Whitcher Wildlife Ltd.
Wildlife Consultants.

HINCHCLIFFE MILL, HOLMFIRTH.

OS REF: SE 12721 07089

EXTENDED PHASE I HABITAT SURVEY.

Ref No: **200829**

Date: **21st August 2020.**

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1. INTRODUCTION.

1.1. Previous surveys have been carried out on the Hinchcliffe Mill site over a number of years. These include -

070411, Protected Fauna Survey, Mill Dam, April 2007.
070801, Bat Survey Report, 18th August 2007.
100522, Protected Fauna and Bat Survey Report, July 2010.
100904, Phase I Habitat, Bat and Protected Fauna Survey, September 2010.
170909/1. Phase I Habitat Survey, November 2017.

1.2. Some works have been carried out on the site during that time. All of the buildings on the site with the exception of the main mill building have been demolished and most of the Japanese knotweed has been eradicated from the site.

1.3. A new planning application is to be submitted for the development of the site and therefore a new Preliminary Ecological Appraisal has been commissioned.

1.4. Whitcher Wildlife Ltd carried out the Preliminary Ecological Appraisal and a dusk emergence survey on 17th August 2020.

1.5. Appendices I to IV of this report provide additional information on specific species and are designed to assist the reader to understand the contents of this report.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.3. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible,

in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Edition*.

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.14. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on "Natural Environment" also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.15. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.16. The survey was undertaken by a team of ecologists from Whitcher Wildlife Ltd led by Derek Whitcher who has over twenty years' experience of surveying for wildlife and has run his own wildlife consultancy since 1998. He has extensive experience of a wide variety of survey techniques for a variety of species of protected wildlife supplemented by attendance on a wide range of training courses through CIEEM, FSC and BCT. As a member of CIEEM he is committed to continuous professional development, a continual process of learning and career development, a condition of CIEEM membership. He holds current Natural England survey licences for barn owl, bat, great crested newt and white clawed crayfish.

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A data search was carried out with West Yorkshire Ecology for existing designated sites and records of protected species within 2km of the site.

3.1.2. There are no Internationally Designated Sites or SSSIs in the area around the site.

3.1.3. There are a number of Sites of Scientific Interest, areas identified by the Local Authority as being important for their flora and fauna. These include: -

- Digley Reservoir/Marsden Clough.
- Holme Styes Heathland.
- Yateholme Reservoirs and Plantation.

3.1.4. There are a number of Local Wildlife Sites (LWS) in the surrounding area: -

- Carr Green Meadows.
- Digley Reservoir/Marsden Clough.
- Malkin House Wood.
- New Laith Fields.
- Yateholme Reservoirs and Plantation.

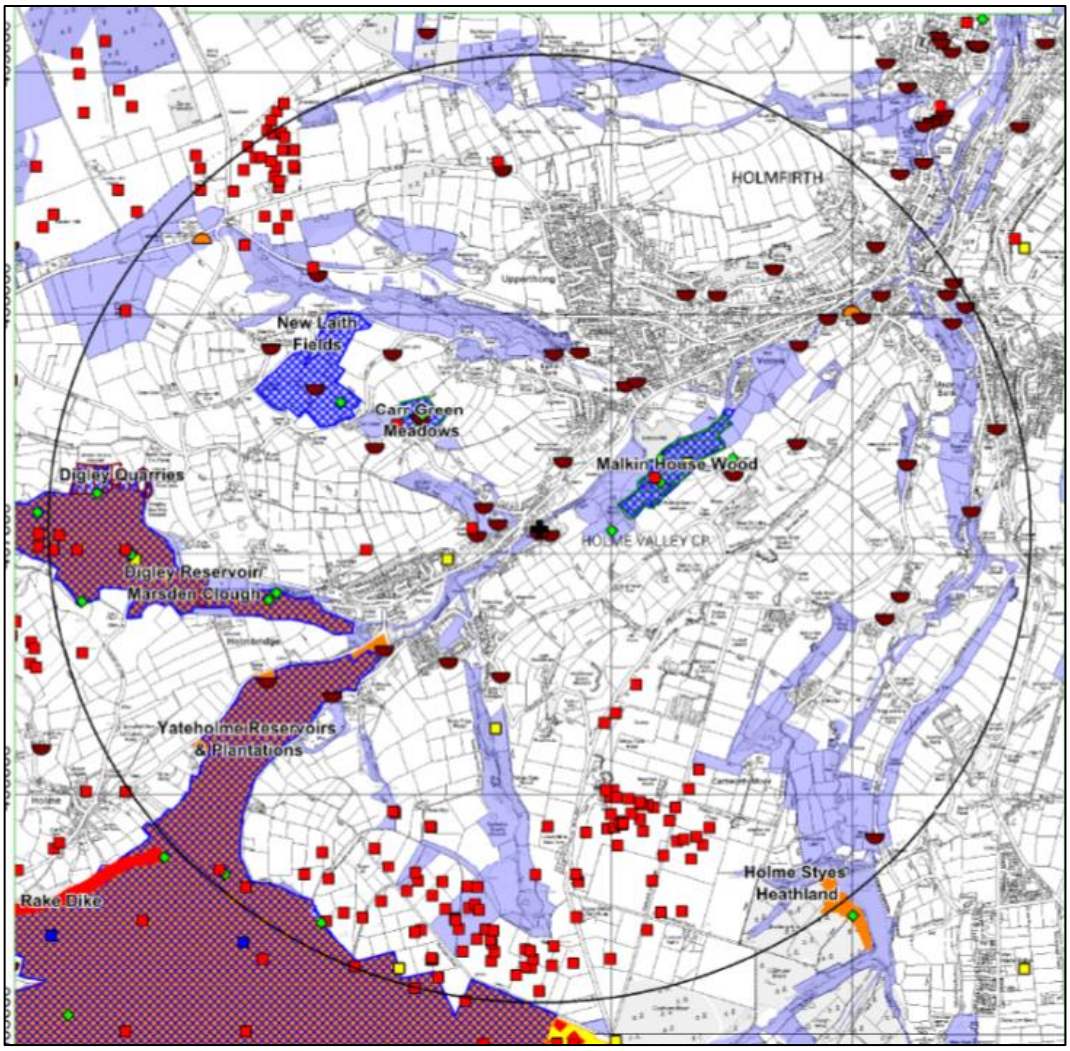
3.1.5. There are two sites of Wildlife Significance in the surrounding area: -

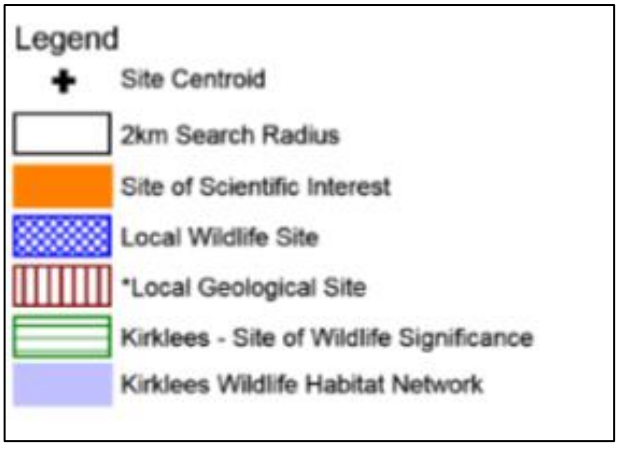
- Carr Green Meadows.
- Malkin House Wood.

Neither is close enough to be affected by the proposed development of this site.

3.1.6. The Mill Pond at the western end of the site and the river corridor past the site are both withing the Kirklees Wildlife Habitat Network.

3.1.7. The map below shows the location of the survey area and the locations of the designated sites as provided by West Yorkshire Ecology.





3.1.8. The majority of the species records are bird species and few are within 1km of the site. The only relevant records within 1km of the site are bat species with Pipistrelles, Noctules and Daubenton's bats all recorded close to the site.

3.1.9. No amphibians occur within the data search response.

3.2. The Surveyed Area.

3.2.1. Hinchcliffe Mill lies in a steep sided valley to the south west of Holmfirth, as shown in the aerial photograph below.

3.2.2. The River Holme flows along the northern side of the site with residential housing beyond. The Mill Pond lies to the west with more residential areas to the west and southwest while, to the south and east there is open pasture land and woodland.

3.2.3. The mill pond lies to the southwest of the mill buildings, adjacent to the River Holme. The mill pond is approximately 100m long by 25m wide at its widest point. During the 2020 survey the Mill Pond was difficult to see because of the height of the marginal vegetation but the water level within the mill pond was higher than noted in past surveys.

3.2.4. The stream that feeds the pond flows in from the southwest end and runs through the mud and silt into the water at the south-western end of the pond.

3.2.5. The pond is walled or concrete lined on all sides with the walls being in a deteriorating condition and some areas having partially collapsed.

3.2.6. There is little or no vegetation within the water of the pond. There is an area of patchy marsh grass where the stream feeds into the pond. The size of this can vary because the water level in the pond can fluctuate widely.

3.2.7. The vegetation immediately surrounding the pond is scattered but dense scrub and tall ruderals and bramble with occasional semi mature trees.

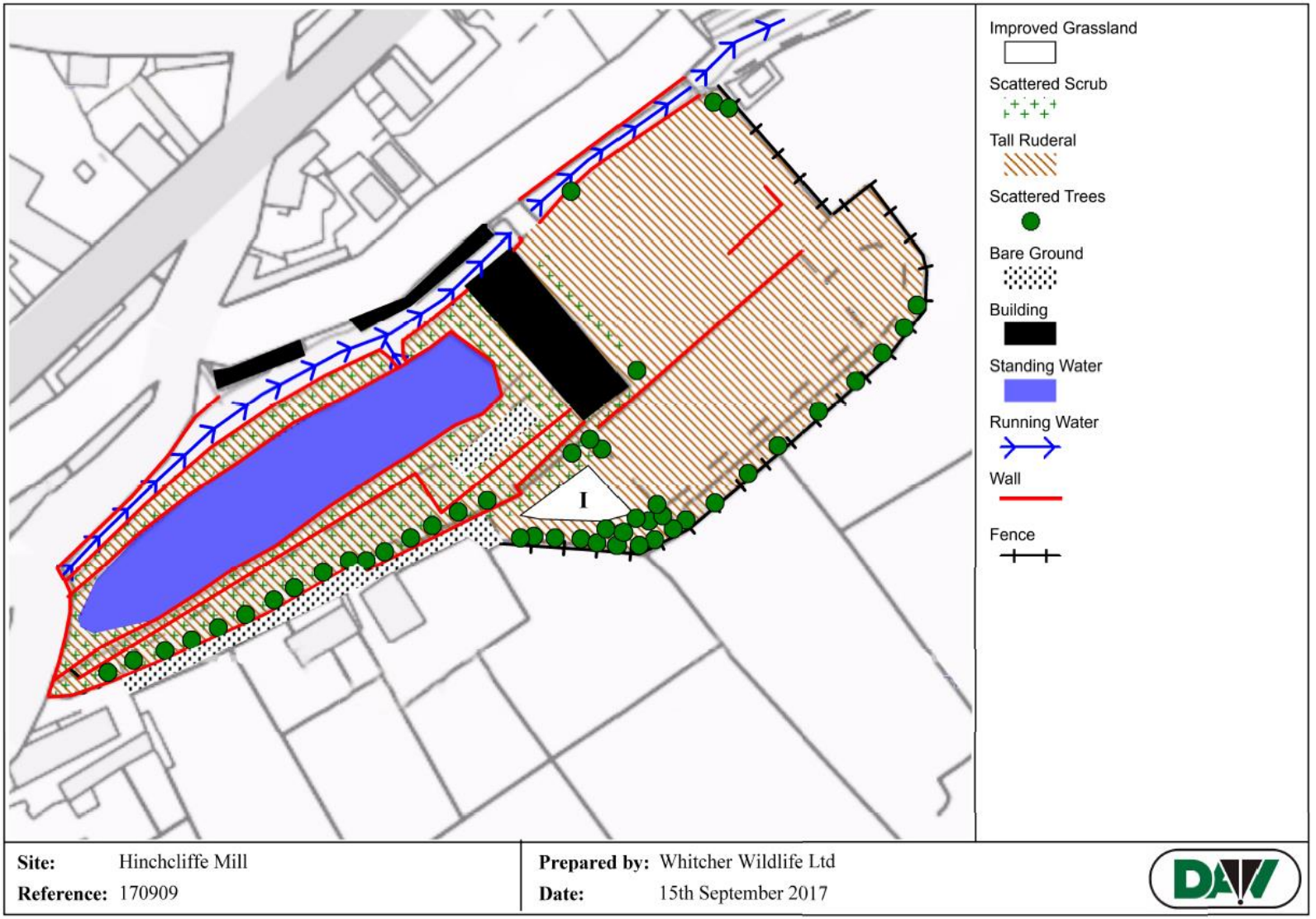
3.2.8. The remainder of the site is either the main mill building or hard standing areas and piles of rubble where buildings have been demolished all becoming heavily vegetated with time. The main mill building is described in more detail in connection with the bat survey reports later in this document.

3.3. Description of Habitats.

Below is an annotated map showing the habitats and target notes present on the site followed by a description of each habitat identified. A further copy of the annotated map along with target notes is provided in Appendices V and VI.

The habitats identified on the site were:

- Improved grassland,
- Scattered scrub
- Tall ruderals.
- Scattered trees
- Buildings.
- Standing water.
- Running water.
- Wall.
- Fence.
- Bare ground.



Site: Hinchcliffe Mill
Reference: 170909

Prepared by: Whitcher Wildlife Ltd
Date: 15th September 2017

3.3.1. Improved Grassland.

3.3.1.1. There is one small area of improved grassland at the southern end of the site. Dominant grass species are cocks foot *(Dactylis glomerata)* and meadow grass *(Poa annua),* meadow foxtail and Yorkshire fog with nettle *(Urtica dioica),* and honeysuckle *(Lonicera periclymenum)* and with various reed species in the damp areas including common reed *(Phragmites australis).*

3.3.1.2. With time there is an increasing number of ruderal species establishing in this area. Species include birds foot trefoil, (*Lotus corniculatus*) thyme (*Thymus polytrichus),* white clover (*Trifolium repens*), cats' ear (*Hypochaeris radicata*), slender plantain *(Plantago heterophylla),* dandelion *(Taraxacum officinale),* ragwort (*Senecio jacobaea*), red clover (*Trifolium pratense*) and lady's mantel (*Alchemilla mollis*).

3.3.2. Scattered Scrub. There is abundant scrub around the site and particularly surrounding the mill pond at the western end of the site. The scrub comprises predominantly common broad-leafed tree species, regenerating after previous vegetation clearance. The dominant species are goat willow *(Salix caprea),* crack willow (*Salix fragilis*), sycamore *(Acer pseudoplantus),* oak (*Quercus Robur*) ash *(Fraxinus excelsior),* silver birch *(Betula pendula),* alder *(Alnus glutinosa),* buddleia *(Buddleja davidii),* elder *(Sambucus nigra),* hazel *(Corylus avellana*), dog rose (*Rosa canina*) with bramble (*Rubus fruticosus*), nettle (*Urtica dioica*) and tall ruderal species beneath. This is becoming increasingly taller and more dense with time.

3.3.3. Tall Ruderal Herbs. There is tall ruderal vegetation mixed in with the scattered scrub right across the western end of the site including rosebay willow herb (Chamerion angustifolium), thistle (*Cirsium sp(p)*), dock (*Rumex acetosella*), herb Robert (*Geranium robertianum*), common fern (*Pteridophyte sp*), hogweed (Heracleum sphondylium), ragwort (*Senecio jacobaea*), fox and cubs (*Pilosella arnica*), cotoneaster (*Cotoneaster horizontalis*), lady's mantle (*Alchemilla alpine*), Himalayan balsam (*Impatiens glandulifera Royle*), greater plantain (*Plantago major*) and dandelion (*Taraxacum officinale*).

At the eastern end of the site the buildings have all been demolished with the exception of the mill building. There are rubble piles and debris across the site and becoming populated with primarily tall ruderal vegetation including bramble *(Rubus fruticosus)*, rosebay willowherb (*Chamerion angustifolium*), red clover (*Trifolium pratense*), red valerian (*Valeriana officinalis*), buddleia (*Buddleja davidii*), thistle (*Cirsium sp(p)*), broad leaved willowherb (*Epilobium montanum*), fox and cubs (*Pilosella aurantiaca*), herb Robert (*Geranium robertianum*), dandelion (*Taraxacum*

officinale), butterbur *(Petasites hybridus*), dock (*Rumex acetosella*), greater willowherb (*Epilobium hirsutum*), fern (*Pteridophyte sp*), lady's mantle (*Alchemilla alpine*), bugle (*Ajuga reptans*), black medick (*Medicago lupulina*), Himalayan balsam (*Impatiens glandulifera Royle*), rough hawksbit (*Leontodon hispidus*), greater plantain (*Plantago major*), white clover (*Trifolium repens*), ribwort plantain (*Plantago lanceolata*), hogweed (*Heracleum sphondylium*), creeping thistle (*Cirsium arvense*) and vetch (*Vicia sativa*). This area includes abundant saplings of oak (*Quercus sp(p)*), goat willow (*Salix caprea*), crack willow (*Salix fragilis*), sycamore (*Acer pseudoplantus*), hazel (*Corylus avellana*) and silver birch (*Betula pendula*) and these are getting taller with time.

3.3.4. Scattered Trees.

There are scattered trees along the southern site boundary between the access road that runs along the southern site boundary and the bank down to the mill pond. These are predominantly sycamore (*Acer pseudoplantus*) with ash (*Fraxinus excelsior*) and goat willow (*Salix caprea*).

3.3.5. Building. The only building that remains is the main three storey mill building. This is increasingly falling into disrepair. The mill is shown in the photograph below and is dealt with in more detail later in this report.

3.3.6. Standing Water. The mill pond is a large expanse of water occupying the western end of the site.

3.3.7. Running Water. The River Holme flows between tall stone walls along the northern boundary of the site.

3.3.8. Wall: There are abundant walls on the site, in particular alongside the River Holme, around the mill pond and along the southern boundary of the site. The photographs below show the boundary wall along the southern site boundary and the exposed brick walls where buildings have been demolished.

3.3.9. Fence: There is a post and wire boundary fence separating the site from adjacent grazing fields at the eastern end of the site.

3.3.10. Bare Ground: There remains one area of bare concrete to the southwest of the main mill building. This is the remains of the concrete floor of another building that has been demolished.

3.4. Protected Species Survey Results.

3.4.1. No badger field signs were identified anywhere within the survey area.

3.4.2. No water vole field signs were identified within the banks of the pond (T1) or of the adjacent river (T2). The water level in the mill pond fluctuates widely and the banks are stone walls, rendering the pond an unsuitable habitat. Likewise, the banks of the river are stone or concrete lined and therefore unsuitable for water voles.

3.4.3. The mill pond (T1) does not provide a suitable habitat for otters although the River Holme (T2) that flows adjacent to the site may be used by otters. No field signs were identified during any of the surveys undertaken.

3.4.4. Two ponds were identified within 500m of the mill pond. All of the ponds were located on the opposite side of the River Holme, the main road and residential areas to the mill pond and are manmade reservoirs 280m and 360m from the site. In the unlikely event they contained great crested newts it is extremely unlikely they would venture across the barriers to movement.

3.4.5. No great crested newts (GCN) were identified within the mill pond (T1) during an evening torch search of the pond during 2007. However, during that survey an abundance of mating toads were identified with a large area of toad spawn visible at the eastern end of the pond. At the time of this survey there were a number of mallards on the pond and a heron fishing. During the 2020 survey there were abundant mallards on the mill pond and on the river.

3.4.6. A Habitat Suitability Index calculation for the mill pond (T1) assesses various aspects of the habitat to arrive at a probability of the pond providing a suitable great crested newt breeding habitat. The results for the mill pond are shown in the following table.

HSI		**Mill Pond**
SI_1	Location	1
SI_2	Pond Area	0.8
SI_3	Pond Drying	0.5
SI_4	Water Quality	0.67
SI_5	Shade	1
SI_6	Fowl	0.67
SI_7	Fish	0.33
SI_8	Ponds	0.4
SI_9	Terrestrial Habitat	0.67
SI_{10}	Macrophytes	0.3
Total score		0.59
Presence		Below Average

3.4.7. These results show that the pond HSI score is below average. In addition, there are no records of great crested newts on this side of Huddersfield and therefore this is not assessed to be a suitable great crested newt breeding pond.

3.4.8. The site is isolated between the river and residential areas with open farmland to the east and is assessed to be relatively low value habitat for reptiles. There are no reptile records in the data search results.

3.4.9. The site is unsuitable for hazel dormouse and lies outside their natural range.

3.4.10. The large number of large clumps of Japanese Knotweed (JKW) that were

identified along the northern edge of the pond during previous surveys (2010) have been eradicated. During the 2017 survey two small clumps were identified, one behind the main mill and one on the side of the watercourse beside the main mill.

3.4.10.1. During the 2020 survey only one clump was identified alongside the river, as shown in the photograph below. However, the vegetation was so dense, other clumps may be present but not seen.

3.4.10.2. Himalayan balsam was identified growing at the back of the mill building as shown in the photograph below.

3.4.10.3. One cotoneaster plant was found growing at the southern end of the mill, in the edge of the area of grassland.

3.4.11. The vegetation on the site will provide a suitable nesting site for various species of birds during the nesting bird season. In addition, evidence was found of pigeons nesting in the building.

3.5. Bat Survey Results.

3.5.1. Previous surveys.

Previous bat surveys were carried out by Whitcher Wildlife Ltd. The following gives a brief outline of what bat activity was previously found.

3.5.1.1. An initial survey was carried out in 2007 and identified no bats emerging from the mill building

3.5.1.2. During a dusk emergence survey of the buildings on 24th June 2010, two Common Pipistrelles were identified entering and leaving from the eaves in the northwest corner of the mill building.

3.5.1.3. During a dusk emergence survey on 15th September 2010, two Pipistrelle 45s were seen to emerge from two separate locations behind the gutter at the south west corner of the building

3.5.2. Day Time Survey Results September 2017.

3.5.2.1. A day time survey of the mill was carried out on 6th September 2017.

3.5.2.2. The mill is a three storey, stone built, mill building as shown below. The walls are constructed from coursed stone and the building has two pitched roofs with hipped ends, covered with stone slates.

3.5.2.3. The walls of the building are generally in good condition and are well pointed. There are a few holes in the northwest corner of the building where there are missing stones where another building had previously been connected.

3.5.2.4. All windows and door frames are in place although the building has suffered extensive vandalism over the years and there are now openings that have been built up with breeze blocks, there are extensive broken window panes and windows that have been boarded up.

3.5.2.5. There are timber gutters around the eaves with occasional gaps leading under the roof slates. There are also gaps around the eaves but these could not be assessed from ground level. No bat droppings or field signs were identified around the outside of the building although the around conditions and vegetation made a thorough inspection very difficult.

3.5.2.6. Internally, the roof is supported by traditional timber frames with central, steel supporting columns. The underside of the roof is plaster lined although there are occasional gaps in the lining.

3.5.2.7. The number of gaps in the ceilings has increased due to the vandalism and some ingress of damp. The photograph below shows a typical area where the plaster has fallen off the plaster laths.

3.5.2.8. During previous surveys no bats or bat field signs were identified inside the building. However, during the 2017 survey a large number of bat droppings were scattered about the top floor. These were generally scattered in a way that suggests bats foraging inside the building. There was one group of droppings that was more concentrated than elsewhere at the southern end of the building as shown below.

3.5.2.9. This group of droppings was below the hipped end of the building where there were no particular features above, as can be seen in the photograph below. It was assessed to be due to bats foraging up and down the building and turning at the end to fly back. However, no such group of droppings was found at the northern end of the building where the floor was dirty and wet.

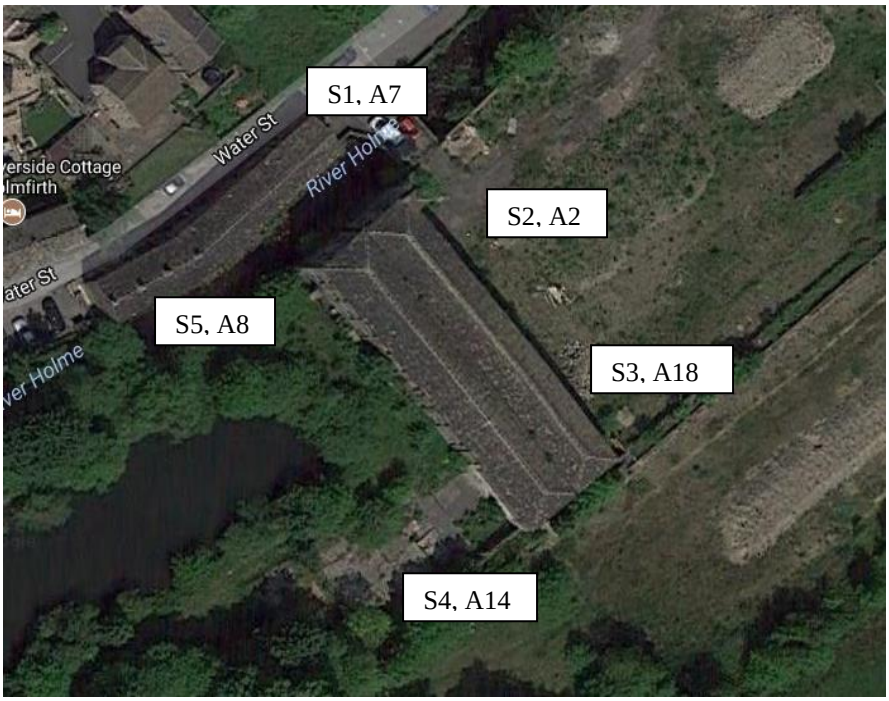
3.5.3. Dusk Emergence Survey Results, 6th September 2017.

3.5.3.1. Five surveyors carried out a dusk emergence survey on the evening of 6th September 2017. All five surveyors hold Natural England class licences for surveying bats.

3.5.3.2. The evening was overcast and cool with a temperature of 13ºC at 19:00 and with little wind and a as result there were abundant midges in the air. Sunset was at 19:44.

3.5.3.3. The survey commenced at 19:30 and continued until 20:45.

3.5.3.4. The five surveyors were positioned around the mill building in order to be able to see all sides simultaneously. In addition, five static Anabat recorders were placed on site to record bat activity for subsequent computer analysis using Analook software. The plan below shows the position of the surveyors, S, and the Anabat recorders.



3.5.3.5. The following are the observations of the five surveyors and the recordings on the Anabat recorders adjacent to each surveyor.

3.5.3.5.1. Surveyor 1.

19:58. Common Pipistrelle from the southwest along the river.
19:59. Second Common Pipistrelle foraging along the river.
20:01. Common Pipistrelle from the southwest along the river.
20:03. Third Common Pipistrelle from the southwest along the river.

20:03 to 20:45. Multiple Common Pipistrelles constantly foraging along the river.

Anabat 7 with Surveyor 1 recorded one hundred and eighty-one Common Pipistrelle calls between 19:55 and 20:45 and seven Myotis calls between 20:10 and 20:29.

3.5.3.5.2. Surveyor 2.

20:00. Common Pipistrelle southwest to northeast along the side of the mill building.
20:03. Common Pipistrelle heard but not seen.
20:07. Two Common Pipistrelles foraging. One flew in through a broken window and back out again.
20:21 to 20:45. Two to three Common Pipistrelles continually foraging along the side of the mill building.

Anabat 2 with Surveyor 2 recorded one hundred and fifty-two Common Pipistrelle calls between 19:55 and 20:45 and no Myotis calls.

3.5.3.5.3. Surveyor 3.

20:00. Common Pipistrelle emerged from the eaves at the southeast corner of the mill and flew away towards Surveyor 2.
20:03. Common Pipistrelle flew from the northeast foraging alongside the mill building.
20:04. Two Common Pipistrelles foraging along the side of the mill building.
20:05 to 20:45. Multiple Common Pipistrelles continually foraging along the side of the mill building.

Anabat 18 with Surveyor 3 failed to record any bat activity.

3.5.3.5.4. Surveyor 4.

19:56. Common Pipistrelle flew from the north to the south.
19:58. Common Pipistrelle foraging south to north.
20:01. Common Pipistrelle foraging north to south.
20:06 to 20:45. Common Pipistrelles continually heard not seen. (Bats foraging along eastern side of the mill.)
20:16. Common Pipistrelle foraging along the west side of the mill.
20:19. Common Pipistrelle emerged from beneath the gutter of the mill and flew west.

20:25. Common Pipistrelle foraging along the west side of the mill.
20:31. Common Pipistrelle foraging along the west side of the mill.
20:38. Common Pipistrelle foraging along the west side of the mill.

Anabat 14 with Surveyor 4 recorded twenty Common Pipistrelle calls between 19:57 and 20:45 and no Myotis calls.

3.5.3.5.5. Surveyor 5.

19:54. Common Pipistrelle flew along the side of the mill building to the northwest.
19:55. Common Pipistrelle emerged from the eaves above fifth window and flew southeast.
20:01. Common Pipistrelle emerged from the eaves above fifth window and flew southeast.
20:03. Two Common Pipistrelles flew out of the open doorway and flew southwest.
20:10. Common Pipistrelle foraged northwest to southeast.
20:11. Common Pipistrelle heard foraging over river, unseen.
20:14. Common Pipistrelle heard foraging over river, unseen.
20:16. Common Pipistrelle foraged northwest to southeast.
20:18. Common Pipistrelle foraged southeast to northwest and off site.
20:19. Two Common Pipistrelles foraged southeast to northwest and back.
20:25. Common Pipistrelle foraged southeast to northwest and off site.
20:28. Noctule, heard not seen.
20:28 to 20:45. Continual foraging heard not seen along river.

Anabat 8 with Surveyor 5 recorded thirty-eight Common Pipistrelle calls between 19:51 and 20:45 and three Myotis calls between 20:15 and 20:31.

3.5.3.6. Summary of Survey Results

3.5.3.6.1. Three Common Pipistrelles emerged from the eaves of the Mill building, one at the southeast corner of the building, two from above the fifth window on the west side and one from the eaves at the southern end.

3.5.3.6.2. During the survey there was a high level of Common Pipistrelle foraging activity around the mill building and these were seen to fly in and out through the mill windows.

3.5.3.6.3. Daubenton's bats were recorded foraging along the river.

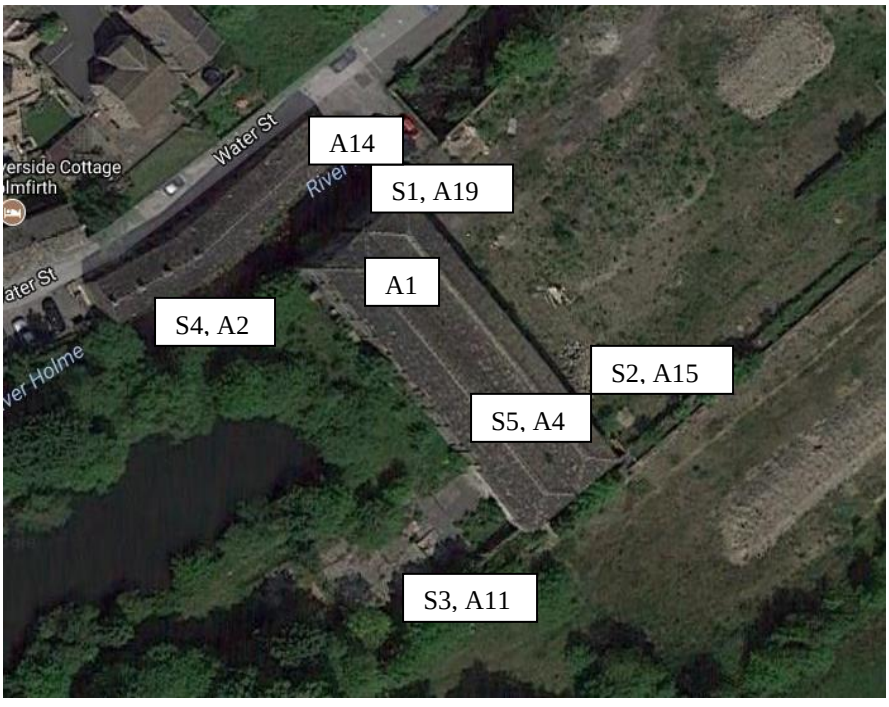
3.5.4. Dawn Survey Results, 22nd September 2017.

3.5.4.1. Five surveyors carried out a dawn swarming survey on the morning of 22nd September 2017. All five surveyors hold Natural England class licences for surveying bats.

3.5.4.2. The morning was overcast, misty and cool with a temperature of 7°C at 05:00 and with little wind. Sunrise was at 06:53.

3.5.4.3. The survey commenced at 05:00 and continued until 06:45.

3.5.4.4. Four of the surveyors were positioned around the mill building in order to be able to see all sides simultaneously and the fifth was on the top floor of the building to watch for bat activity inside. In addition, six static Anabat recorders were placed on site to record bat activity for subsequent computer analysis using Analook software. The plan below shows the position of the surveyors, S, and the Anabat recorders. Surveyor 5 and Anabats 1 and 4 were inside the top floor of the mill building.



3.5.4.5. The following are the observations of the five surveyors and the recordings on the Anabat recorders adjacent to each surveyor.

3.5.4.5.1. Surveyor 1.

05:55. Common Pipistrelle heard not seen.
05:56. Common Pipistrelle heard not seen.
05:57. Common Pipistrelle heard not seen.
05:55. Common Pipistrelle heard not seen.
05:59. Common Pipistrelle heard not seen.
06:03. Common Pipistrelle heard not seen.
06:11. Common Pipistrelle heard not seen.
06:11. Common Pipistrelle heard not seen.

Anabat 19 recorded five Common Pipistrelle calls between 05:39 and 06:12.

Anabat 14 placed on the bridge over the river recorded three Common Pipistrelle calls between 05:43 and 06:03 and seven Myotis calls between 05:20 and 06:09. The latter were Daubenton's bats foraging over the river.

3.5.4.5.2. Surveyor 2.

05:44. Common Pipistrelle heard not seen.
05:51. Common Pipistrelle heard not seen.
05:52. Common Pipistrelle heard not seen.
05:58. Common Pipistrelle heard not seen.
06:03. Common Pipistrelle heard not seen.
06:04. Common Pipistrelle flew along northeast side of building.

Anabat 15 recorded five Common Pipistrelle calls between 05:44 and 06:04.

3.5.4.5.3. Surveyor 3.

05:43. Common Pipistrelle heard not seen.
05:52. Common Pipistrelle heard not seen from S2 and towards S4.
05:53. Common Pipistrelle heard not seen.
05:54. Common Pipistrelle passed west to east.
05:56. Common Pipistrelle from the northwest circled and left to the west.
05:58. Common Pipistrelle northwest to southeast along back of Mill.
06:04. Common Pipistrelle northwest to southeast along back of Mill.

Anabat 11 recorded six Common Pipistrelle calls between 05:39 and 05:53 and two Myotis calls at 05:50 and 05:54.

3.5.4.5.4. Surveyor 4.

05:43. Common Pipistrelle heard not seen.
05:58. Common Pipistrelle heard not seen.
06:03. Common Pipistrelle overhead and then flew southeast.
06:11. Myotis heard not seen.

Anabat 2 recorded nine Common Pipistrelle calls between 05:38 and 06:01 and one Myotis call at 06:06.

3.5.4.5.5. Surveyor 5.

05:43. Common Pipistrelle heard not seen.
05:52. Common Pipistrelle heard not seen.
05:58. Common Pipistrelle heard not seen.
06:04. Common Pipistrelle passed flew along northeast side of building.

Anabat 1 recorded three Common Pipistrelle calls between 05:39 and 06:07. All were faint and probably bats outside the building.

Anabat 4 recorded no bat activity.

3.5.4.6. Summary of Survey Results.

The morning was cool and misty and only a low level of bat activity was recorded. That activity was fairly early in the survey when it was too dark to see what the bats were doing but the bat activity was very loud and close to the building. Bats may have entered roosts in the Mill building at this time but none were seen by the surveyors. No bats were seen inside the building and the Anabat in the top room recorded only faint calls from outside.

3.5.5. Day Time Survey Results 17th August 2020.

3.5.5.1. A further day time survey of the mill was carried out on 17th August 2020.

3.5.5.2. The mill remains a three storey, stone built, mill building as previously described. However, since the previous surveys there has been further vandalism with more windows broken and the surrounding vegetation is further encroaching. The two photographs below show the mill in 2017 and the mill in 2020.


3.5.5.3. As previously, there are timber gutters around the eaves with occasional gaps leading under the roof slates. There are also gaps around the eaves but these could not be assessed from ground level. No bat droppings or field signs were identified around the outside of the building although the ground conditions and vegetation made a thorough inspection very difficult.

3.5.5.4. Internally, the roof is supported by traditional timber frames with central, steel supporting columns. The underside of the roof is plaster lined although there are occasional gaps in the lining. The photograph below is from 2017.

3.5.5.5. The inside of the building remains essentially the same except a section of the middle floor has been removed as shown below. The building has a distinctly cold, damp and draughty feel to it from increasing deterioration.

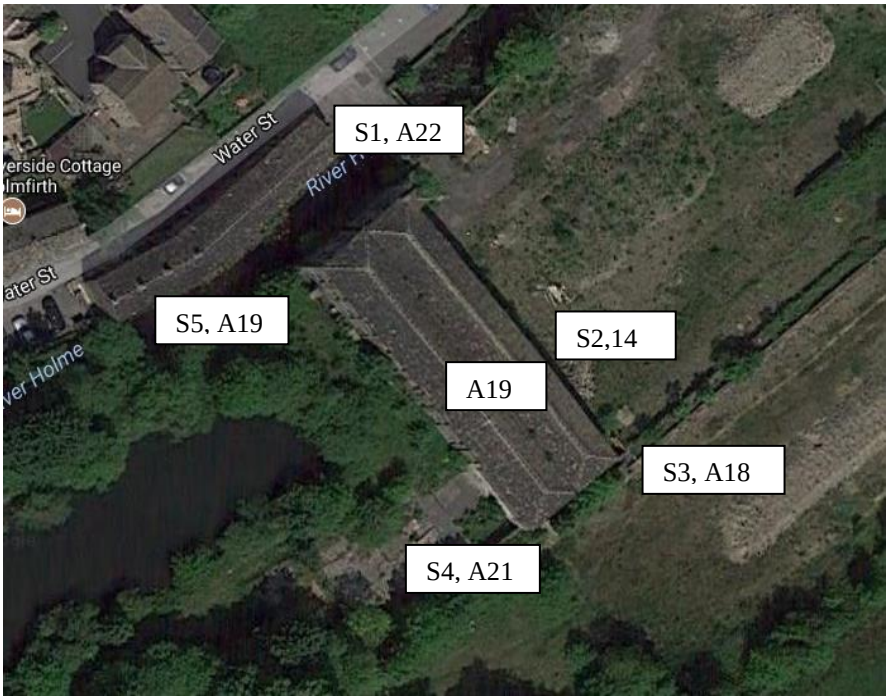

3.5.5.6. During this survey, no bat droppings or field signs were identified anywhere inside the building. There were more pigeons roosting inside the building than previously.

3.5.6. Dusk Emergence Survey Results, 17th August 2020.

3.5.6.1. Five surveyors carried out a dusk emergence survey on the evening of 17th August 2020. Four surveyors hold Natural England class licences for surveying bats and the fifth surveyor is an experienced assistant.

3.5.6.2. The evening was clear and mild with a temperature of 19°C at 20:00 and with little wind, 0 on the BWS. Sunset was at 20:26, the survey commenced at 20:10 and continued until 22:00.

3.5.6.3. The five surveyors were positioned around the mill building in order to be able to see all sides simultaneously. In addition, five static Anabat recorders were placed on site to record bat activity for subsequent computer analysis using Analook software. The plan below shows the position of the surveyors, S, and the Anabat recorders. Anabat 19 was placed inside the building.



3.5.6.4. The following are the observations of the five surveyors and the recordings on the Anabat recorders adjacent to each surveyor.

3.5.6.4.1. Surveyor 1.

20:41. Common Pipistrelle heard not seen.
20:46. Common Pipistrelle from the end wall of the mill. Thought to have emerged.
20:48. Common Pipistrelle passed northwest to southeast.
20:51. Common Pipistrelle foraging along the river.
20:54. Common Pipistrelle constantly foraging along front of the mill.
20:55 to 21:45. Continual Common Pipistrelles foraging along front of the mill and along the river.

Anabat 22 with Surveyor 1 recorded twenty-six Common Pipistrelle calls between 20:36 and 21:45.

3.5.6.4.2. Surveyor 2.

20:41. Common Pipistrelle heard not seen.
20:46. Very faint Common Pipistrelle heard not seen.
20:48. Common Pipistrelle passed northwest to southeast.
20:51. Common Pipistrelle heard not seen foraging.

20:54. Common Pipistrelle constantly foraging along front of the mill.
20:55 to 21:45. Continual Common Pipistrelles foraging along front of the mill.

Anabat 14 with Surveyor 2 recorded eighty-four Common Pipistrelle calls between 20:48 and 21:45 and one Myotis call at 21:36.

3.5.6.4.3. Surveyor 3.

20:44. Common Pipistrelle from the west side of the mill, round to the east side.
20:45. Noctule passed high over the site.
20:47. Common Pipistrelle foraging to the south.
20:51. Common Pipistrelle foraging to the south.
20:52. Common Pipistrelle foraging to the south.
20:54. Common Pipistrelle from the west side of the mill, round to the east side.
20:55 to 20:58. Common Pipistrelles foraging east side of the mill.
21:00. Common Pipistrelle from the east side of the mill, round to the west side.
21:02 to 21:45. Common Pipistrelles foraging round the southern end of the mill.

Anabat 18 with Surveyor 3 recorded thirty-three Common Pipistrelle calls between 20:44 and 21:45, four Myotis call between 20:54 and 21:34 and two Noctule calls at 20:45 and 20:46.

3.5.6.4.4. Surveyor 4.

20:44. Common Pipistrelle passed northwest to south.
20:45. Common Pipistrelle foraging between back of mill and pond.
20:48. Common Pipistrelle passed south to north.
20:51 to 20:56. Common Pipistrelles foraging along west side of the mill.
20:55. Noctule passed high over the site.
20:59. Two Common Pipistrelles emerged from the eaves 2m from the southwest corner of the mill.
21:00 to 21:45. Continuous Common Pipistrelles foraging along west side of the mill.
21:35. Noctule passed high over the site.

Anabat 21 with Surveyor 4 recorded twenty-four Common Pipistrelle calls between 20:44 and 21:45, three Myotis call between 20:55 and 21:35 and three Noctule calls between 20:55 and 21:35.

3.5.6.4.5. Surveyor 5.

20:32. Common Pipistrelle passed east to west and towards the mill pond.
20:35. Common Pipistrelle emerged from eaves between 3rd and 4th windows on west side of mill.
20:37. Common Pipistrelle heard not seen.
20:51 to 21:45. Constant Common Pipistrelles foraging west of the mill and over the river.

Anabat 20 with Surveyor 5 recorded one hundred and eighteen Common Pipistrelle calls between 20:33 and 21:45, three Myotis call between 21:21 and 21:40 and one Noctule call at 20:46.

3.5.6.5. Summary of Survey Results.

3.5.6.5.1. A high level of Common Pipistrelle foraging activity was observed, particularly around the mill itself. Two Common Pipistrelle emerged from the southwest corner of the mill, one emerged from the eaves between the 3rd and 4th windows on the western side of the mill and one possibly emerged from the northwest corner of the mill.

3.5.6.5.2. This is a very similar pattern of activity to that which has been previously observed and indicates the presence of a small number of Common Pipistrelle day roosts.

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4. EVALUATION OF FINDINGS.

4.1. Rivers, ponds and hedgerows are all habitats of principal importance under the NERC Act 2006. The proposed development will have no impact on these habitats and there is the opportunity to improve the mill pond.

4.2. The remaining habitats on the site are habitats with a low ecological value such as buildings, scrub, tall ruderals and walls.

4.4. The protected species survey identified no specific protected species issues on the site except the presence of breeding toads in the mill pond, a Kirklees BAP species and the potential for nesting birds in the dense vegetation across the site and within the buildings.

4.5. The assessment of the Mill Pond and the Habitat Suitability Index calculation show the pond to have a low potential for breeding great crested newts and this is supported by the desk top data searches and the lack of great crested newt records in this area of Kirklees. Therefore, the proposed development will have no impact on great crested newts.

4.6. There was one clump of Japanese Knotweed found growing on the top of the wall above the River Holme.

4.6.1. Himalayan balsam has previously been seen growing along the river corridor. During the 2020 survey this was also found growing at the back of the mill building between the mill and the mill pond.

4.6.2. One cotoneaster plant was found growing at the edge of the grassland to the south of the mill.

4.6.3. The proposed development will potentially impact on all three alien invasive plant species.

4.7. Three previous bat surveys have been carried out on the buildings on the site. The original survey was carried out in 2007 and no bats were found to emerge from any of the buildings on the site.

4.7.1. During the two dusk emergence surveys carried out in June and September 2010, on each occasion two Common Pipistrelles emerged from the Mill building but from different parts of the building.

4.7.2. During the June 2010 survey two Common Pipistrelles were seen to enter and subsequently leave from behind the guttering in the northwest corner of the site, shown on the first photograph below.

4.7.3. During the September 2010 survey, two Common Pipistrelles were seen to emerge from two separate locations behind the gutter at the south west corner of the Mill building.

4.7.5. During the 2017 dusk emergence survey three Common Pipistrelles emerged from the eaves of the Mill building, one at the southeast corner of the building, two from above the fifth window on the west side and one from the eaves at the southern end.

4.7.6. During the 2020 dusk emergence survey four Common Pipistrelle emerged from the mill. Two emerged from the southwest corner and one from the western side of the mill, similar positions to those shown in the photograph above. The fourth was thought to have emerged from the northwest corner of the mill, overlooking the river.

4.7.6. The results of the 2020, 2017 and the 2010 bat surveys all broadly agree and show that Common Pipistrelles use the eaves of the Mill building as a number of day roosts. As there are so many broken windows in the Mill building, those Common Pipistrelles also use the inside of the building as sheltered foraging. Conversion of the Mill will potentially result in the loss of these day roosts.

4.7.7. Daubenton's bats have been found to forage along the River Holme but none were recorded during the 2020 survey. The conversion of the mill will have no impact on those bats as long as the development does not increase the level of light impact on the river corridor.

4.8. No nests were identified within the buildings although feral pigeons were found roosting on the top floor of Building B and there were indications that jackdaws may nest in a hole in the back wall of Building B. No other nests were identified in any of the buildings and no owl activity was found.

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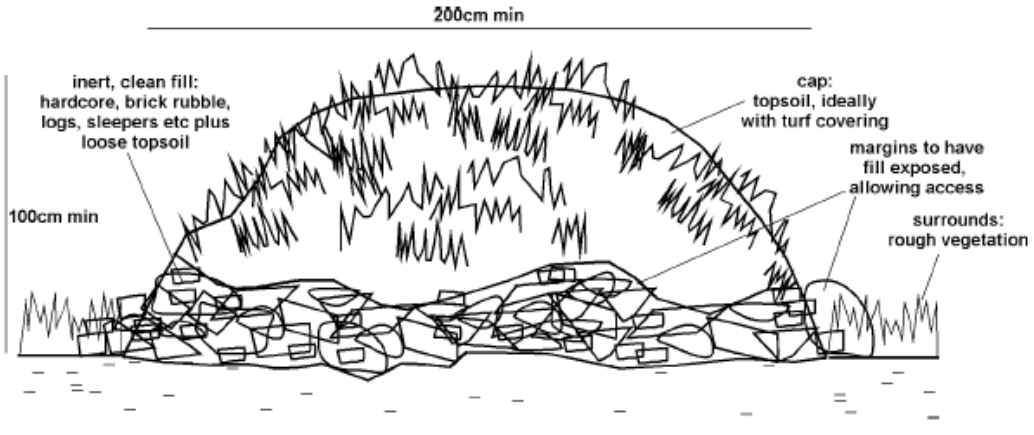
5. RECOMMENDATIONS.

5.1. This Preliminary Ecological Appraisal report is designed to advise the client of the initial survey results so that they may be considered within the site development plan.

5.2. Once all surveys have been completed and the development plans have been finalised, the report must be converted into an Ecological Impact Assessment (EcIA) where details of further survey results, mitigation and biological enhancements are included, to arrive at an assessment of the residual impact of the proposed development. This format will be suitable to submit to the Local Authority.

5.3. The proposed site layout includes for the retention of the Mill Pond and therefore the toad breeding habitat. It is also understood that repair works are planned to endeavour to prevent current water leakage, thus providing a more stable water level. This will improve the aquatic habitat for amphibians. It is recommended that any works that will affect the Mill Pond, or the water levels in the pond, are carried out between October and February, outside the amphibian breeding season. In the event the pond has to be drained, it is also recommended that a method statement be agreed prior to any drainage works that will ensure the rescue and successful movement of any species that may be put at risk as a result.

5.4. It is recommended that rock piles and log piles are incorporated into the landscaping of the site to provide additional amphibian refugia and hibernacula. These can be covered with soil and disguised as rockeries to fit in with any landscaping plans but should be so designed to provide a frost free winter habitat for hibernating toads, as shown in the diagram below.



5.5. Where new walls are constructed on site, toad access should be designed into the walls to provide toads with continued access between the Mill Pond and terrestrial habitat around and on the site.

5.6. It is recommended that the Japanese Knotweed remaining on the site be treated and eliminated. It is therefore recommended that a program of herbicide treatment be commenced at the earliest opportunity and repeated until the plant has been eliminated. An aquatic friendly herbicide, approved by the Environment Agency should be used as the treatment will be close to the river and the pond.

5.7. It is recommended that a program be put in place to eradicate the Himalayan balsam from the site. Himalayan balsam spread by firing seeds at the end of the summer. The plant can be eradicated by pulling the plants before they get to the seeding stage. The plants can be left on the ground to die without fear of them reproducing.

5.8. It is recommended that the single cotoneaster plant be dug up while it is small and that it is safely disposed of where it cannot grow in the wild.

5.9. It is recommended that all vegetation clearance works are carried out outside the nesting bird season, which extends from March to September.

5.10. The same applies to works commencing on the buildings. If works are planned for during the nesting season, it is recommended that open windows and doors are netted before the nesting season starts to reduce the potential for nests to be present when works commence.

5.11. In addition, it is recommended that a nesting bird survey be carried out prior to any works commencing during the nesting season and if any nests are identified, these plus a buffer zone around them must be left undisturbed until the young have fledged.

5.12. In order to enhance the biodiversity of the site, it is recommended that two double house martin nest boxes, as shown below are erected under the eaves on the river end of Building B.

Schwegler No 11 House Martin Nest

Nest Boxes | Bird Boxes | Schwegler House Martin, Swallow and Swift Boxes | Schwegler No 11 House Martin Nest

Schwegler No 11 House Martin Nest

Enlarge image

Code: 002097D

It is increasingly difficult for swallows and house martins to find suitable nest-building material. The mud they do find, if any, is often poor quality. In addition, the walls of buildings are nowadays often very smooth As a result, nests tend to fall down, sometimes with the nestlings inside. In many places, the vibration caused by heavy vehicles shakes the nests loose.

This nest has been developed to enable House Martins to breed successfully on external facades without overhanging eaves and has proved highly successful.

Email to a friend

5.13. The Mill building is used as a day roost by a small number of Common Pipistrelles. It will therefore be necessary to prepare a mitigation strategy outlining how the bats will be catered for during the development of the site and in the longer term. Once Planning Consent has been granted, it will be necessary to apply for and receive a licence from Natural England before works commence on the conversion of the Mill building.

****

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7. MITIGATION STRATEGY.

7.1. Before submitting this report to the Local Authority, it will be necessary to add a Mitigation Strategy to this report. This needs to be similar to the one that was provided on the previous report for this site, Report Ref 100904 dated 25th September 2010.

7.2. However, there are choices to be decided on.

7.3. Before works can be carried out on the Mill building, a replacement roost must be provided so that there is always somewhere to relocate bats to. During the works, there must be somewhere where any bats found can be moved to. In addition, if works are to commence on the building in October or over the winter when bats would be expected to be in hibernation as would be expected on any licence application, there must be an alternative roost in place when the bats return in March or April.

7.4. There are various ways of achieving this.

7.4.1. One option is to develop elsewhere on the site first and to provide bat bricks in the new houses leaving the development of the mill until after alternative roosts have been provided in those new buildings.

7.4.2. A second option would be to provide an alternative bat box on a pole. This would have to be a reasonable quality of box, like a Schwegler 1FW at a cost of £212 plus VAT to buy. The problem with this is that Natural England will specify that a temporary box must be retained for at least five years and therefore a suitable spot would need to be carefully selected.

7.4.3. The provision of alternative roosts in the long term would normally comprise bat bricks in the walls of the new houses. These are a reasonable cost; they can match the walls of the new buildings and the fact that they are built in makes them permanent.

7.4.4. In addition, roosting opportunities should be provided in the converted mill building through the inclusion of bat tiles and/or gaps under the ridge tiles. In the previous report these were in the form of gaps behind fascia and soffit boards but these days these are rarely used.

7.4.5. Once decisions have been taken on the way forward, a mitigation strategy will be added to this report to replace this section.

Prepared by:	
Derek Whitcher, BSc, MCIEEM, MCMI	Date: 29th August 2020

Checked by:	
Ruth Georgiou. BSc, MCIEEM.	Date: 1st September 2020

Appendix I. OTTER INFORMATION.

Ecology

Otters are nocturnal, are active all year around and live by undisturbed waters where there is plenty of cover; mostly by freshwater lakes, rivers and small streams as well as some coasts.

Fish are the otter's main source of food, especially eels and they therefore rely on good fish populations. They also eat amphibians and the occasional birds and small mammals.

An otter may use over 40km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt which is often away from the main river and must be completely undisturbed.

Surveys

Generally, the only evidence seen of the otter is its faeces or 'spraint', which are deposited along a watercourse in prominent positions. Surveys will look for the presence of these spraints, along with any tracks or potential holts or other resting places which may be used by otters.

Legislation

Otters are protected under Appendix II of the BERN Convention Act (1981), partly covered by Schedule 5 of the Wildlife and Countryside Act (1981), Schedule 6 of the Wildlife and Countryside Act (1981), Annex II and IV of the Habitats Directive, Annex II of the Conservation and Habitats Regulations (2010), Appendix I of the CRoW Act (2000) and are listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance. Otters are considered to be 'Near Threatened' by the IUCN Red list.

This makes it an offence to disturb any animal while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

Appendix II. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATS agreement. Numerous species are also listed under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix III. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1.-(1) Of the Act states that:- If any person intentionally:- kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1.-(5) of the Act states that:- If any person intentionally:- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

It is necessary to understand a little about the legal protection offered to nesting birds in order to evaluate the findings of this report.

Part 1.-(1) Of the Wildlife and Countryside Act 1981states that:-

If any person intentionally:-

(a) kills, injures or takes any wild bird;
(b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
(c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.

Part 1.-(5) of the Act states that:-

If any person intentionally:-

(a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or
(b) disturbs dependant young of such a bird,

he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after "intentionally" the words "or recklessly".

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September.

It is also worth remembering that some birds nest in trees and scrub but others are ground nesting.

The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Appendix IV. JAPANESE KNOTWEED INFORMATION.

Ecology

Japanese Knotweed (*Fallopia Japonica*), is a pernicious non-native species of plant. The plant is an extremely long-living perennial that does not spread by seeding. Instead it spreads by vegetative means. Any small section of the rhizome will grow into a new plant. It is extremely vigorous and very difficult to eradicate.

There does not appear to be any defined distance away from Japanese Knotweed that work should be carried out. Literature does state that the underground root system can spread up to seven metres and this is the suggested size of area to be excavated when eradicating by excavation. All excavated soil must be treated as controlled waste and dealt with according to strictly controlled procedures.

Surveys

A site will be searched for Japanese Knotweed plants growing on site, from mature plants to new shoots. A site will also be searched for dead stems indicating that the plant is present.

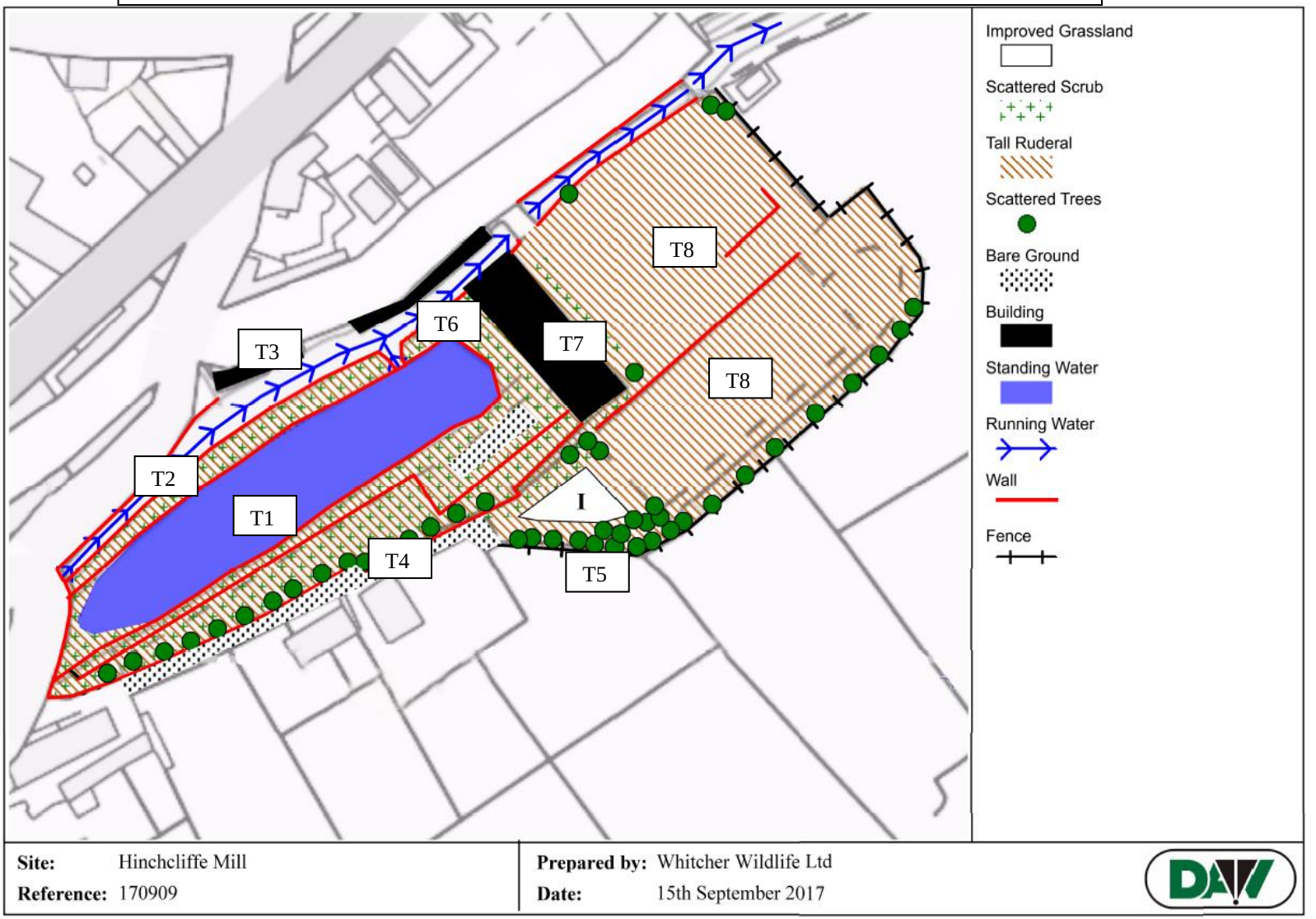
Legislation

Under section 14 and Part II of Schedule 9 of the Wildlife and Countryside Act 1981 it is an offence for Japanese Knotweed to be planted in the wild or otherwise caused to grow in the wild. It is not an offence to leave it growing, in situ; only to spread it to new areas.

If land that is contaminated with Japanese Knotweed is required to be worked on or is in danger of being tracked over or affected by the construction works in any way it must be dealt with in a rigorous way. Failure to do so not only risks prosecution but very high costs to eradicate any new growth. Alternatively, Japanese Knotweed can be controlled by a prolonged treatment with approved herbicides.

Any area where Japanese Knotweed is found should be fenced off and warning signs erected. All staff should be warned both verbally and in writing that these areas should not be entered and should not be tracked over by machinery.

Appendix V. ANNOTATED MAP OF THE SURVEY AREA.



Site: Hinchcliffe Mill
Reference: 170909

Prepared by: Whitcher Wildlife Ltd
Date: 15th September 2017

Appendix VI. TARGET NOTES.

T1. The Mill Pond.

T2. A strip of scattered scrub and tall ruderals between the mill pond and the river.

T3. The River Holme.

T4. The southern access road to the site.

T5. Scattered trees along the bank on the southern site boundary.

T6. Japanese knotweed

T7. The Mill Building.

T8. Vegetated piles of rubble from where buildings have been demolished.

Appendix VII. SPECIES LISTS.

Improved Grassland Species.	DAFOR Assessment.
Cocks foot *(Dactylis glomerata)*	A
Meadow grass *(Poa annua)*	A
Nettle *(Urtica dioica)*	A
Honeysuckle *(Lonicera periclymenum)*	R
Common reed *(Phragmites australis).*	R

Scattered Scrub Species.	DAFOR Assessment.
Willow *(Salix caprea)*	F
Sycamore *(Acer pseudoplantus)*	A
Ash *(Fraxinus excelsior)*	F
Alder *(Alnus glutinosa)*	A
Buddleia *(Buddleja davidii)*	F
Elder *(Sambucus nigra)*	O
Hazel *(Corylus avellana*)	O
Dog rose (*Rosa canina*)	O
Bramble (*Rubus fruticosus*)	F
Nettle (*Urtica dioica*).	F

Tall Ruderal Species West End.	DAFOR Assessment.
Rosebay willow herb (Chamerion angustifolium)	F
Thistle (*Cirsium sp(p)*)	O
Dock (*Rumex acetosella*)	O
Herb Robert (*Geranium robertianum*)	O
Common fern (*Pteridophyte sp*)	O
Hogweed (Heracleum sphondylium)	F
Ragwort (*Senecio jacobaea*)	F
Fox and cubs (*Pilosella aurantiaca*)	O
Cotoneaster (*Cotoneaster horizontalis*)	R
Lady's mantle (*Alchemilla alpine*)	R
Himalayan balsam (*Impatiens glandulifera Royle*)	O
Greater plantain (*Plantago major*)	F
Dandelion (*Taraxacum officinale*).	O

Tall Ruderal Species East End.	DAFOR Assessment.
Bramble (Rubus fruticosus)	
Rosebay willowherb (*Chamerion*	A
angustifolium) Red clover (*Trifolium pratense*)	F
Red valerian (*Valeriana officinalis*)	O
Buddleia (*Buddleja davidii*)	R
Thistle (*Cirsium sp(p)*)	F
Broad leaved willowherb (*Epilobium*	F
montanum)	O
Fox and cubs (*Pilosella aurantiaca*)	
Herb Robert (*Geranium robertianum*),	O
Dandelion (*Taraxacum officinale*)	O
Butterbur *(Petasites hybridus*)	F
Dock (*Rumex acetosella*)	F
Greater willowherb (*Epilobium hirsutum*)	O
Fern (*Pteridophyte sp*)	O
Lady's mantle (*Alchemilla alpine*)	F
Bugle (*Ajuga reptans*)	R
Black medick (*Medicago lupulina*)	R
Himalayan balsam (*Impatiens glandulifera*	R
Royle)	
Rough hawksbit (*Leontodon hispidus*)	O
Greater plantain (*Plantago major*)	O
White clover (*Trifolium repens*)	O
Ribwort plantain (*Plantago lanceolata*),	O
Hogweed (*Heracleum sphondylium*)	F
Creeping thistle (*Cirsium arvense*)	O
Vetch (*Vicia sativa*).	O
Oak (*Quercus sp(p)*)	F
Goat willow (*Salix caprea*)	F
Crack willow (*Salix fragilis*)	F
Sycamore (*Acer pseudoplantus*)	F
Hazel (*Corylus avellana*)	O
Silver birch (*Betula pendula*).	R

Appendix VIII. PROPOSED DEVELOPMENT PLAN.

Project: Hinchliffe Mill, Water Street, Holmebridge, Huddersfield	Proposed Site Layout		
Client: MD ONE ltd	Drg No: 2740-SK-04	Job No: 2740	Date: Sept '17

The Riverside Terrace
6no.

The Mending Shed
5no.

Cross Mill
7no.

The Blending Shed
2no.

Scale: 1:1000

ONE17DESIGN

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