturbance impacts from walkers as the river bank is a public footpath. The pond should however remain undisturbed.

5.0 Significance of Survey Results

No conclusive signs of protected or otherwise important species were recorded on the development site during the surveys and or are reasonably expected to be significantly affected by the proposed development.

Bats are likely to use the surrounding landscape for foraging. The focus of this activity will likely be correlated with the trees along the river bank. These may be slightly affected as a result of artificial lighting.

No indications of current use of the site by badgers, water voles or otters could be found. These species are however known to occur in the local area. Precautionary mitigation for the species is considered to be appropriate.

We consider the site has some potential for use by nesting and foraging birds. Mitigation through a check for nesting birds prior to site clearance will adequately mitigate for bird species. The site is unsuitable for notable ground nesting birds.

We judge the ecological significance of the vegetation at the site to be low in respect of its vegetative composition and importance to invertebrates.

There are schedule 9 species to the East of the site which will require removal/ treatment prior to ground works occurring in this area. The potential for the presence of Rough Horsetail will be accounted for via pre-start surveys and if required translocation of the plant within the site boundaries.

Overall, it is considered there are likely to be no significant ecological constraints to development of the site. More than adequate provision for the slight degradation in habitat can be made through the use of wildlife friendly plant species in the landscaping plan and the creation of a riparian buffer zone.

7.0 Mitigation Proposals

Taking the survey results and impacts above into consideration and the implications for the proposed site works mitigation measures are summarized as standalone methods statements in Annex 2.

8.0 Conclusion

Ecological surveys, site appraisals and impact assessments were carried out with respect to land off Accrington Road, Whalley.

Bats are known to occur in the local area and are likely to use the site boundaries for foraging. No indications of Otters or Water voles was found. Use of the site by this species would also be confined to the river bank.

Badgers are considered to be absent at the site. There is some, albeit a low potential for use of the site for nesting by birds.

There was however no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which will be negatively affected by the proposed site development following the mitigation scheme outlined herein.

Enhancement of the site through landscaping, tree planting a riparian buffer zone and new pond will result in significant ecological improvement of the site.

I certify this report has been compiled in accordance with the code of professional conduct for the **Institute** of Ecology and Environmental Management and The Royal Institute of Chartered Surveyors and reflects my objective opinion of the facts found in relation to the instruction received and information available based upon the methodology, assumptions and constraints detailed within this report.

Signed



Andrew Gardner BSc (Hons), MSc, MIEEM, MRICS, CEnv, Dip NDEA
Director Envirotech NW Ltd
Monday, 03 September 2012

Appendix 1

Lancashire County Heritage Sites

Biological Heritage Site

Calder Bank, Broken Brow



Site Boundary

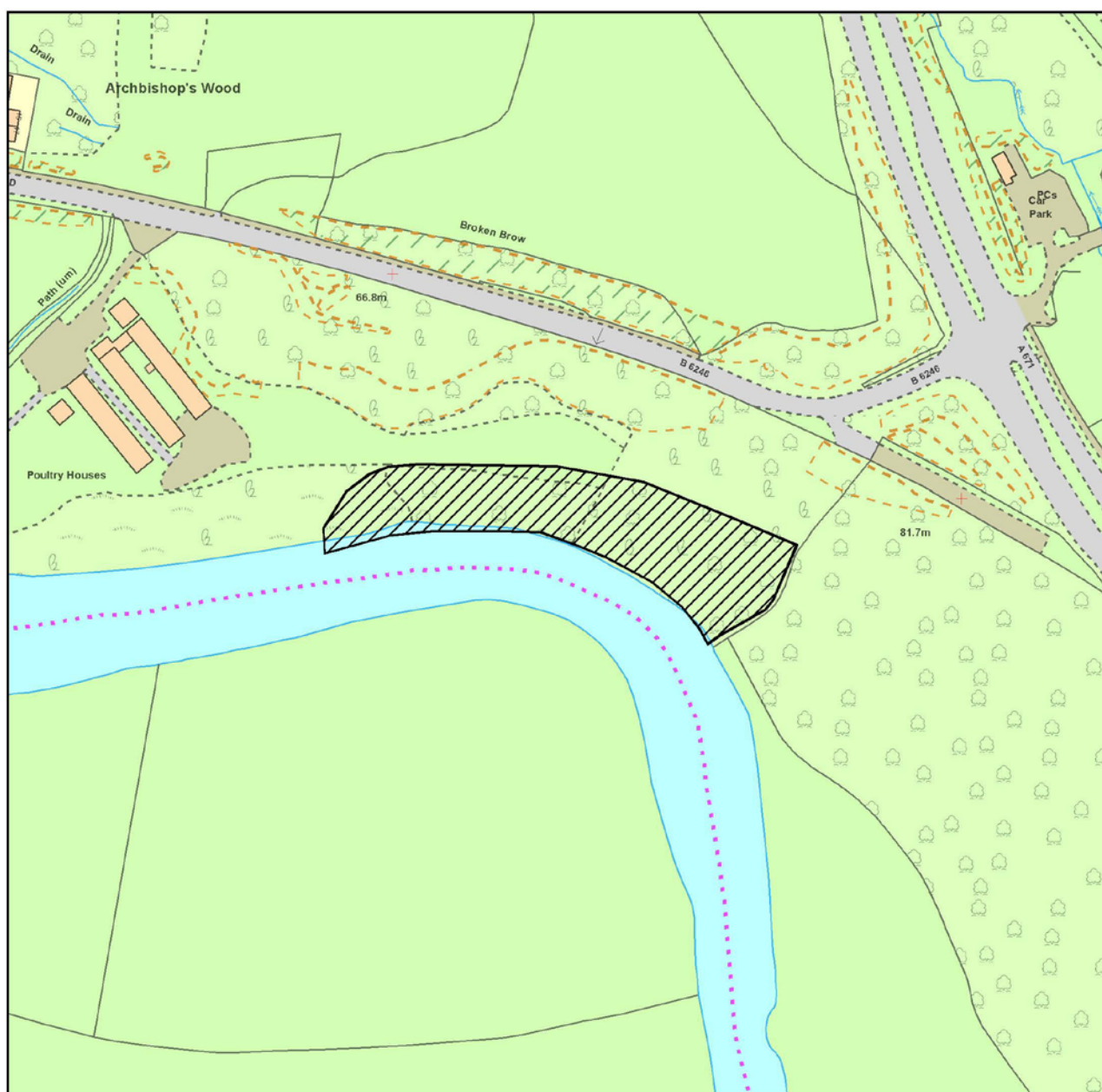
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This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 73NW10

Biological Heritage Sites Partnership

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Manchester and North Merseyside
Natural England



Grid ref. SD738359

Scale 1:2,360

Site approved

Map 1 of 1

Boundary revised

Date of Map 14/11/11



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Sir John's Wood and Lords Park Wood



Site Boundary

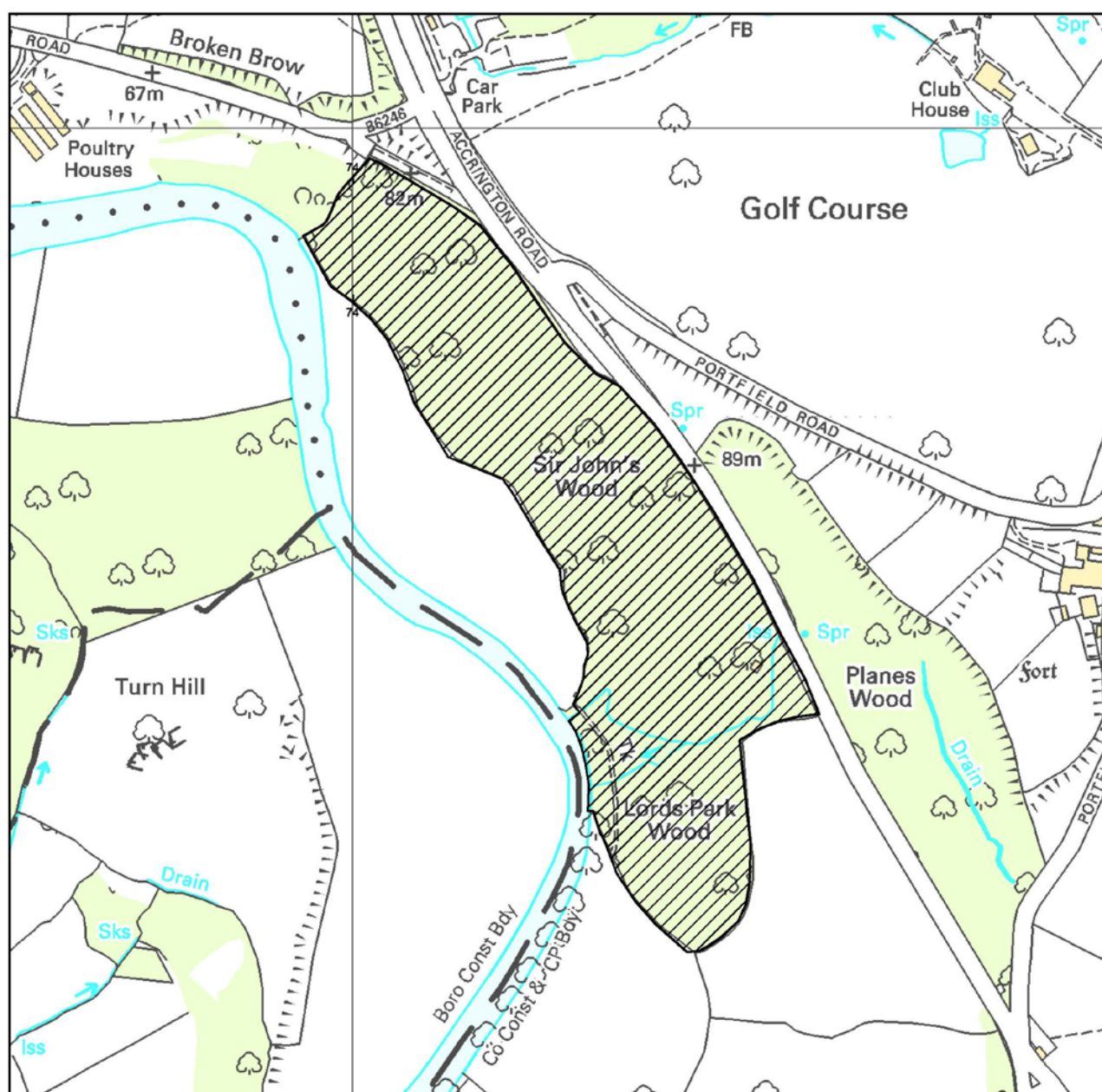
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Grid ref. SD741357

Scale 1:5,170

Site approved

Map 1 of 1

Boundary revised

Date of Map 14/11/11



Lancashire
County Council



Lancashire County Heritage Sites

Biological Heritage Site

Spring Wood



Site Boundary

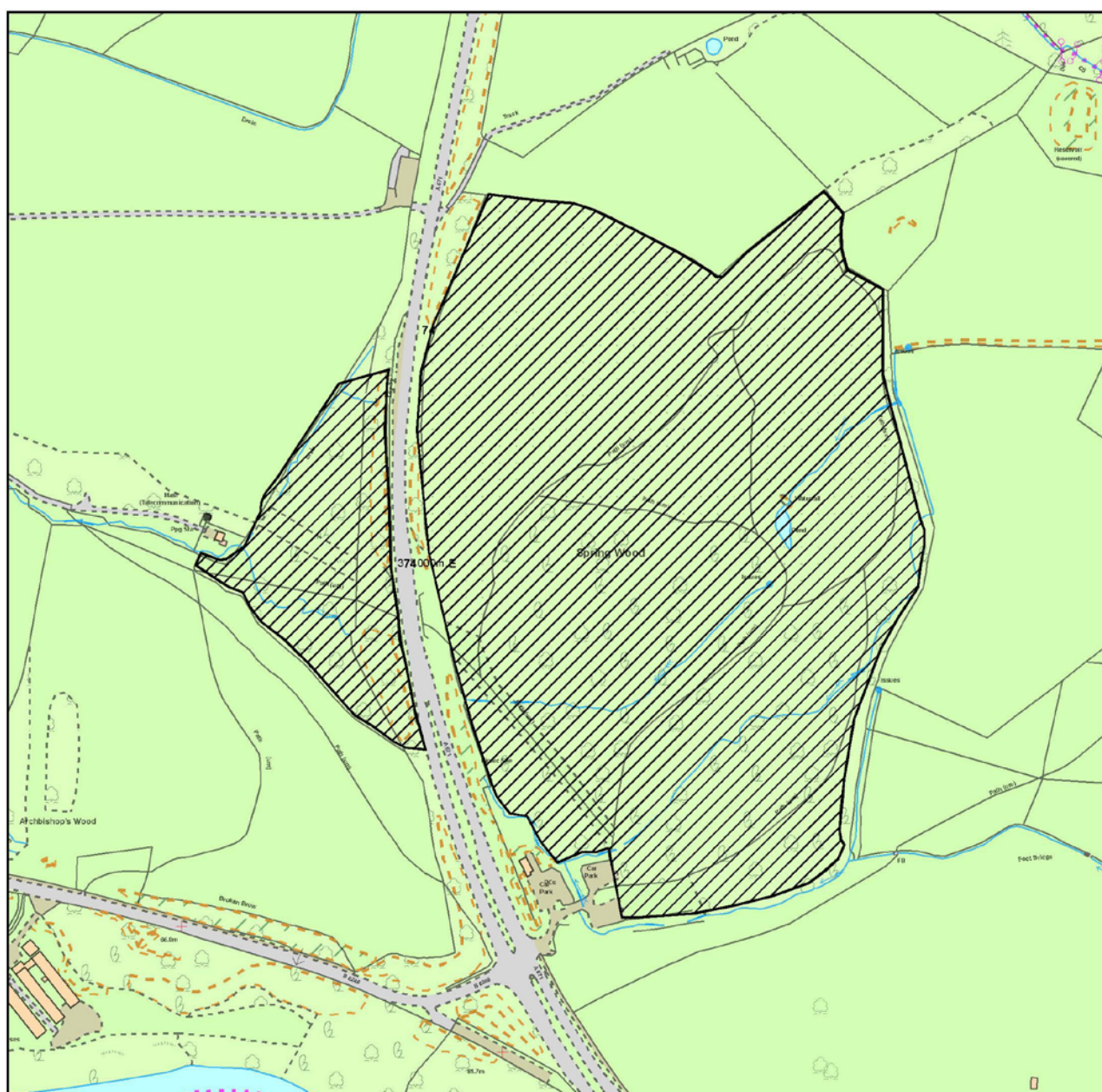
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Grid ref. SD741362

Scale 1:4,190

Site approved

Map 1 of 1

Boundary revised

Date of Map 14/11/11



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County Council





Lancashire County Heritage Sites

Biological Heritage Site

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Site Name: Calder Bank, Broken Brow

Site Ref: 73NW10

Approved: 01 September 2003

Area (ha): 0.58

Date written/last updated: 01 December 2005

Grid Ref: SD738359

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Whalley

Description:

The site comprises a steep banking situated along the north side of the River Calder, approximately 0.5km east of Whalley. It is notable for the occurrence of Rough Horsetail (*Equisetum hyemale*), a species listed as vulnerable in the *Provisional Lancashire Red Data List of Vascular Plants*. This is currently the only known location for Rough Horsetail in Vice County 59.

The site is a scrubby continuation of St John's Wood with abundant/frequent Ash, Alder, Hawthorn, Elder and Bramble. Other species present include Ivy, Dog's Mercury, Herb-robert, Primrose, Bush Vetch, Red Campion, Wood Avens, Lords-and-Ladies, Hemp-agrimony, Common Nettle, Meadowsweet, Great Horsetail, Pendulous Sedge, Remote Sedge, Wood-sedge, Tufted Hair-grass and False Brome

Guideline(s) for Site Selection:

Flowering Plants and Ferns (Ff4)

Other Information/Comments:

The site adjoins Sir John's Wood and Lords Park Wood Biological Heritage Site (BHS 73NW12).



Lancashire County Heritage Sites

Biological Heritage Site

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Site Name: Sir John's Wood and Lords Park Wood

Site Ref: 73NW12

Approved:

Area (ha): 10.38

Date written/last updated:

Grid Ref: SD742356

Owner/Occupier:

Districts:

Ribble Valley

Parishes:

Whalley

Description:

To be completed.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:



Lancashire County Heritage Sites

Biological Heritage Site

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Site Name: Spring Wood

Site Ref: 73NW14

Approved: 08 September 1993

Area (ha): 15.96

Date written/last updated:

Grid Ref: SD741363

Owner/Occupier: Public

Districts:

Ribble Valley

Parishes:

Whalley

Description:

To be completed.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:

Appendix 2

Method Statement for Works at Land Off Accrington Road, Whalley

1. Bats

The following table details each part of the site and works required to protect bats during the construction phase.

AREA OF SITE	POTENTIAL FOR USE BY BATS	RISK TO BATS FROM PROPOSED WORK	RECOMMENDATIONS
Open ground	No suitable roost sites. Low potential for foraging over open ground	Low risk	If bats are seen stop work and seek further advice
Semi-mature trees over 10cm BDH	No highly suitable fissures or cracks for roosting. Low potential for use	Low risk	Re-inspect any trees prior to felling. Be observant for bats during any felling operations in this area. If bats are seen stop work and seek further advice

Commuting and foraging routes

The trees lines and scrub on the site boundaries provide habitat of local value to bats for foraging and should be retained.

Light spill onto the trees along the river should be minimised. Mitigation for other species outlined later in this report is also considered more than sufficient to mitigate for any slight degradation in habitat quality and enhance the sites ecological functionality for bats. Minimisation of lighting impacts can be undertaken by directing lighting on the rear of the buildings along the South side of the site downwards only and planting a screen along the river bank.

2. Nesting Birds

The construction/ soil translocation requires the removal of dense scrub and hedges suitable for nesting birds. When these areas are removed, it should ideally be of the bird breeding season (i.e. not between end-February and mid-August inclusive) wherever possible. As nesting birds are easy to detect, using the correct methodology, scrub and hedges to be cleared within this time period should be surveyed for nesting birds prior to clearance by a suitably qualified individual.

If a nest is found, the feature containing the nest and its immediate surroundings will be left undisturbed until nesting is complete and any young have fledged.

3. Landscaping

The use of native plant species in the landscaping plan as well as mixed substrates will vastly enhance the structural diversity of the site which will in turn benefit invertebrates.

We would also recommend that the trees and shrubs are planted along the edge of the site adjacent to the river to form a high quality riparian corridor.

New planting along and within the site boundary will also create new habitat linkage.

4. Landscaping

The river corridor should be checked for the presence of Rough Horsetail prior to the commencement of site works. Should this plant continue to be absent, Himalayan Balsam and Giant Hogweed will need to be removed from the working areas. Both of these plants are annuals, their treatment in the winter period is therefore not possible.

Monitoring and treatment of the area where soils are transported to for the regrowth of these species will also be required.

Should Rough Horsetail be found within the working area the plant should be initially left in situ undisturbed. An equivalent land area should be lowered to its final height, where it will provide damp conditions. The plant and soil around its root structures should then be transplanted to this area. A check for establishment, the potential growth of Himalayan Balsam and to ensure this ground remains damp will be required.

The use of native plant species in the landscaping plan as well as mixed substrates will vastly enhance the structural diversity of the site which will in turn benefit invertebrates.

We would also recommend that the trees and shrubs are planted along the edge of the site adjacent to the river to form a high quality riparian corridor.

New planting along and within the site boundary will also create new habitat linkage.

Linear commuting routes for bats enhanced through new planting

Ecological consultants Primary
Contact Details

Project Lead: **Andrew Gardner**

Direct Dial: **015395 61894**

Mob: **07812081320**

Email: **info@envtech.co.uk**

New planting around
perimeter of site to
promote use by bats



Figure 6: Maximum flood extent under the design event overlaid onto the proposed development scheme.

