

Ecology & Protected Species Report

Wildlife & Flood Water Storage Pond Creation

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ECOLOGY AND PROTECTED SPECIES REPORT

for

Wildlife and Flood Water Storage Pond Creation

Grass Field at SE2146 0060

Langside, Langsett Road, Langsett

South Yorkshire

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1. SUMMARY

As part of the Don Catchment Rivers Trust project funding has been approved to create a wildlife pond with additional small scale attenuated flood storage. The pond is proposed at Langside, Langsett, in a field centred at OS SE2146 0060. The location is a small improved and intensively grazed grass field around 120m north of the A616. The topography of the field is undulating and has been subject to drainage improvements, including the straightening of Bridge Lane Brook.

An Ecology and Protected Species survey was carried out by Roger Wardle CEnv on 10th June 2022, with two follow up visits on 21st July 2022 and 14th April 2023 in order to provide the information in this report. This work was informed by data and other ecological searches.

Barnsley Metropolitan Borough Council (BMBC) will require, as part of their environmental policy, this report before granting any Planning Permission. This is additional to any other legal requirements to identify protected species as listed under Schedules 1 and 5 of the Wildlife and Countryside Act 1981; and Schedule 9 (4) of the amended Act of 2008.

Likewise the owners and their advisors are keen to ensure they meet all environmental protection measures whether legal or voluntary.

The findings are that:

- Natural England (NE) will need to be consulted by the Planers as the site is within 640m of Little Don Stream Section SSSI.

- Due to the SSSI location no aquatic plants or flower seeding must be introduced without seeking professional advice. This is to prevent potential contamination of the SSSI with invasive or non-native species.

- It is assessed that the proposals will have no negative impact or interference with protected Schedule 1 Species, Section 41 Species or common birds during nesting provided the vegetation is kept grazed short.

- The proposals will not require the removal of, or pose a risk to the rooting systems, of nearby trees.

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- There could develop a risk to nesting birds if the grazing were to stop and more cover develop. If this were to happen it is recommended that work is undertaken outside the nesting season from September to the end of February. If this is not possible a nesting bird survey must be undertaken by a competent person just prior to work commencement to ensure there are no active nests.

2. SITE and BACKGROUND

2.1 Location

The site is located at Langside, Langsett, South Yorkshire and can be accessed from the main A616 road at OS SE2125 0048. Centre of the pond development footprint is at SE2146 0060.

The proposed development is within an agricultural grass field that forms part of Langside, a small holding on the edge of Langsett village and around 120m north of the A616 road.

The picture below indicates the outline of the proposals in red. The habitats found on site are described in detail below.



Above - Location View of the development site. Drainage and other works are visible as is the now dried up original section of the Brook to the north west corner.

2.2 Grassland

The proposed site is permanent grassland and intensively grazed by sheep and ponies. The sward has been heavily influenced by agricultural inputs including fertilisers, herbicides, reseeding and drainage improvements. The core pond area has been significantly modified with drainage and deposition of other onsite spoil intended to be spread to improve grazing.

The sward exhibits a species poor plant community of only common and annual grasses and substantial levels of weed species that have colonised the disturbed and enriched ground. Overall classification is species poor improved grassland of low ecological value.



Above – General view of the pond creation area showing a species poor sward and significant evidence of drainage works. Grazing is intensive and year round and coupled with ground disturbance and poaching results in poor ecological and botanical interest.



Above – Image of the very short grazed sward with high levels of weed species including docks, creeping buttercup and ragwort.

2.3 Bridge Lane Brook

Part of Bridge Lane Brook passes through the field as an agriculturally straightened and improved drainage channel. This drainage work has diverted the brook flow more directly to the field boundary and neighbouring property. The reformed channel has very little recolanisation other than grasses that can tolerate heavy grazing and erosion.

The course of the original brook channel no longer carries water and is grassed over but with remains of larger stones protruding above the sward.

Ecologically the brook within the field and development site is classed as degraded and of low ecological value. After leaving the property the brook then runs down the field's northern boundary within the neighbouring field, beyond the development area and ownership. Here it is associated with a largely unmanaged hedge type feature with a few semi-mature trees.

The proposals are to construct a very small water attenuation structure within the degraded infield part of the brook channel. This will allow all normal water flows to pass unhindered. However, during storm events the channels flows will be attenuated to reduce the downstream impacts of flooding. Excess water will back up and flow down the old original brook channel

and into the pond. The pond will have a low water retention bund that contains the flood waters. When the event flows subside the excess water will return to the brook in a slow controlled manor via the small overflow pipe.



Above- Bridge Lane Brook within the field clearly showing the results of agricultural improvements. There is very little botanical diversity evidence of erosion.



Above – View of the course of the dried up brook, now only a depression with no difference in plant cover to that of the field in general. Principally improved but low diversity grassland with some exposed stone and gravels.

2.4 Off Site Hedgerow

The hedgerow will be assessed despite being off site as it runs along the norther boundary of the proposals. It appears to be a natural regenerated linear feature rather than a planted one that developed due to fencing and the water course along the property boundary.



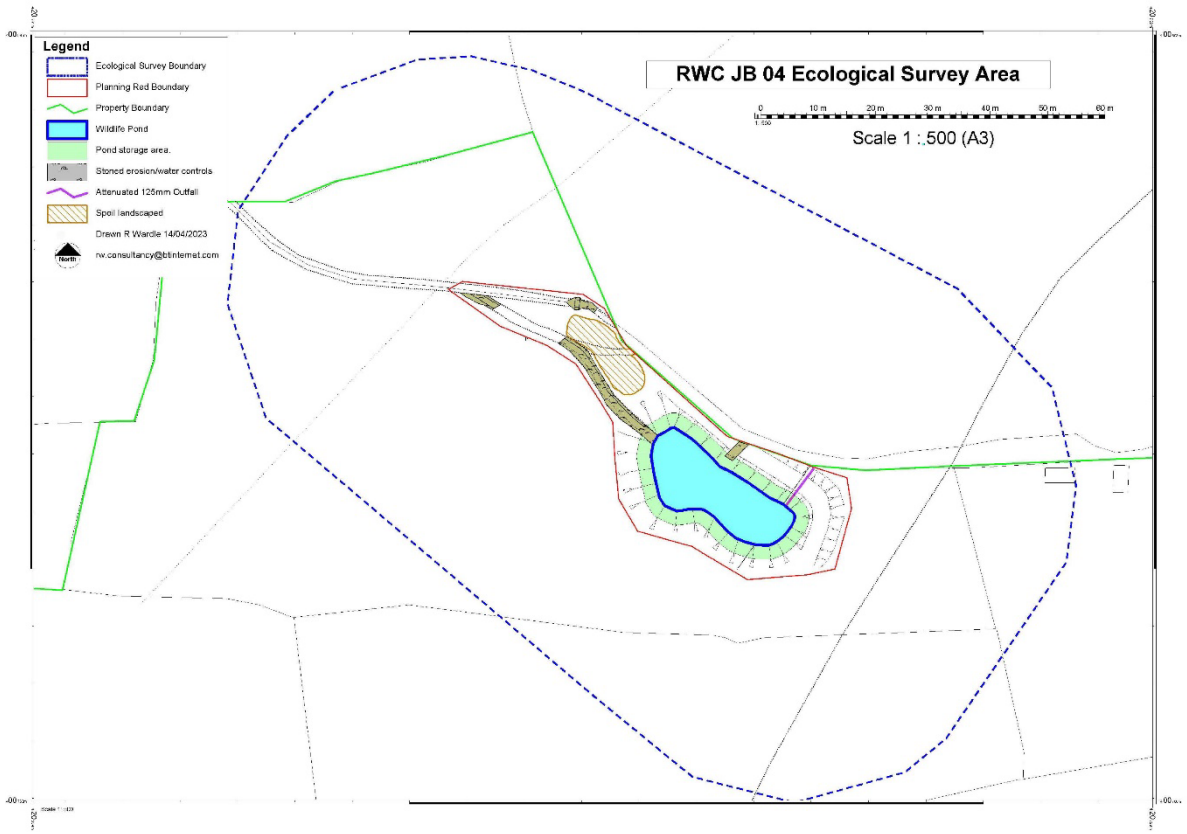
Above – Off site hedgerow that grows on the far bank of the small brook. No trees or bushes will be removed during the proposed works and the root zones will not be affected.

3. METHODOLOGIES

Roger Wardle Consultancy were commissioned by Mr Ball to carry out an Ecology & Protected Species Survey for the pond and other proposed works at Langside, Langsett. All the surveys were conducted by Roger Wardle CEnv.

The initial detailed site survey was undertaken on 10th June 2022 in good conditions with a light breeze, temperature of 21c and 25% cloud cover. The area surveyed extends beyond the footprint of the Planning proposals. This was to allow a suitable buffer zone for protected species, in particular badger. The survey was backed up by background investigations and data searches where available.

The Survey Plan Area and with a 40m buffer in relation to the Planning Application area is attached below.



3.1 Data search

Background research was undertaken to establish the sites recorded intrinsic and nearby environmental and species presence with the following sources being investigated:

MAGIC (www.magic.gov.uk)

Natural England (www.naturalengland.gov.gsi.uk)

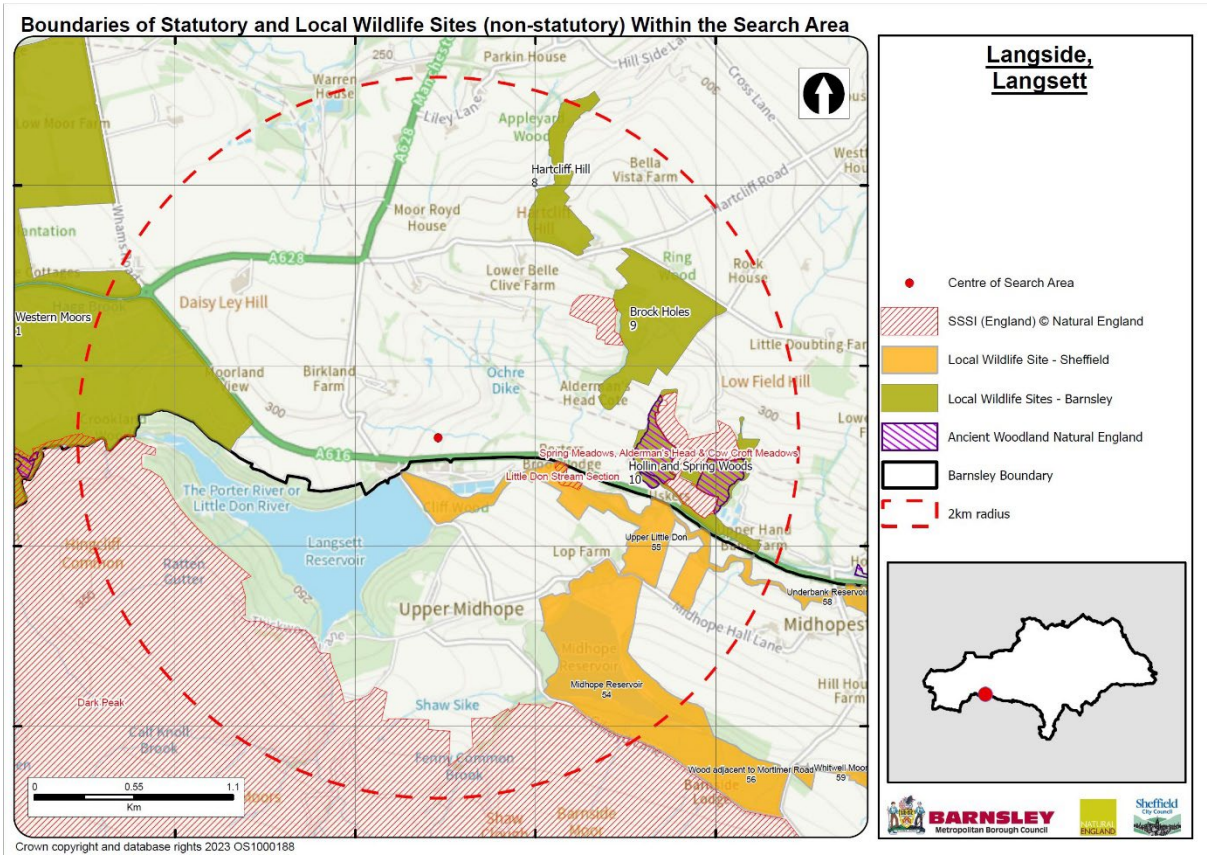
UK Biodiversity Action Plan (www.ukbap.org.uk)

Ecology Team, Sheffield City Council, Biodiversity Monitoring Officer (Micheal.Sankens@sheffield.gov.uk)

3.2 Data search results

The reports provided by the Ecology Team, Sheffield City Council are attached separately and summarised below:

3.2.1 Statutory & LWS Map



3.2.2 Recorded sites within 2 Km

3.2.2.1 SSSI

A) Little Don Stream Section – This small 1.02 ha site is designated for its geological importance, described by NE as "The Pot Clay Coal and the Gastrioceras subcrenatum Marine Band are clearly exposed in the banks of the Little Don" and . "Thus, as the proposed stratotype for one of the major chronostratigraphical subdivisions of the Carboniferous System, this is a site of considerable international importance."
The site is situated 640 m from the proposed development site. There is no assessed potential impact on the SSSI due to the nature of proposals. The flood reduction will reduce downstream flooding and erosion to the benefit of the SSSI geological interest.

The attenuated release of the small volumes of short-term stored flood waters after the flood event via a 125mm pipe. For this reason NE must be contacted by the Planners to ensure their approval of the works upstream.

B) Spring Meadows, Alderman's Head & Cow Croft Meadows SSSI – Neutral grassland meadows (Lowland) covering 9.02 ha. These sites are a minimum of 1.1 km from the proposals. There is no direct connectivity of the water courses and the SSSI are situated on elevated ground.

It is assessed that there will be no impact whatsoever from the proposals.

3.2.2.2 LWS

Underbank Reservoir , **Midhope Resevoir** and **Upper Little Don** – These interconnected sites are located beyond the A616 trunk road. There is no assessed impact from the small low level development proposals. The development creates valuable new beneficial wetland habitat and helps reduce downstream flood impact.

Hartcliff Hiil, Hollin & Springwood & Brock Holes – These sites are situated well away from the development of at least 1km. There is assessed as no risk whatsoever from the development proposals to these sites.

3.2.3 Biological Records of key species

Key species records were requested and received from Sheffield Ecology Team. These revealed no records of water vole, great crested newt or otter for over 30 years within the area.

The ecological survey information key details are entered below.

Grid Ref	Location	~~Location Name~~	Date	TextDate	Group	Scientific Name	Common Name	Rec Name	Easting	Northing
SE 1900	LANGSETT RESERVOIR	neck end	21/04/ 1981 00:00	21/04/ 1981	terrestrial mammal	Arvicola terrestris	Water Vole	Arvicola amphibius	420500.00	399500.00

SE 2000	Langsett (general)	01/01/ 1992 00:00	01/01/ 1992	terrestrial mammal	Arvicola terrestris	Water Vole	Arvicola amphibius	420500.00	400500.00
SE 2000	Langsett (general)	01/01/ 1976 00:00	01/01/ 1976	terrestrial mammal	Lutra lutra	Otter	Lutra lutra	420500.00	400500.00

3.3 Great Crested Newts

Consultation with Sheffield Biological Records Centre (SBRC) revealed no records of Great Crested Newts within 500m of the survey site A Habitat Suitability Index (HSI) assessment was not undertaken in detail due to the very short grazed sward, virtually no cover or suitable water bodies and overall general unsuitability for the species due to intensive agricultural activities.
However, it was concluded that there may be a very low potential to support great crested newts (*Triturus cristatus*). Therefore potential refugia/habitat whilst very limited should be subject to a survey.

3.3 Badgers

The development footprint is an open very short grazed permanent grass field. There is a nearby hedgerow associated with the brook offering some limited cover. However conditions are indicative of a high water table strongly avoided by badgers for sett excavation.

Although badger setts are very unlikely a buffer zone around the development footprint of at least 40m requires to be surveyed. This to ensure that all legal requirements for working near setts are met and exceeded.

3.4 Bats

The development footprint site is open grazed agricultural land. The proposals will not require any work on buildings or removal of other suitable bat habitats such as trees. There are a very limited number of semi-mature trees in the nearby hedgerow. Although these small trees will not be affected a search for potential bat roosting habitat should be undertaken.

3.5 Birds

Common bird impact must be considered, especially if work starts during the March to August nesting period although again the site conditions offer very little suitable nesting habitat.

The area nearby is also classified on the MAGIC website as potential for breeding waders including curlew and lapwing. However, due to the sites small scale, intensive grazing management combined with high levels of human and dog disturbance from high use footpaths breeding is highly unlikely. Additional site checks were also made on the 14th April 2023 when breeding waders should have been on site.

Schedule 1 species, including birds of prey were considered. However, the development site offers little or no suitable habitat. Even the nearby hedgerow, although not being affected or removed by the works, appears unsuitable for owls or other birds of prey but a survey is required.

3.6 Section 41 Species

Assessment was undertaken for the sites suitability to support a number of species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Sections 41 lists Species of Principal Importance in England. These species included common toad (*Bufo bufo*), hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*), water vole (*Arvicola amphibious*) and otter (*Lutra lutra*).

The risks to these species are assessed as very low. This is due to the sites habitats and intensive management. The brook is very small scale and degraded due to drainage improvements but a survey of the water course will be required.

3.7 Habitats and Botanical Interest

To assess the sites habitats and botanical interest an extended ecological assessment survey was undertaken. This to identify habitats present on the development site and very close by, including the offsite boundary hedgerow and trees, brook water course and botanical interest on site.
This also allowing appraisal for Section 41, Habitats of Principal Importance. Plant species on site were assessed against the Vascular Plant Red Data List for Great Britain (Cheffings et al., 2005), or indicator species of unimproved or species rich grassland.

3.8 Constraints

There were no survey constraints or limitations in assessing the site and nearby buffer zone. The development site is occupied principally by open agricultural improved and in places disturbed grassland. An agriculturally modified small brook and remains of the old but now diverted channel, limited numbers of small protruding rocks and an off site adjacent hedgerow were all easy to access for surveys.

4. RESULTS

The objective of this report was to survey the proposed development site for valuable habitats that could be damaged by the proposals. Additionally assessment was required and made for protected or notable species that could be displaced or significantly impacted on by the proposals.

4.1 Data search

Taking into account the onsite habitats searches carried by Sheffield Biological Records Centre (SBRC) on 20th March 2023 for records of Great Crested Newts within 500m of the survey site. No records were found. Neither were there any records within the last 30 years of Otter or Water Voles.

Of particular note is Little Don Stream Section SSSI some 640m downstream to the south east in Favourable Condition. This is a geological significant site and considered well outside any potential influence from the small scale proposals. However, there will be a small discharge of attenuated flood waters and due to the distance NE must be contacted for approval.

The areas at higher altitudes to the north of the site and further away from the village are recognised by NE targeting as potential for curlew and lapwing.

4.2 Great Crested Newts

Data searches revealed that great crested newt have not been recorded within 500m of the site. The site its self was also assessed for its potential to support great crested newts (*Triturus cristatus*), for both breeding sites and terrestrial refugia habitat.

The survey work concluded that due to the sites low diversity, very short sward, lack of suitable refugia no great crested newts are present on site whatsoever. Neither are there any records of presence within 500m. It is oncluded that there is no significant risk to great crested newts. This is further reinforced by the fact that much better and suitable quality habitats are available elsewhere in the area but not occupied.

4.3 Badgers

A detailed badger (*Meles meles*) search was undertaken for setts, latrines, runs, hairs on wires, footprints and feeding holes. This survey extended at least 40m beyond the development footprint to exceed the regulations buffer zone for works near setts.

No evidence whatsoever, including setts could be found within the search area. Whilst it is likely that badger may visit the field from time to time to feed it is concluded that the development will have no significant impact on the species.

4.4 Bats

The site is devoid of any suitable bat roosting habitat. There is the nearby hedgerow with only semi-mature and multi-stemmed specimens. All potential trunks and limbs were investigated but there were no suitable voids, cracks or holes. Furthermore, no trees will be removed or damaged.
The new pond when completed will significantly enhance the area as a potential feeding site for bats.
It is concluded that the development proposals will have no adverse impact whatsoever on bats.

4.5 Birds

Due to the development footprint being open and intensively managed with no bushes, trees or other suitable cover being removed the risk to nesting birds is very unlikely. That is provided that the site is maintained as a short sward if works are to be carried out during the nesting period from March to August.

Furthermore, although the site is relatively close to potential wader breeding habitat it is assessed that breeding is highly unlikely. Birds such as curlew and lapwing actively avoid nesting in enclosed landscapes such as the development site because of many predator perches, intensive grazing management, and very regular human and dog disturbance from the footpaths. It is assessed that there is no risk whatsoever to breeding waders. (continued)

The nearby hedge was surveyed for Schedule 1 species despite it being outside the development footprint. No suitable trees with holes or old nest structures were found or any evidence whatsoever of past nesting activity. It is concluded that the development will have no impact on Schedule 1 species of birds including owls and birds of prey.

4.6 Section 41 Species

Of the Section 41 Species hedgehog and brown hare are not assessed as at risk due to the open nature of the site and no suitable cover. They may however use the site for feeding habitat but the development is assessed as having no significant impact.

The site has no permanent open water or suitable refugia for toad.

The brook was surveyed for both water vole (*Arvicola amphibious*) and otter (*Lutra lutra*). No evidence such as droppings, spraints, lawns, prey remains, burrows or holts were found. This was attributed, at least in part, to the very small scale of the brook and lack of substantial water volumes, depths and pools. The changes to the brook are very minimal and within the degraded open section only.

Neither is there any Sheffield Record Centre records of either of these species for over 30 years.

It is concluded that water vole are extremely unlikely to use the brook near the site, survey could not find any evidence and there are no records for over 30 years. It is concluded that the development proposals will have no impact whatsoever o water voles.

Likewise the brook nearby lacks suitable otter holt opportunities and is too small to form a major part of their habitat. Otter could still potentially use the brook as part of their extended territory but the works will have no detrimental impact whatsoever. The creation of the wildlife pond will enhance the brook habitat for otter. Neither are there any Record Centre records for over 30 years.

It is concluded that the works have will have no significant impact on any Section 41 Species. In fact the proposals to create a Biodiversity Action Plan (BAP) Habitat - Pond is considered as significant habitat enhancement. That benefit will be for a wild range of potential species including some of those assessed within this report.

4.7 Habitats Classification and Assessments

The overall site and footprint of the development are assessed as of low environmental value due to agricultural management and past improvements. The habitats are described and assessed in more detail below.

4.1.1 Grassland

Overall the sward is classified as Improved Grassland of low environmental value. It exhibits all the classic indications of having been subject to significant agricultural inputs and substantial drainage improvements.

Furthermore the field is subject to intensive sheep and pony grazing throughout the year with a very short and low diversity sward. This is infested in places with a substantial populations of weeds species that are unpalatable to the grazing animals. Latrine areas from the pony grazing are the worst and dominated by docks (*Rumex sp.*), creeping thistle (*Cirsium arvense)* and nettle *(Urtica dioica).*

The recorded species are listed within the table below.

Meadow Fescue	*Festuca pratensis*
Annual meadow grass	*Poa annua*
Yorkshire Fog	*Holcus lanatus*
Cocksfoot	*Dactylis glomerata*
Creeping bent	*Agrostis stolonifera*
Creeping buttercup	*Ranunculus repens*
Creeping thistle	*Cirsium arvense*
Chickweed	*Stellaria media*
Prerenal ryegrass	*Lolium perenne*
Docks	*Rumex sp.*
Daisy	*Bellis perennis*
Lesser celandine	*Ranunculus ficaria*
Ribwort Plantain	*Plantago lanceolata*
Soft rush	*Juncus effuses*
Spear thistle	*Cirsium vulgare*

The grassland is assessed as of low botanical diversity consistent with improved agricultural grassland. The proposals for the wildlife pond and attenuated flood water storage will have no significant negative environmental impact. In fact the works are assessed as a substantial environmental enhancement by creating a small wildlife pond, an important Biodiversity Action Plan (BAP) habitat.

4.1.2 Bridge Lane Brook

The Bridge Lane Brook flows through part of the field where it has been highly modified and straightened into a simple drainage channel. This has no important bankside vegetation and has established with grassland interspersed with areas of bare erosion. The new channel has caused the old brook course to dry up and diverted the flow towards the offsite boundary.

It is concluded that whilst forming part of Bridge Lane Brook the section through the field is of very low ecological value due to drainage works by the previous owner. The minor changes to fit a small attenuated control is assessed as having no significant negative environmental impact on the brook ecosystem, or its normal flows.

The previous drainage work has also caused the old brook channel to dry up. This now exhibits no characteristic stream species. In fact the old channel is colonised now with the same grasses as found in the remainder of the field, but with a number of exposed stones and gravel and some weed species.

Over all the proposals to attenuate the brook flows during floods and divert excess waters into a small storage area additional to the wildlife pond are assessed as having no adverse impact

on Bridge Lane Brook. The addition of the new habitat will be a significant riparian enhancement to the brooks environmental corridor.

4.1.3 Hedgerow & Trees

There are no trees or bushes within the footprint of the Planning proposals. However, a hedgerow does run along the northern boundary of the site in association with a more natural part of the upper reaches of Bridge Lane Brook.

The hedgerow is unmanaged with some gaps and mostly shrubby species with occasional semi mature trees and on the neighbours land beyond the boundary stock fencing.
A survey revealed the following species, hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), dog rose (*Rosa canina*) and goat willow (S*alix caprea*). Semi mature trees are crack willow (*Salix fragilis*) and oak (*Quercus robur*). The field boundary some distance away also contains other trees including ash (*Fraxinus excelsior*) but these are well beyond any potential impact zone of the Planning proposals.

The development will not require any excavation within the canopy or root zones of the trees and therefore poses no risk to root systems.

There is one small outfall from the pond in the same location as a current land drainage pipe. The outfall and pond overflow is via a 125mm attenuated pipe and a safety spillway into the brook. This requires no removal of trees or bushes as there is already a gap.

Overall it is assessed that there is no risk to any trees or hedgerows from the Planning proposals.

5. CONCLUSIONS and RECOMMENDATIONS

The conclusion of the Ecological and Protected Species work are as follows:

- The site is within 640m of the downstream Little Don Stream SSSI listed for its geological importance. There are no assessed negative impacts on that site from the proposals. The reduction in downstream erosion from flood storage is considered a benefit. However, NE will need to be consulted by the Planners on the proposals I order to gain their approval.

- The new pond must be allowed to colonise naturally with aquatic plant life. Under no circumstances must any aquatic plants be planted for risk of introducing invasive exotic species that could spread downstream and infest the Little Don Stream Section SSSI. If planting is eventually required this must be under professional guidance and using local plant material that is not contaminated with small fragments of invasive exotic species.

- There is no evidence of any negative impacts on any Schedule 1 Species including great crested newts, badgers, bats, water voles, otter or other Section 41 Species.

- There are no assessed negative impacts from the proposals on Bridge Lane Brook. The proposals are assessed as providing riparian enhancement to the brook by the creation of a residual valuable wildlife pond.

- No trees or bushes will be removed or damaged by the proposals.

- Trees and shrubs must not be planted on the pond bund to protect from structural damage in the future. Neither should trees and shrubs be planted on the south side where they will cause excess shade or leaf drop into the pond and hide the attractive creation from the footpath. Any tree and shrub planting must be of native and locally appropriate species on the west bank, only if desired.

- The works will create a number of restored bare ground areas and banks. These must be seeded with a grass mix as soon as possible after completion to reduce erosion and weed problems. A seed mix with added native wild flowers is recommended. Appropriate species to the location and site conditions must not contain any foreign or cultivar species. This to prevent potential spread down the water system and even to the SSSI and beyond.

- The site currently offers no suitable nesting habitat due to the short intensive grazing. However, if this changes and more cover was to develop there would be a risk of nesting birds during the March to August period. Ideally in that situation aim to carry out the works outside the bird breeding season. If this is not possible a site survey immediately prior to works starting must be undertaken by a competent person or organisation.

6. Appendix

Attached separately - The complete reports provided by the Ecology Team, Sheffield City Council.