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LAND AT CARWIN RISE, HAYLE
Extended Phase 1 Habitat Survey

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A REPORT TO:
Hayle Community Rugby Facilities Ltd
c/o Walker's
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Land at Carwin Rise, Hayle – Extended Phase 1 Habitat Survey

1 Introduction

Tamar Consulting was commissioned by Hayle Community Rugby Facilities Ltd to carry out an ecological assessment of land at Carwin Rise, Hayle, to support a planning application for the development of a rugby pitch and associated clubhouse and changing rooms. An Extended Phase 1 Habitat Survey was thus undertaken, including a search of local records from the Environmental Records Centre for Cornwall and the Isles of Scilly.

2 Site Description

The land at Carwin Rise, Hayle, comprises 18 acres of agricultural land adjacent to the A30 approximately 1 mile east of Hayle. The OS Grid Reference is SW582388. Surrounding land use is agricultural, industrial and urban. The agricultural land is mainly in vegetable and arable production and comprises; medium sized fields bordered by stone faced banks with or without top vegetation. At the time of the survey the site was planted up with cauliflowers in three separate sowings, with the adjacent field in barley, the harvest of which has failed due to inclement weather.

3 Survey Methodology

3.1 Desk study

Ecological records for the site and its surrounds were obtained from the Environmental Records Centre for Cornwall and the Isles of Scilly. The desk study researched all designated nature conservation sites and important habitats and species within a 1km radius of the site. All land designations are given in Appendix I. A summary of species recorded is given in Appendix II.

There are two Sites of Special Scientific Interest within the study area. The Loggans Moor Biological SSSI is situated to the north west of the site, and The Gwithian to Mexico Towans Biological SSSI situated to the north.

There is one Local Nature Reserve in the study area, the Upton Towans LNR.

There is one County Wildlife Site in the study area, Marsh Lane Meadows.

None of the designated sites overlap with the proposed site for development.

3.2 Extended Phase 1 Survey

The Extended Phase 1 Habitat Survey was carried out in accordance with the standardised system developed by the Nature Conservancy Council and published in the 'Handbook for Phase 1 Habitat Survey' (JNCC, England Field Unit & Nature Conservancy Council, 2004).

The survey was undertaken on 7 September 2009 in damp, cloudy weather, but with good visibility. The entirety of the site was easily accessible on foot. A general walkover survey was undertaken to record habitats and species. The survey was carried out towards the end of the season and thus it is possible that some species of flora and fauna may have been missed.

4 Survey Results

4.1 Habitats

The site comprises one entire field and part of an adjacent field. The north edge is bordered by the A30, and the south edge by the Connor Downs minor road named Carwin Rise. The two fields are divided by a stone faced hedgebank. A map of the habitats identified is included in Appendix III.

Tall Ruderal (Phase 1 Code: C.3.1)

A tall ruderal area comprising rosebay willowherb, bramble and gorse exists close to the south west border of the site.

Arable (Phase 1 Code: J.1.1)

The entire field is sown with cauliflowers, and the partial field is in barley that has failed to harvest. The arable margins contain typical arable 'weeds' such as docks, nettles, fat hen and groundsel; and there is evidence of some soil compaction in the headlands.

Intact hedge, species poor (Phase 1 Code: J.2.1.2)

The hedge to the north of the site (bordering with the A30 road) is a 'leggy' hawthorn hedge that has been flailed. It is approximately 2.3m in height, and no more than 1m wide. Some ivy exists at the foot of the hedge. A post and rail fence with netting exists within the hedge.

The hedge dividing the two fields comprises a stone-faced bank with blackthorn growing along the top. The hedgebank is approximately 3m in height, and 1.3m thick. Hart's tongue fern, ivy and meadowsweet are growing on the sides and at the foot of the hedgebank. A mammal 'up and over' (track marking the favoured place where animals traverse the hedgebank) is located approximately 10m from the junction with the northerly hedge (and is marked on the map in Appendix III as Target Note 1). This feature was inspected closely for claw marks, hairs and droppings. None were found, but the scent of fox was observed, and this together with the absence of strong claw marks, and the narrowness of the track, identified the up and over as likely to be used by foxes rather than badgers.

All hedges in the countryside are legally protected under the Hedgerow Regulations 1997 and permission is required from the Local Planning Authority for their removal.

Wall (Phase 1 Code: J.2.5)

The southern boundary is a wall with some vegetation covering the tops and sides. This vegetation includes hart's tongue fern, rye grass and bramble. The wall is approximately 1m high, and 0.5m wide. In places the wall appears to dip down and disappear making the boundary very low to the road.

A full list of species is included as Appendix IV.

4.2 Species

It is considered that the proximity of the A30 road (and to some extent the lesser Connor Downs road) will be a major factor influencing the suitability of the site for many wildlife species. The physical boundary of the carriageway, together with increased noise, lighting, air pollution and a high rate of mortality associated with the road, are likely to inhibit use

Mammals

The desk study found that a number of legally protected mammals occur in the local area, including otter, hedgehog, badger and bats. It is considered unlikely that suitable habitat exists within the site for otters.

Previous records show that badger was last recorded in the area in 2002. Signs of badger presence were not identified at this site.

One record has been made of a Brown Long Eared bat (1991), and an unidentified species of bat (1994) in the area. The absence of buildings, thick mature hedgerows and mature trees offers few roosting, foraging and navigational opportunities. Similarly, the arable fields are unlikely to provide suitable foraging habitats for bats. Aerial photographs of the site and its surrounding environs indicate that there are few mature hedges in the local area which could potentially be used by bats as flight lines or lines connectivity between habitats. Therefore it is concluded that bats are unlikely to use the site for roosting or feeding.

Birds

The desk study found that a number of UK Biodiversity Plan species of bird have been recorded within 1km of the site. These include Barn Owl, Grasshopper Warbler, Wood Warbler, Turtle Dove, Tree Sparrow, Tree Pipit, and House Sparrow.

Some hunting habitat for barn owls might exist around the field margins and in times of lodged crops. But their optimum hunting habitat, rough grassland, is absent from this site, as are nesting opportunities. Some habitat for grasshopper warblers may exist within the tall ruderal vegetation areas. It is considered unlikely that suitable habitat exists for the remaining UK BAP bird species listed.

The northerly and dividing hedge are species-poor and fairly sparse offering little nesting habitat for birds. However the berries from the hawthorn and blackthorn may provide some winter foraging opportunities for many resident and over-wintering species.

All breeding birds are legally protected under the Wildlife and Countryside Act 1981.

Amphibians & Reptiles

Common toad has been recorded from the locality. This species is included on the UK Biodiversity Action Plan list of priority species and receives some legal protection under the Countryside and Rights of Way (CROW) Act 2000 and Natural Environment and Rural Communities (NERC) Act 2006. However, this species is typically found in damp woodland, fields and gardens, and require ponds, wetlands or slow-flowing rivers for their breeding season, and so is unlikely to be found within the site.

Slow worm and adder have also been recorded in the local area. In the UK, all reptile species are legally protected under Schedule 5 of the Wildlife and Countryside Act

1981 (as amended) making it an offence to kill, injure or sell any reptiles. They are also included on the list of UK BAP Priority species and have additional protection under the CRoW Act 2000 and NERC Act 2006.

Reptiles are found in a variety of habitat types, including rough grassland, scrub, woodland edges and sunny banks and slopes. Within the site, the hedges offer some shelter and hibernation sites in the gaps in the banks and holes under tree roots.

Plants

Several noteworthy higher plants have been previously recorded from the local area. The habitats present on the site may be suitable for Night flowering catchfly, purple rampion, fennel, toothed medick, dodder and Deptford pink. None of these species were found during the site survey. However, it is possible that since the survey has been undertaken late in the growing season, that some of these species may have been missed.

Insects

Some habitat may exist in the tall ruderal section for insects such as butterflies and moths (ie Small Phoenix moth). The hedges may support Lackey moths who depend upon hawthorn and blackthorn.

5 Impacts & Mitigation

5.1 Impacts on Habitats

Most of the habitats within the site are of limited wildlife value. The loss of tall ruderal vegetation and arable habitats will have a negligible ecological impact and no mitigation is required for their removal.

However, the hedges are of some wildlife interest and are legally protected under the Hedgerow Regulations 1997.

Hedges

It is understood that the northerly and southerly hedge and wall will be retained, but that the central dividing hedge will need to be removed. This will result in a net loss of habitat.

Mitigation

Liaise with the Local Planning Authority to gain permission to remove the central hedgerow.

Carry out the hedgerow removal over the winter months (October to February), outside the bird nesting season. This will avoid the disturbance to any occupied nests which are legally protected under the Wildlife and Countryside Act 1981.

Re-create the central hedge along the north east perimeter (see map in Appendix V). The stone material should be carefully removed to facilitate rebuilding in the new location. The removed earth and hedging material should be re-used wherever

possible. The top of the hedge should be re-planted with a native mix of hedgerow plants including, principally, blackthorn, hawthorn, holly and hazel.

5.2 Impacts on Species

Species on site

It is considered that the impact of the loss of habitat on species will be low, with the exception of the loss of the hedge. These works might impact upon breeding birds, reptiles and invertebrates.

Mitiation

Carry out the hedgerow removal over the winter months (October to February), outside the bird nesting season. This will avoid the disturbance to any occupied nests which are legally protected under the Wildlife and Countryside Act 1981.

During the translocation of the central hedgerow, the stone material should be carefully removed to avoid killing or injuring reptiles.

Habitat creation – the new hedge and grassland around the proposed rugby pitch will provide areas for wildlife.

SSSI – Bats

Impact of lighting

Artificial lighting can have an adverse impact on bats. Bats emerge from their roosts at night to feed. Higher light levels can impede their foraging behaviour and increase their chances of being preyed upon by birds.

Bats emerge to feed after dark, usually when light levels are 0-4 lux. If light levels are higher, bats delay leaving their roosts, so reducing time available for feeding. Bats are most active during summer months between April and October, and hibernate between November and March. However, even during winter months bats may emerge to feed during periods of mild weather.

Some bat species are able to tolerate higher light levels and are attracted to artificial lights and the high numbers of insects they attract. Pipistrelles, Noctule, Leisler's and serotines frequently swarm around white mercury street lights to feed on the moths, craneflies, midges and lacewings that gather there. Other bats, however, such as Myotis species (which include Brandt's, whiskered, Daubenton's and Natterer's), Barbastelle, long-eared and horseshoe bats, generally avoid lights.

Due to the low numbers of records of bats in the study area, and the lack of suitable foraging areas for them within the proposed site, it is considered unlikely that bat presence would be affected by the proposed lighting of the pitches. Additionally, it is considered that the impact of the lighting in existence on the A30 road will deter bats from the site.

The lighting (for the rugby pitches) will be in use for limited periods during early evening games, this usually being Monday – Friday 7pm until 9pm during the months of October to March. There is a possibility that the lighting will be used during periods of bad visibility on match days in the afternoon.

Due to the lighting being used during winter months only, and for a limited period of time each evening, when bats are hibernating, it is considered unlikely that the lighting will have a significant impact on any bats using the locality, or those using the Loggans Moor SSSI.

Mitigation

It is considered unlikely that bats within the locality of the proposed site will be affected by the proposed flood-lighting of the rugby pitches. However, the following mitigation measures suggested by the Bat Conservation Trust (2007) might be considered.

- 1. Use low pressure sodium lamps or high pressure sodium lamps instead of mercury or metal halide lamps. Keep light levels as low as guidelines permit. Use lamps with glass glazing which helps to filter UV light.*
- 2. Use suitable luminaries to reduce light spillage. Consider the design of the lamp and the use of hoods, cowls, louvers and shields to direct the light to the intended area only. Aim to direct light below the horizontal plane, preferably at an angle of less than 70°.*
- 3. Use asymmetric beam floodlights so that glass is parallel to the ground.*
- 4. Consider creating a screen around the pitches to reduce light spillage, by planting trees and shrubs.*
- 5. Limit lighting times wherever possible.*

The lighting scheme at the proposed site at Carwin Rise, has been designed to keep light levels to a minimum while providing the rugby pitches with adequate illumination.

- The floodlights use metal halide lamps as these are most suitable for sports pitches. Low pressure sodium lamps cannot provide the precise beam control or quality of light required for training facilities. High pressure lamps do produce a suitable quality of light but, as they do not produce a high enough lumen package, almost double the number of floodlights would be required.
- The floodlights have a toughened glass front screen which is designed to reduce UV light.
- The lights use an asymmetric reflector system which minimizes both vertical and horizontal overspill.
- The lighting masts are designed to ensure that the maximum beam angle is below 70°. This follows the recommendations of the Institute of Engineers 'Guidance notes for the reduction of obtrusive light' (2005).

Additionally:

- Lighting times will be restricted to early evenings during the winter months between October and March.

6 Recommendations for future management

Species

The site currently comprises mainly arable land that is likely to receive some pesticides and some nutrient enrichment. This habitat is therefore of limited wildlife value. The proposal to redevelop the site as a rugby ground has the potential to provide new habitat for a variety of wildlife by creating grassy margins around the playing field, new buildings for bats and birds and managing the hedgerows sympathetically.

Recommendations

Hayle Community Facilities Ltd might like to consider allowing some peripheral grassland areas to be left uncut during the summer months to allow wild plants to flower and thus attract insects such as bees and butterflies.

Hayle Community Facilities Ltd might like to consider cutting the hedge at the north of the site every other year to allow the hedge to grow out. Also by leaving the base of the hedge unmown an understorey will build up. Not only will this help to screen the A30, but it may also promote use of the hedge by nesting birds, and use of the understorey by butterflies such as the speckled wood.

Hayle Community Facilities Ltd might like to consider incorporating provision for bats and birds into the new-build design. Leaving gaps under soffit boards, and the occasional use of bat bricks will assist in attracting crevice-dwelling bat species. Bird boxes under eaves and at gable ends may attract nesting birds.

7 Conclusion

Hayle Community Facilities Ltd is applying for permission to change the use of land at Carwin Rise, Hayle from agricultural to amenity. It is proposed that a rugby pitch and associated clubhouse and changing rooms will be created.

The findings of the Extended Phase 1 Habitat Survey have indicated that the site is of low ecological importance. No evidence of species of ecological importance was identified during the site survey, and the lack of wildlife habitat and proximity of the site to the A30 is likely to inhibit the number and diversity of species.

It is concluded that the conversion of the land at Carwin Rise from arable to grassland may assist in the enhancement of the ecology of the site. It is also

concluded that a number of enhancement measures might be undertaken to improve the ecological value of the site.

8 References

Joint Nature Conservation Committee (2007).
www.ukbap.org.uk/PriorityHabitats.aspx

Joint Nature Conservation Committee, England Field Unit & Nature Conservancy Council (2004). *Handbook for Phase 1 Habitat Survey. A technique for environmental audit*. JNCC, Peterborough

Rodwell, J. S. (ed.) 1992. *British Plant Communities. Volume 3. Grassland and montane communities*. Cambridge University Press.

Bat Conservation Trust (2007).

9 Appendices

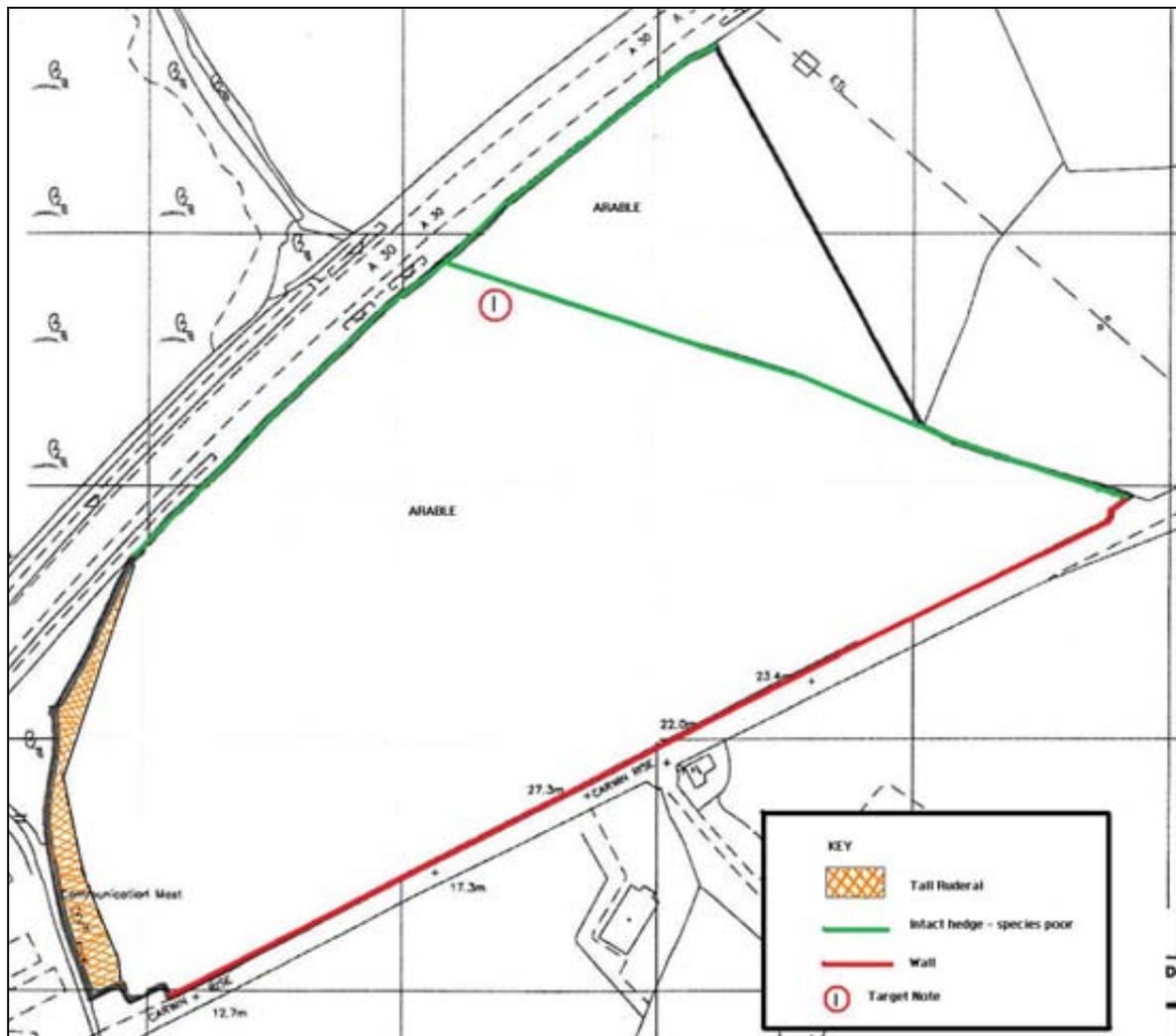
Appendix I - ERCCIS Land Designations
Appendix II - ERCCIS List of Notable Species
Appendix III – Extended Phase 1 Habitat Map
Appendix IV – Survey Species List
Appendix V – Map of proposed enhancements

This report has been produced in good faith, with all reasonable skill, care and diligence based on the information provided and accessible at the time of its preparation and within the scope of the work agreed with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is provided for the sole use of the named client and is confidential to them and their professional advisors.

APPENDIX III – EXTENDED PHASE 1 HABITAT MAP



NB: Target Note relates to 'up and over' on hedgebank, considered to be used by foxes.

APPENDIX IV – SURVEY SPECIES LIST

Annual meadow grass (<i>Poa annua</i>)
Bamboo (<i>Bambusae sp</i>)
Bedstraw sp. (<i>Galium sp.</i>)
Blackthorn (<i>Prunus spinosa</i>)
Bramble (<i>Rubus fruticosus</i>)
Creeping buttercup (<i>Ranunculus repens</i>)
Creeping thistle (<i>Cirsium arvense</i>)
Curled dock (<i>Rumex crispus</i>)
Evening Primrose (<i>Oenothera biennis</i>)
Fat hen (<i>Chenopodium album</i>)
Field Speedwell (<i>Veronica persicaria</i>)
Fleabane (<i>Pulicaria sp</i>)
Gorse (<i>Ulex sp</i>)
Greater plantain (<i>Plantago major</i>)
Groundsel (<i>Senecio vulgaris</i>)
Hart's Tongue Fern (<i>Asplenium scolopendrium</i>)
Hawthorn (<i>Crataegus monogyna</i>)
Hemp agrimony (<i>Eupatorium cannabinum</i>)
Herb Robert (<i>Geranium robertium</i>)
Hoary mustard (<i>Hirschfeldia incana</i>)
Hogweed (<i>Heracleum sphondylium</i>)
Ivy (<i>Hedera helix</i>)
Knot grass (<i>Polygonum aviculare</i>)
Mare's tail (<i>Hippuris vulgaris</i>)
Meadowsweet (<i>Fillipendula ulmaria</i>)
Nettles (<i>Urtica dioica</i>)
Purple loosestrife (<i>Lythrum salicaria</i>)
Red campion (<i>Silene dioica</i>)
Redshank (<i>Persicaria sp</i>)
Ribwort Plantain (<i>Plantago lanceolata</i>)
Rosebay willowherb (<i>Epilobium angustifolium</i>)
Rye Grass (<i>Lolium perenne</i>)
Sea bindweed (<i>Calystegia soldanella</i>)
White Clover (<i>Trifolium repens</i>)
Willow (<i>Salix sp.</i>)
Yarrow (<i>Achillea millefolium</i>)

APPENDIX V – MAP SHOWING SITE OF TRANSLOCATED HEDGEBANK

