



Gladman Developments Ltd

Land East of the Balk, Pocklington

WATER VOLE REPORT

January 2022

FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

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1.0 NON-TECHINICAL SUMMARY

- 1.1 FPCR were commissioned by Gladman Developments Ltd to carry out an update water vole survey within land east of The Balk in Pocklington, East Riding of Yorkshire. Proposals include the construction of an access road and roundabout to service the proposed development to the north.
- 1.2 Surveys were undertaken previously in 2016 and 2018 for water voles. A further survey was undertaken in May 2021. During the original and updated surveys, no field signs were identified, and the presence of water vole could reasonably be discounted. Therefore, water voles were not considered to be a constraint to the proposed development.
- 1.3 The stream which flows through the site along with the associated riparian vegetation provides potential suitable habitat for a variety of species and adds to the overall habitat diversity of the site. The Development Framework reflects this value with retention and buffering of the stream, which will allow for a green corridor to be maintained in terms habitat connectivity, whilst allowing access for maintenance.
- 1.4 The biodiversity enhancements outlined in the in the Ecological Appraisal, FPCR, 2021 should be followed were possible.

2.0 INTRODUCTION

2.1 The following report has been prepared by FPCR Environment and Design Ltd on behalf of Gladman Developments Ltd. It provides the results of a water vole survey, undertaken at land east of The Balk in Pocklington, East Riding of Yorkshire (central grid reference SE 804 378), hereafter referred to as the 'Site'. This report is intended to update and supplement previous ecological assessments undertaken on the Site and wider area in 2018 and 2016, which were produced in support of a separate planning application^{1,2}.

Site Context

- 2.2 The Site comprises approximately 18.1ha of intensively managed arable habitats and mixed plantation woodland; located to the south of Pocklington, East Riding of Yorkshire. The landscape beyond the site is flat and predominantly rural, comprising largely arable land and pasture with numerous drainage ditches. Residential areas associated with Pocklington are located offsite to the north.
- 2.3 The watercourse (D1) within the Site was surveyed twice in 2016 (02.06.2016 and 12.08.2016) and once in 2018 (22.08.21) for water voles. No evidence of water voles was found during any of these surveys.
- 2.4 Also included within the survey were two ditches (Cocoa Beck and D2) present within the potential link road located to the south of the Site.

Site Proposals

2.5 The Site is related to a planning application lodged for mixed use development on land c.300m to the north (planning ref 18/04097/STOUT). Proposals are for the construction of an access road and roundabout to service the proposed development to the north. The proposed road will run from York Rd (A1079), joining The Balk to the north-east of the Site.

3.0 LEGISLATION

- 3.1 Water voles are fully protected under The Wildlife and Countryside Act 1981 (as amended) (WCA). This makes it an offence to:-
- Intentionally kill, injure or take water voles;
 - Possess or control live or dead water voles or derivatives;
 - Intentionally or recklessly damage, destroy and obstruct access to any structure or place used by water voles for shelter or protection;
 - Intentionally or recklessly disturb water voles whilst they are using such a place;
 - Sell water voles or offer to expose for sale or transport for sale;
 - Publish or cause to publish any advertisement which conveys the buying or selling of water voles.

1 FPCR Environment & Design Ltd (2016) Land East of The Balk, Pocklington- Ecological Appraisal. (planning reference: 16/03253/STOUT)

2 FPCR Environment & Design Ltd (2016) Land East of The Balk, Pocklington- Great Crested Newt Survey Report. (planning reference: 16/03253/STOUT)

- 3.2 Water voles are listed as a Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Water vole are also classed as a priority species within the East Riding of Yorkshire Biodiversity Action Plan (LBAP)³.
- 3.3 If water voles are found to be present and impacts cannot be avoided, then depending on the size of area to be affected a Protected Species Conservation Licence from Natural England may be required and suitable mitigation implemented to ensure this species comes to no detrimental harm during and after development and the scheme results in a conservation benefit to the species.

4.0 METHODOLOGY

Desk Study

- 4.1 In order to compile existing baseline riparian mammal information, the following statutory and non-statutory organisations were consulted in December 2020 for data regarding designated sites for which water voles are the designating feature, as well as any records of the species:
- North & East Yorkshire Ecological Data Centre (NEYEDC); and
 - Natural England via the Multi Agency Geographic Information for the Countryside (MAGIC) website⁴.
- 4.2 The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the Site, as follows:
- 10km around the Site boundary for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites);
 - 2km around the Site boundary for statutory sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs); and
 - 1km around the Site for non-statutory designated sites of County Importance (e.g. Sites of Importance for Nature Conservation (SINCs)/Local Wildlife Sites (LWSs) and protected or otherwise notable species records within the last 20 years.

Field Surveys

- 4.3 An initial habitat assessment was made by an experienced surveyor to determine the suitability of habitats within the Site to support water voles. Habitat requirements were based on those detailed in para 3.3.2 of the Water vole mitigation handbook⁵ and Water vole Field Signs and Habitat Assessment⁶ and include:
- dry areas above water level for nesting, either in burrows or above-ground woven nests;
 - steep bank profiles;
 - suitable bank substrate for burrowing;

³ East Riding of Yorkshire Biodiversity Action Plan Strategy (2010). East Riding of Yorkshire Council.

⁴ [Online]. Available at <http://www.magic.gov.uk/> [Accessed 17/05/2021]

⁵ Dean, M., Strachan, R., Gow, D & Andrews, (2016) The Water Vole Mitigation Handbook. The Mammal Society Guidance Series. Eds F. Matthews & P. Chanin. The Mammal Society, London

⁶ Dean, M, (2021), Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water vole Surveys, Pelagic Publishing

- daily water level fluctuations;
 - herbaceous marginal and bankside vegetation; and
 - suitable water depth.
- 4.4 On the 27th May 2021 an updated presence / absence survey took place in accordance with methods specified within Water Vole Mitigation Handbook (2016)⁷, and involved the identification of evidence of water vole activity within 5m of the banks of the waterbodies and any suitable habitat, including ditches (see Figure 1). This survey was undertaken by experienced ecologists during suitable conditions.
- 4.5 The banks/margins of the waterbodies and suitable habitat were surveyed for evidence of:
- *water voles* – live sightings
 - *latrines* - distinct piles of water vole droppings found near nest sites, at the ranges of territorial boundaries and where the animals enter and leave the water. The presence of droppings is the only field sign which can be used reliably on its own;
 - *burrows* - burrow entrances are typically wider than high with a diameter between 4 and 8cm. Generally, these burrow entrances are located at the water's edge;
 - *feeding stations* - areas with distinct neat piles of chewed lengths of vegetation along pathways or haul out platforms along the water's edge;
 - *footprints* - identifiable prints in soft margins of the watercourse;
 - *runways* - low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations; and
 - *nest balls* – woven vegetation of approximately the size and shape of a rugby ball, usually found within a tuft of vegetation above the water line.

Habitat Assessment

- 4.6 The water Vole Mitigation Handbook outlines that water voles have the following three habitat requirements:
- dry areas above water level for nesting (either in burrows or occasionally in woven nest balls);
 - herbaceous vegetation to provide food and cover; and
 - water (as a means of escape from predators).
- 4.7 This criteria is rationalised in a recently published matrix⁸ which can be used to assess the potential value of habitat for water vole (Table 1).

⁷ Dean, M., Strachan, R., Gow, D & Andrews, (2016) The Water Vole Mitigation Handbook. The Mammal Society Guidance Series. Eds F. Matthews & P. Chanin. The Mammal Society, London.

⁸ Dean M (2021) Water vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys. Pelagic Publishing

Table 1: Assessing the value of habitat for Water voles (Deans, 2021 – Table 21)

Habitat category	Bank Profile	Bank substrate	Variation in water level	Herbaceous vegetation	Water
	Dry areas for burrows or nests				
Optimal (all criteria need to be met)	Steep (approaching 1:1) on at least one side of a watercourse. Steep or shallow banks on static waterbodies or fen-type habitat, where water levels do not fluctuate significantly	Earth or peat	No noticeable variation during the summer months; banks are not overtopped regularly ^a	Continuous swathe of tall and luxurious riparian vegetation providing 90-100% cover on the banks (tall tussocky grassland) and marginal/in-channel vegetation is present (emergent species)	Permanent water
Good (all criteria need to be met)	Steep (approaching 1:1) on at least one side of a watercourse. Steep or shallow banks on static waterbodies or fen-type habitat, where water levels do not fluctuate significantly	Earth or peat bank, or stony/reinforced bank with gaps allowing access to the earth behind	No noticeable variation during the summer months; banks are not overtopped regularly	Continuous swathe of bankside or in-channel (emergent) vegetation providing at least 60% ground cover. May be dominated by grasses and weeds, rather than luxurious riparian vegetation. The vegetation should generally be tall, except in urban or suburban areas, where shorted bankside vegetation may also qualify	Permanent water. Or routinely wet for at least 2-3 months during the summer, and where other 'good' habitat is present in immediately adjacent areas with permanent water
Suitable but poor <i>b</i>	Any habitat that falls short of the criteria to qualify as 'good' but does not meet the criteria of 'negligible value' could reasonably be considered to be suitable but 'poor'				
Negligible value (will generally need to	Shallow profile on both banks	Rocky or gravel, unsuitable for burrowing	Considerable variation in water level – the bank toe can move by	No or limited bankside and marginal vegetation (due to shading or other	n/a

meet the criteria for herbaceous vegetation and at least one other)			more than 1m horizontally over the breeding season	'permanent' factors – note that management can change and is often a 'temporary' factor)	
	Vertical bank face with no burrowing opportunities behind it	Reinforced banks with no gaps	n/a		n/a

^a overtopping once every 5-10 years is likely to be too frequent in most cases; overtopping less frequently than this may also be problematic for water voles.

^b the term 'suitable but poor' is used to avoid the possible misinterpretation of this habitat category opposed to the term 'poor', which some would dismiss as 'unsuitable'.

5.0 RESULTS

Desk Study (Figure 1)

- 5.1 There were no pertinent species records returned from the NEYEDC. One of the national nature conservation importance is located within 2km of the site boundary of the link the Pocklington Canal SSSI is known to have a population of water voles. This is located 870m to the south-west of the potential link road.

Habitat Descriptions

Site

- 5.2 The vast majority of the site comprised a single arable field. The margins consisted of a typically narrow 0.5m band of poor semi-improved grassland and tall ruderal herbs, which along the western boundary widened out to 4m. A strip of mixed plantation woodland, referred to as 'The Duck Belt' on the 1:25000 OS map was recorded to the north-east of the site. A small stream runs from the north-eastern boundary of the site in a south-westerly direction before turning southwards.

Link Road

- 5.3 The vast majority of the site comprises arable fields, which aside from planted crop are devoid of significant vegetation. Margins consisted of a typically narrow 1m band of poor semi-improved grassland and tall ruderal herbs. A c.300m length of young hedgerow is found to which comprises a range of species but was not considered to be import under the Hedgerow Regulations 1997 due do its young age.

Running Water

- 5.4 The following watercourses were assessed for water vole potential, their locations are showing in Figure 2.

D1

- 5.5 The wider site offered no suitable habitat for water voles. At the time of survey in 2021 the channel had a slow flow and held water at a depth of less than 0.5m (a water depth of 0.15-0.2m was recorded in 2018) suggesting some variation in water levels. The bed of the stream was generally silty, with sections featuring a chalk/limestone gravel. Great willowherb *Epilobium hirsutum*. was frequent along the length of the ditch with fool's-water-cress *Apium nodiflorum* being locally frequent and water figwort *Scrophularia auriculata* and floating sweet-grass *Glyceria fluitans* being occasional. The banks of the stream were approximately 2-3m high and comprised of earth, steeply (at least 45°) angled and featured a rough grassland community with scattered elder scrub.

D2

- 5.6 On the eastern edge of the potential link road site is a shallow ditch which extends c.250m along the field boundary. This length has had the bankside vegetation cut, exposing a narrow and shallow channel holding water at max 15cm depth, with an occasionally dry channel. This ditch supports a similar composition of species as described in the arable margins in the Preliminary Ecological Appraisal – Potential Link Road (FPCR, 2020)

Cocoa Beck

- 5.7 To the north-west Cocoa Beck emerges from a culvert which extends to the north, before running roughly south between the boundary of two arable fields, and eventually being culverted under York Road. This stream is steep sided, draining the adjacent arable fields, with dense vegetation comprising of coarse grasses, dense competitive herbs, and occasional self-set trees. Species include abundant greater willowherb *Epilobium hirsutum*, frequent cock's-foot, false oat grass, nettle, hogweed *Heracleum sphondylium*, and willow *Salix sp.*. Aquatic vegetation was limited to occasional fools-water-cress *Apium nodiflorum*.

Habitat Suitability

- 5.8 The wider site is considered to offer negligible value as habitat for water vole as it provides no suitable areas for burrowing or nesting and no water is present.

D1

- 5.9 The channel which runs through the site has steep earth banks (1 in 1, along most of its length) which are suitable for burrowing. It has a continuous swath of vegetation, acting as cover and offering a plentiful food source. Including but not limited to, willowherb species, common nettle *Urtica dioica*, meadow sweet *Filipendula ulmaria*, rushes and sedges. However, although some water has always been present during surveys the levels observed have frequently being found to be below that which is usually preferred by water voles and fluctuate between 0.15-0.5m. It is therefore considered that this likely represents "Suitable but Poor" water vole habitat.

D2

- 5.10 D2 ha steep earth banks (1 in 1) which provides suitable substrate for burrowing, it measured approximately 1-2m wide with a brisk flow. Sufficient vegetation was present for both cover and as

a food source. This included greater willowherb *Epilobium hirsutum*, nettle and meadowsweet. However, because its water level is below that which is usually preferred by water voles at less than 0.15-0.5m and dry in places and does not have suitable connective habitat, it is therefore considered that this represents "Suitable but Poor" habitat.

Cocoa Beck

- 5.11 Cocoa Beck has steep earth banks (1:1) which provides suitable substrate for burrowing, it measured approximately 1-2m wide with a fast flow. Sufficient vegetation was present for both cover and as a food source. This included greater willowherb *Epilobium hirsutum*, nettle and willow *Salix sp.* However, its water level is below that which is usually preferred by water voles at less than 0.5m. It is therefore considered that this represents "Suitable but Poor" habitat.

Field Survey Results

- 5.12 Consistent with the results of the two previous surveys (2016 and 2018), no evidence of water voles such as latrines, burrows or feeding remains were recorded within the survey area in 2021.

6.0 DISCUSSION AND RECOMENDATIONS

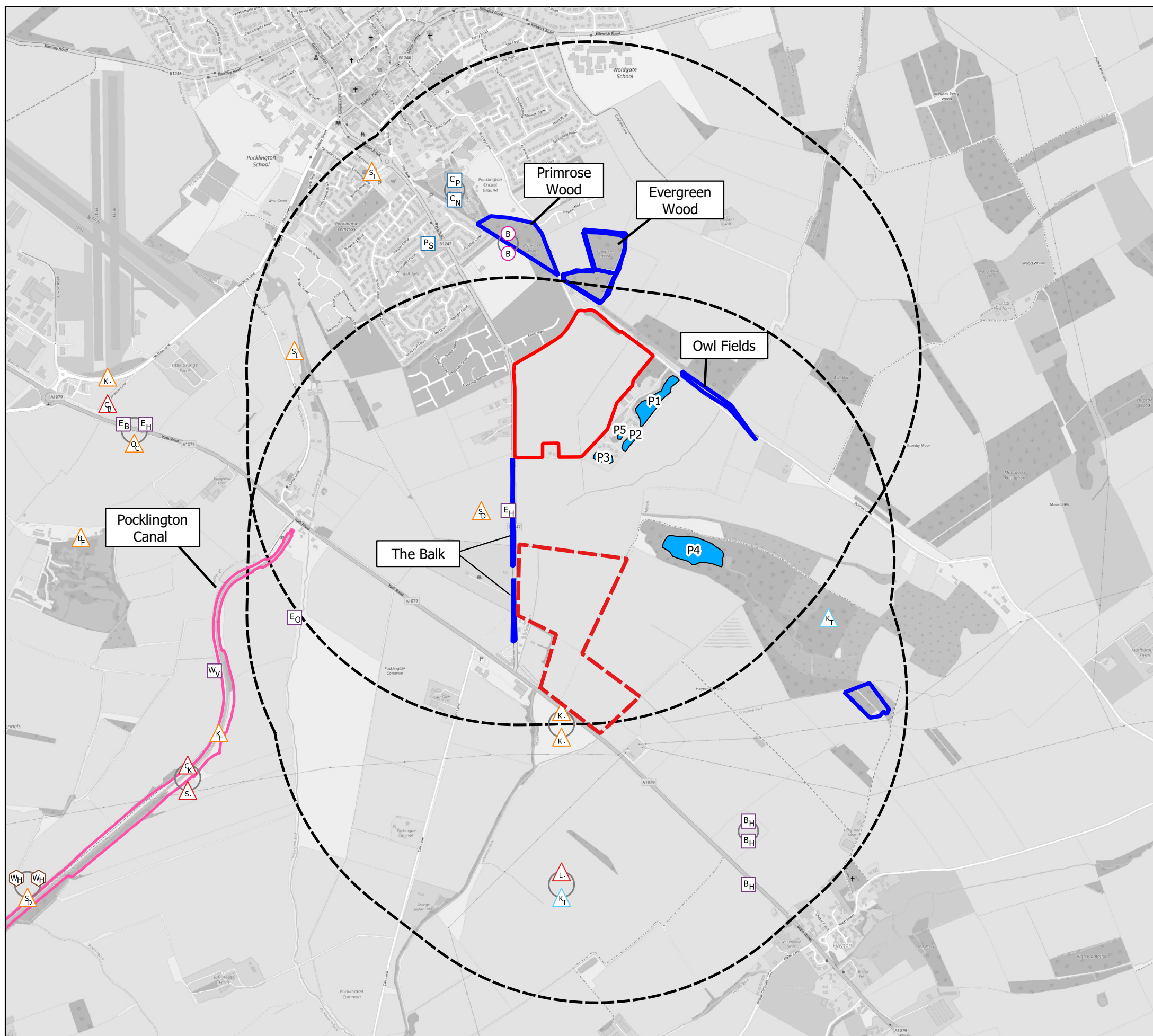
- 6.1 As a species listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), water vole are protected from deliberate or reckless killing, injury or taking, damage or destruction of its places of shelter, and disturbance whilst occupying those places of shelter. Water vole are also a species of principal importance under the NERC Act.
- 6.2 The desk study returned no records of water vole within the 1km of the site, although Pocklington Canal SSSI, which is at a minimum distance of 870m to the south-west is known to support the species.
- 6.3 During the initial site survey undertaken in March 2016 the onsite stream was considered to provide suitable habitat for water voles. However, the subsequent water vole surveys, undertaken late that year together with the updated water vole survey undertaken on the 22nd August 2018 and 27th May 2021 led to the conclusion that the stream provides sub-optimal habitat for water vole due to low water levels. As the development framework indicates that modification to the banks would be required to facilitate two vehicular access routes, information on the likely presence/ absence of water vole and the locations of any burrows was required.
- 6.4 During the original and updated surveys, no runs, burrows, or latrines were identified, and the presence of water vole can be reasonably discounted. Therefore, given the number of surveys that have been undertaken across multiple seasons, water voles were not considered to likely present a constraint to the proposed development.
- 6.5 The stream which runs through the site along with the vegetation associated with it provides potential suitable habitat for a variety of species and add to the overall habitat diversity of the site. Field drainage ditches are also a characteristic feature of the local landscape, and they provide important green corridor functions. The Development Framework reflects this importance with retention and buffering of the stream, which will allow for a green corridor of habitat to maintain connectivity for wildlife along the watercourse, protect the bankside vegetation and will allow access for maintenance. Additional enhancements to this green corridor are proposed through the creation of species rich grassland, two attenuation basins and native structural planting.

- 6.6 The biodiversity enhancements outlined in the in the Ecological Appraisal, FPCR, 2021 should be followed were possible.

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- Site Boundary
- Potential Link Road
- 1km buffer
- Pond
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Sites (LWS)

- Species Records 2020
- C_p Common pipistrelle
 - P_s Pipstrelle species
 - C_N Common noctule
 - E_B Eurasian badger
 - E_O European otter
 - B_H Brown hare
 - W_V Water vole
 - E_H Western European hedgehog
 - K_T Red kite
 - L. Lapwing
 - C_K Cuckoo
 - S. Skylark
 - C_B Corn bunting
 - O_C Oystercatcher
 - S_D Stock dove
 - S_I Swift
 - K_F Kingfisher
 - K. Kestrel
 - B_F Bullfinch
 - W_H White-letter hairstreak butterfly
 - B Bluebell

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project
Land east of The Balk,
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drawing title
SITE LOCATION AND CONSULTATION PLAN

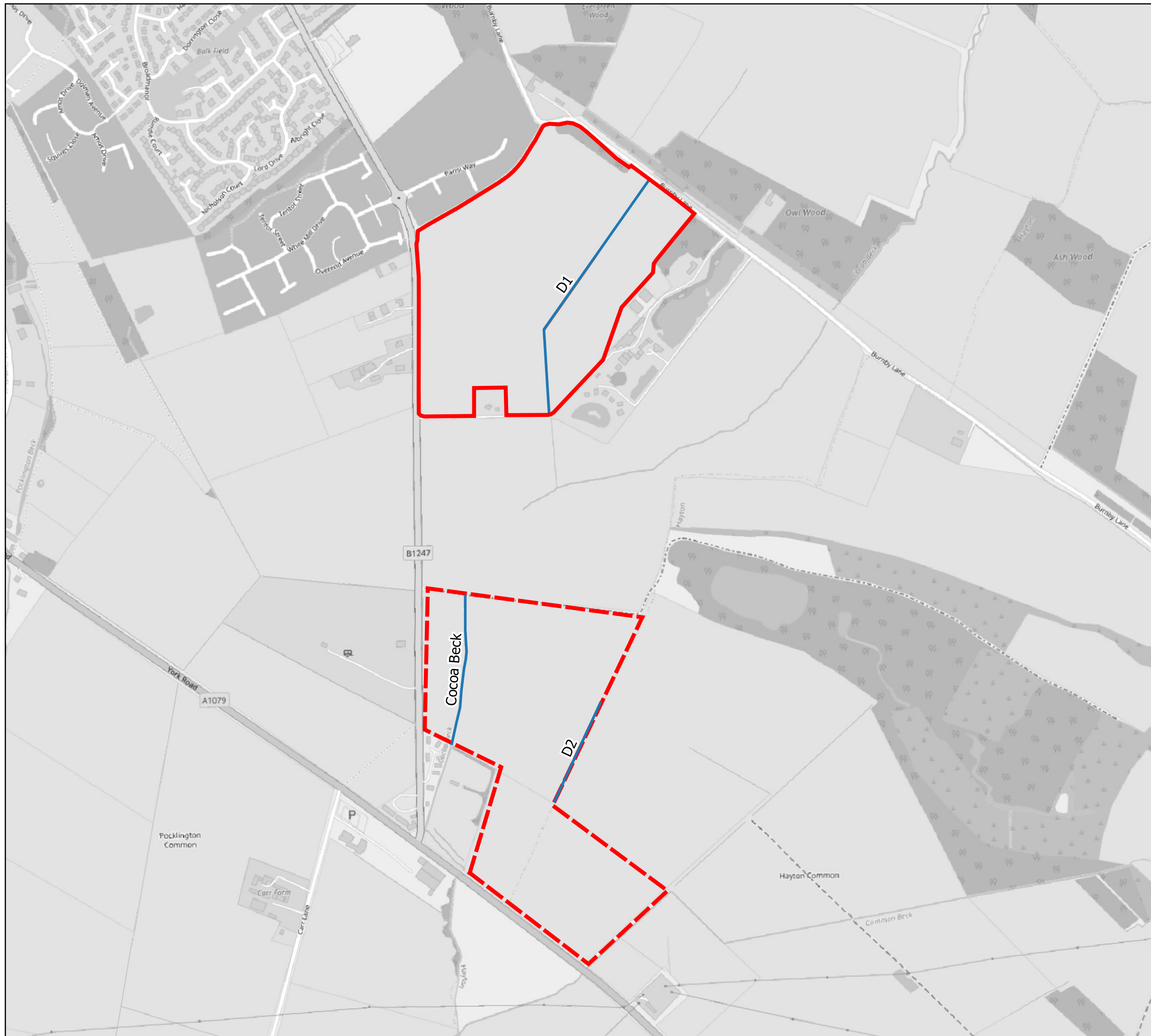
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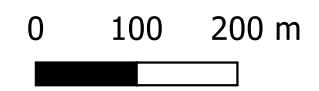


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- Site Boundary
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Water Vole Survey Plan

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Figure 2