



# Landscape, Arboricultural & Ecological Solutions

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Review &  
Ecological  
Appraisal

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Higher Saxifield

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Nov 2019

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**Ecological Review  
&  
Appraisal**

**For**

**Higher Saxifield  
Objection Group**

**Nov 2019**

**Document Author**

Gary Howell BSc (Hons)

**Signature;**

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## SUMMARY

GH Ecology was requested by Higher Saxifield objection group in October 2019 to conduct an ecological appraisal and review of current environmental policy at national and local levels and subsequently cross compare this information with an existing planning application for a housing development within Briercliffe; Higher saxifield. The assessment comprised of a desk study and biological records search, as well as a review of existing surveys and satellite imagery to map habitat types and assess the potential for protected species to use the site. The assessment provides baseline data regarding current site conditions, and where appropriate addresses future land management within this area in accordance with current wildlife legislation and environmental policy.

Situated in the industrial foothills of Briercliffe and bordering Pendle Borough, the site is positioned within part of a catchment area at the easterly extreme of Burnley. Approximately 3km to the east of the site, the West Pennine moors are designated as a Special Conservation Area in addition to a Special Protection Area for internationally protected species of flora and fauna.

Dendritic networks and ecological corridors occur within biological heritage sites and river systems to the south of the site (Lern, 2019). Our client fears the development may result in increased run off and sediment, subsequently overloading and damaging these delicate aquatic habitats downstream of the site resulting in negative externalities. This is exacerbated by existing springs and drainage issues (Figure 7) currently on site that are subjected to flash food events year round, according to current residents (2019). Therefore, our client maintains that; more detailed hydrological analysis is required at the scoping stage of the proposed development, such as;- appropriate surveys that collect data regarding rainfall and current carrying capacities of river systems downstream to satisfy current international, national and local policy regarding hydrology and biodiversity where development is proposed.

Furthermore, Our client believe the proposed development to be counterintuitive to current international, national and local environmental policies with regards to hydrology and biodiversity, and suggest more appropriate land management strategies that satisfy current government environmental drivers within the review.

## 1.0 Introduction

GH Ecology was commissioned (Oct 2019) by Higher Saxifield objection group to carry out an appraisal and review of current environmental and ecological data of a proposed development site, Briercliffe, Burnley (hereafter referred to as “the site”). The site OS grid reference is (SD862352). Our client additionally requested a review of local environmental policy and Gi drivers to cross reference with a proposed development of 120 houses recently allocated to this site.



Figure 1. Location of proposed development and area of study.

The site was assessed using satellite imagery, current land designations and mapping, together with a review of existing biological records and ecological surveys of the area in order to quantify habitats and protected species in the area. The report was prepared following methods detailed in the CIEEM '*Guidelines for Environmental Impact Assessment*' (2006). This review presents an evaluation of habitats on site and the potential for protected species to be using the site.

Higher Saxifield is rural fringe and situated north of a built-up residential area of Briercliffe. Slow continuous drainage through the architecture of the parent material can be attributed to poorly drained, gley soils. Strong winds and prolonged precipitation associated with this region of the Pennines contribute to the mechanical weathering of local soils, and regional vegetation is associated with that of a more acidic moorland habitat. Additionally, open cast coal and agricultural operations, in combination with the parent material, have left a local legacy of extremely poor drainage that has resulted in seasonally and permanently wet pasture.

Habitats on site i.e. grassland and running water provide important habitat for local wildlife, some of which are currently considered priority habitat that comprise of protected key species evidenced within local environmental records data and land designations attached to these ecological networks (Lern, 2019). These habitats are considered to have ecological value at **Local and National** levels and are within the **Zone of Influence**. Current environmental legislation typically recommends the conservation and enhancement of priority habitat within and around proposed development sites in order to enrich local biodiversity.

## 2.0 Objectives

Our client is investigating opportunities to conserve biodiversity in the local area by objecting to a proposed housing development scheme. This ecological appraisal is an initial step to assess and quantify natural resources within the proposed development site in accordance with international, national and local environmental policies and guidelines. Our client requires the review to;

- Prioritise managing land for conservation within priority habitat areas i.e. neutral grasslands.
- Identify habitat that can be enhanced and where appropriate extended in accordance with national and local environmental legislation
- Assess how natural capital in the area can mitigate climate change and alleviate localised flooding events and potentially improve water quality within the river Don valley and Brun through the use of natural resources on site.
- Consider opportunities for conservation schemes that include community participation.

Our objectives are as follows:

- Identify and evaluate any features of ecological value and the potential of the site to support protected species based on the walkover survey and biological records search
- Identify designated sites within 2km of the site
- Review protected species records within 1km of the site
- Map the habitats within the site using JNCC (2010) methods
- Provide recommendations for further species-specific surveys and mitigation measures where current legislation requires
- Provide recommendations to assist our clients in achieving their objectives whilst satisfying current wildlife legislation.

## 3.0 Methodology

The review involved the collection and review of data from a desk study and existing field surveys with a subsequent assessment of the value of the habitats following CIEEM guidelines.

### Desk Study

A review of the designated sites and habitats within 2km of the site has been undertaken using the Multi Agency Geographic Information for the Countryside (MAGIC), Natural England websites and Lancashire County Councils Mario maps. A search for protected and notable species within 2km of the site has been undertaken using The National Biodiversity Network (NBN) Gateway website.

A review of UK and local priority species and habitats known to occur in the region of the site has been undertaken using the Joint Nature Conservation Committee website and local records from the Lancashire Environment Records Office (Appendix 5).

### Evaluation

Habitats and species on the site were evaluated following the '*Guidelines for Environmental Impact Assessment*' (2006). A geographical frame of reference is assigned to each habitat and species, with International Value being most important, then National, Regional, County, District, Local and lastly, within the immediate Zone of Influence (ZoI) of the proposals only.

## 4.0 Relevant Legislation

### European Legislation

The following Directives have been adopted by the European Union and provide protection for fauna and flora species of European importance and the habitats that support them:

- Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive)
- Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)

### UK Legislation

The Habitats Directive has been transposed into national legislation through the Conservation of Habitats and Species Regulations 2010 (updated 2012) (The Habitats Regulations). This provides for the designation (SPAs and SACs and Ramsar Sites, including proposed or potential European Sites) and the protection of 'European Protected Species'.

The key UK legislation relating to nature conservation is the Wildlife and Countryside Act 1981 (as amended) (W&C Act). This Act is supplemented, *inter alia*, by provision in the Countryside and Rights of Way (CRoW) Act 2000, and the Natural Environment and Rural Communities Act 2006 (NERC Act). Additional species and habitat specific UK legislation includes the Protection of Badgers Act 1992 and the Hedgerow Regulations 1997.

### Species and Habitats of Principal Importance

Species and Habitats of Principal Importance are listed under section 41 of the NERC Act and are a material consideration in planning decisions. Planners require relevant, up to date information from ecological surveys in order to assess the effects of a proposed development on biodiversity, as councils have a statutory obligation under section 40 of the NERC Act to consider biodiversity conservation in the determination of planning applications.

The National Planning Policy Framework (NPPF) 2012 has been published to provide further planning guidance. Wildlife, biodiversity and ecological networks are referred to in the Section 11 '*conserving and enhancing the natural environment*'. The NPPF states that the planning system should contribute to and enhance the natural and local environment by: recognising the wider benefits of ecosystem services, minimising impacts on biodiversity and providing net gains in biodiversity where possible, including by establishing coherent ecological networks that are more resilient to current and future pressures. Further guidance is provided within Government Circular 06/05: *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System*.

Background information about the lists of priority habitats and species (Species and Habitats of Principal Importance) can be found within the UK Biodiversity Action Plan (UK BAP). Although this has been succeeded by the '*UK Post-2010 Biodiversity Framework*', many of UK BAP tools are still relevant. BAPs identify habitats and species of nature conservation priority on a UK (UK BAP) and local (LBAP) scale. Most BAP priority habitats and species have Habitat Action Plans (HAP) and Species Action Plans (SAP) and there are also "grouped action plans" for groups of related species with similar conservation requirements. The LBAP relating to this site is the Lancashire Biodiversity Action Plan.

#### 4.0 Relevant Legislation

Table 1. Protected Species and the Associated Legislation.

	Species	Legislation
Amphibians	Great crested newt ( <i>Triturus cristatus</i> )  Common toad ( <i>Bufo bufo</i> )	Schedule 5, W&C Act 1981 (as amended); Schedule 2, The Habitats Regulations 2010; and Section 41, NERC.
Mammals	Badger ( <i>Meles meles</i> )	Protection of Badgers Act 1992.
	All species of bat	Schedule 5, W&C Act 1981 (as amended); Schedule 2, The Habitats Regulations 2010; and Section 41, NERC.
	Water vole ( <i>Arvicola amphibious</i> )	
Birds	All wild birds	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.
Reptiles	Adder ( <i>Vipera berus</i> ) Common lizard ( <i>Zootoca vivipara</i> ) Grass snake ( <i>Natrix natrix</i> ) Slow worm ( <i>Anguis fragilis</i> )	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.

It is a criminal offence to intentionally and/or wilfully kill, injure or take any of the aforementioned protected species or to destroy or disturb its habitat.

## 4.0 Relevant Legislation

### Local Policy

The site lies within Burnley and is covered by the Burnley Local Plan Green Infrastructure (Gi) Policy SP6. This deals with biodiversity, geodiversity and landscape conservation and is the policy of relevance here. This policy has been considered when preparing this report.

#### Policy SP6: Green Infrastructure

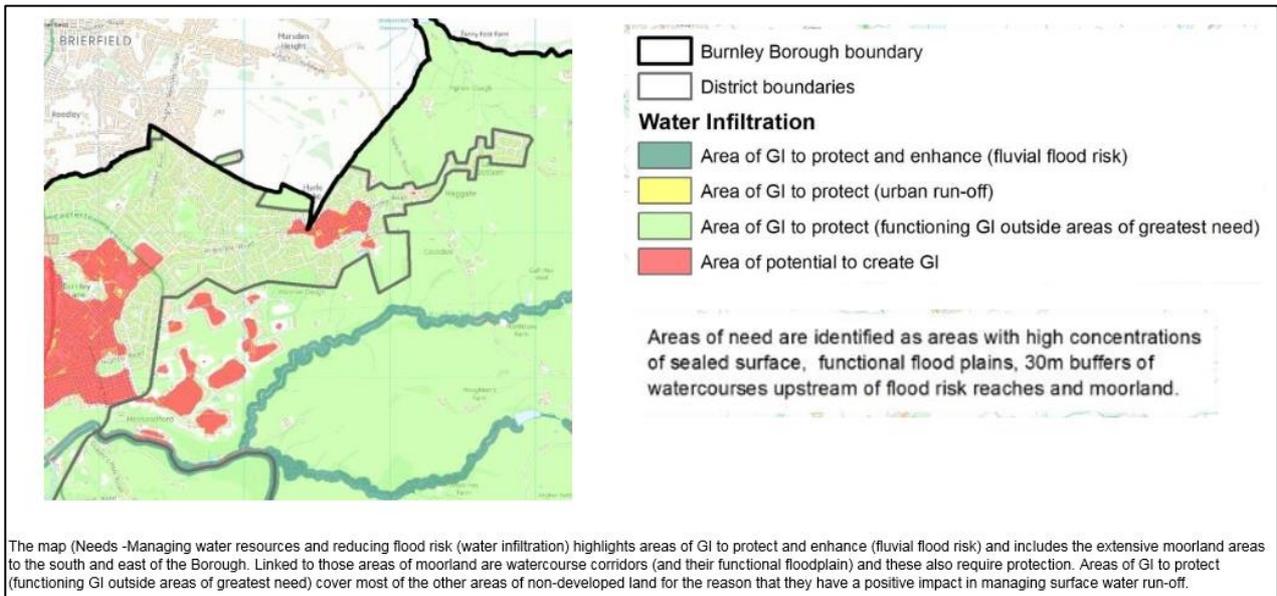
- 1) In line with Burnley's Green Infrastructure Strategy, the Council will, in partnership with other agencies and stakeholders, seek to protect, enhance and extend the borough's multifunctional green infrastructure network in order to maintain and develop the wider public health, ecological and economic benefits it provides and to ensure that there is an overall net gain.**
- 2) In addition to satisfying the requirements of other policies, development proposals should, as appropriate to their nature and scale:**
  - a) Seek to retain and enhance green infrastructure assets and functionality through the design process, in particular the key assets identified in Figure 5;<sup>33</sup> and**
  - b) Be accompanied by an audit of the green infrastructure functions within and adjacent to the site as set out in Table 2 together with a statement demonstrating:**
    - i) How these will be retained or enhanced through the development process; or**
    - ii) Where loss of or negative impact on GI functionality is unavoidable, what mitigation measures are proposed and/or replacement GI will be provided. Any replacement or mitigation measure should be deployed as closely as possible to the affected GI asset.**

“Note -Work is currently being undertaken by Lancashire County Council and Lancashire Wildlife Trust to map the County's Ecological Network. The Council is also undertaking further biodiversity survey work as part of its Local Plan evidence base. This map will continue to be refined as further data relating to particular habitats and species becomes available from these.” (Burnley Local Plan, 2018).

Furthermore, Recommendations within the doc included;

- Enhance biodiversity along river Brun, river Calder and other watercourses within the urban area.
- Develop the borough's ecological network drawing on data from the emerging Lancashire network and from further species survey work to refine habitat and species objectives.

**4.0 Relevant Legislation**  
**Local Policy**



The map (Needs -Managing water resources and reducing flood risk (water infiltration) highlights areas of GI to protect and enhance (fluvial flood risk) and includes the extensive moorland areas to the south and east of the Borough. Linked to those areas of moorland are watercourse corridors (and their functional floodplain) and these also require protection. Areas of GI to protect (functioning GI outside areas of greatest need) cover most of the other areas of non-developed land for the reason that they have a positive impact in managing surface water run-off.

Figure 2. Excerpt from Burnley’s local plan (2018) regarding water infiltration and Gi to protect. The proposed housing development site is marked as an area of Gi to protect, where areas to the south and southeast of the site have potential to create Gi.

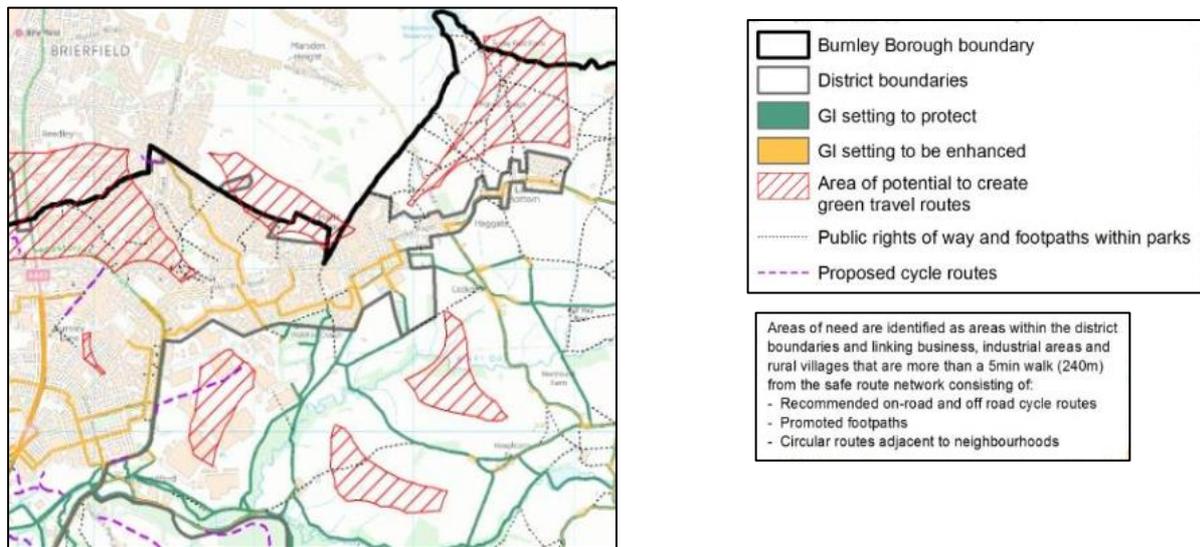


Figure 3. Excerpt from *Analysis Green Travel Routes* Burnley Local Plan (2018). The figure shows that the proposed development site is marked as an area of potential to create green travel routes.

#### 4.0 Relevant Legislation

12. To protect and enhance the built environment and cultural heritage, including archaeological assets	--?	Higher Saxifield Farmhouse (a Grade II listed building) is directly adjacent to the south of the site and Harle Syke Conservation Area is also approximately 80m to the south. Jib Hill Conservation Area and a number of other Grade II listed buildings are between 250m and 1km away. Therefore, the development of this site could have a significant negative effect on this objective). However, detailed impacts on the setting of individual historic assets are difficult to determine during a desk-based strategic level of assessment and the effect will be uncertain as it will depend on the exact scale, design and layout of the new development and opportunities which may exist to enhance the setting of heritage features. Effects would be more able to be determined once specific proposals are developed for the site and submitted as part of a planning application. The policy states that a desk based archaeological assessment will be required to support any planning application to indicate the potential for archaeology to be present on site.  In their consultation response in relation to this site, Burnley Borough Council's heritage and design officer noted that the western part of the site is adjacent to the Grade II Listed Higher Saxifield Farmhouse and that any development would need to assess this impact.
13. To protect and enhance the Borough's biodiversity and geodiversity	0?	Development sites have the potential to have adverse effects on nearby nature conservation sites through disturbance, habitat loss or fragmentation, pollution etc. This site is not within an ecological network and there are no designated biodiversity or geodiversity sites within 1km. The site allocation policy states that protected species have been recorded on the site as well as Priority Habitat (neutral grassland) and that an ecological survey will be required to accompany any planning application to address these issues. A negligible effect on this objective is therefore most likely although a degree of uncertainty does exist as it may only be possible to determine the effects once more detailed designs are available. <u>It may even be possible to incorporate biodiversity enhancements into new developments.</u>
14. To protect and enhance the Borough's landscape and local character	-?	This site is outside of the Green Belt and is relatively large in landscape terms (5.17ha) but is on greenfield land; therefore development of the site may have a minor negative effect on this objective. However, this is currently uncertain as effects would depend on the design of any development. The policy incorporates landscape-related mitigation, stating that appropriate landscaping and boundary treatment should include screening to the southern boundary to reduce the impact on the wider landscape.
15. To protect and improve environmental quality and amenity	-	Development on greenfield land such as this may lead to the loss of soils, but as this site is located on land classified as Grade 4 in terms of its agricultural quality, the negative effect on soil preservation is expected to be minor, as the site is located away from the highest grade of agricultural land in the Borough.
16. To mitigate and adapt to climate change	-	The site is on greenfield land and entirely outside of flood zones 3a and 3b and housing development here is therefore likely to have a minor negative effect on this objective.
17. To ensure the prudent use of natural resources and the sustainable	0	This site is on greenfield land and development here is therefore likely to have a negligible effect on this objective, as it will not offer opportunities for re-using existing buildings and materials.

Figure 4. The scoping document Excerpt (Burnley Local Plan, 2018) refers to the proposed development of the Higher Saxifield site.

There appear to be uncertainties within the scoping document with regards to the suitability of the Higher Saxifield site for development. The development plan/ application would therefore have to demonstrate that it satisfies current environmental policies through mitigation and enhancement strategies within the plan with regards to the above points within Figure 4.

## 5.0 Desk Study

**Location:** Higher Saxifield, Briercliffe, Burnley.

**Grid reference:** SD862352 OS 1:25,000 Sheet No. OL21

**County / District:** East Lancashire

**Designations:** None

**Altitude:** Min 150m Max 260m

**Soil Type:** NEUTRAL RST OPENCAST 962 & BRICKFIELD 3 713g

**Geology:** 23 – Carboniferous shale & 55 – Palaeozoic sandstone drift

No statutory sites were identified within a 2km radius of the surveyed site. However, approximately 3km east lie the Pennine moors themselves. This upland habitat is designated as a Special Conservation Area in addition to an important area for farmland and upland bird species, including: Curlew, Grey partridge, Lapwing, Redshank, Snipe and Twite. Subsequently this important bird habitat is classified as a Special Protection Area, which extends into and includes the Briercliffe and Extwistle area.

### Land Designation Mapping

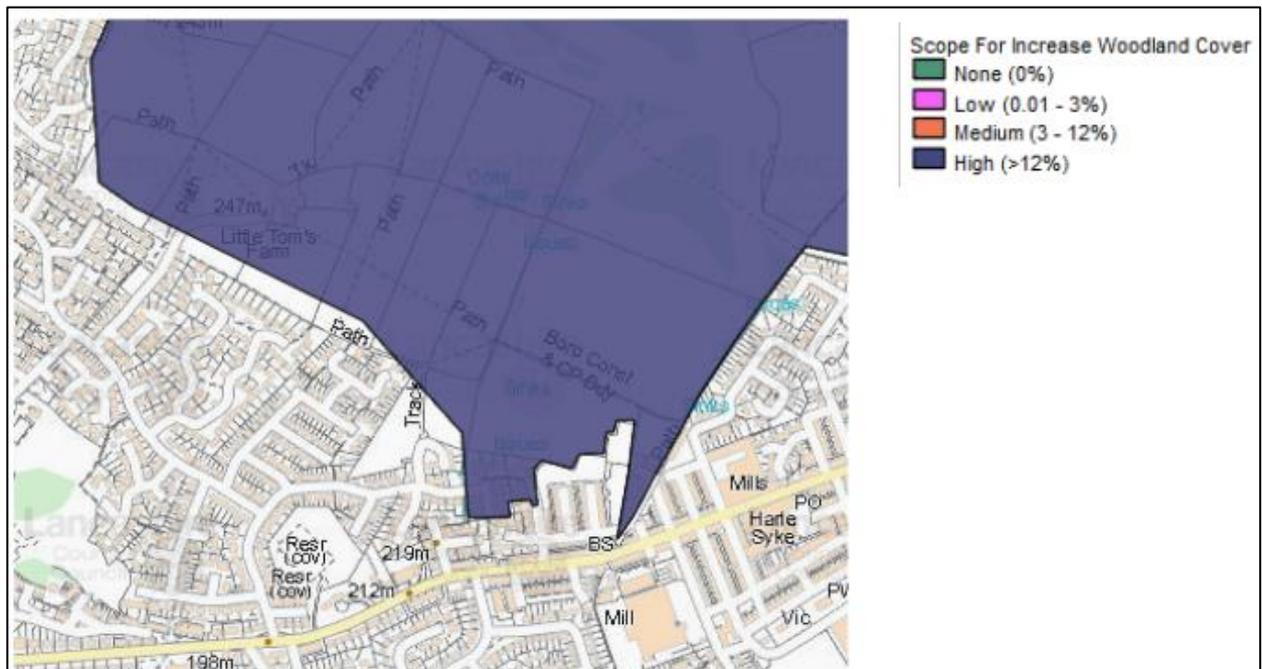


Figure 5. Lancashire Mario Maps (2019) displays the area as having high Scope (>12%) for increased woodland cover.

## 5.0 Desk study

### Land Designation Mapping

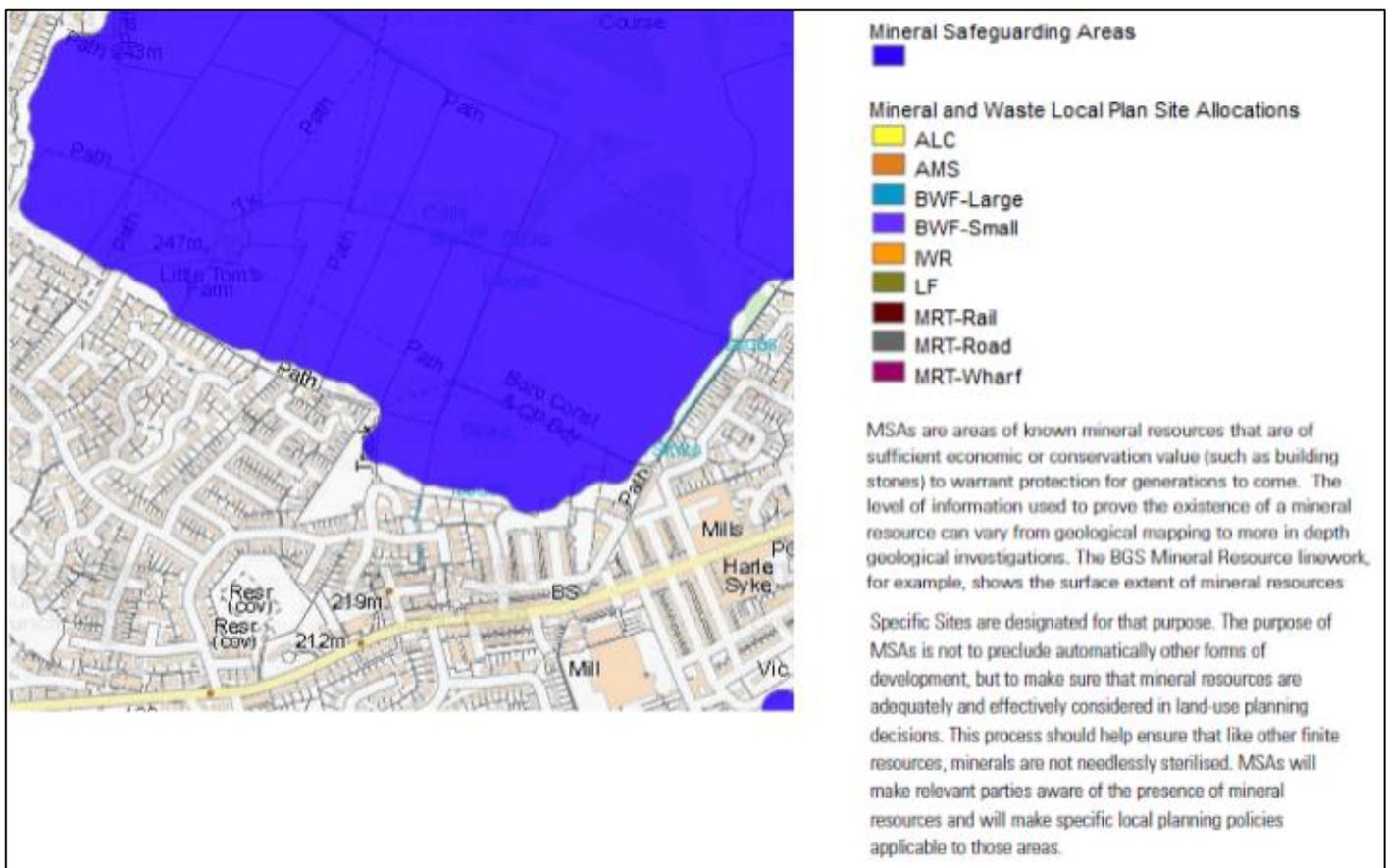


Figure 6. Lancashire Mario Maps (2019) displays the area as a Mineral Safeguarding area (MSA).



Figure 7. Mario maps (2019) shows sinks and drainage issues within and around the proposed development site. These upstream features affect water quality and levels for River Don (BHS) and Brun to the south of the site.

5.0 Desk Study  
Land Designation Mapping

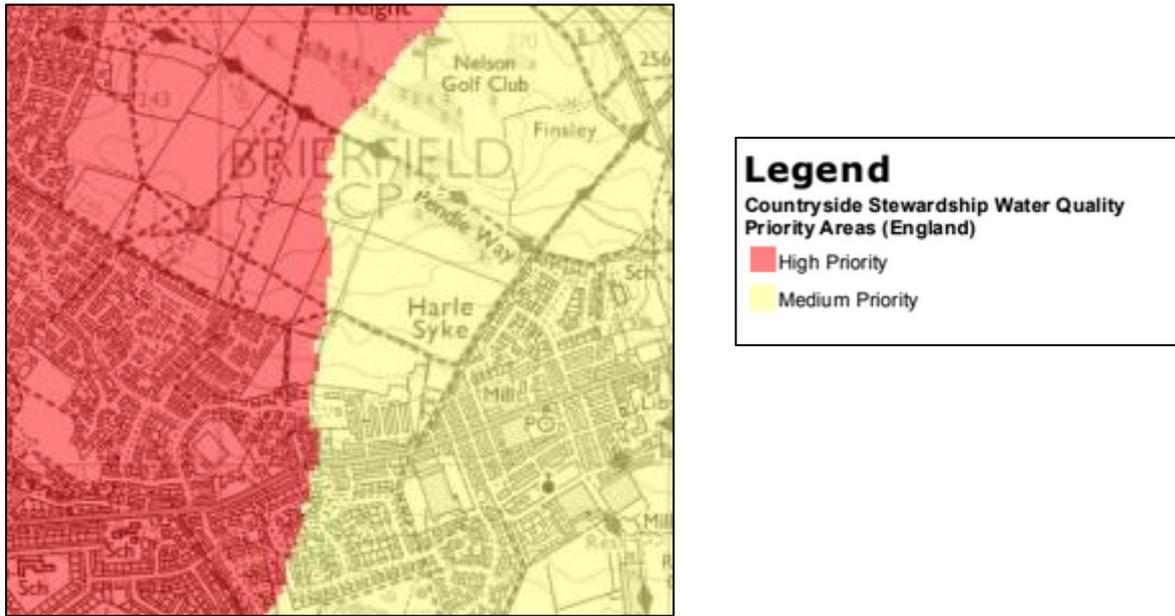


Figure 8. Magic map (2019) Water quality priority areas. The site forms part of a significant catchment area.

## 6.0 Habitats & Protected species

Burnley's Local Plan: July 2018

HS1/9 – Higher Saxfield	
Housing Delivery	The site is acceptable for around 120 dwellings.
Additional and Site Specific Policy Requirements and Design Principles	
<ol style="list-style-type: none"> <li>1) A mix of dwelling types including a minimum of 55% 3+ bedrooomed detached and semi-detached houses will be expected;</li> <li>2) The existing access from Standen Hall Drive is not considered suitable to serve the development and a new vehicular access will be required;</li> <li>3) Contributions may be sought towards highway improvements in the locality in accordance with Policy IC4;</li> <li>4) Protected Species have been recorded on the site which also includes Priority Habitat (neutral grassland). An ecological survey will be required to accompany any planning application which identifies and addresses these issues in accordance with Policy NE1;</li> <li>5) Appropriate landscaping and boundary treatment should include screening to to reduce the impact on the wider landscape. New planting on the site will need to accord with Policy NE3; and</li> <li>6) A desk based archaeological assessment will be required to support any planning application to indicate the potential for archaeology to be present on site. Depending on the result there may be a requirement for further archaeological investigation work in accordance with Policy HE4.</li> </ol>	
Supporting Information	
<ol style="list-style-type: none"> <li>1) The existing access from Standen Hall Drive is not considered suitable to serve the development and a new vehicular access will be required. It is understood that a property on Standen Hall Drive further to the west from the existing access is within the control of the landowner and could be demolished to accommodate a satisfactory new access to the site.</li> <li>2) There is a Tree Preservation Order in force adjacent the southern boundary of the site. These trees must be protected during the development's construction.</li> <li>3) The Grade II listed Saxfield Farmhouse lies immediately to the south of the site and development proposals must satisfy the requirements of Policy HE2.</li> </ol>	

Figure 9. Excerpt from Burnley's local plan (2018). Point 4 of the HS1 document notes that both protected species and priority habitat were identified on site. This was subsequently surveyed in March – April 2019. Priority habitat on site consists of neutral grassland.



**Legend**  
 Upland Breeding Bird Areas for CS (England)

Figure 10. Magic maps (2019) highlights fields adjoining the site to the west and north provide important habitat for upland breeding bird assemblages.

## **6.0 Habitats & Protected Species**

Priority habitats within the zone of influence include priority neutral grassland. Following a review of records held on the NBN Gateway and information held by the LERN (2019); priority key species that are listed within Key Section 41 Species and Lancashire Biodiversity Action Plan occur within the vicinity of the site have been identified. Some of which include:

**Within the 250m buffer zone of influence key species records included:** predominantly sightings of Starling, in addition to House Sparrow, Lapwing and Kestrel records.

**500m buffer zone key species records consisted of:** Bats – Common Pipistrelle records. Birds – Grey Partridge, Willow Warbler, Tree Pipit, Meadow Pipit, Skylark, Swallow, House Martin, Kestrel. Wader species included observations of: Lapwing and Curlew. Abundant moth species have been recorded within the 500m and surrounding area, including: Dark Brocade, Dot moth, V moth. Flora key species records consisted of: Yellow Archangel and Scots Pine, together with varied liverwort and moss species including Hook and Feather moss.

**The 1km buffer zone consisted of the following key species records:** Numerous observations of foraging Pipistrelle bat species, together with records of maternity roosts existing south west and north east. Other key species observations within the 1km zone included records of the following bird species: Grey Wagtail and Lapwing, together with sightings of badger and brown hare. Amphibian records consisted of numerous Great Crested Newt (GCN), together with smooth and palmate newt sightings south west of the site within GCN commuting and dispersal ranges. Flowering plant key species observations consisted of: Bee Orchids, Common Spotted Orchids and Wood Cranesbill. Aquatic plants included White Water Lily, Marsh Marigold. In addition, there were invertebrate records including varied beetle species.

**Within the wider area, the 2km buffer zone displayed records of the following additional key species:** butterfly species – Wall Butterfly and Brimstone. Birds observations included Ringed Plover, Grey Heron, Linnet and Snipe. Several records of invasive species, including Indian Balsam, were located to the south of site. Further recordings of amphibians and abundant moth species within the 2km zone exist together with one record of a water vole on the western 2km buffer zone boundary. varied bat species have been recorded in the 2km zone of the site, with archives including: Common Pipistrelle and Soprano Pipistrelle, together with numerous bat roost observations.

### **Birds**

Nesting and foraging opportunities occur throughout the site due to habitat available i.e. scattered trees, secondary scrub, mature hedgerows and neutral grassland. Historical biological data (Lern, 2019) displays records of ground nesting bird species within the 100m zone of the site.

### **Bats**

Multiple bat records exist within the area (Lern, 2019) and regular seasonal sightings have been made by residents (2019). Bat roosts potentially exist within multifarious allotment buildings to the south east. Bats may forage across the site or use it as a commuting route, but are unlikely to be roosting within the site itself, as most tree species are not mature enough to have developed features associated with roosts. There are more bat roosting opportunities within established trees and buildings situated near Standen hall drive. An extended survey that incorporates a bat emergence survey would determine further potential roosts on around the site, particularly within existing, previously inaccessible allotment structures and more mature trees.

### **Badgers**

The Lern data (2019) search returned records of badger observations and activity within 1km of the site. Foraging by this species may occur on site with badger setts more likely to occur in surrounding clough woodland and pine plantations to the north.

### **Reptiles**

The site provides some habitat for reptiles in the form of refugia (basking and foraging habitat) including within dry stone walls forming the site boundary and underneath disused allotment buildings.

## **6.0 Habitats & Protected Species**

### **Amphibians**

Water bodies on site could provide suitable habitat for amphibians, particularly where shallow brackish standing water occurs within seasonally wet pastures and local gardens. Other water features within allotments and further upstream would potentially be more suitable for breeding amphibians. The flowing water associated with small water courses on site is not considered suitable GCN breeding habitat due to limited egg laying and larval development opportunities. These features could be utilised by other amphibian species such as common toad and frog that occur on site (Lern, 2019). Furthermore, boundary dry stone walls on site could provide refugia for amphibians due to their lack of maintenance and subsequent structural defects i.e. openings and fissures and perished footings.

### **Other fauna**

There is suitable habitat both on and off site for otters and water vole. Previous surveys have however found the aquatic habitat on site unsuitable for this species.

## 6.0 Habitats & Protected Species

Habitats within the site include: detached buildings, planted woodland of varied age, standing and running water, introduced and semi natural scrub vegetation patterns, semi improved neutral grassland, hedgerows of varied ages, together with dry stone wall boundaries that adjoin habitats on site to the wider area. The southern boundary consists of tall ruderal, amongst secondary scrub and planted trees within allotments and gardens. Introduced scrub consisted of scattered and semi mature broadleaved trees, recent sapling planting over acidic grassland flushes and semi/unimproved grassland. Habitats within the wider area include allotment buildings, hard standing, bare ground, introduced shrub, tall ruderal, both scattered and dense continuous scrub, amenity grassland, semi and unimproved acid grassland, hedge, standing and running water, walls, broadleaved woodland and scattered trees.

### **Tall Ruderal – near allotments**

Tall ruderal vegetation can provide habitat and food resource for birds, small mammals, amphibians and invertebrates. It is common in the wider landscape and easily recreated so is considered to have **Value within the Zone of Influence** of the site only.

### **Neutral Grassland**

This priority habitat occurs throughout the site. Grasslands are of importance to macroinvertebrates communities, thus encouraging foraging for birds and small mammal species including bats. Neutral and acid semi improved grassland is covered in the Lancashire BAP list of priority habitats. This habitat type is indicative of a diverse grassland sward and is therefore considered to be of both **Local** and **National** ecological value.

### **Wall**

A dry-stone wall adjoins a western boundary wall of the site affording connectivity between habitats within the wider landscape. The wall could potentially provide habitat for reptiles, amphibians and small mammals and is considered to have **Local Value**. Additionally, the boundary wall serves as a linear corridor feature and navigational aid for local foraging bat species that have been recorded in that area according to historical biological data (Lern, 2019) together with more recent sightings and recordings by Standen Hall residents (2019).

### **Planted woodland**

Planted woodland saplings amongst secondary scrub and tall ruderal vegetation occur in the south east of the site near existing allotments and gardens, together with scattered parkland trees along a footpaths and amenity grassland to the north. These provide good foraging and shelter opportunities for local wildlife.

### **Buildings**

Buildings within the development area consist of old listed buildings. Features associated with these buildings i.e. grey slate roofs provide good roosting opportunities for local protected species – bats in particular. Buildings provide **ecological value within the zone of influence**.

### **Hedge**

Borders within and around the site consist of varied ages and provide foraging habitat for varied local species potentially moving through the area, with continuous cover and connectivity to offsite habitat. These habitats within the boundary are considered to be of **Local Ecological Value**.

## 6.0 Habitats & Protected Species

### Running Water and Standing Water

Running water and sinks/ issues occur along both eastern and western boundaries of the site (Figure ? & ?). These features will provide stepping stone mosaic habitat for amphibian species, associated with offsite aquatic habitats recorded during the desktop survey. Aquatic features on site and within allotment gardens potentially offer increased dispersal opportunities for amphibians, in addition to potential water vole habitat. The possibility of this species using the site is increased due to water vole observations within the 2km buffer zone (Lern, 2019) and therefore exhibits ecological **value at a local level**.

### Scattered and Secondary Scrub

Areas of scattered Scrub are noted within the survey (Pennine Ecology, 2019) which can provide habitat and food resource for birds, small mammals, amphibians and invertebrates. It is common in the wider landscape and easily recreated. It is considered to have ecological **Value within the Zone of Influence** of the site only.

**Allotments and gardens** in the south east comprised of mature and semi mature tree species and hedgerows together with secondary scrub and pond habitats. This habitat is considered to be of potential **National and Local Ecological Value**. Allotments and Gardens were not surveyed due to access issues, according to information within the original surveys (Pennine Ecological, 2019).

## 7.0 Evaluation

### Land Designations

The site lies just outside of the Special Conservation Area of the South Pennine Moors Impact Risk Zone, and therefore serves an important role as a biological stepping stone to priority habitats that exist in the wider landscape.

Habitats on site comprise of buildings, semi-improved neutral grassland, tall ruderal, semi mature scattered trees, planted woodland, recent sapling planting, varied aged hedgerow, dry stone walls, running and standing water. These habitats are considered to have an ecological value of **Local and National importance within the zone of influence**.

Maps and figures within the desktop study shows that the proposed development site is designated as;

- . an area for increased woodland cover (Figure 5)
- . both high and moderate priority with regards to water quality (Figure 8)
- . an area of green infrastructure to protect (Figure 3)
- . a potential area to create green travel routes (Figure 5)

In addition to avoiding, mitigating and compensating for impacts on existing biodiversity resources, there appear to be opportunities to maintain and enhance green infrastructure according to Burnley's local plan (2018) as displayed in figures within the Relevant Legislation section.

### Policy and legislation

With reference to the scoping of Higher Saxifield as a suitable development site; It is debatable as to whether the ecological survey carried out in April 2019 satisfies the points raised at the scoping stage (Figure 4). Moreover, Biodiversity Net Gain policies proposed by new government legislation in spring 2020 should potentially be considered. This bill will insist developments demonstrate in the planning stage that; there are little to no negative impacts on environment and biodiversity. Where losses to habitat are unavoidable, developers potentially face significant fines as a consequence of not considering mitigation and ecological enhancement measures at the planning stage.

## **7.0 Evaluation**

### **Habitats and protected species**

Priority habitat on site consists of neutral grassland and was recorded as species poor grassland by Pennine Ecology, who surveyed the site on 5<sup>th</sup> April 2019. This could potentially be seen as a constraint to the survey due to timings, and the accurate recording of vegetation patterns/ more diverse grassland species. wildflower species associated with more ecologically diverse neutral grasslands typically flower between June and September.

“NVC is best undertaken when the wildflowers and grasses are in bloom to ease identification. This is usually between May and August with the optimum time June and July before grasslands are cut or grazed by livestock” (Rodwell, 2006).

Allotments were not surveyed due to access limitations during initial surveys (Pennine Ecological, 2019). This habitat could potentially be host to multiple protected species such as; European hedgehog, GCN newt and many others. Therefore, it would be appropriate to physically survey these areas within the scoping stage of the proposed development site to ascertain its suitability for development.

### **Natural capital**

Doubts occur within the excerpt from the scoping report (Figure 4) with regards to water quality and flooding and the suitability of Higher Saxifield for development. The development plan would have to demonstrate that it satisfies current environmental policies through mitigation and enhancement strategies that aspire to mitigate climate change and avoid damaging more biodiverse aquatic habitats to the south. This is exacerbated by existing drainage issues and springs situated up stream and within the site that currently discharge into more diverse aquatic habitats to the south – the river Don and Brun BHS.

Upon review; hydrological analysis during the scoping stages could be considered a little vague with regards to the evaluation of proposed development sites. Subsequent investigation would need to further analyse the methodology used to quantify water levels, existing river carrying capacities and increased run off from the proposed development. It would be counterintuitive to current policy and legislation where the overloading of existing aquatic habitats results in damage on site and downstream in more notable and biodiverse habitats.

Natural assets within the site present opportunities for developing resources and partnerships to enable priority habitats on site to be managed and thus cherished by their communities in the long term i.e. developing conservation management plans to procure grant schemes and community funding, together with partnerships and involvement with current local restoration programs in area i.e. Lancashire Wildlife Trust’s South Pennine Grassland Project.

## 8.0 Conclusion

The selection of the site for development is potentially arguable when the following is considered;

Contradictions within current land designations and local environmental policies occurred when cross compared with the proposed development site, according to maps and results of the desktop study and relevant legislation sections. Inadequate timing of ecological field surveys, inappropriate scoping of hydrological issues, together with the fact that LCC is still in the process of recording and updating habitat designations and protected species in east Lancashire in accordance with current Biodiversity action plans and NPPF planning policies additionally make the selection of this site debatable.

Therefore, a thorough review of the development plan with regards to flood mitigation and water quality would be appropriate; To what degree does the plan utilise Sustainable urban drainage systems and other mitigation measures to afford protection of existing Gi on site and in the surrounding area? Plans should mitigate climate change and protect and enhance more diverse habitats on site according to current national and local legislation and policy.

In order to meet requirements for biodiversity protection and enhancement outlined within the NPPF and Local Green Infrastructure Policy, it would be appropriate to acquire further information and environmental data by:

- . Carrying out an extended survey to more accurately record species and habitats identified on site within the preliminary ecological appraisal including:
- . Conduct more appropriately timed field survey of neutral grassland species on site to more accurately record vegetation patterns and flora present.
- . Carry out amphibian and hedgehog surveys within existing allotment grounds and outbuilding structures that may be affected by development.
- . Carry out bat emergence survey within existing allotment mature and semi mature trees and outbuilding structures that may be affected by development.

The proposed development could potentially be considered as counterintuitive to Burnley's Gi policy, particularly where increased run off could reduce water quality and result in damage to delicate aquatic habitats downstream within Biological Heritage Sites. Due to predicted increased flash flood events associated with climate change, our client believes better use could be made of this site. There are opportunities to conserve and enhance existing natural resources and Gi to help mitigate climate change, together with subsequent community welfare and health benefits. This is particularly the case where there is opportunity to enhance biodiversity, extend existing greenways and improve recreational footpaths on site.

More appropriate land uses that facilitate and protect local Gi and Gi policy could potentially include;

- Protect and enhance biodiversity;  
Improve water quality and alleviate flooding through Gi enhancements.  
Grassland management – restore neutral grassland to lowland meadow, subsequently benefiting local priority species i.e. pollinators, ground nesting birds and predatory raptors. This process could additionally incorporate community volunteer conservation schemes.
- Recreation – improve and extend existing greenways and public footpaths resulting in Community health and welfare benefits.

## 9.0 References

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