Hinchliffe Mill,
Holmfirth, HD9 2NX

Landscape Ecological Design Strategy (LEDS)

November 2025

Report reference	1507f
Revision	1
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Contents

1 Introduction

1.1.1.1 This document presents a Landscape Ecological Design Strategy (LEDS) in relation to the following consented development:

- Application Number: 2021/62/90800/W (Kirklees Council).
- Date of Decision: 20 August 2025.
- Proposal: Redevelopment And Change of Use of Former Mill Site to Form 19 Residential Units
- At: Hinchliffe Mill, Water Street, Holmbridge, Holmfirth, HD9 2NX.

1.1.1.2 This LEDS has been prepared in relation to Condition 31 which states:

- *"31) Development shall not commence until a Landscape Ecological Design Strategy (LEDS) is submitted to and agreed in writing by the Local Planning Authority. The LEDS shall:*
  a) Detail how 8.64 habitat units (as per the Biodiversity Metric dated 31/10/2022) are to be achieved post-development;
  b) Set out on-site provision for roosting bats and nesting bird as detailed in the Ecological Impact Assessment (Quants, 1504c rev 2, 24/08/2022); and
  c) Hard and soft landscaping design.
- *The proposed works of the LEDS shall also include the following details:*
  d) Purpose and conservation objectives for the proposed works;
  e) Review of site potential and constraints;
  f) Detailed design(s) and/or working method(s) to achieve stated objectives;
  g) Extent and location / area of proposed works on appropriate scale maps and plans;
  h) Type and source of materials to be used where appropriate, e.g. stone setts and/or native species of local provenance;
  i) Specifications of tree pits or root barriers for trees within drainage easements;
  j) A timetable for implementation demonstrating that works are aligned with the proposed phasing of development;
  k) Persons responsible for implementing the works;
  l) Details of initial aftercare and long-term maintenance;
  m) m) Details for monitoring and (where the results from monitoring show that conservation aims and objectives of the LEDS are not being met) how contingencies and/or remedial action shall be identified, agreed and implemented so that the development still delivers a measurable biodiversity net gain;
  n) n) Details for disposal of any wastes arising from works; and
  o) o) A Landscape Management Plan to include details of initial aftercare and long-term maintenance for minimum of five years. This shall also include any existing trees and vegetation retained on site, plus management of the mill pond.
- *The LEDS shall be implemented in accordance with the approved details and all features shall be retained in that manner thereafter.*

1.1.1.3 A Construction Ecological Management: Biodiversity (CEMP: Biodiversity) is presented separately[1].

1.2 Aims

1.2.1.1 The aims of this LEDS are to present details of the following:

- Proposed habitat retention, creation and enhancement.
- Measures to deliver the Target Biodiversity Units including management.
- Bat boxes.
- Bird boxes.
- Dark corridors.
- Proposed monitoring.
- Management responsibilities.

[1] Quants Environmental Ltd. (2025). Hinchliffe Mill, Holmbridge, HD9 2NX. Construction Environmental Management Plan (CEMP: Biodiversity). Ref. 1507e. November 2025.

- Timetable for implementation including a monitoring schedule and remedial measures.

1.3 Personnel

1.3.1.1 This LEDS has been prepared by Toby Fisher MCIEEM CEnv; a suitably qualified ecologist with over 20 years' experience of ecological consultancy in the UK.

1.3.1.2 Referring to Condition 31 (see above), the following items have been prepared by Barnes Walker and are presented separately:

- c) Hard and soft landscaping design.
- h) Type and source of materials to be used where appropriate, e.g. stone setts and/or native species of local provenance;
- i) Specifications of tree pits or root barriers for trees within drainage easements;
- l) Details of initial aftercare and long-term maintenance;
- o) A Landscape Management Plan to include details of initial aftercare and long-term maintenance for minimum of five years. This shall also include any existing trees and vegetation retained on site, plus management of the mill pond.

1.4 Reference Documents and Drawings

1.4.1.1 Where relevant, key information from the below documents is summarised in this LEDS:

- Biodiversity Metric 3.1. Hinchliffe Mill. Version 1. Assessment date: 31.10.2022.
- Quants Environmental Ltd. Hinchliffe Mill, Holmfirth, HD9 2NX. Ecological Impact Assessment. Ref 1504c, Rev 2, 24/08/2022.

Figure 1. Site Location

2 Review of Site Potential and Constraints

2.1 Sources of Baseline Information

2.1.1.1 Baseline information is taken from the following document:

- Quants Environmental Ltd. Hinchliffe Mill, Holmfirth, HD9 2NX. Ecological Impact Assessment. Ref 1504c, Rev 2, 24/08/2022.

2.2 Internationally / Nationally Protected Sites

2.2.1.1 Rake Dike SSSI (Site of Special Scientific Interest) is a geological SSSI located approximately 1.91 km south-west of the site.

2.2.1.2 There is one site within 2 km of the site which is comprehensively designated as a SSSI/SAC/SPA[2]. The site is located approximately 1.93 km south of the site and is designated as follows:

- Dark Peak SSSI
- South Pennine Moors SAC
- Peak District Moors (South Pennine Moors Phase 1) SPA.

2.3 Locally Designated Sites

2.3.1.1 WYES confirmed the presence of five Local Wildlife Sites (LWS) within 2 km of the site:

- Malkin House Wood LWS approximately 260 metres north-east of the site.
- Carr Green Meadows Holmbridge LWS approximately 570 metres north-west of the site.
- Yateholme Reservoirs and Plantations LWS approximately 695 metres south-west of the site.
- Digley Reservoir / Marsden Clough LWS approximately 725 metres south-west of the site.
- New Laithe Fields Holmbridge LWS approximately 850 metres north-west of the site.

2.4 Other Non-Statutory Designations

2.4.1.1 WYES confirmed the presence of several areas of Kirklees Wildlife Habitat Network (KWHN) within 2 km of the site; the mill pond within the site and the River Holme along the northern edge of the site are included within the KWHN.

2.4.1.2 WYES confirmed that there are no areas of woodland listed on the West Yorkshire Ancient Woodland Inventory within 2 km of the site.

2.5 Habitats

2.5.1.1 The following habitat types are present at the site:

2.5.2 Bare Ground, Hard Standing and Walls

2.5.2.1 The bare ground, hard standing and walls at the site are largely devoid of vegetation except for sparse vegetation comprising species such as silver birch *Betula pendula*, Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra*, red valerian *Centranthus ruber*, groundsel *Senecio vulgaris*, creeping bent *Agrostis stolonifera*, creeping buttercup *Ranunculus repens*, false oat-grass *Arrhenatherum elatius*, ribwort plantain *Plantago lanceolata*, spear thistle *Cirsium vulgare*, smooth sow-thistle *Sonchus oleraceus,* foxglove *Digitalis purpureum,* hart's-tongue fern *Asplenium scolopendrium,* common nettle *Urtica dioica,* sycamore *Acer pseudoplatanus,* ivy-leaved toadflax *Cymbalaria muralis* and creeping thistle *Cirsium arvense*.

[2] SSSI = Site of Special Scientific Interest; SAC = Special Area of Conservation; SPA = Special Protection Area.

2.5.3 Ephemeral / Short Perennial

2.5.3.1 Ephemeral / short perennial vegetation has become established on former bare ground in the eastern part of the site. Species present include common bent *Agrostis capillaris*, red fescue, spear thistle, broad-leaved dock *Rumex obtusifolius*, Yorkshire fog*,* butterfly bush *Buddleja davidii*, tufted hair-grass *Deschampsia cespitosa,* common ragwort *Senecio jacobaea*, silver birch, ribwort plantain, greater willowherb *Epilobium hirsutum,* rosebay willowherb *Chamerion angustifolium* and bramble *Rubus fruticosus* agg.

2.5.4 Semi-improved Grassland

2.5.4.1 Semi-improved grassland at the site is unmown and supports species including cock's-foot, Yorkshire fog, yarrow *Achillea millefolium,* tufted hair-grass, red clover *Trifolium pratense,* creeping buttercup, common bent, ribwort plantain, creeping thistle, common ragwort, soft rush, grey willow, bramble, foxglove, creeping bent, soft rush Juncus effusus, common mouse-ear *Cerastium fontanum* and white clover with toad rush *Juncus bufonius* present in waterlogged areas.

2.5.5 Broad-Leaved Trees and Semi-Natural Woodland

2.5.5.1 Broad-leaved trees and semi-natural woodland is dominated by sycamore and goat willow Salix caprea with occasional ash *Fraxinus excelsior* and alder *Alnus glutinosa*. Where the trees form a closed canopy, the ground flora and shrub layer includes bramble, common nettle, male fern, cock's-foot, dog rose *Rosa canina*, opposite-leaved golden saxifrage *Chrysosplenium oppositifolum*, hogweed *Heracleum sphondylium*, tufted hair-grass, holly Ilex aquifolium, creeping buttercup and honeysuckle *Lonicera periclymenum*. Within the woodland in the southern part of the site (Target Note 1, Figure 3), a channel of flowing water upto approximately 30cm wide and 2-3cm deep flowed through the woodland.

2.5.6 Scrub

2.5.6.1 Scrub is abundant at the site and is generally dominated by grey willow *Salix cinerea*. Additional woody species present include bramble, ash, butterfly bush, silver birch and sycamore.

2.5.7 Open Water (Flowing)

2.5.7.1 The River Holme flows west to east along the site's northern boundary. At the time of the survey, the water was fast flowing with boulders and stones present and the channel held water approximately 6 metres wide and upto 50 cm deep. Species present at the margins include bramble, greater woodrush *Luzula sylvatica*, common nettle, greater willowherb, grey willow, sycamore, soft rush, rosebay willowherb, holly and pendulous sedge *Carex pendula*.

2.5.8 Open Water (Still)

2.5.8.1 The mill pond within the site extends to approximately 2400 square metres (part of this open water area is covered with scrub). No submerged vegetation was observed at the time of the survey. Species present at the margins include grey willow, soft rush, goat willow, hawthorn, purple loosestrife *Lythrum salicaria* and tufted hair-grass.

2.6 Invasive Weeds

2.6.1.1 One invasive weed listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (Sch 9 WCA) was recorded at the site: a small area of variegated yellow archangel *Lamiastrum galeobdolon* subsp*. argentatum* is present to the south of the mill pond. The previous survey[3] identified small areas of Japanese knotweed *Fallopia japonica,* Himalayan balsam *Impatiens glandulifera* and cotoneaster *Cotoneaster horizontalis* within the site and it is possible that an update

[3] Whitcher Wildlife Ltd. (2020). Hinchcliffe Mill, Holmfirth. OS Ref: Se 12721 07089. Extended Phase I Habitat Survey. Ref No: 200829. Date: 21st August 2020

survey during May-September would identify the continued presence of these Schedule 9 species within the site.

2.7 Great Crested Newt

2.7.1.1 The on-site mill pond was subject to an eDNA survey Great Crested Newts in 2021. The result was negative and it is considered that GCN are likely absent from the site. Common Toads are known to breed in the mill pond on the site.

2.8 Birds

2.8.1.1 During breeding bird surveys conducted at the site in Spring 2021, a total of 35 bird species were recorded including five species listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as Species of Principal Importance for the conservation of biodiversity in England[4]: bullfinch, dunnock, house sparrow, song thrush and starling. Of these, bullfinch (1 pair), dunnock (3-4 pairs) and song thrush (2 pairs) probably bred within the site. House sparrow and starling appear to nest in houses outside the site boundaries.

2.8.1.2 Five species which are Red listed as Birds of Conservation Concern[5] (BoCC) were recorded: grey wagtail, house sparrow, mistle thrush, song thrush and starling. Of these, grey wagtail (1 pair) and song thrush (2 pairs) possible/probably bred within the site. Five Amber list species were recorded: bullfinch, dunnock, dipper, mallard and willow warbler.

2.8.1.3 Overall, the site supports a typical mix of farmland, woodland, wetland and urban fringe species. No species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) such as kingfisher or barn owl were recorded.

2.8.1.0 No species listed as Qualifying Features for Peak District Moors (South Pennine Moors Phase 1) SPA (merlin; European golden plover; short-eared owl) were recorded within or adjacent to the site during the surveys.

2.9 Bats

2.9.1.1 Previous surveys undertaken at the site[6] identified two common pipistrelle bats entering and leaving from the eaves in the north-west corner of the mill building on 24th June 2010. During a dusk emergence survey on 15th September 2010, two common pipistrelle bats were seen to emerge from two separate locations behind the gutter at the south-west corner of the building[4]. On 6th September 2017, bat droppings were found scattered on the first floor of the mill building and this was attributed to bats foraging within the building. The previous report[6] states that during a dusk emergence survey on 6th September 2017, 3x common pipistrelle bats emerged from the eaves of the mill building; one at the south-east corner of the building; two from above the fifth window on the west side; one from the eaves at the southern end (it is noted that this totals 4 bats; not 3). On 6th September 2017, a high level of common pipistrelle foraging activity was recorded around the mill building (including bats flying in and out through the mill windows) and Daubenton's bats were recorded foraging along the river. During a dawn survey on 22nd September 2017, no bats were seen to enter or exit the mill building. During a daytime inspection survey on 17th August 2020, no evidence of bats was observed within the building or on the exterior[6]. During a dusk emergence survey on 17th August 2020[6], a high level of common pipistrelle foraging activity was observed, particularly around the mill itself; two common pipistrelle bats emerged from the south-west corner of the mill (one emerged from the eaves

[4] Species / Habitats listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as Species of Principal Importance for the conservation of biodiversity in England.

[5] Amber / Red List as defined in: Eaton, M.A., N.J. Aebischer, A.F. Brown, R.D. Hearn, L. Lock, A.J. Musgrove, D.G. Noble, D.A. Stroud & R.D. Gregory. 2015. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 108: 708-746.

[6] Whitcher Wildlife Ltd. (2020). Hinchcliffe Mill, Holmfirth. OS Ref: Se 12721 07089. Extended Phase I Habitat Survey. Ref No: 200829. Date: 21st August 2020.

between the 3rd and 4th windows on the western side of the mill and one possibly emerged from the north-west corner of the mill).

2.9.1.2 During the survey on 7th January 2021, no evidence of bats was identified at the site. The mill building remains as previously described, i.e. a large derelict two/three storey stone building (approx 50 x 17 metres) with a hipped-gable roof covered with stone-slates and lined with a lath-and-plaster lining. There are multiple direct flight paths to the interior of the building via broken windows and open doorways. There are multiple potential bat roost features within the roof structure, e.g. gaps at the eaves and gaps beneath roof stone-slates. The masonry is generally well-sealed otherwise, although there a small number of potential bat roost features within areas of external masonry and in gaps over doorways etc.

2.9.1.3 The mill building is considered to be a confirmed bat roost, with a maximum of 4x common pipistrelle bats having been recorded roosting in the building in 2017.

2.9.1.4 The walls alongside the River Holme and along the south side of the mill pond provide potential bat roost features. The walls elsewhere at the site appear to be unsuitable for roosting bats due to the absence of suitable roost features. The bridge over the River Holme to the north of the mill building could also support bat roosts, although it was not possible to safely inspect the underside of the bridge on 7th January 2021 due to health and safety considerations.

2.10 Otter and Water Vole

2.10.1.1 Despite specific searches and static video camera surveys, no evidence of otter or water vole was observed within or adjacent to the site.

2.11 Other Fauna

2.11.1.1 No evidence of Badger or Hedgehog has been recorded at the site. Hedgehog could potentially occur at the site and there is potential for Badger to colonise the site and excavate a new sett.

3 Purpose and Conservation Objectives

3.1 Purpose

3.1.1.1 The purpose of this LEDS is to set out the following:

- Proposed habitat retention, creation and enhancement.
- Measures to deliver the Target Biodiversity Units including management.
- Provision of bat boxes and bird boxes.
- Proposed monitoring and remedial measures.
- Management responsibilities.
- Disposal of wastes.
- Timetable for implementation including a monitoring schedule and remedial measures.

3.2 Target Biodiversity Units

3.2.1.1 As detailed in the submitted Metric spreadsheet[7], habitat retention, enhancement and creation will be as shown in Tables 1 and 2 below.

3.2.1.2 Habitats delivering zero units are not shown, e.g. Developed land; sealed surface.

Table 1. Existing Habitats to be Retained / Enhanced

Existing Habitat Type (condition)	Existing Area (ha)	Retained (ha)	Enhanced (ha)	Enhanced habitat type (target)	Habitat Units delivered
Ponds (Non- Priority Habitat) (moderate)	0.1972	0.1972	0	n/a	1.58
Mixed scrub (moderate)	0.5245	0	0.5245	Mixed scrub (good condition)	6.08
Total					7.66

Table 2. Proposed Habitats to be Created

Proposed Habitat Type (condition)	Proposed Area (ha)	Habitat Units delivered
Other neutral grassland (moderate)	0.0275	0.18
Mixed scrub (good)	0.0281	0.24
Bioswale (moderate)	0.0386	0.10
Vegetated garden (condition assessment n/a)	0.2395	0.46
Total		0.98

[7] Biodiversity Metric. Project name: Hinchliffe Mill. Date of metric completion: 31/10/2022.

4 Bat Boxes and Bird Boxes

4.1.1.1 As detailed separately in the Landscape and Ecological Design Strategy drawing, and in accordance with the Ecological Impact Assessment[8], the following bat boxes and bird boxes will be provided at the site:

- On Cross Mill building:
  - 4x bat boxes on Cross Mill building (model: Greenwoods Single Crevice Box[9] or similar). Each box will be attached to the building at least 4 metres above ground level with a clear flight path to the entrance, away from artificial lighting and not directly above a window.
  - 4x Sparrow terraces (model: Schwegler 1SP sparrow terrace[10] or similar). Each box will be attached to the building at least 2 metres above ground level, on an aspect between east, north and west (not south) and not directly above a window.
  - 4x Swift bricks (model: Vivaro NK GZ 10 Swift facade nesting box[11] or similar). Each box will be attached to the building at least 4 metres above ground level, on an aspect between east, north and west (not south) and not directly above a window.
- On retained trees/shrubs:
  - 4x bat boxes (model: Greenwoods Single Crevice Box[12] or similar). Each box will be attached to the main stem of a mature tree at least 4 metres above ground level with a clear flight path to the entrance unobstructed by branches / foliage.
  - 4x open-fronted bird boxes (model: Schwegler 2H nest box[13] or similar). Each box will be attached to the main stem of a tree or shrub within dense vegetation.
  - 4x hole-entrance bird boxes (model: Schwegler 32 mm nest box[14] or similar). Each box will be attached to the main stem of a tree or shrub at least 2 metres above ground level.

4.1.1.2 The locations of boxes have been selected for suitable habitat away from sources of disturbance. The boxes will be installed according to the manufacturer's instructions. After appropriate installation, no management or monitoring is required.

[8] Quants Environmental Ltd. (2022). Hinchliffe Mill, Holmbridge, HD9 2NX. Ecological Impact Assessment. Ref. 1504c rev 2, 24/08/2022.

[9] https://www.greenwoodsecohabitats.co.uk/shop

[10] https://www.wildcare.co.uk/schwegler-1sp-sparrow-terrace.html

[11] https://vivarapro.com/product-category/swifts/

[12] https://www.greenwoodsecohabitats.co.uk/shop

[13] https://www.wildcare.co.uk/open-front-bird-box.html

[14] https://www.wildcare.co.uk/schwegler-1b-bird-box-32.html

5 Measures to Retain, Enhance and Create Habitats

5.1 Retention

5.1.1.1 Prior to the start of ground works, a SQE will undertake a site visit with the Site Manager to confirm the location and extent of all habitats to be retained (see Table 1 above and Figure 2 below). Where appropriate, exclusion zones will be demarcated around such areas.

5.2 Enhancement

5.2.1.1 This section details Management Actions and Condition Assessment for the following enhancement (see Figure 2):

- Mixed scrub (Target Condition: Good) 0.5245 ha Enhanced from Mixed scrub (moderate condition).

5.2.2 Mixed Scrub (Target = Good Condition; 0.5245 ha)

5.2.2.1 0.5245 ha of Mixed Scrub at the site will be enhanced from Moderate to Good condition. The key aims of Mixed Scrub enhancement and management are as follows:

- There are at least three native woody species.
- No single species comprises more than 75% of the cover.
- Seedlings, saplings, young shrubs and mature shrubs are all present.
- Absence of invasive non-native plant species.
- Species indicative of suboptimal condition make up less than 5% of ground cover.
- The scrub has a well-developed edge.
- There are clearings, glades or rides.

5.2.2.2 Supplementary planting will involve shrubs planted as 'whips' where appropriate to supplement the retained scrub vegetation. Each shrub will be planted using the standard ‘slit planting’ technique during the winter months (November to March) and will be fitted with a rabbit guard where considered appropriate (the use of bio-degradable rabbit guards will be considered). 5 years after planting, any rabbit protection measures will be removed. Trees to be planted ASAP upon receipt from supplier and ‘heeled-in’ before planting if necessary. The trees will be of native British stock and provenance and will be sourced from a reputable supplier. A list of reputable suppliers of suitable native trees can be found at: http://www.floralocale.org/HomePage

5.2.2.3 Suitable species for supplementary planting

- *Acer campestre* Field Maple
- *Cornus sanguinea* Dogwood
- *Corylus avellana* Hazel
- *Crataegus monogyna* Hawthorn
- *Ligustrum vulgare* Wild Privet
- *Lonicera periclymenum* Honeysuckle
- *Malus sylvestris* Crab Apple
- *Prunus avium* Wild Cherry
- *Quercus robur* Pedunculate Oak
- *Rosa canina* Dog Rose
- *Sambucus nigra* Elder
- *Sorbus aucuparia* Rowan
- *Viburnum opulus* Guelder Rose.

5.2.2.4 In order to create a ‘well-developed edge’ and ‘clearings’, selective trimming of woody vegetation will be undertaken every 5 years; thereby allowing sunlight to reach ground level and enabling a flower-rich sward to develop at the margins and within clearings.

Table 3. Condition Sheet: Mixed Scrub (Target: Good)

Condition Assessment Criteria – Scrub		Criteria Targeted
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Yes
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Yes
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Yes
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Yes
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes
Total criteria targeted		5

Condition Assessment Result	Condition Assessment Score
Passes 5 criteria	Good (3)
Passes 3 or 4 criteria	Moderate (2)
Passes 2 or fewer criteria	Poor (1)

Footnote 1 - Species indicative of sub-optimal condition for this habitat type include: tree-of-heaven Alianthus altissima, holm oak Quercus ilex, turkey oak Quercus cerris, creeping thistle Cirsium arvense, common nettle Urtica dioica, cherry laurel Prunus laurocerasus, snowberry Symphoricarpos spp., buddleia Buddleja spp., cotoneaster Cotoneaster spp., Spanish bluebell Hyacinthoides hispanica (or hybrids).

5.3 Creation

5.3.1.1 This section details Management Actions and Condition Assessments for creation of the following habitat / types[15] (see Figure 3):

- Other Neutral Grassland (Target Condition: Moderate): 0.0275 ha Created.
- Mixed Scrub (Target Condition: Good): 0.0281 ha Created.
- Bioswale (Target Condition: Moderate): 0.0386 ha Created.

5.3.1.2 Condition Assessments are not applicable for the following habitat type:

- Vegetated Garden (Condition Assessment N/A): 0.2395 ha Created.

5.3.2 Other Neutral Grassland (Target = Moderate Condition; 0.0275 ha)

5.3.2.1 As per Table 4 below, the key aims of management are as follows:

- Appearance and composition closely matches characteristics of the targeted grassland type.
- Wildflowers, sedges and indicator species are very clearly and easily visible throughout the sward.
- Cover of Bracken *Pteridium aquilinum* is less than 20%.

[15] Habitats delivering zero units are not shown, e.g. Developed land; sealed surface.

- Combined cover of species indicative of suboptimal condition and physical damage is less than 5%.
- Absence of invasive non-native plant species (as listed on Schedule 9 of WCA).

5.3.2.2 Ground preparation prior to seeding will involve:

- Harrow; and roll to produce a medium tilth and a firm surface.

5.3.2.3 Grassland seeding will involve the following:

- Emorsgate EM3 Special General Purpose Meadow Mixture – this is a seed mixture containing a wide range of species to create a diverse sward. To be sown at approximately 40kg/ha.
- Yellow Rattle *Rhinanthus minor* seed will be added to the EM3 mix at up to 10kg/ha. Yellow Rattle is a hemi-parasite of grasses; this species tends to reduce the vigour of grasses thereby improving the abundance of wild flowers.

5.3.2.4 All seeding work will be carried out in Autumn and when weather conditions are suitable and in accordance with the supplier's instructions[16] (Yellow Rattle seed is best sown in the Autumn as it needs prolonged chilling through the winter to trigger germination the following Spring).

5.3.2.5 First Year Management: After the initial flush of annual weeds from the seedbank, cut the sward in August (approximately 50 mm height) – remove all arisings (e.g. create compost piles at the margins). Consider a further cut or very light grazing in Autumn and/or Spring (50 mm height).

5.3.2.6 Management From Year 2 Onwards: One main late-Summer cut every August (approximately 50 mm height). Leave the 'hay' to dry and shed seed for 1-7 days then remove from site (e.g. compost piles or use as hay). Consider a further cut or very light grazing in Autumn and/or Spring (50 mm height).

5.3.2.7 Emorsgate EM3 Special General Purpose Meadow Mixture comprises the following species (to be supplemented with Yellow Rattle at up to 10kg/ha):

- *Achillea millefolium* Yarrow 0.5%
- *Betonica officinalis* Betony 0.6%
- *Centaurea nigra* Common Knapweed 2.5%
- *Centaurea scabiosa* Greater Knapweed 0.8%
- *Daucus carota* Wild Carrot 1%
- *Filipendula ulmaria* Meadowsweet 0.6%
- *Galium album* Hedge Bedstraw 0.6%
- *Galium verum* Lady's Bedstraw 2%
- *Knautia arvensis* Field Scabious 0.4%
- *Leontodon hispidus* Rough Hawkbit 0.3%
- *Leucanthemum vulgare* Oxeye Daisy 0.6%
- *Lotus corniculatus* Birdsfoot Trefoil 0.5%
- *Origanum vulgare* Wild Marjoram 0.1%
- *Plantago media* Hoary Plantain 0.5%
- *Poterium sanguisorba* Salad Burnet 1%
- *Primula veris* Cowslip 0.4%
- *Prunella vulgaris* Selfheal 2%
- *Ranunculus acris* Meadow Buttercup 2.5%
- *Rhinanthus minor* Yellow Rattle 1%
- *Rumex acetosa* Common Sorrel 0.6%
- *Silene dioica* Red Campion 1.2%
- *Silene flos-cuculi* Ragged Robin 0.2%
- *Trifolium pratense* Wild Red Clover 0.1%
- *Agrostis capillaris* Common Bent 8%.

[16] https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/special-general-purpose-meadow-mixture/

- to be supplemented with Yellow Rattle *Rhinanthus minor* at up to 10kg/ha.

Table 4. Condition Sheet: Other Neutral Grassland (Target Condition: Moderate)

Condition Assessment Criteria – Grassland (Medium, High and Very High Distinctiveness)		Criteria Targeted
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	Yes
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	No
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Yes
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition[1] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Yes
6	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	No
Total criteria targeted		3

Condition Assessment Result – Non-acid grassland types (out of 6 criteria)	Condition Assessment Score
Passes 5 of 6 criteria, including essential criterion 1 and 6.	Good (3)
Passes 3 or 4 of 6 criteria, including essential criterion 1.	Moderate (2)
Passes 0, 1, 2 criteria of 6 criteria; OR Passes 3 or 4 criteria excluding criterion 1 and 6	Poor (1)

Footnote 1 - Species indicative of sub-optimal condition for this habitat type include:

Creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens, cow parsley Anthriscus sylvestris.

5.3.3 Mixed Scrub (Target = Good Condition; 0.0281 ha)

5.3.3.1 The key aims of Mixed Scrub creation and management are as follows:

- There are at least three native woody species.
- No single species comprises more than 75% of the cover.
- Seedlings, saplings, young shrubs and mature shrubs are all present.
- Absence of invasive non-native plant species.
- Species indicative of suboptimal condition make up less than 5% of ground cover.
- The scrub has a well-developed edge.
- There are clearings, glades or rides.

5.3.3.2 Shrubs will be planted as 'whips' at 2 metre spacings; resulting in a planting density of approximately 0.25 trees per m^2. Each shrub will be planted using the standard 'slit planting' technique during the winter months (November to March) and will be fitted with a rabbit guard where considered appropriate (the use of bio-degradable rabbit guards will be considered). 5 years after planting, any rabbit protection measures will be removed. Trees to be planted ASAP upon receipt from supplier and 'heeled-in' before planting if necessary. The trees will be of native British stock and provenance and will be sourced from a reputable supplier. A list of reputable suppliers of suitable native trees can be found at: http://www.floralocale.org/HomePage

5.3.3.3 Proposed species mix:

- *Acer campestre* Field Maple (up to 20%)
- *Cornus sanguinea* Dogwood (up to 20%)
- *Corylus avellana* Hazel (up to 20%)
- *Crataegus monogyna* Hawthorn (up to 20%)
- *Ligustrum vulgare* Wild Privet (up to 20%)
- *Lonicera periclymenum* Honeysuckle (up to 20%)
- *Malus sylvestris* Crab Apple (up to 20%)
- *Prunus avium* Wild Cherry (up to 20%)
- *Quercus robur* Pedunculate Oak (up to 20%)
- *Rosa canina* Dog Rose (up to 20%)
- *Sambucus nigra* Elder (up to 20%)
- *Sorbus aucuparia* Rowan (up to 20%)
- *Viburnum opulus* Guelder Rose (up to 20%).

5.3.3.4 In order to create a 'well-developed edge' and 'clearings', selective trimming of woody vegetation will be undertaken every 5 years; thereby allowing sunlight to reach ground level and enabling a flower-rich sward to develop at the margins and within clearings.

5.3.4 Bioswale (Target Condition: Moderate): 0.0386 ha

5.3.4.1 0.0386 ha of Bioswale will be created. As per Table 5 below, the key aims of management are as follows:

- There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.
- Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.

5.3.4.2 The Bioswale will be seeded as follows:

- Emorsgate EM8 Meadow Mixture for Wetlands – this mix contains species suitable for seasonally wet soils. Suitable for periodically inundated areas which may be well drained in summer. To be sown at approximately 40kg/ha. Seed to be trodden or rolled after sowing.

5.3.4.3 All seeding work will be carried out in Spring or early-Autumn and when weather conditions are suitable and in accordance with the supplier's instructions[17].

5.3.4.4 Emorsgate EM8 Meadow Mixture for Wetlands comprises the following species:

- 0.70% *Achillea Millefolium* – Yarrow
- 0.60% *Agrimonia eupatoria* – Agrimony
- 0.10% *Angelica sylvestris* – Wild Angelica
- 0.20% *Betonica officinalis* – Betony
- 3.20% *Centaurea nigra* – Common Knapweed
- 1.40% *Filipendula ulmaria* – Meadowsweet
- 0.40% *Galium album* – Hedge Bedstraw
- 2.00% *Galium verum* – Lady's Bedstraw
- 0.80% *Lathyrus pratensis* – Meadow Vetchling

[17] https://wildseed.co.uk/product/mixtures/complete-mixtures/meadow-mixtures-for-specific-soils/meadow-mixture-for-wetlands/

- 0.60% *Leontodon hispidus* – Rough Hawkbit
- 1.20% *Leucanthemum vulgare* – Oxeye Daisy (Moon Daisy)
- 0.60% *Lotus corniculatus* – Birdsfoot Trefoil
- 0.10% *Lotus pedunculatus* – Greater Birdsfoot Trefoil
- 1.00% *Medicago lupulina* – Black Medick
- 2.00% *Plantago lancelata* – Ribwort Plantain
- 0.40% Primula veris – Cowslip
- 0.80% *Prunella vulgaris* – Selfheal
- 1.20% *Ranunculus acris* – Meadow Buttercup
- 0.80% *Rhinanthus minor* – Yellow Rattle
- 0.60% *Rumex acetosa* – Common Sorrel
- 0.30% *Sanguisorba officinalis* – Great Burnet
- 0.50% *Silene flos-cuculi* – Ragged Robin
- 0.20% *Taraxacum officinale* – Dandelion
- 0.30% Vicia cracca – Tufted Vetch
- 8.00% *Agrostis capillaris* – Common Bent
- 8.00% *Carex echinata* – Star Sedge (w)
- 30.00% *Cynosurus cristatus* – Crested Dogstail
- 18.00% *Festuca rubra* – Red Fescue
- 1.60% *Hordeum secalinum* – Meadow Barley (w)
- 8.00% *Phleum bertolonii* – Smaller Cat's-tail (w)
- 6.40% *Poa pratensis* – Smooth-stalked Meadow-grass

Table 5. Condition Sheet: Sustainable Drainage System (Target Condition: Moderate)

Condition Assessment Criteria – Urban		Criteria Targeted
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	No
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife). Note that Biodiverse green roofs are exempt from this requirement, and can include non-native sedums, as set out in footnote 1.	Yes
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Yes
4b	The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.	No
Total criteria targeted		2

Results for Bioswale (requiring assessment of 4 criteria):	Condition Assessment Score
Passes 3 of 3 core criteria; AND Meets the requirements for good condition within criteria 2 and 3; AND Passes additional criterion 4a or 4b	Good (3)
Passes 2 of 3 of 4 criteria; OR	Moderate (2)

Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3	
Passes 0 or 1 of 4 criteria	Poor (1)
Footnote 1: For Biodiverse green roofs only - experience has shown that a range of sedums species (native, naturalised, and non-native) support wildflowers during hot periods. Therefore, for Criteria 2 a Biodiverse green roof can have non-native sedums and still achieve Good condition. Footnote 2: For Criteria 3 – For green roof habitat types only - Buddleja davidii should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not be planted and seeded correctly in sub-sequent years.	

6 Monitoring, Remedial, Responsibilities and Waste

6.1 Ecological Monitoring Surveys

6.1.1.1 Habitat Monitoring of the site by a Suitably Qualified Ecologist (SQE) will be undertaken at the following stages:

- Year 3 (after the start of construction activities).
- Year 5 (after the start of construction activities).
- Year 10 (after the start of construction activities).
- Year 20 (after the start of construction activities).
- Year 30 (after the start of construction activities).

6.1.1.2 Each Ecological Monitoring survey will involve the following:

- A UKHab classification survey of the full site.
- Habitat Condition Assessment of the created and retained habitats, including sample plant species lists.

6.1.1.3 After each of the monitoring stages (Years 3, 5, 10, 20 and 30) and before the end of the relevant calendar year, an Ecological Monitoring Report will be submitted to the Local Planning Authority. Each Ecological Monitoring Report will include a review of all habitats against the Target Conditions and will identify any Remedial Measures required in order to meet the Target Conditions listed in this LEDS.

6.2 Remedial Measures

6.2.1.1 Where the results from the monitoring show that the Target Conditions are not being met or not likely to be met by 30 years, Remedial Measures will be detailed in the Ecological Monitoring Report and the remedial action will be implemented so that the development meets the Target Conditions and delivers the required Habitat Units and Hedgerow Units.

6.3 Overall Responsibility

6.3.1.1 Holroyd Homes (The Studio, Rear Of 14 Park Drive, Huddersfield, HD1 4EB) will be responsible for implementing the works detailed in this LEDS.

6.4 Disposal of Wastes

6.4.1.1 Where practicable, any logs / brash from the felling of trees / shrubs at the site will be utilised on site for the creation of log / brash piles for wildlife in shaded locations within retained areas of woodland / scrub. Any other woody materials will either be chipped and spread on site or will be properly disposed of at a licensed waste disposal site.

6.4.1.2 Any non-woody waste materials will be properly disposed of at a licensed waste disposal site

7 Timetable for Implementation

Date (indicative)	Item	Notes
2026 – 2027	Install all bird boxes and bat boxes	On Cross Mill building: 4x bat boxes on Cross Mill building 4x sparrow terraces 4x Swift bricks On retained trees/shrubs: 4x bat boxes 4x open-fronted bird boxes 4x hole-entrance bird boxes
Nov 2026 – Mar 2027	Shrub planting	Native shrub planting to create / enhance Mixed Scrub habitat.
Oct – Nov 2027	Grassland seeding	Harrow and roll to produce a medium tilth and a firm surface. Seed with Emorsgate EM3 Special General Purpose Meadow Mixture (40kg/ha) supplemented with Yellow Rattle seed (up to 10kg/ha) to reduce vigour of grasses.
March/April or Sept/Oct 2027	Bioswale seeding	Emorsgate EM8 Meadow Mixture for Wetlands to be sown in Spring or early-Autumn
2028	Year 1 grassland management	After the initial flush of annual weeds from the seedbank, cut sward in August (50 mm) – remove all arisings. Consider a further cut or very light grazing in Autumn and/or Spring (50 mm).
2029 and annually thereafter	Ongoing grassland management	One main late-Summer cut every August (50 mm). Leave the 'hay' to dry and shed seed for 1-7 days then remove from site. Consider a further cut or very light grazing in Autumn and/or Spring (50 mm)
Nov 2028 – Mar 2029	Replacement shrub planting	12-24 months after initial planting – replacement shrub planting for any which are dead, missing, severely damaged or dying. Replacement plants must be of a similar size and species to the original planting.
2030	Ecological Monitoring Report (Year 3)	Submit Ecological Monitoring Report to LPA within same calendar year.
2032	Ecological Monitoring Report (Year 5)	Submit Ecological Monitoring Report to LPA within same calendar year.
2037	Ecological Monitoring and Progress Report (Year 10)	Submit Ecological Monitoring Report to LPA within same calendar year.
2047	Ecological Monitoring and Progress Report (Year 20)	Submit Ecological Monitoring Report to LPA within same calendar year.
2057	Ecological Monitoring and Progress Report (Year 30)	Submit Ecological Monitoring Report to LPA within same calendar year.

Figure 2. Habitats to be Retained / Enhanced

Figure 3. Habitats to be Created