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Habitat Management Plan

**Tension Control Bolts Ltd.
Clywedog Road South
Wrexham Industrial Estate**

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Contents

1 INTRODUCTION	4
1.1 BACKGROUND	4
2 BASELINE – HABITATS & FEATURES PRE-DEVELOPMENT.....	4
2.1 SPECIES-RICH NEUTRAL GRASSLAND.....	4
2.2 STREAMS, OTHER NATURAL WATERWAYS AND RIPARIAN AREAS.....	6
2.3 PONDS AND OTHER WATER BODIES	6
3 SPECIES AND HABITATS OF SIGNIFICANCE	6
3.1 HABITATS OF PRINCIPLE IMPORTANCE	6

3.2	SENSITIVE OR THREATENED PLANT SPECIES	6
3.3	SENSITIVE OR THREATENED ANIMAL SPECIES	7
4	CONSERVATION AND MANAGEMENT PRACTICES	8
4.2	INITIAL WORKS	8
4.3	AMENITY WORKS AND FURTHER RECOMMENDATIONS	11
4.4	LONG-TERM ANNUAL MANAGEMENT	12
5	MONITORING	12
5.1	SUBMITTAL OF MONITORING REPORTS	12
6	REFERENCES	14
	APPENDIX 1 – WORKS SCHEDULE.....	10
	APPENDIX 2 – HABITAT MANAGEMENT PLAN	13

1 INTRODUCTION

1.1 Background

1.1.1 This updated Habitat Management Plan (HMP) has been produced following completion of a development of industrial units on a plot of land located off Clywedog Road South, Wrexham Industrial Estate. As part of the development and in-line with local planning policy, a section of the site has been dedicated to nature conservation. This HMP details habitat enhancement measures, management practices and monitoring requirements for this nature conservation area, which covers an area of approximately 1ha.

1.1.2 Before the TCB development, the majority of the site's vegetation was described as neutral species-rich grassland. Most of this original vegetation structure has been lost during construction, so it is a priority to maintain and restore what remains. Areas of tall ruderal vegetation remain, dominated by Juncus and Rosebay willowherb, with scattered young trees including Grey willow (*Salix cinerea*) and Pedunculate oak (*Quercus robur*). A ditch is present within the site at the north-west corner and extends part way across the site before entering a culvert. The banks of the ditch are vegetated with trees and dense scrub, notably Hawthorn (*Crataegus monogyna*), Bramble (*Rubus fruticosus*), Grey willow, Blackthorn (*Prunus spinosa*) and Pedunculate oak (*Quercus robur*). The site boundaries are marked by post and wire fences. The western boundary separating the nature conservation area and the adjacent agricultural land is marked by a strip of trees and dense scrub.

1.1.3 The surrounding landscape supports industrial developments to both the north and south; Clywedog Road South fronts the site to the east and agricultural land consisting of improved pasture and arable fields adjoins the site to the west.

2 BASELINE – HABITATS & FEATURES PRE-DEVELOPMENT

2.1 Species-rich neutral grassland

2.1.1 A site appraisal produced by Marches Ecology in 2010, described the site as comprising of neutral grassland with tall-herb vegetation and states that *'broadly, much of the grassland resource is similar in structure and composition, being species rich and with an approximate average sward height of between 0.5m and 0.75m. It is unmanaged and could be described as rank; despite this the grassland is species-rich.'* (Marches Ecology 2010). Neutral species-rich grassland now covers about 10% of the original area; elsewhere it has succeeded to scrub and tall ruderal vegetation and bare ground.

2.2 Streams, other natural waterways and riparian areas

- 2.2.1 A section of ditch runs for approximately 100m along the western site boundary before entering a culvert. The section of the channel within the application site was concrete lined up to a height of approximately 1.5m. The ditch, pre-development was heavily shaded by bank side trees and scrub vegetation and the channel dominated by Duckweed (*Lemna minor*).

2.3 Ponds and other water bodies

- 2.3.1 A balancing pond (as part of a sustainable urban drainage system) has been constructed in the nature conservation area and is approximately 35m x 20m. All sides of this pond are relatively steep and therefore offers little wildlife value. Very little vegetation has colonised the pond margins. The inlet to this pond is fed from rainwater run-off from the car park and other hard-standing, and the outlet pipe runs into the ditch running along the north-west boundary.

3 SPECIES AND HABITATS OF SIGNIFICANCE

3.1 Habitats of principle importance

- 3.1.1 The key habitats within the project site are: neutral species rich grassland, derelict/industrial land, linear aquatic habitats (ditch/stream) and pond.

3.2 Sensitive or threatened plant species

- 3.2.1 A 2009 site survey identified seven plant species thought to be locally scarce, including:
- Cherry plum (*Prunus cerasifera*)
 - Adder's tongue (*Ophioglossum vulgatum*)
 - Prickly lettuce (*Lactuca serriola*)
 - Grass vetchling (*Lathyrus nissolia*)
 - Bristly oxtongue (*Helminthotheca echioides*)
 - Pepper saxifrage (*Silaum silaus*)
 - Hoary ragwort (*Senecio erucifolius*)

3.3 Sensitive or threatened animal species

3.3.1 The following species have been recorded within the nature conservation area:

- Great crested newt (*Triturus cristatus*)
- Grizzled skipper butterfly (*Pyrgus malvae*)
- Kestrel (*Falco tinnunculus*)

3.3.2 The following species are known to occur within Wrexham Industrial Estate and are likely to occur within the nature conservation area:

- Common toad (*Bufo bufo*)
- Dingy skipper butterfly (*Erynnis tages*)
- Barn owl (*Tyto alba*)
- Bats (*Chiroptera* spp.)
- Badger (*Meles meles*)
- Water vole (*Arvicola amphibius*)

4 CONSERVATION AND MANAGEMENT PRACTICES

4.1.1 The above identifies the key habitats and species occurring in and around the nature conservation area, following review of the most up to date results from survey work undertaken in 2009, 2010 and 2015. The following management practices are proposed to enhance and safeguard key habitats, and benefit sensitive or threatened species which may occur on the site. The design and long-term management of the nature conservation area seeks to maintain and enhance wildlife connectivity, following the outline strategy set-out in the Wrexham Industrial Estate Living Landscape Development Project report by North Wales Wildlife Trust.

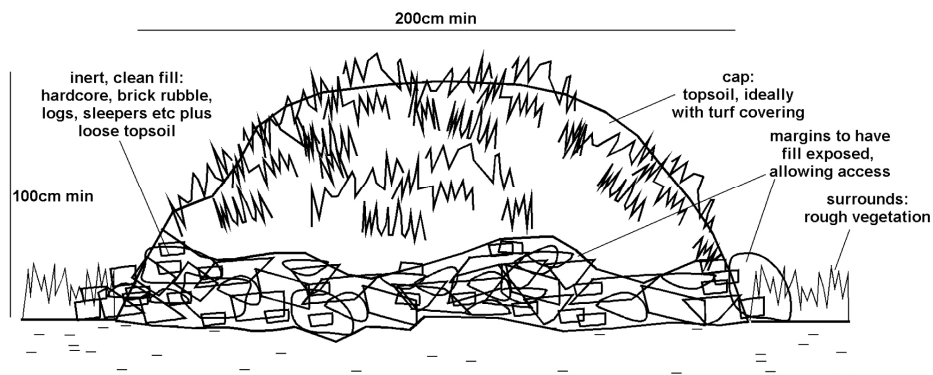
4.1.2 The key habitats that have been identified on the site are species-rich grassland, marshy grassland, scrub, bare ground and pond. These habitats will be managed over a 21 year period to maximise their suitability for protected and conservation priority species which occur on Wrexham Industrial Estate. If no management is undertaken, the site will quickly become overgrown and colonised by tall ruderal and scrub vegetation. The following paragraphs detail the management operations that will be implemented in order to meet the HMP objectives.

4.2 INITIAL WORKS

4.2.1 Grassland management – the grassland will be cut on a three year rotation to provide a mosaic of habitats for invertebrates; short vegetation (<5cm) with bare ground patches, taller vegetation which includes dead flowering spikes for shelter, basking and roosting (a medium sward of 6-12cm, and a taller sward of 13-50cm). The grassland has been divided into three areas (A, B and C) and can be cut with powerscythe and/or brushcutter between the months of October to February, to minimise disturbance to protected species. All arisings will be moved to a designated composting area and can also be incorporated into the amphibian hibernaculum.

- 4.2.2 Scrub management – scrub provides shelter for a range of species and plays an important role in invertebrate mate-location, as well as providing foodplants for later larval stages. Scrub will be cut on a rotational basis as part of the initial cut of grassland section A, and also as part of path maintenance. Ideally, scrub should not cover more than 15% of the site, and will only be cut and removed between the months of December to February, brash should be moved to a designated habitat pile.
- 4.2.3 Bare ground – this habitat should not cover more than 10% of the site, and should be maintained on a rotational basis of four years. This operation should be undertaken between the months of October to February, to minimise disturbance to protected species. Using hand tools or mini-digger, two 10m² scrapes should be created in either grassland section A or B, and another 10m² scrape on the south-facing slope of bank A. The topsoil should be stripped and turned over to expose the subsoil, therefore allowing plant species such as creeping cinquefoil to colonise.
- 4.2.4 Pond management – the existing pond is about 35m x 20m and has steep sides which are not ideal for wildlife. The southern margin of the pond will be re-profiled based on the prescription in the previous HMP. A shallow wetland shelf of less than 30cm will be created; this will encourage a diversity of pond plants which in turn provides egg laying substrate for great crested newts. The new wetland shelf will be planted with locally sourced species, such as: Ragged robin, Soft rush, Meadowsweet, Marsh cinquefoil, Yellow flag iris, Water forget-me-not, Water mint, Mare's tail, Purple loosestrife, Marsh marigold and Cuckoo flower. Strict biosecurity procedures should be followed before selecting and planting introduced pond plants.
- 4.2.5 The spoil from re-profiling the pond can be used in the construction of the new hard-standing path, and/or used to create another bank on the existing bare ground to the east of the pond. The south-facing side of this bank should be profiled to create a vertical 'cliff-like' feature, to benefit solitary bees and wasps.

- 4.2.6 Tree planting – 50 broadleaf trees of local provenance will be planted as whips on bank B. Each tree will be protected with tree guards and stakes and will be maintained in year 2 and year 4 after planting. This will naturally control the encroaching nettles and will improve nesting habitat for birds.
- 4.2.7 Hedge planting – the bank along the site's southern boundary will be planted with a mixed native species hedge: 60% hawthorn, 20% blackthorn, and 20% other native high wildlife value species - hazel, field maple, crab apple, damson, rowan and alder buckthorn. The hedge will be planted as double staggered rows (5 plants per metre), and will be protected with spiral guards and a bamboo stake. The shrubs will be planted as a single row as the grass bank narrows near the fence at Clywedog Road South. This hedge will improve wildlife connectivity between woodland/scrub habitats to the east, and hedges and scrub leading into agricultural land to the west. The area to be planted is approximately 120 m.
- 4.2.8 Amphibian hibernaculum – two artificial hibernacula will be constructed to provide over-wintering refugia for amphibian species. These should follow the design for impermeable soils, as detailed in the Great Crested Newt



- 4.2.9 Bird and bat boxes – the following will be erected on trees at various heights: 3 x hole-entrance nest boxes, 2 x open-fronted nest boxes, 3 x 2F Schwegler bat boxes. Also, if a suitable location can be found, a Kestrel nest box will be installed on the side of one of the factory units.

4.3 Amenity works and further recommendations

- 4.3.1 An amenity path will be constructed to allow private access through the nature conservation area (see map for proposed route). The path will be on raised hard-standing and will be constructed using mini-digger between the months of October and February. A small bridge will be constructed to cross over the ditch at the north east corner. Some scrub will be cleared to make way for this path and access will be maintained over subsequent years by regular pruning along path sides only. This work contributes to the management objectives for priority invertebrate species on Wrexham Industrial Estate such as Grizzled Skipper butterfly.
- 4.3.2 A small picnic area will be maintained by regular, short cutting of vegetation through the summer months. A picnic bench will be installed here.
- 4.3.3 The feasibility of removing the concrete lining from within the ditch has been discussed and would greatly contribute to achieving favourable conservation status for this watercourse. This operation is not a requirement of this HMP but is wholly supported by Wrexham County Borough Council and Enfys Ecology.
- 4.3.4 To create a private 'nature reserve' and to demarcate the boundary of the conservation area, it may be suitable to erect a chestnut paling fence with supporting posts every 5 metres. An access gate would be required for vehicular access.
- 4.3.5 TCB roadside verges and amenity grassland around car park – this area is currently being cut on a regular basis, but a positive conservation measure here would be to leave a two-metre strip uncut until October, to allow native wildflowers to colonise and therefore contributing to invertebrate conservation and further improving wildlife connectivity in this area of Wrexham Industrial Estate.

4.4 Long-term annual management

- 4.4.1 Grassland – follow management calendar, cutting regime split between areas A, B and C. The time of cutting is flexible but should be carried out between the months of December and February. Any litter should be removed from the site during this operation.
- 4.4.2 Scrub – follow management calendar, some scrub clearance as part of grassland cut in area A, as well as part of path maintenance.
- 4.4.3 Pond dredging – to maintain the ecological value of the pond, silt should be removed every 10 years. The next period for dredging is 2025, and then 2035.
- 4.4.4 Maintenance of trees and hedge – in the first, second and third years after planting (2016 - 2018), the planted trees and hedge should be maintained with any formative pruning, watering, replacement of tree guards or stakes. Check for ring barking, check foliage for any signs of pest damage; any failures should be replaced and control any encroaching vegetation. Maintenance work should be carried out between the months of December and February.
- 4.4.5 Scarification – care should be taken to only remove topsoil of an area equating to quarter of an acre. The next period for this operation is 2017.
- 4.4.6 Amenity path and picnic area – pruning of scrub vegetation is permitted only along the path edge and an area of short sward vegetation can be maintained by regular cutting in the designated picnic area only.

5 Monitoring

5.1 Submittal of monitoring reports

- 5.1.1 The nature conservation area will be monitored annually by an appointed ecological consultant. This includes monitoring of the pond for the presence of great crested newt (GCN); this is to inform future site management and derogation reporting. One visit per year is required, and should be consistent with regional and national surveillance schemes (i.e. Amphibian and Reptile Conservation Trust - ARC). An annual monitoring report will be produced detailing the works undertaken, habitat suitability index, head counts, and recording of any factors which may affect GCN conservation status. This data will be kept on file and shared with NRW, WCBC and local/national recording initiatives (ARC).
- 5.1.2 After the third year following commencement of habitat management works [2017], a Habitat Management Report will be issued to WCBC and NRW. This report will detail progress and status of the delivery of the HMP. The report will be accompanied by photographic evidence and shall detail all works and species monitoring undertaken up to that point. The report may be followed by a site meeting. Further progress reports will be issued in years 7 [2021], 15 [2029] and 21 [2035] following the commencement of habitat management works.
- 5.1.3 WCBC, NRW and the appointed ecological consultant will be allowed access to the site to monitor habitat management and ensure compliance is met.

6 References

- English Nature (2001) Great Crested Newt Mitigation Guidelines. English Nature, Peterborough
- Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.
- Habitat Management Plan – Clywedog Road South (on behalf of TC Bolts Ltd.) Avian Ecology, Lower Stretton (2013)
- Ellis, S., Bourn, N. A. D. and Bulman, C. R. (2012) Landscape-scale conservation for butterflies and moths: lessons from the UK. Butterfly Conservation, Wareham, Dorset.

Appendix 1 – WORKS SCHEDULE

Year 1 (2015)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass and scrub cut (area A)												
Tree planting (on bank B)												
Hedge planting (on bank C)												
Pond re-profiling												
Installation of bird and bat boxes												
Hibernaculum creation												

Year 2 (2016)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass cut (area B)												
Pond planting												
Maintain trees and hedge												

Year 3 (2017)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass cut (area C)												
Scarification (total 0.25 acre - including part of bank A)												
Maintain trees and hedge												

Year 4 (2018)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass and scrub cut (area A)												
Maintain trees and hedge												

Year 5 (2019)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass cut (area B)												

Year 6 (2020)

	January	February	March	April	May	June	July	August	September	October	November	December
Grass cut (area C)												

Year 7 (2021)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass and scrub cut (area A)												
Scarification (total 0.25 acre - including part of bank A)												

Year 8 (2022)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area B)												

Year 9 (2023)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area C)												

Year 10 (2024)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass and scrub cut (area A)												

Year 11 (2025)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area B)												
Scarification (total 0.25 acre - including part of bank A)												
Pond dredging												

Year 12 (2026)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area C)												

Year 13 (2027)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass and scrub cut (area A)												

Year 14 (2028)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area B)												

Year 15 (2029)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area C)												
Scarification (total 0.25 acre - including part of bank A)												

Year 16 (2030)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass and scrub cut (area A)												

Year 17 (2031)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area B)												

Year 18 (2032)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area C)												

Year 19 (2033)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass and scrub cut (area A)												
Scarification (total 0.25 acre - including part of bank A)												

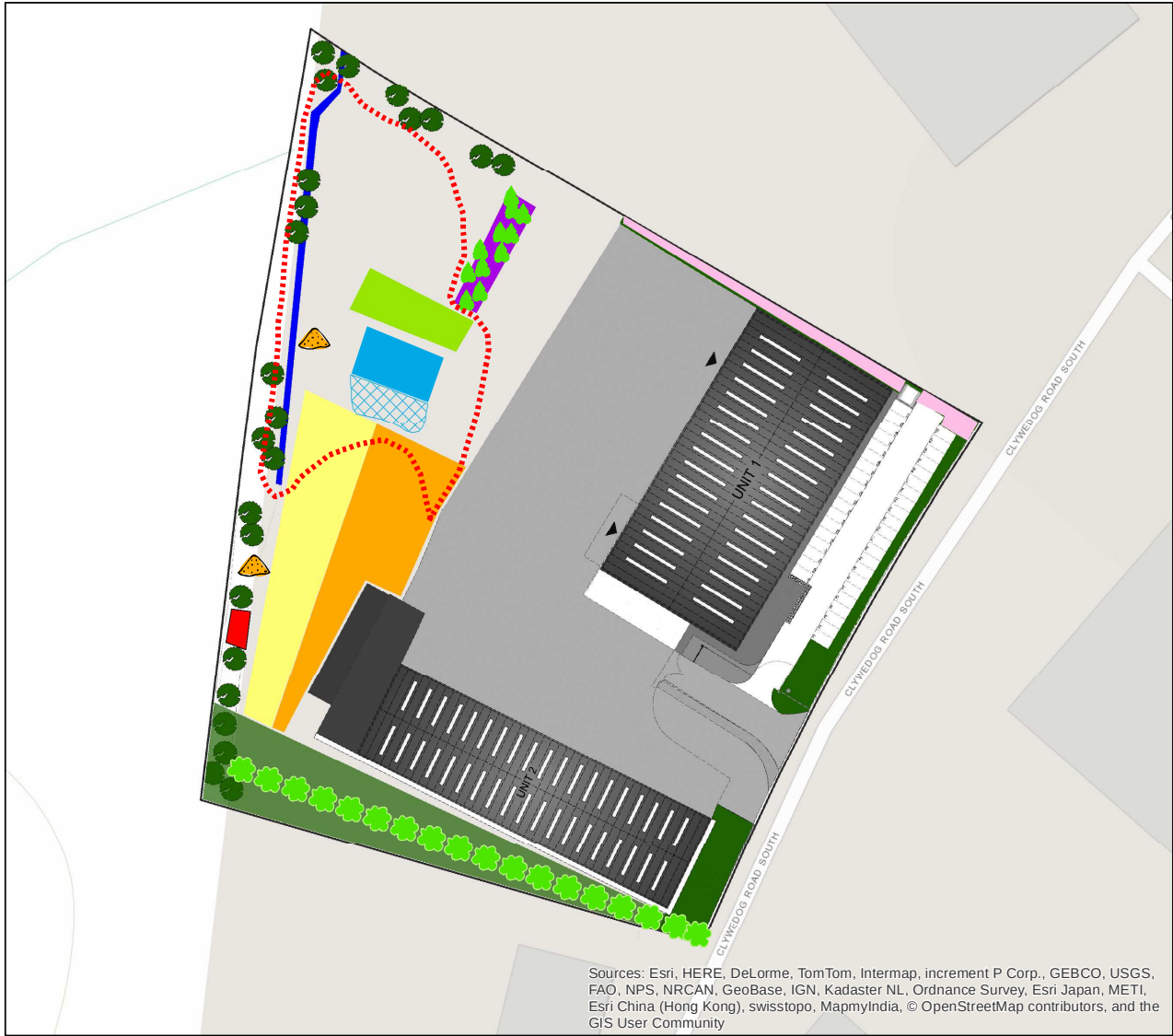
Year 20 (2034)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area B)												

Year 21 (2035)

	January ▼	February ▼	March ▼	April ▼	May ▼	June ▼	July ▼	August ▼	September ▼	October ▼	November ▼	December ▼
Grass cut (area C)												
Pond dredging												

Appendix 2 – HABITAT MANAGEMENT PLAN



Habitat Management Plan

Tension Control Bolts Ltd.
Clywedog Road South
Wrexham Industrial Estate

Legend

- Path
- Tree planting
- ★ Hedge
- ▲ Hibernacular
- Pond
- ▨ Pond re-profile
- Compost heap
- Bank A
- Bank B
- Grassland area A
- Grassland area B
- Grassland area C

Produced from plan by C4 Consulting
LLP Drawing No. 10/036/C/01

