



**Ecological Mitigation Strategy: Technical Statement**

**Proposed Food Store: Land at Marsh Lane, Hayle**

**Sainsbury's Supermarkets Ltd and Cranford (Hayle) LLP**

June 2010

## **0.0 EXECUTIVE SUMMARY**

This section identifies the key features and benefits of the revised application with reference to the planning application submitted on 20 November 2009 for a foodstore on the site at Hayle, Cornwall. This application was withdrawn in February 2010 to enable the applicant to consider consultation responses principally relating to retail policy and ecology as well as 3<sup>rd</sup> party objections.

### **WITHDRAWN APPLICATION**

The withdrawn application (ref 09-1273-P registered on 3 December 2009) proposed the following works:

- Foodstore (3,042 sq m net; 4,983 sq m gross and 325 customer car parking spaces)
- Petrol filling station (6 pump islands and 137 sq m gross kiosk)
- Improvements to Marsh Lane, including a new roundabout access serving the foodstore and petrol filling station, road widening, a new signalised pedestrian crossing, enhancements to the roundabout serving the West Cornwall Shopping Park and a new bus lay-by serving the foodstore and the Shopping Park
- Improvements to the A30 Loggans Roundabout comprising part-signalisation, widening, re-alignment and at grade pedestrian/cyclist crossing facilities
- A new bus service between the foodstore and Hayle
- Ecology mitigation including new water features, comprehensive planting and a boardwalk network

### **RESPONSE TO CONSULTATION**

The key issues raised by consultees (Cornwall Council, Cornwall Wildlife Trust, Environment Agency and Natural England) in connection with this application are set out below with a discussion of how these have been addressed.

#### **1. Insufficient survey data for European and UK protected species was provided to determine the impacts of the proposed development on ecology**

Bat activity surveys were conducted on two occasions in May 2009 which is within the recommended period for bat activity surveys. In line with Bat Conservation Trust guidelines<sup>1</sup>, this included dusk and dawn surveys. As the site is away from any known roost and only low numbers of bats were recorded during these survey visits, the survey effort was considered appropriate. Whilst we feel that the bat surveys conducted in 2009 were sufficient, to address the concerns of the consultees, Anabat remote monitors have been placed on the site to record all bat activity during the mid-summer months in 2010. The results of this additional survey will be set out in a further statement to be submitted in due course.

An otter survey was conducted on the site which followed, as far as possible, the methods of Chanin (2003)<sup>2</sup>. The method involves searching stretches of river bank for signs of otters, which is the methodology used in the National Otter Survey. Section 2.4.1 of this document provides a survey standard (which recommends searching 600m of river bank for spraints and other signs), but it also states that the method can be adapted for different habitat types as appropriate; because there was no river present on site, a search for signs of otters was made around waterbodies and throughout the wetland habitats.

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<sup>1</sup> Bat Conservation Trust (2007) *Bat Surveys Good Practice Guidelines*.

<sup>2</sup> Chanin, P. (2003) *Monitoring the Otter*. English Nature.

A badger survey was undertaken in 2009. The survey followed the methodologies set out in Harris, Cresswell and Jefferies (1989)<sup>3</sup>, i.e. the site and a 30m buffer were systematically searched for signs of badgers, including setts, holes, latrines, signs of foraging, tracks, paths and hair on fencing. The badger survey was undertaken in May 2009 when the badgers would have been active above ground and so signs would have been apparent. The optimum time for badger surveys is spring coinciding with a peak in territorial activity and a period when vegetation cover is at a minimum, thereby enhancing the probability of detection of field signs.

A presence/ absence survey for reptiles was conducted using methods set out in Gent and Gibson (2003)<sup>4</sup>. One hundred and twenty-five mats, made from black roofing felt, were placed within suitable habitats on the site in May 2009. The site was visited on seven separate occasions when weather conditions were suitable and the artificial refugia were checked for the presence of reptiles.

A survey for breeding birds was undertaken using the British Trust for Ornithology Common Bird Census methodology. Three visits were made to the site during May 2009 to map the territories of all birds breeding on the site.

Details of the surveys for the European and UK protected species listed above, including maps showing the locations of any positive records were presented with the planning application in the WYG report *Protected Species Survey for Land at Hayle, Cornwall* (2009).

A dormouse survey was scoped but not undertaken because the habitats on the site are considered unsuitable for dormice i.e.the hedges are species-poor, comprising almost entirely hawthorn. Furthermore, the hedgerows are not connected to any off-site habitats suitable for dormice. Finally, the Environmental Records Centre for Cornwall and the Isles of Scilly hold no records of dormouse for the site or its immediate surrounds.

In response to the consultee comments, a winter bird survey was conducted during February and March 2010. A point count methodology was adopted as recommended by Bibby,C.J., Burgess, N.D., Hill, D.A. & Mustow, S.H (2007)<sup>5</sup>. This involved selecting seven vantage points around the site which between them allowed the maximum area of the site to be observed. A fifteen minute observation was conducted at each vantage point on each of two survey visits. During this time all birds seen or heard were recorded on a 1:10,000 scale map of the site.

It is acknowledged that the land to the north of the railway embankment was not surveyed for protected species because it was outside of the original site boundary, the habitats here will be retained within the development proposal and therefore no detrimental impact is anticipated. Rather it is suggested that these habitats could be enhanced by management if the current proposals are approved. We would recommend that protected species surveys be undertaken in this area to inform a habitat management plan should planning permission be granted.

We consider therefore that the extent of the surveys undertaken as well as the methodology adopted in each case is entirely appropriate for the development being proposed.

## **2. Reduction in the size of the County Wildlife Site and impact on high value habitats**

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<sup>3</sup> Harris S., Cresswell, P. and Jefferies, D. (1989) *Surveying Badgers*. The Mammal Society 9

<sup>4</sup> Gent, T. & Gibson, S. (1998) *Herpetofauna Worker Manual*. JNCC, Peterborough

<sup>5</sup> Bibby,C.J., Burgess, N.D., Hill, D.A. & Mustow, S.H. (2007) *Bird Census Techniques*. Second Edition. Academic Press. Oxford.

It should be noted that whilst part of the application site has been designated as a County Wildlife Site (CWS) for its matrix of wetland habitats, it has never been actively managed and there is no statutory requirement to do so and consequently many of the habitats are reverting to scrub. Furthermore, undesirable species such as Japanese knotweed and bracken are encroaching and fly-tipping is also degrading the remaining habitats.

Whilst there will be a loss of 1.74ha of the County Wildlife Site, it is proposed to bring 2.3ha of adjacent land into conservation management. This land will comprise a mix of semi-improved grassland, hedgerows and a wildflower meadow mix with orchard trees. Furthermore, the area of wet woodland, which is the only Biodiversity Action Plan Priority Habitat within the site, will be increased by 4.4%. The new area of land that has been included in the application will complement the existing habitats on the site and could be used to increase the area of the County Wildlife Site.

It is proposed to offer to dedicate most of the improved CWS (being that land in the applicant's control extending to about 10.46 ha / 25.85 acres) to Cornwall Council together with funds for future management so that it can be protected in perpetuity and managed for the benefit of wildlife and the local community. It is therefore considered that the scheme would promote biodiversity gain in the long-term. Furthermore, it is anticipated that the new boardwalk, bird hide and interpretation boards will promote access to the site and increase its value to people. This would directly contribute to rural renewal which is a key principle of PPS9. In this way the amendments to the submitted application seek to address directly concerns expressed about the quantitative reduction in the size of the CWS.

### **3. Classification of habitats in the technical reports**

All habitat mapping was undertaken in line with JNCC guidelines<sup>6</sup>. The dominant habitat types were mapped during a survey visit in April 2009 along with their approximate areas. Where habitats differed from those set out in the Phase 1 handbook, or where habitats overlapped, the report attempts to describe this.

The evaluation of habitats was based on widely used criteria set out by Ratcliffe (1977)<sup>7</sup> and IEEM (2006)<sup>8</sup>, for example Biodiversity Action Plan Priority Habitats were valued more highly. Evaluation of other habitats took into account the following criteria; size, diversity, naturalness, fragility, typicalness, recorded history, permanence, lack of modification, rarity, position in ecological unit, potential value and intrinsic appeal. The criteria above tends to give lower value to those habitats that are relatively new, artificial/ modified, disturbed or transient which accounts for the low value given to some of the habitats on this site.

We therefore maintain that our classification of existing and proposed habitats is based on appropriate and accepted guidelines.

### **4. Impact of the foodstore site being drained on the remainder of the CWS**

The topography of the CWS is such that levels fall to the south-west away from the Angarrack Stream (north of the disused railway embankment) and fall to the north-west (on land south of the railway embankment). With the exception of one breach, the railway embankment forms a physical barrier that would prevent the

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<sup>6</sup> Joint Nature Conservation Committee (2004). *Handbook for Phase I Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough

<sup>7</sup> Ratcliffe, D., A. (1977) *Nature Conservation Review*. Cambridge University Press, Cambridge

<sup>8</sup> Institute for Ecology and Environmental management (2006) *Guidelines for Ecological Impact Assessment in the United Kingdom*.

majority of overland flow arising on the foodstore site from reaching the CWS north of the embankment.

In hydrological terms, the CWS should be considered to consist of two hydraulically separate water catchments, one to the north and one to the south of the embankment. This is because the site is a 'valley' with the lowest levels occurring immediately to the north of the embankment progressing from east to west. The lowest levels on the CWS are located around the Marsh Lane culverts at the site's western boundary.

In terms of hydrogeology, the same catchment definitions as set out in the preceding paragraph apply, in that the individual surface water catchments would essentially recharge the underlying groundwater independently. This is borne out by the fact that site investigation on the foodstore site shows a groundwater gradient to the north-west, i.e. following land topography, with shallowest groundwater being located close to the embankment. Whilst no ground investigation has been undertaken north of the embankment, the topography would suggest that the groundwater gradient would be to the south-west with shallowest groundwater again being found around the embankment and Marsh Lane culverts. Therefore, groundwater levels on the foodstore site would be above the level of the water table at the embankment and would therefore not significantly affect the natural water table level on areas to the north of the embankment, provided that surface water runoff on the foodstore is managed appropriately.

It is important that all surface water management designs aim to mimic existing land drainage in order to maintain aquifer recharge rates and/or baseflow to rivers. The proposed drainage strategy for the foodstore site has adopted this approach. The existing topography of the foodstore site would route surface runoff to the north-west, much of which would be collected in the carrier drain located along the site's south-western boundary; this would channel runoff to the Marsh Lane culverts and away from the site. The surface water management proposals for the foodstore site involve attenuating surface runoff to greenfield rates under the car park which would discharge to an ecology pond located adjacent to the breach in the embankment prior to overflow to the carrier channel leading to the Marsh Lane culverts. This drainage arrangement would closely mimic the existing situation and, as the pond would not be lined, it would provide some recharge of the underlying groundwater south of the embankment.

Furthermore, the proposed ecology ponds in the eastern part of the site (north of the embankment) are to be fed by a new off-take from the Angarrack Stream. Due to the fact that the Angarrack Stream is perched in this area, it would not be possible for outflows from the ecology ponds to be returned to the stream by gravity. Therefore, a new open channel will need to be created which would route the overflow from the ponds to the Marsh Lane culverts north of the embankment. This new channel would further ensure that no adverse impacts on the hydrology of the wetland areas of the CWS north of embankment occur (and could be designed to significantly enhance the quality of the wetland).

**1.0 INTRODUCTION**

- 1.1 A planning application was submitted in November 2009 for a new Sainsbury's store and petrol filling station at land at Marsh Lane, Hayle. The application was subsequently withdrawn so that, amongst other reasons, the scheme could be further enhanced with regards to biodiversity.
- 1.2 In response to consultation with Cornwall Council, Environment Agency and Cornwall Wildlife Trust, the proposed scheme has been amended to include a further 2.30ha of additional land to extend the County Wildlife Site (CWS) (see Figure 1 for proposed revised CWS boundary). Part of this land is currently functions as a vehicle depot and was formally a sewage works. This land will be decontaminated and species-rich grassland will be instated.
- 1.3 The scheme proposes to secure and enlarge the CWS by some 0.56ha, by bringing it and adjacent land into favourable management. Furthermore, a boardwalk, bird-hide and interpretation board will be instated to provide public access to the site and create an educational resource for the community. Together these measures represent a significant package of mitigation.
- 1.4 It is proposed to offer to dedicate land within the applicant's ownership, extending to 10.46ha, to Cornwall Council in perpetuity with funds for future management.
- 1.5 This Mitigation Strategy details the general measures and principles to be adopted to reduce, avoid or compensate for the predicted impacts to habitats and species resulting from the proposed development. It is based on the findings of a habitat survey and surveys of bats, badgers, reptiles, otters, breeding birds and wintering birds undertaken by WYG in 2009/ 2010, and should be read in conjunction with the following reports; *Habitat Survey for Land at Hayle, Cornwall* (May 2009), *Protected Species Surveys for Land at Hayle, Cornwall* (June 2009) and *Winter Bird Survey for Land at Hayle, Cornwall* (May 2010), which are submitted in connection with the planning application. Furthermore, a detailed habitat management plan will be prepared prior to the start of site works which will set out how the mitigation scheme will be implemented and managed for the future.
- 1.6 The main impacts and mitigation measures on key receptors are discussed below. The report identifies impacts during the construction and operation phases of the development that need to be reduced, or eliminated by the mitigation strategy. However, it should be noted that *Planning Policy Statement 9 on Biodiversity and Geological Conservation* states that not only should key receptors be protected and conserved, but development plans should strive for biodiversity enhancement. This mitigation strategy, therefore, seeks to improve the value of the site for wildlife as well as to protect existing receptors. Whilst the proposed mitigation is targeted at key habitats and species, the measures suggested here will benefit wildlife in general.
- 1.7 This Technical Statement should be read in conjunction with the Ecological Mitigation Strategy: Visual Interpretation, that is also submitted in connection with the planning application.

## 2.0 IMPACTS AND MITIGATION

- 2.1 The site comprises land at Hayle, Cornwall (NGR SW 579 383). Part of the site coincides with Marsh Lane Marshes County Wildlife Site (CWS) which has been designated for its mosaic of habitats. The site also has value for migrating birds<sup>9</sup>. The key valued receptors at the site are listed below along with an assessment of the impacts of the proposed development and the proposed mitigation measures. Please refer to Figures 2 and 3 for locations of each of the habitats and Section 3 for general mitigation measures.
- 2.2 Tall ruderal  
The tall ruderal habitats, which occur in Fields 1 and 2, will be lost to the development. Whilst such habitats do have some value to wildlife, they are common and widespread in the UK. Furthermore, these habitats are transitional and would revert to scrub without intervention.
- 2.3 Semi-improved grassland  
Part of one field of semi-improved grassland (Field 3) will be lost to the development footprint. The remainder of Field 3 may be temporarily impacted by disturbance, in the form of pollution incidents, dust and noise, during the construction phase where it abuts the development site.
- 2.3.1 During the operational phase of the development, Field 3 may experience increased disturbance from higher numbers of people and cars visiting the area. Such increases in activity might result in higher levels of dust, noise and litter; illumination from the store may also deter nocturnal species from using the grassland. However, the remainder of the grassland will be brought into positive management for the benefit of wildlife. It is envisaged that this area will be used to enlarge the current County Wildlife Site to the east.
- 2.3.2 Approximately 0.55ha of new species rich grassland will be established on an area currently used as a vehicle depot. This will provide better quality grassland that is currently present on the site and this will attract invertebrates on which other animals feed. This area will be planted sparsely with orchard trees of local provenance to add structural diversity to the habitats on site and provide a further food resource for local wildlife in the form of fruit.
- 2.3.3 Furthermore, several car parking spaces will be created in this area to provide public access to the site and encourage an interest in the wildlife site.
- 2.4 Wet woodland  
Three blocks of wet woodland are present within the site. One of these blocks is located on the disused railway embankment that forms the northern boundary of Field 2 which abuts the development footprint. Wet woodland is within a Local Biodiversity Action Plan Priority Habitat and is a scarce and valuable habitat.
- 2.4.1 The wet woodland will be retained in its entirety. However, one block will be adjacent to the new development and therefore subject to noise and dust during construction and this may deter animals, such as birds from using the habitat in the construction phase. It is likely that such animals would return to the area once the development is complete.
- 2.4.2 During the operational phase, increased numbers of people and cars using the area may disturb the wet woodland immediately adjacent to the store through littering, noise and dust. There may also be some illumination from the new development. Such disturbance could degrade the quality of the habitat and deter animals from using it; however, due to the density of the vegetation, it is expected that the impacts would be limited to the edge of the woodland.
- 2.4.3 The wet woodland will be retained in its entirety and protected during the construction and operational phases using the measures outlined below in *General Mitigation*.

<sup>9</sup> Cornwall Wildlife Trust. Pers. Comm.

- 2.4.4 The area of wet woodland next to the new store will be extended along the railway embankment in Field 2 by clearing the scrub and planting the embankment with goat willow saplings of local provenance. This will amount to a net gain of 0.1ha of wet woodland habitat. The woodland understorey will be allowed to develop naturally. Future management of this habitat will be minimal and restricted to scrub management whilst it establishes.
- 2.5 Marshy grassland  
A block of marshy grassland occurs in Field 2. Whilst there is a small amount of open sward, there is considerable encroachment of tall ruderal, bramble, bracken and Japanese knotweed from the field boundaries and without management all of this habitat will revert to scrub. The marshy grassland will be lost to during the construction phase. Remnants of marshy grassland habitat exist amongst the scrub and tall ruderal in Field 1. It is likely that marshy grassland once dominated Fields 1 and 2, but has become shaded out by more competitive species.
- 2.6 Hedgerows  
Hedgerows are listed as a Priority Habitat on the UK Biodiversity Action Plan. Several mature, but species-poor hedgerows occur on the site. Most of the hedgerows have not been managed and have begun to encroach the field cores.
- 2.6.1 Two outgrown hedgerows will be lost to the development and one, defunct hedge, will be breached by the new access road. Of the retained hedgerows, those which abut the development footprint may suffer from increased disturbance during the construction phase. During the operation phase the hedgerows nearest to the development may be subject to increased levels of disturbance from the public and vehicles. However, most of the hedgerows on the site will be too far from the development to be affected.
- 2.6.2 A new species-rich hedgerow will be planted in Field 3 and the defunct hedgerow between Fields 4 & 5 will be restored using native species of local provenance. All hedgerows will be subject to ongoing management to maximise their condition in the long-term.
- 2.7 Scrub  
A large amount of scrub is present on the site. Whilst scrub has some value to wildlife, particularly nesting birds, it is encroaching most of the other habitats on this site and requires management to conserve diversity in the long-term.
- 2.7.1 The scrub in Fields 1 and 2 will be removed as part of the proposed development and other areas of scrub will be managed to allow the underlying reedbed and marshy grassland to regenerate. The areas of scrub that are retained on the site are unlikely to be impacted by the development because they are too far away.
- 2.7.2 Whilst some areas of scrub will be lost to allow the regeneration of other habitats as part of mitigation, some will be retained to provide food and refuge for a variety of wildlife, including nesting birds. Where scrub is to be removed, this will be undertaken in stages, over a period of five years.
- 2.8 Open water  
Several wet ditches and small pools occur on the site; however, these are heavily encroached with scrub and in some cases have become silted up leaving isolated stretches of water rather than a network of rhynes.
- 2.8.1 None of the wet ditches or pools fall within the development footprint. However, those located around the boundary of Field 1 are likely to be impacted by disturbance during both the construction and operation phase of development. The impacts of noise, dust, litter and lighting could degrade these habitats making them less attractive to wildlife.
- 2.8.2 The wet ditches on the site will be cleared of scrub and reprofiled where necessary. Furthermore, wherever possible new ditches will be created to link up the existing ones to

form a continuous network through the site and new ponds will be created throughout the site to provide 0.21ha of new ponds and 360m of new wet ditches.

2.9 Reedbed

A large expanse of reedbed is present to the north of the dismantled railway line. Reedbeds are a UK and Local Biodiversity Priority Habitat; however, the reedbeds on the site are heavily encroached by scrub and without future management may be lost completely. None of the reedbed will be displaced by the development and it is unlikely to be impacted during the construction or operational phases because it is buffered from the development by a wide vegetative buffer and the embankment.

2.9.1 All of the reedbed will be retained within the development. Management will aim to enhance the reedbeds through scrub clearance where scrub has encroached. Ongoing management of the reedbeds will be minimal and restricted to scrub removal where necessary.

2.9.2 A raised boardwalk through the reedbed will provide some access for local people and visitors. This will encourage an interest in the wildlife and act as an educational resource.

2.10 Badgers

Two badger setts occur on the site and within 30m of the proposed development. These two setts are located on the dismantled railway embankment within the wet woodland. A ten metre vegetative buffer has been retained between the development footprint and the badger setts on the railway embankment. This buffer will be a no go area during the construction phase and no disturbance to the setts is envisaged.

2.10.1 Badgers may be directly impacted during the operation phase of the development from increased road traffic which can kill and injure these animals. Litter deposited around the development could also directly injure badgers.

2.10.2 The badger sett itself will be protected by retaining a vegetative buffer of at least 10m between the setts and the development. Furthermore, a Natural England licence will be obtained to cover works within 30m of the setts.

2.10.3 To protect badgers during the construction phase, all activities on site will cease one hour before dusk to allow badgers to continue to forage in the evening and trenches will be covered up at night to prevent badgers or other animals from becoming trapped.

2.10.4 The site will be enhanced for badgers by incorporating fruiting trees into the planting scheme. These will provide new foraging opportunities for badgers and compensate for the loss of foraging habitat to land take.

2.11 Birds

Good numbers of birds breed and/or forage on the site. There is a risk that active birds' nests could be destroyed during the vegetation clearance which would breach the Wildlife and Countryside Act, 1981 (as amended). Furthermore, the development will result in the permanent loss of potential nesting and foraging habitat. It is also unlikely that birds would use habitats in the immediate vicinity of construction works due to the high levels of disturbance; however this is a temporary impact and it is likely that many birds would return once the works are complete.

2.11.1 Increased activity during the operation phase is likely to deter some species of birds from using habitats close to the new development; however many birds are likely to habituate to the changes. Litter presents a potential risk to birds that can become trapped or poisoned by such items.

2.11.2 To avoid disturbing nesting birds during the construction phase, all vegetation clearance will be undertaken in between October and February.

2.11.3 The majority of birds which winter on the site are common resident passerines; however, snipe were recorded using the marshy grassland. It is likely that these birds will be

displaced to the retained land to the north or to other habitats in the locality by the habitat loss and disturbance associated with the construction phase.

- 2.11.4 It is envisaged that the creation of new habitats on site; species rich hedgerows, ponds, and the enhancement of the ditches, reedbeds and semi-improved grassland, will provide new opportunities for birds. The creation of new open water habitats in particular may attract more migrating and wintering wildfowl and waders to the site.

2.12 Bats

No bat roosts were recorded on the site and whilst low numbers of bats do use the hedgerows for commuting and foraging there was no evidence that the bats used the field cores. The hedgerow between Fields 1 and 2, which was used by bats, will be removed during the construction phase and this will reduce the amount of functional habitat available for bats; however, this is a small proportion of the hedgerows available within the site. The majority of bat activity was concentrated along the hedgerow running parallel to Marsh Lane and this hedgerow will be breached by the new access road. However, it is unlikely that this will impact on bat activity as the hedge is already breached where the vehicle depot joins the lane and this does not appear to affect bat activity. Furthermore, dust and other disturbance during construction may reduce the number and diversity of the invertebrates which bats feed on; however this would only impact habitats in the vicinity of the works and for the duration of the works.

- 2.12.1 Bat foraging and commuting activity may be disrupted by illumination of the site during the operation phase. Furthermore, degradation of hedgerow and aquatic habitats by dust and litter may reduce the number and diversity of the invertebrates which bats feed on making the site, in the immediate surrounds of the store, less attractive for bats.
- 2.12.2 A range of bat boxes, including hibernation boxes will be installed around the site. These will provide new roosting opportunities for bats. Furthermore, the new landscape scheme, which includes planting of species rich hedgerows and grassland and the creation of waterbodies will provide new foraging and commuting opportunities for bats.
- 2.12.3 Illumination of existing bat foraging and commuting habitat will be avoided by designing the lighting scheme to adhere to the Bat Conservation Trust 'Bats and Lighting' document for further details<sup>10</sup>.

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<sup>10</sup> [www.bats.org.uk/publications\\_download.php/243/BATSANDLIGHTINGINTHEUKJan08.pdf](http://www.bats.org.uk/publications_download.php/243/BATSANDLIGHTINGINTHEUKJan08.pdf)

### **3.0 GENERAL MITIGATION**

3.1 In addition to the measures above. The following general mitigation measures will be implemented to mitigate for any impacts which may result from the proposed scheme.

#### 3.1.1 *Construction phase*

- An ecology and landscape management plan will be prepared, prior to construction, which details how all new and retained habitats should be managed to maximise benefits to wildlife.
- The development footprint will be screened off from the rest of the site by a solid wood panel fence of at least 3m in height to reduce the level of noise and dust experienced on surrounding land.
- Protective fencing will be erected around all new and retained features on site to delineate no go areas for workers and machinery.
- New and retained hedgerows and trees will be protected by fencing in accordance with *BS5837: Trees in Relation to Construction (2005)*.
- The risk of pollution incidents will be reduced by adhering to the Environment Agency Guidelines set out in *Works in, near or liable to affect watercourses: PPG5 and General Guide to the Prevention of Pollution: PPG 1*.
- No lights will be left on over night, other than those associated with site security.
- Removal and safe disposal of all fly-tipped material.
- Removal of Japanese knotweed in line with the Environment Agency guidelines set out in *Managing Japanese Knotweed on Development Sites. The Knotweed Code of Practice*.
- All construction workers briefed on the wildlife issues relevant to the site.

#### 3.1.2 *Operation phase*

- Rubbish bins will be provided around the car park to reduce the likelihood of people depositing litter elsewhere.
- External lighting will be kept to a minimum. Boundary habitats including hedgerows, trees and watercourses will be protected from illumination by fitting any lamps with hoods to direct the lighting away from these areas. All external lighting will be fitted with timers that switch the lamps off when the store is closed allowing a dark period to be retained.
- An extensive boardwalk will be installed through the reedbeds to allow pedestrian access to this area. The boardwalk will incorporate viewing platforms to allow observation of key areas, such as ponds. Interpretation boards will be provided to aid understanding of the wildlife. It is envisaged that these measures will help conserve wildlife through restricting access to prescribed routes and educating people about the sensitivity of the area.
- Dogs will be restricted to the boardwalk and dog waste bins will be provided along this route.

**4.0 SUMMARY**

- 4.1 The proposed development layout will result in the loss of 1.4ha of the CWS. However, to mitigate this, an additional 2.3ha is proposed to be included within a new, larger CWS. This would result in a net increase of the CWS area of 0.56ha.
- 4.2 It is proposed to offer to dedicate land within the applicant's ownership, extending to 10.46ha, to Cornwall Council in perpetuity with funds for future management and thereby allow the new and retained habitats to be brought into management and secure them for the future. Furthermore a walkway will be provided through the site to allow some, controlled, access to local people which will generate interest in the wildlife.
- 4.3 Protected species have been considered in the mitigation strategy. The measures detailed above will ensure that they are protected from harm during the construction phase and the new habitats will provide opportunities for them to flourish on the site in the long-term.



## WYG Environment Planning Transport

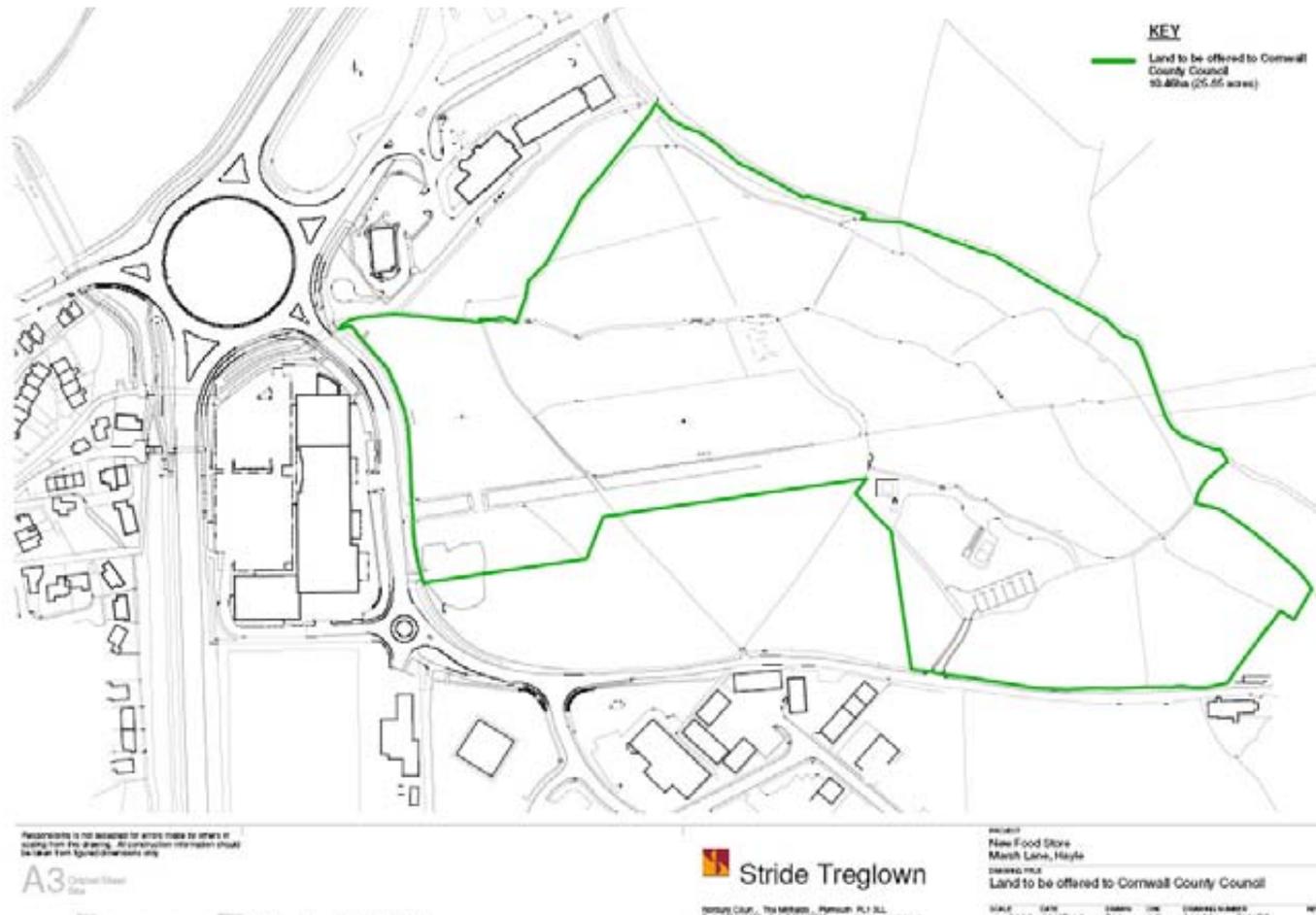


Figure 1. Proposed Revised County Wildlife Site Boundary.

WYG Environment Planning Transport



Figure 2. Existing Habitats



Figure 3. Ecology Mitigation Map

**APPENDIX A: REPORT CONDITIONS****WYG ENVIRONMENT PLANNING TRANSPORT****REPORT CONDITIONS**

*This report is produced solely for the benefit of WYG EPT, Sainsbury's Supermarkets Ltd and Cranford (Hayle) LLP (OC 326623) and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.*

*This report refers, within the limitations stated, to the condition of the site and the recorded proposals at the time of the inspections and study. No warranty is given as to the possibility of future changes in the condition of the site.*

*This report is based solely on the referenced data, inspections, discussions with Statutory Authorities and assessment by WYG EPT. Some of the opinions are based on unconfirmed data and information and are presented as the best that can be obtained at this stage without further extensive research.*

*The report is prepared for the objectives, scope and proposed uses stated in the report and should not be used in a different context without consent of WYG EPT. The report is limited to those aspects specifically reported on and is necessarily restricted. No liability is accepted for any other aspect. The opinions expressed cannot be absolute due to the limitations of time and resources imposed by the agreed brief.*

*Whilst the findings detailed within this report reflect our best assessment, because there are no exact UK definitions of these matters, being subject to risk analysis and interpretation, we are unable to give categorical assurances that they will be accepted by authorities or interested parties without question as such bodies have their own interpretation of regulations and standard.*