



Barratt David Wilson Homes

Station Road, Hayling Island

Update Preliminary Ecological Assessment

August 2015

The Pavilion, 1st Floor, Botleigh Grange Office Campus, Hedge End, Southampton, Hampshire, SO30 2AF

Tel: 02382 022800

Email: ecology@wyg.com



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Prepared by:		Frank Southee Project Ecologist Clare May CEnv MCIEEM
Checked By:		Associate Director of Ecology Claire Wilmer CEnv MCIEEM
Verified By:		Director of Ecology

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1.0 Introduction

1.1 Background

Following the completion of ecological surveys in 2011 to 2013 to support an outline planning application (APP/13/00639) at Station Road, Hayling Island (hereafter referred to as 'the site'), WYG was commissioned by Barratt David Wilson Homes (BDW) in June 2015 to complete an update site walkover to account for changes to the design and to support a detailed application.

WYG ecologist, Frank Southee, completed an update walkover survey on 23rd June 2015. The work included:

1. A site visit to confirm whether site conditions had changed since the original surveys and whether the Brent goose mitigation strategy (to be applied to a wider area surrounding the development site) is still appropriate.
2. Provision of recommendations for further species surveys/mitigation measures, if required.
3. Report and plan following the site assessment to support the reserved matters application.

1.2 Site Location

The proposed development site (known as 'the site') is located off Station Road, Hayling Island, Hampshire, centred on grid reference SZ 71080 99819. The site, which covers an area of approximately 2.65 hectares, is predominantly arable farmland in active crop rotation. It comprises the southern part of field H34E (as referred to in the Solent Waders and Brent Goose Strategy). Fields H34E and the adjacent H34C have historically been used to grow rape, wheat, soya, peas and linseed (Tyler Grange, 2013). Refer to Figure 1, Appendix A for location information.

The proposed development site within arable field H34E is bordered by currently unmanaged arable margins comprising tall grassland and tall ruderal species. A small area at the south of the site displays a matrix of tall ruderal vegetation/dense scrub with small areas of tall grassland habitat. The site is bordered to the west and in part to the south by intact hedgerow. Occasional semi-mature and mature trees are also present around the site, which is bordered to the south by fences that form the rear boundaries of adjacent properties. Refer to Figure 1, Appendix A for a site location map providing context for the wider area.

The site is situated close to Langstone Harbour, to the west, with The Billy Trail recreational route running between the site and the harbour. The area surrounding the site is predominantly arable to



the north and west, with areas of residential land use to the south and east. A garage and builders yard abuts the site directly to the south.

1.3 Development Proposals

Since the sale of the land from Hayling Island Builders to BDW, BDW propose to submit a full planning application for an updated design for the site. Changes to the design since the outline application was approved include:

- Reduction of the employment area from 1,250m² to 1,060m².
- Increase in the number of houses from 60 to 76.
- An additional access to the western commercial area.
- An attenuation pond is proposed to the north east of the residential construction area.

A commercial area is proposed within the western extent of the site, inside the site boundary. It is separated and screened from the central residential dwellings by native understorey and tree planting. Native hedgerow planting is also proposed to demarcate the northern boundary of the development. Two accesses to the western commercial area are proposed through the existing hedgerow along the western boundary, and a single access to the main residential property is proposed through the southern area of tall ruderal/scrub habitat matrix.

The proposed design, against which the ecological assessment of impacts has been made, can be seen as per planning layout ST-10-04 E, Figure 2, Appendix A.



2.0 Methodology

2.1 Desk Study

2.1.1 Review of Existing Site Information

Prior to the site visit, extant information concerning the site was reviewed. This comprised a review of aerial photography and ordnance survey map data of both the site and the wider area in order to provide context for the site within the surroundings. The following reports produced previously concerning the site were also reviewed:

- Tyler Grange (2013) *Land off Station Road, Hayling Island; Ecological Assessment, 11 June 2013* [Document Reference 1435_2011_R02a_JA_RW]
- Tyler Grange (2013) *Land off Station Road, Hayling Island; Brent Goose Mitigation Strategy, 11 September 2013* [Document Reference 1435_2011_R03b_JA_RW]
- Tyler Grange (2013) *Land off Station Road, Hayling Island; Brent Goose Mitigation Strategy - ADDENDUM, 19 November 2013* [Document Reference 1435_2011_R04b_JA_RW]

2.1.2 Local Records Centre

As part of the original site assessments completed by Tyler Grange, site and species specific information was sourced through direct consultation with the Hampshire Biodiversity Information Centre (HBIC) on 5th January 2012 and 5th March 2013. HBIC provided information in relation to the presence of protected species, designated sites and areas of particular regional, national or international importance within 2 km of the site.

2.2 Field Surveys

2.2.1 Site Visit

An assessment of the site was made by WYG to determine if the on-site habitats had undergone significant change since the previous Tyler Grange surveys in 2013, and to determine if the potential ecological constraints to the proposed works at the site and recommendations for further survey, avoidance, mitigation and enhancement where appropriate have changed. Changes to legislation,



policy and guidance that have occurred since the previous visits (for example to the Solent Waders and Brent Goose Strategy) were also considered during the site visit.

An update walkover survey was conducted within the predicted zone of influence¹ on 23rd June 2015 by WYG Ecologist Frank Southee. All areas of the site were investigated, including those parts that are not expected to be affected directly by the works but may be indirectly impacted upon. This was considered to comprise the fields H34C, H34D and H34E (as referred to in the Solent Waders and Brent Goose Strategy), given the measures proposed within this wider area as part of mitigation for the site. It is recommended by English Nature's *Badgers and Development* (2002) that a 30m buffer around the site is investigated for evidence of badger activity, where possible. The site is bordered to the south and east by private dwellings and commercial property; however, much of the inaccessible area surrounding the site is dominated by buildings and hardstanding which does not offer potentially suitable sett forming habitat for badgers. It was possible to visually assess garden areas that abut the site.

The vegetation and habitat types within the site were noted during the walkover survey in accordance with the categories specified for a Phase 1 Vegetation and Habitat Survey (Joint Nature Conservation Committee, 2003). Dominant plant species were recorded for each habitat present.

The site was inspected for evidence of and its potential to support protected or notable species, especially those listed under the *Conservation of Habitats and Species Regulations 2010* (as amended), the *Wildlife & Countryside Act 1981* (as amended), including those given extra protection under the *Natural Environment and Rural Communities (NERC) Act 2006* and *Countryside & Rights of Way (CROW) Act 2000*, and listed on the UK and local Biodiversity Action Plans.

The following species were considered:

- Great crested newts
- Reptiles
- Bats
- Badgers
- Dormice

¹ **Zone of influence:** the area that may be affected by the biophysical changes caused by the activities associated with the development.



- Otters
- Water Voles
- Breeding birds
- Wintering birds
- Invertebrates
- Invasive Species

2.2.2 Brent Goose Mitigation Strategy Assessment

The wider site was also assessed in the context of the Brent Goose Mitigation Strategy and Brent Goose Mitigation Strategy – Addendum produced by Tyler Grange LLP in November 2013, which had been previously agreed with Natural England and the LPA. Observations were made concerning the current status of the land included within the strategy, mitigation efforts currently underway, and the feasibility of completing the strategy effectively.



3.0 Survey Results

3.1 Desk Study

3.1.1 Review of Existing Site Information

Previous ecological assessments of the site were completed between 2011 and 2013 by Tyler Grange LLP to support the outline planning application for mixed-use development comprising up to 60 dwellings and 1,250sqm of light-industrial accommodation (Use Class B1) including off-site highway works including widening of footpath (APP/13/00639). Consultation meetings were held with the Hampshire County Council ecologist and Natural England prior to determining the planning application for outline consent (APP/13/00639).

Ecological Assessment

An Ecological Assessment was undertaken by Tyler Grange on 19th November 2011 with subsequent update visits in 2012 and 2013. This was supported by consultation with Hampshire Biodiversity Information Centre (HBIC) and data searches to provide baseline ecology information concerning protected species and nearby statutory and non-statutory designated sites.

Wintering Birds

Surveys for wintering birds were undertaken at the site (referred to within the Solent Waders and Brent Goose Strategy as field H34E) and of neighbouring fields H34C and H34D in the winter season 2011/2012 and 2012/2013 to determine usage of these fields by Brent geese or waders. Refer to Figure 1, Appendix A for a location map providing context for the wider area.

Accordingly, surveys in the winter season 2011/12 and 2012/13 were conducted using the method set out in the 2010 Solent Waders and Brent Goose Strategy (SWBGS). In summary, the surveys indicated that none of the birds that are qualifying features of the nearby SSSI/SPA/RAMSAR use the site, and were recorded at c.300m from the north of the site boundary at their closest point. The seeded grassland present in 2011/2012 was suitable habitat for grazing Brent geese, though the cereal stubble present in the following 2012/13 season was sub-optimal.

Subsequent to the surveys performed by Tyler Grange, new anecdotal evidence came to light that demonstrated that the site and the rest of H34E is in fact used by Brent geese and wading birds for which the SPA/Ramsar is notified:

- 70 Brent geese recorded in 2007/8;



- 200 Brent geese recorded on two occasions in 2011/12; and
- Up to 30 lapwing *Vanellus vanellus*.

As stated within the Tyler Grange Brent Goose Mitigation Strategy (2013), this evidence was obtained by a neighbour of the site, who monitors the site on a regular basis.

This information was discussed at a meeting on 15th August 2013 at Havant Borough Council attended by Tyler Grange, Natural England and Hampshire County Council's ecologist. At that meeting (and as stated within the Tyler Grange Brent Goose Mitigation Strategy 2013), it was agreed that:

- Given there is already evidence of use of the site by Brent geese and waders, there was little point undertaking a third season of wintering bird surveys in 2013/14;
- Instead, and in line with the alternative proposed by Natural England in their letter dated 30th July 2013, it was accepted that an avoidance/compensation strategy was necessary and should be produced to avoid a net loss of SPA supporting habitat;
- The principles of a compensation strategy were discussed and agreed, as was a mechanism for monitoring and management to ensure mitigation is provided in perpetuity. The application would not be determined until the mechanism for delivery of the strategy to address the potential effects associated with increased recreational use as a result of development had been established. This would be controlled by a S106 agreement.

Subsequently, a Brent Goose Mitigation Strategy was produced for the site (and wider area of H34C, H34D and H34E) in September 2013, which was re-issued in November 2013 with addendums following comments from Natural England, Hampshire County Council and the RSPB.

The proposed development would result in the loss of 2.5ha of arable land within field H34E, which covers a total of c. 9.7ha. The remainder of H34E will continue to be farmed as it is now, and hence is likely to be used by geese, albeit potentially in smaller numbers.

The developer controls H34D (adjacent and to the north of field H34E but not adjacent to the proposed site boundary) and part of H34C (to the west of Hayling Billy Trail; see Figure 1, **Appendix 1**). Field H34D is to be subject to a change of land use and habitat management as part of the Brent Goose Mitigation Strategy for the proposed development. H34D is not subject of statutory or non-statutory protection. The land use at the time of the agreement was that of horse paddocks. It was bounded to the west by a mature hedgerow with trees alongside the Hayling Billy Trail. To the south



was a defunct, species-poor hedge that was gappy in nature, with a dry ditch. To the north and east is residential housing, to the south is H34E and to the west is the Hayling Billy Trail and beyond, H34C. H34D is subdivided into smaller compartments by wire fencing; the field has been historically unsuitable for Brent geese due to its enclosure by hedges, limited size and previous grazing regime. This is reflected in the lack of records of geese for H34D. H34D does occasionally support small numbers of waders, with use likely restricted for similar reasons as described for geese above. The Tyler Grange surveys confirmed 10 lapwing on one occasion only in the 2011/12 survey, but not at any other time. Hampshire Biodiversity Information Centre (HBIC) confirmed a maximum count of 7 lapwing in the 2010 strategy.

Tyler Grange (2013) considered unlikely that H34D is of importance to other fauna. In summary:

- The hedgerows are likely to support nesting birds, though that to the south is unlikely to be of importance owing to its gappy and defunct nature;
- The rough grassland adjacent to the hedgerows is likely to support common reptiles, though a large population would not be expected;
- No evidence of badgers was recorded;
- Owing to the nature of the habitats present, notable invertebrate species would not be expected;
- Bats would be expected to use the site boundaries for commuting and occasional foraging. The mature and semi-mature oak trees at the boundaries could support roosting bats, though the younger trees on the southern boundary would not support roosts.

Given the low value of H34D to Brent geese at the time of previous assessment, Tyler Grange (2013) recommended the following to compensate for the loss of 2.5ha of H34E:

- Removal of the defunct hedgerow on the south-west boundary between H34D and H34E, with scrub and tall, coarse grasses cut to ground level to improve sight lines for birds.
- Reversion of the horse paddock of negligible value to arable use, to be farmed in the same manner as the remainder of H34E. This will make it attractive to foraging geese when used for winter cereals. It would also make it more attractive to waders such as lapwing.
- Disturbance from recreational use as a result of uncontrolled access from the Hayling Billy Trail on to H34C will be reduced, thereby making it more attractive to geese and waders.



Other Notable Species

The Tyler Grange Ecological Assessment made the following recommendations for notable species that may use the proposed development site marked on Figure 1;

- Clearance of hedgerow and scrub to avoid nesting bird season of March to September inclusive.
- Provision of appropriately designed lighting to avoid impact to foraging and commuting bats.
- Phased cut of rough grassland habitat to displace reptiles that may be present into adjacent gardens.

No specific mitigation in respect of badger, amphibians, invertebrates or other species was recommended.

3.2 Site Survey and Current Status of Habitats

An assessment of the habitats within proposed development site marked on Figure 1 revealed that the current habitats remain largely unchanged from assessments reported in the Tyler Grange LLP Ecological Assessment 2013 (document reference 1435_2011_R02a_JA_RW). Brief habitat descriptions are provided below; these should be read in conjunction with the update Phase 1 Habitat Map, Figure 3, Appendix A.

3.2.1 Arable Field

The vast majority of the site comprises a large, flat arable field. At the time of the 2015 WYG survey, the field supported an oat crop (*Avena sp.*). This represents a change from previous crops recorded which included cereals in 2012 and seeded rye grass (*Lolium sp.*) in 2011-2012 (Tyler Grange LLP, 2013). A documented history of crop rotation within the site can be found in the Brent Goose Mitigation Strategy – Addendum Report issued by Tyler Grange in November 2013 (document reference 1435_2011_R04b_JA_RW).

3.2.2 Arable Field Margin

The arable field which encompasses the majority of the site is enclosed by a field margin approximately two metres in width. The margins support tall grassland species including common bent-grass (*Agrostis capillaris*), cow parsley (*Anthriscus sylvestris*), cleavers (*Galium aparine*), bracken (*Pteridium sp.*) and common nettle (*Urtica dioica*). No notable arable weed species were observed.



This habitat exhibits a minor change in species assemblage from previously reported findings with additional species noted within the narrow field margin.

3.2.3 Hedgerow

The arable field comprising the majority of the site is bounded to the west and in part to the south by hedgerows. Please refer to Figure 3, appendix A.

- **H1** - Species-rich hedgerow supporting ten woody species namely hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dogwood (*Viburnum opulus*), holly (*Ilex aquifolium*), ash (*Fraxinus excelsior*), oak (*Quercus robur*), wild cherry (*Prunus avium*), elder (*Sambucus nigra*), buckthorn (*Rhamnus cathartica*) and sycamore (*Acer pseudoplatanus*). This is consistent with the findings of the previous Tyler Grange Ecological Assessment (2013). At the time of the survey, the hedgerow appeared in excess of four metres in height. Aside from the change in height, this habitat exhibits no significant change from previously reported findings. H1 may be considered species-rich due to the presence of at least seven woody species, on average, in a 30m length. In addition, it has the following associated features: less than 10% gaps and a ditch (dry).
- **H2** – This hedgerow appeared as previously reported in the 2013 Tyler Grange Ecological Assessment. It is taller (in excess of six metres), and comprising predominantly hawthorn and blackthorn, with field maple (*Acer campestre*), elder (*Sambucus* sp.), bramble (*Rubus fruticosus*) and holly. The extent of this hedgerow, however, has been reduced at the eastern end since the previous ecological assessment was performed.

3.2.4 Scattered Broadleaved Trees

Occasional semi-mature oak and field maple are present around the southern and eastern borders of the site.

3.2.5 Dry Ditch

Dry ditch habitat is present alongside the western and southern boundary hedgerows, as well as in the area of tall ruderal/scrub described below. This habitat exhibits no significant change from previously reported findings.

3.2.6 Tall Ruderal/Scrub Matrix

A matrix of tall ruderal and scrub habitat is present at the south of the site, located where the proposed southern access to the residential area will enter the site. This area comprises predominantly bramble, ribwort plantain (*Plantago lanceolata*), ragwort (*Jacobaea vulgaris*), red clover (*Trifolium pratense*) and creeping buttercup (*Ranunculus repens*). Grasses are also present in this area, predominantly Yorkshire fog (*Holcus lanatus*) and cock's-foot (*Dactylis glomerata*). Scattered immature hawthorn, oak, field maple, sycamore, silver birch (*Betula pendula*) and elder are present throughout this area. These latter species also comprise a thicker area of hedgerow abutting the road directly to the south of this area, reaching a height of approximately four metres. The habitat types noted during the 2015 WYG update survey represent a change from that previously recorded during Tyler Grange Surveys; this was previously noted as an area of rough grassland dominated by false oat-grass (*Arrhenatherum elatius*), Yorkshire fog and cock's-foot.

3.2.7 Field H34D

At the time of the 2015 WYG survey, this field supported an oat crop. This represents a change from previous land use recorded, which was grazed horse paddock (Tyler Grange LLP, 2013). It appears that this field has now been reverted to arable land use as per the Brent Goose Mitigation Strategy/Addendum (Tyler Grange 2013). The southern boundary of the site is no longer bordered by defunct hedgerow but is colonised by grass, scrub and ruderal re-growth, predominantly comprising common bent-grass, common nettle, bracken, ragwort and bramble. This appears to have established following hedgerow removal as per the Brent Goose Mitigation Strategy/Addendum (Tyler Grange 2013). The ditch along the southern boundary remains dry. The western boundary abutting the Hayling Billy Trail remains unchanged from previous assessments, comprising mature hedgerow with semi-mature oak trees.

3.3 Additional Consideration for Protected & Notable Species

The results of the site survey raised additional considerations for the following protected species.

3.3.1 Great Crested Newts

A pond was identified during the site visit that had not been noted during previous Ecological Assessment by Tyler Grange (2013). It was located at an approximate distance of 490m from the closest site boundary to the north, west of the Billy Trail and opposite Saltmarsh Lane, a nearby residential road. Please refer to Figure 4, Appendix A for a location map of this pond.



The pond was appraised for its suitability to support great crested newts based on guidance outlined in the Joint Nature Conservation Committees' published *Herpetofauna Workers' Manual* (Joint Nature Conservation Committee, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Beckett & Foster, 2001). Natural England recommends that the Oldham *et al.* (2000) Habitat Suitability Index (HSI) is applied to all ponds and ditches on and within 500m of the site.

The HSI provides an objective method for assessing the suitability of a pond as habitat for great crested newts (Oldham *et al.*, 2000; Herpetological Conservation Trust, 2008). The system provides an index between 0 and 1, with 0 indicating unsuitable habitat and 1 optimal habitat. Ten characteristics are used to calculate the index score, each representing a factor considered to affect great crested newts. These factors are listed and briefly explained below:

1. *Location*: i.e. where the pond is located in the British Isles. It accommodates large scale habitat features, which affect the distribution of great crested newts within the British Isles, including climate, substrate and altitude. The British Isles is divided into "optimal", "marginal" and "unsuitable" i.e. a low probability of occurrence;
2. *Pond area*: i.e., the water surface area of a pond. Suitability peaks at approximately 800m²;
3. *Pond drying*: how often a particular pond dries out. Ponds which dry out more frequently are less suitable;
4. *Water quality*: an indication of water quality based on the invertebrate diversity present. High invertebrate diversity indicates high water quality and suitability;
5. *Shade*: an estimate of the total shaded perimeter of a pond. Shoreline shade below 60% is optimal;
6. *Fowl*: indication of impact by waterfowl. High waterfowl numbers are generally considered detrimental;
7. *Fish*: indication of fish abundance. High fish numbers are generally considered detrimental;
8. *Pond count*: based on the density of ponds occurring within 1km of a particular pond. Suitability is positively correlated with pond density;
9. *Terrestrial habitat*: based on the availability of suitable habitat in the pond vicinity, e.g. rough grassland, scrub and woodland. For this assessment, the categories provided in the NARRS Survey Pack (Herpetological Conservation Trust, 2008) were used. This differs from the

assessment criteria by Oldham *et al.* (2000), and is based on work by Lee Brady (unpublished).

10. *Macrophytes*: based on an estimate of the percentage cover by emergent and aquatic vegetation. Suitability peaks at between 70% and 80% cover.

The results are also compared against a categorical scale developed by Lee Brady (unpublished). Results from individual water bodies are categorised as follows:

- <0.5 = poor
- 0.5 – 0.59 = below average
- 0.6 – 0.69 = average
- 0.7 – 0.79 = good
- >0.8 = excellent

The HSI assessment for the pond returned a score of 0.54, denoting the pond as ***below average*** suitability for great crested newts, as below.

Table 1: Station Road HSI Results

Pond Reference	Station Road
SI1 Field location	1.00
SI2 Pond area	0.60
SI3 Pond drying	0.90
SI4 Water quality	0.33
SI5 Shade	0.30
SI6 Fowl	0.67
SI7 Fish	1.00
SI8 Ponds	0.10
SI9 Terrestrial habitat	1.00
SI10 Macrophytes	0.60
HSI SCORE :	0.54
Pond Suitability :	Below Average



Image 01: Pond located 490m north of the proposed development site.

3.3.2 Reptiles

The area of the site now comprising tall ruderal and scrub vegetation exhibits rubble piles, the footings of a house, and other debris. The presence of debris is consistent with previous assessments of the site (Tyler Grange 2013); however, the habitat types noted during the 2015 WYG update survey represent a change from that previously recorded during Tyler Grange surveys. It is suggested that the suitability of this area of habitat to support reptile species has decreased since the previous ecological assessment as the area has become 'scrubbed over' and there has been a reduction in the basking habitat available for use by reptiles.

During the 2015 WYG update site visit, the presence of slow worms (*Anguis fragilis*) was confirmed under such debris. As such, the removal of these habitats for the proposed access has potential to result in impacts upon slow worms, and other reptile species that may be present, if not mitigated for.



Image 02: Slow worm (*Anguis fragilis*) confirmed at Station Road Site. Two adult males located under a discarded car door.

3.3.3 Bats

Several records for bats within the 2km search area were returned, though these were either not for the site, or the exact grid reference was not specified (Tyler Green 2013). No buildings that could be used as roosts are present within the site. Trees along the site boundaries were considered unlikely to support roosting bats. Bats would be expected to use the site boundaries for commuting and occasional foraging, though the majority of the site is unsuitable given the occasional nature of the trees around the southern and eastern boundaries.

3.3.4 Badgers

No evidence of badger was recorded within the site. Badgers favour permanent grassland habitat that supports prey items such as earthworms and insect larvae. The arable field is sub-optimal habitat for this. Much of the inaccessible area surrounding the site is dominated by buildings and hardstanding, which does not offer potentially suitable sett forming habitat for badgers. Garden areas that abut the site to the east were visually assessed from within the site. These are considered sub-optimal as sett forming habitat and no evidence of badgers or badger activity were noted.



3.3.5 Dormice

Hazel dormice are an arboreal species often found in woodlands, hedgerows and scrub. Vegetation within the site is limited in connectivity to habitat off-site and areas of vegetation on site are considered too small to allow a viable dormouse population to survive. For a site to be considered large enough to support a viable dormouse population in the long term it must exceed 20 ha in size. The site is disconnected from the wider area (outside of that considered in the Brent goose mitigation strategy) which would appear to limit the possibilities of dormice periodically visiting the area to take advantage of temporary food resources.

3.3.6 Otters

There is no suitable habitat for otters in the form of watercourses on or adjacent to the proposed development site. Ditches surveyed within the site were dry.

3.3.7 Water Voles

There is no suitable habitat for water voles in the form of watercourses on or adjacent to the proposed development site. Ditches surveyed within the site were dry.

3.3.8 Breeding Birds

The boundary vegetation and occasional trees surrounding the site offer potential breeding habitat for nesting birds. Whilst these habitats remain largely unchanged, the loss of hedgerow habitat for the two western accesses and the removal of scrub/tall ruderal habitat along the southern boundary may impact breeding bird species in the absence of mitigation.

3.3.9 Wintering Birds

The site and wider area are used by Brent geese and wading birds for which the SPA/Ramsar is notified. No evidence of these species was noted at the time of the survey; however, considerations for these species are addressed separately in the wider site assessment of the Brent goose mitigation strategy. Other than the reversion of field H34D to arable use and the additional informal accesses that have been created into field H34C (discussed further in section 5.0), no changes were noted to the site or wider area that may impact wintering birds.

3.3.10 Invertebrates

Owing to the managed nature of the arable field habitat comprising the majority of the site, it is considered that invertebrate species that may be present will be widespread and common.



3.3.11 Invasive Species

No invasive plant species was noted during the update ecological assessment.



4.0 Conclusions and Recommendations

The following conclusions and recommendations have been prepared in response to the changes in design, and the site conditions noted during the 2015 WYG update site visit.

4.1 Recreational Impacts

4.1.1 Chichester and Langstone Harbours SPA

In consideration of the changes to proposals at Station Road (reduction of commercial area from 1,250m² to 1,000m² and increase in the number of houses from 60 to 76), it may be considered that recreational impacts of the developments to surrounding areas will not experience significant change, given the reduction in personnel that will use the site as result of commercial occupation and the slight increase in residential occupation.

It is recognised that the commercial and residential elements of development will exert minimal compound recreational pressure on the SPA; that is, it is considered that residents of the new development are more likely to use the surrounding area for recreational purposes at the weekend, whilst users of the commercial development may use the surrounding area during the week, for example during lunch breaks. Compound pressure would be considered the usage of the site by both commercial and residential users at the same time.

Whilst the proposed development is, at its closest point, approximately 330m from Langstone Harbour, the lack of provision of direct access through the western boundary of the proposed site to the SPA means that users of the new development would have to walk south, before walking west/north to reach the designated SPA area, resulting in a walk in excess of 1km to reach the closest section of the SPA (via the Billy Trail). Visitor surveys carried out as part of the Solent Disturbance and Mitigation Project (Fearnley *et al.*, 2010) found that the majority of foot visitors to the SPA via the Billy Trail (75%) travelled less than 1.1km (50% travelling less than 500m). This suggests that future residents are unlikely to utilise the SPA in large numbers and exert recreational pressure. Residential users such as dog walkers are considered likely to utilise Hayling Park, located approximately 250m south of the site as an attractive alternative for this user group.

Whilst the number of proposed housing units has increased by 16, commercial proposals have decreased in area by 20% with a corresponding reduction of 21% in the number of parking spaces servicing the commercial area. It is considered that this will act to offset the additional recreational pressure induced by the addition of 16 residential properties to the design, resulting in a non-



significant increase of recreational pressure in comparison to the previously accepted outline submission.

At a meeting with Havant Borough Council, Natural England and Hampshire County Council's ecologist (25th April 2013), it was confirmed that whilst the development at the site alone is not likely to affect the integrity of the SPA/RAMSAR (and the Langstone Harbour SSSI), in combination with other residential developments, an impact was possible (Tyler Grange 2013).

No provision was made for open space within plans previously submitted and agreed at outline stage, and it is not felt that revision of these proposals, nor previously accepted strategies to alleviate recreational impact, is necessary. In-combination effects of the proposed development are to be mitigated through a contribution of £174 per dwelling, as set out in the Interim Solent Recreation Mitigation Strategy.

4.1.2 Other Statutory and non-statutory designated sites

The site lies within Saltmarsh Lane E SINC, with the field to the west in Saltmarsh Lane C SINC. HBIC confirmed records exist of Brent geese (maximum of 70 and 66, respectively), but that the status of the sites for the species is "uncertain" since they "*fell below the minimum confidence threshold, meaning that sites need further survey work to inform their assessment*". Policy DM23 "Uncertain Sites for Brent Geese and Waders" in the Havant Borough Draft Local Plan (Allocations) December 2012 states that "*studies will be required to be undertaken in accordance with an appropriate survey methodology in order to determine their level of importance*" of such sites.

Impacts of proposed developments are discussed in the agreed Brent Goose Mitigation Strategy/Addendum for the site (Tyler Grange 2013).

Given the distances involved and scale of development proposed, it is not likely that development of the site would affect the integrity of Solent Maritime SAC or Sinah Common SSSI. These are located in excess of 0.8km to the south of the site and are unconnected. Solent Maritime SAC is designated for the presence of Desmoulins whorl snail (*Vertigo moulinsiana*) and estuarine cord-grass and salt meadow habitat. Sinah common is notified for its coastal habitats including pioneer shingle vegetation, maritime shingle grassland which includes dry acid grassland and lichen rich acid grassland, mobile dune, semi-fixed dune, dune heath and an associated small area of saltmarsh. The site is also notified for endangered and nationally scarce plants.

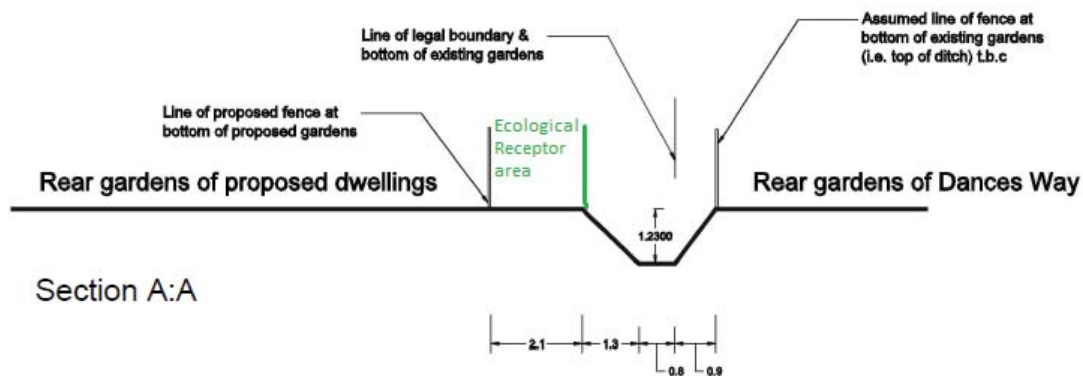
Owing to the scale of development and distances involved, no adverse effects to five other SINCs designated for botanical interest within 2km are anticipated.

4.2 Protected and Notable Species

4.2.1 Reptiles

Approximately 0.08ha of scrub, grassland and ruderal habitat is to be lost as part of the site access construction. However, the planning layout has been designed so that the arable field margins are largely retained within the proposals (see Drawing 1 below). Furthermore, an attenuation pond is proposed within the north of the site, which will only be wet following periods of heavy rainfall and as such during the reptile active season, it is considered that this feature will be largely dry. Given that only a maximum of 0.08ha of reptile habitat will be directly impacted by the proposals (considered to be less as much of this area comprises dense vegetation which is too shaded for reptiles to utilise), a significant number of reptiles are not anticipated to be present within such a small area. As such, it is recommended that a displacement exercise is undertaken. This will involve one-way reptile exclusion fencing, which should be installed around the arable margins of the site, separating the current arable field from the retained arable field margins.

Drawing 1. Cross section showing location of receptor area between residential gardens and ditch.



In support of this displacement, preparation of a suitable reptile receptor site will take place as a first measure. The arable field margins will be strimmed to 150mm along half their width to provide basking habitat as well as refuge and shelter for reptiles. Currently these margins comprise tall grassland which has limited basking habitat for reptiles. This represents an ecological enhancement for reptile species as the current density of ruderal and scrub habitat within the proposed access area provides only limited opportunities of this type. To complete the displacement of reptiles within the south of the site, a watching brief from a suitably qualified ecologist will be undertaken to reduce the likelihood of killing or injuring reptiles. This will involve lifting all refugia present and any reptiles found being translocated to the retained arable margins. Refugia will be removed to prevent re-use.



Following which, the grassland will be strimmed to 150mm and a finger tip search for reptiles completed. The scrub will also be cut down to 300mm and, if undertaken during the nesting bird season, mitigation will follow the advice provided in the breeding bird section below. All arisings will be chipped and removed from the site to prevent use by reptiles.

Following this, a destructive search of this area will be completed which will involve using a toothed, tracked excavator to remove the top 150mm of vegetation including root system of the brambles. Both the removed vegetation and area where the vegetation has been removed from will be checked for reptiles. Any reptiles discovered will be moved by a suitably qualified ecologist and manually translocated into the retained arable margin receptor site. Please refer to Figure 5, Appendix A for details of pre-construction mitigation measures for reptiles.

Post-construction mitigation is to include the management of the site periphery for reptile species, providing suitable habitat and margins for their use. Grassland habitat surrounding the proposed SUDS feature at the north-eastern corner of the site would also be included within this management, bringing the total area of the site that managed for reptile species to 0.36ha. This area habitat area exceeds that to be lost as part of current proposals (approx 0.08ha), thus providing a net ecological enhancement for reptile species.

Management of the drainage ditches will be carried out in conjunction with grassland management. This will primarily comprise vegetation cutting to prevent scrub from encroaching and impairing the function of the ditches. Vegetation will be cut to a height of 150mm with all arisings removed. Removal of sediment will take place once the ditch volume is reduced by 25%. Inspection of the ditches and remedial management will be carried out annually. Management will be undertaken in 10m lengths with a minimum of 10m left undisturbed between managed sections to ensure refuges are retained allowing wildlife to re-colonise.

No herbicides or pesticides will be used during management of ditches. Debris and rubbish will be removed from all ditch sections during any management visit.

Refer to Figure 6, Appendix A for an overview of compensation and enhancement measures for the site. These mitigation measures have been discussed informally with the LPA who have agreed in principle.

4.2.2 Breeding Birds

In order to minimise the risk of impacting nesting birds that may be using the hedgerow, it is recommended that vegetation clearance is undertaken outside of nesting bird season (which extends between March and September inclusive) where possible. In cases where this is not possible, for



example during habitat clearance for reptile displacement, it is recommended that a nesting bird check is carried out by a suitably experienced ecologist immediately prior to the removal of any vegetation. If an active bird nest is found, it must be retained along with a suitable buffer zone (extent depending on species but likely to be a minimum of 5m) until the chicks have fledged and cease to return to the nest. The site will be enhanced for breeding birds through the provision of five nesting bird boxes for birds of conservation concern, such as house sparrow, house martin and swift. Please refer to appendix B for examples of species-specific wildlife boxes.

4.2.3 Commuting/Foraging Bats

The hedgerow to the west of the site has potential to be utilised as a corridor for foraging and commuting bats. It is recommended that hop-over features are created over the two proposed western site accesses, in order to prevent impacts on these species and allow the continued use of the feature as a commuting and foraging corridor. A sensitive lighting strategy for the site is to be designed and implemented to prevent light spill on to boundary vegetation. The provision of five bat boxes will enhance bat roosting opportunities within the site. Please refer to appendix B for examples of species-specific wildlife boxes. These mitigation measures have been discussed informally with the LPA who have agreed in principle without the need for further species-specific survey.

4.3 Hedgerow Removal

Additional lengths of hedgerow H1 are to be removed as part of access proposals for the site; hedgerow proposed for removal along the western boundary totals 21m. Remaining boundary vegetation and trees throughout the site are to be retained. Compensatory native hedgerow and tree planting is to be implemented along the northern boundary and between the residential and commercial parts of the site as part of proposals, totalling approximately 240m in length. Refer to Figure 6, Appendix A for an overview of the hedgerow to be removed and proposed compensatory planting. This strategy has been discussed informally with the LPA and has been agreed in principle as providing adequate compensation.

5.0 Wider Site Assessment of Brent Goose Mitigation Strategy

5.1 Previous Approach

The Brent Goose Mitigation Strategy (and addendum) previously issued by Tyler Grange (2013) comprised three different key elements in its approach. These were assessed in turn in terms of current status and ongoing feasibility; please refer to Figure 7, Appendix A in combination with the following.

Prevention of uncontrolled access to fields to the west of the Billy Trail to prevent disturbance to nesting birds.

This is to be achieved through the repair of western boundary fencing that runs along the length of the Billy Trail. During the WYG site walkover in June 2015, no notable constraints to this activity taking place were identified. However, additional areas of damage and holes within the fencing that require repair to promote access prevention were identified. These were mapped during the site visit and this data is presented on Figure 7, Appendix A. These additional damaged areas will be repaired as part of the fulfilment of the Brent Goose Mitigation Strategy.

Change in land use, returning 1.5ha of existing horse paddock to arable use.

During the WYG site walkover in June 2015, it was noted that this element of the Brent Goose Mitigation Strategy has now been completed; this 1.5ha field is now sown with oats, as are the fields in the wider area. There will therefore be no ongoing impact upon this area of land, as it has already been returned to arable land use. Please refer to Figure 7, Appendix A for the location of this area to be returned to arable land use.

The removal of poor hedgerow and scrub surrounding the former horse paddock, in order to improve sight lines and encourage use of the field by Brent geese and wader species.

During the WYG site walkover in June 2015, the areas of hedgerow and scrub to be removed were successfully identified. These reportedly been removed previously in September, and some re-growth was noted. It was determined that the remaining grassland, scrub and ruderal re-growth may be removed without constraint. It is recommended that vegetation clearance is undertaken outside of nesting bird season (which extends between March and September inclusive) where possible. If this is not possible, it is recommended that a nesting bird check is carried out by a suitably experienced ecologist immediately prior to the removal of any vegetation. If an active bird nest is found, it must be retained along with a suitable buffer zone (extent depending on species but likely to be a minimum of 5m) until the chicks have fledged and cease to return to the nest.

As a precautionary measure, the removal of hedgerow and scrub works were assessed using the Natural England Risk Calculator for great crested newts, given that the hedgerows and scrub habitat due for removal is located between 100m and 250m from the pond that was identified during the 2015 WYG site visit. Taking a “worst case” scenario that a maximum area of 0.3ha of hedgerow would be removed, the risk calculator returned a result of “offence highly unlikely” concerning great crested newts.

Table 2 Natural England Risk Calculator for Great Crested Newts

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond Hedgerow Removal for Brent Geese	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond Development Site	1 - 5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
Maximum:		0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

5.2 Additional Recommendations for Brent Goose Mitigation Strategy

As a precautionary measure, it is recommended that the hedgerow and scrub is cut down to a height no less than 300mm in order to avoid impacts to reptiles and great crested newt. No ploughing of the area is to take place for the same reason. The removal of this habitat is to be timed to occur outside of the nesting bird season (which extends between March and September inclusive) and is designed to avoid potential impacts to reptiles through that avoidance of plough use and cut height of vegetation. Please refer to Figure 7, Appendix A for the location of this hedgerow and scrub habitat to be removed.

The maintenance of a rotating cropping regime for the wider area is important as this is integral to the wider site supporting Brent geese. It is understood that Tyler Grange previously submitted a cropping plan as part of the Brent Goose Mitigation Strategy and that this was agreed with Natural England. No recommendations are made to alter this plan; however, it is recommended that winter



wheat crop is not present in the fields adjacent to the site during the construction phase of development in order to avoid inducing disturbance to Brent geese that may consequently use the site at this time as a result of the crop present.



6.0 References

Fearnley, H., Clarke, R. T. And Liley, D. (2010) *The Solent Disturbance and Mitigation Project. Phase II. On-site visitor survey results from the Solent region.*

Solent Recreation Mitigation Partnership (2014) *Interim Solent Recreation Mitigation Strategy.*

Tyler Grange (2013) *Land off Station Road, Hayling Island; Ecological Assessment, 11 June 2013*
[Document Reference 1435_2011_R02a_JA_RW]

Tyler Grange (2013) *Land off Station Road, Hayling Island; Brent Goose Mitigation Strategy, 11 September 2013* [Document Reference 1435_2011_R03b_JA_RW]

Tyler Grange (2013) *Land off Station Road, Hayling Island; Brent Goose Mitigation Strategy - ADDENDUM, 19 November 2013* [Document Reference 1435_2011_R04b_JA_RW]



Appendix A - Figures

Figure 01 - Site Location Map

Figure 02 - Current Planning Layout (Document Reference ST-10-04 E)

Figure 03 - Update Phase 1 Habitat Map

Figure 04 - Location of Pond Assessed for Great Crested Newt

Figure 05 - Pre-construction Reptile Mitigation

Figure 06 - Compensation and Enhancement Overview

Figure 07 - Updated Brent Goose Strategy Map

Figure 08 - Station Road Exhibition Board



Legend

-  Proposed Development
-  Site Boundary
-  Solent Waders and Brent Goose Strategy Field Boundaries





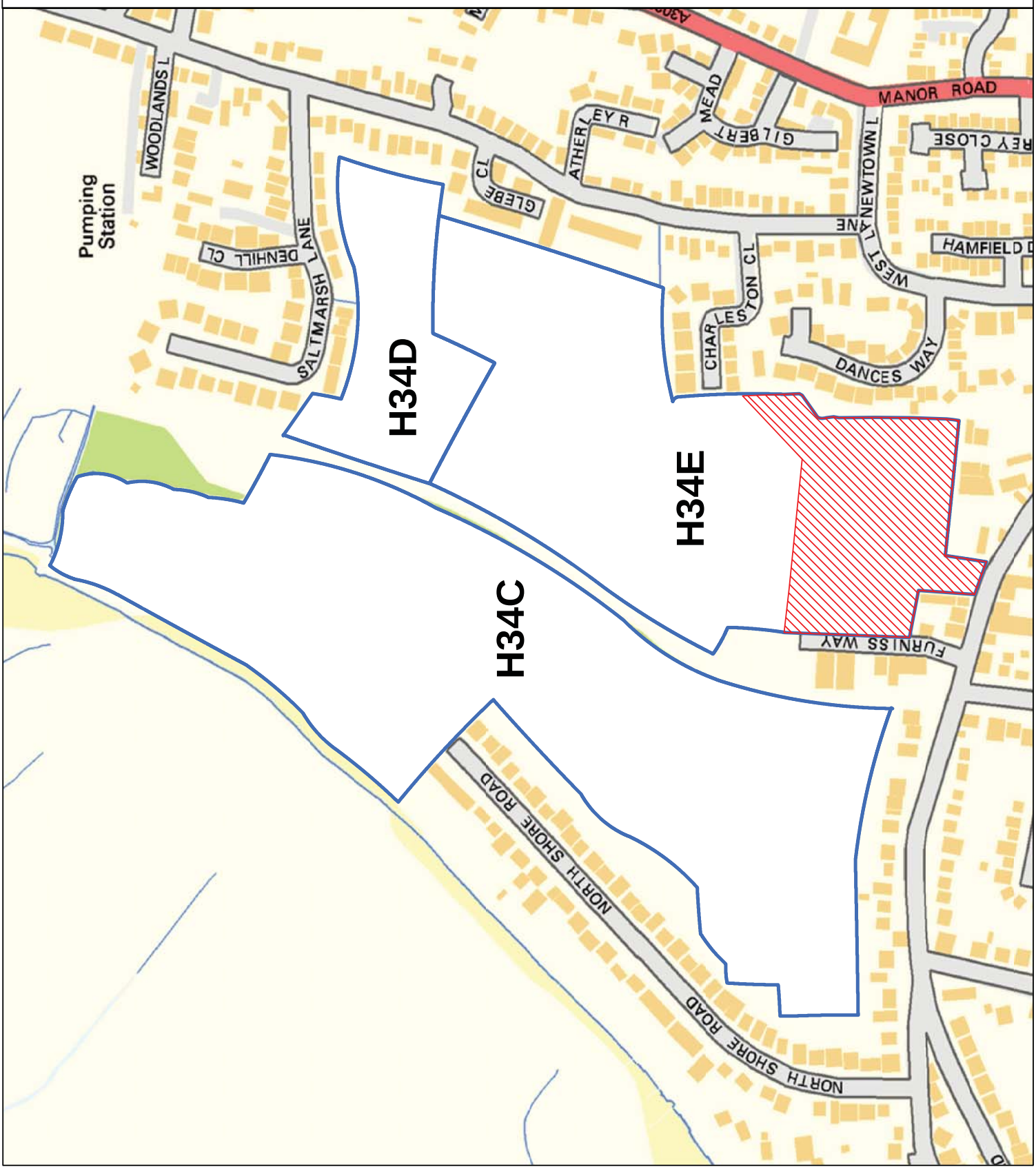
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SO30 2AF
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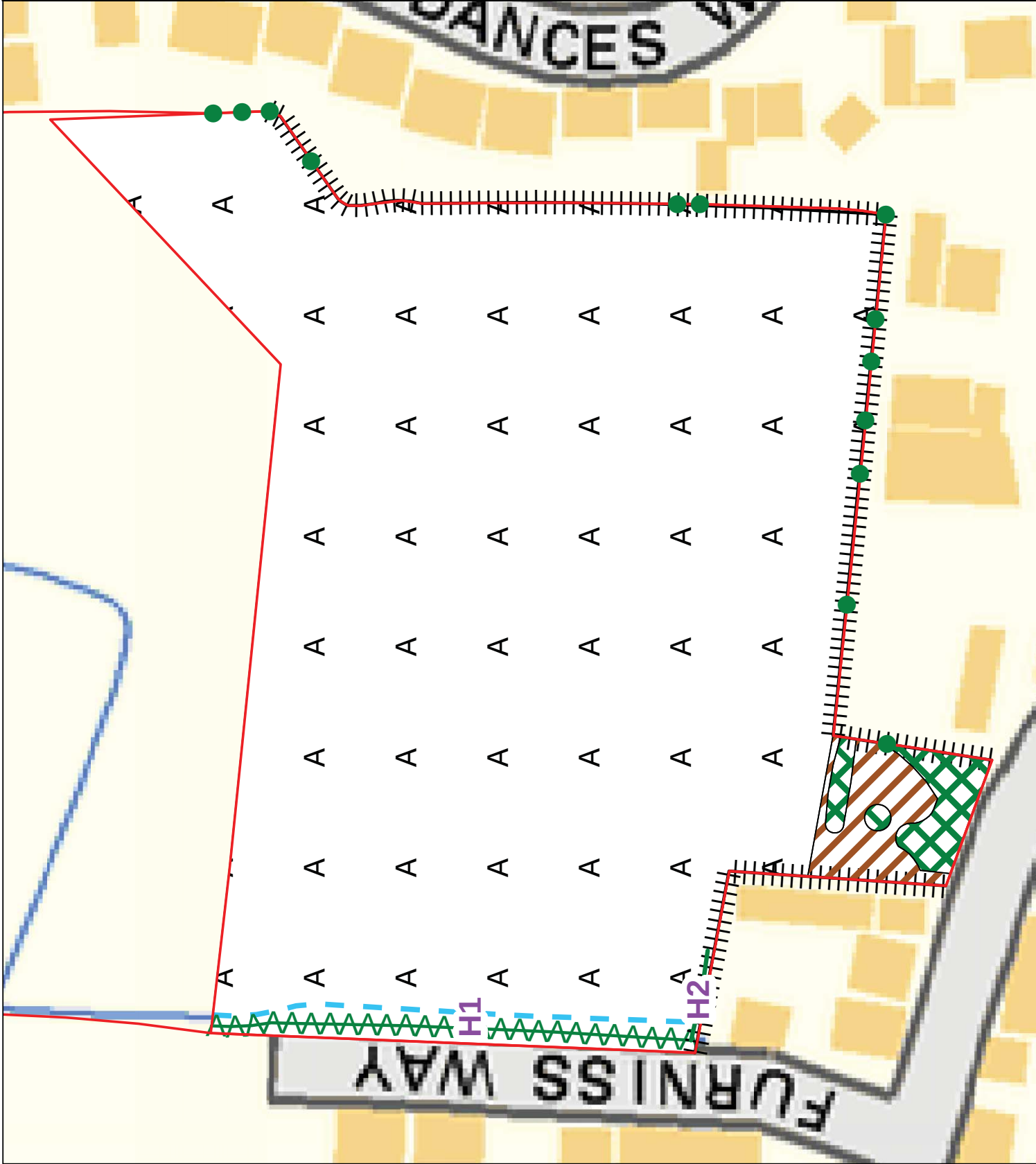
Station Road, Hayling Island

Site Location Map

Scale at A3:	Drawn By: Date:	Checked By: Date:	Approved By: Date:
FS	01/07/15	DW	01/07/15
Project No:	Office Type	Drawing No.	Revision
A092944	45	94	Figure 01
Base map provided by...			

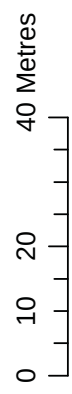


one day. As participants in this study sampled several products, they were able to identify the best product for a particular use. The researchers also found that the best product was not always the same for all participants.



Legend

- Site Boundary
- Dense Scrub (Interspersed With Grass)
- Tall Ruderal (Interspersed With Grass)
- Arable Field Use (with Narrow Grassland Margins)
- Fence
- Intact Native Species-Rich Hedgerow
- Intact Native Species-Poor Hedgerow
- Dry Ditch
- Scattered Broadleaved Trees



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Botleigh Grange Office Campus
Hedge End
Southampton
Hants
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email: ecology@wyg.co.uk

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Updated Phase 1 Habitat Map
June 2015

Scale at A3:	Drawn By: Date:	Checked By: Date:	Approved By: Date:
FS	01/07/15	DW	01/07/15
Project No:	Office Type	Drawing No.	Revision
A092944	45	94	Figure 03

Base map provided by...



Legend

-  Site Boundary
-  Pond Assessed for Great Crested Newt





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The Pavilion, 1st Floor
Botleigh Grange Office Campus
Hedge End
Southampton
Hants
SO30 2AF

Tel: 02382 022800
email: ecology@wyg.co.uk

Pond Location
Assessed for Great Crested Newt 23/06/2015

Scale at A3:	Drawn By: Date:	Checked By: Date:	Approved By: Date:
FS	01/07/15	DW	01/07/15
Project No:	Office Type	Drawing No.	Revision
A092944	45	94	Figure 04

Base map provided by...





Legend

- Site Boundary
- Reptile Fencing Installation
- Tall Ruderal/Scrub - Clearance and Destructive Search
- Field Margin Receptor - Partial Cut to Provide Basking Habitat

* All vegetation removal is to occur outside of the nesting bird season (March-September)

** Current Arable field boundaries are densely vegetated and provide limited basking opportunities for reptiles.

Management of habitat for reptiles is to comprise;

- Partial strip of boundary habitat to 150mm (To occur prior to displacement activities)
- Retention of tall grassland surrounding SUDS feature.

0 10 20 40 Metres

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Hedge End
Southampton
Hants
SO30 2AF

Tel: 02382 022800

email: ecology@wyg.co.uk

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Pre-construction Mitigation Activity for Reptiles

Scale at A3:	Drawn By: Date:	Checked By: Date:	Approved By: Date:
FS	01/07/15	DW	01/07/15
Project No:	Office Type	Drawing No.	Revision
A092944	45	94	Figure 05

Base map provided by...



Legend

- Site Boundary
- Compensatory Habitat Managed For Reptiles (Apx 0.36ha)**
- Removal of Hedgerow for Access Points (Apx 21m)*
- New Planting of Hedgerow (Apx 240m)
- Fence
- Intact Native Species - Rich Hedgerow
- Intact Native Species - Poor Hedgerow
- House Martin Box
- Swift Box
- House Sparrow Box
- Bat Box

* All vegetation removal is to occur outside of the nesting bird season (March-September)

** Current Arable field boundaries are densely vegetated and provide limited basking opportunities for reptiles.

Management of habitat for reptiles is to comprise;

- Partial strip of boundary habitat to 150mm (To occur prior to displacement activities)
- Retention of tall grassland surrounding SUDS feature.

0 10 20 40 Metres

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Hants

SO30 2AF

WYG Planning & Environment

Tel: 02382 022800

email: ecology@wyg.co.uk



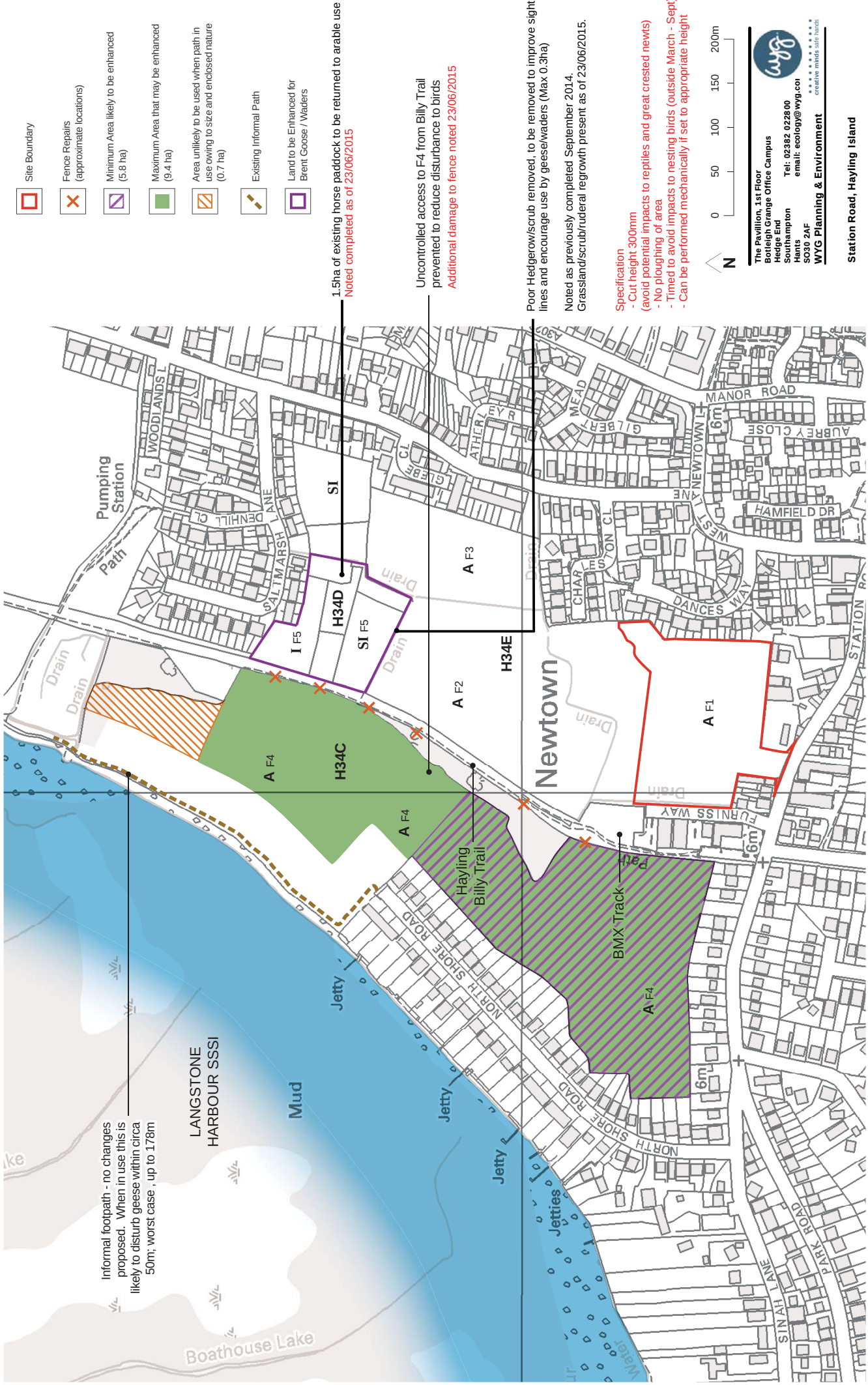
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Compensation and Enhancement Overview

Scale at A3:	Drawn By: Date:	Checked By: Date:	Approved By: Date:
FS	01/07/15	DW	01/07/15
Project No:	Office Type	Drawing No.	Revision
A092944	45	94	Figure 06

Base map provided by...



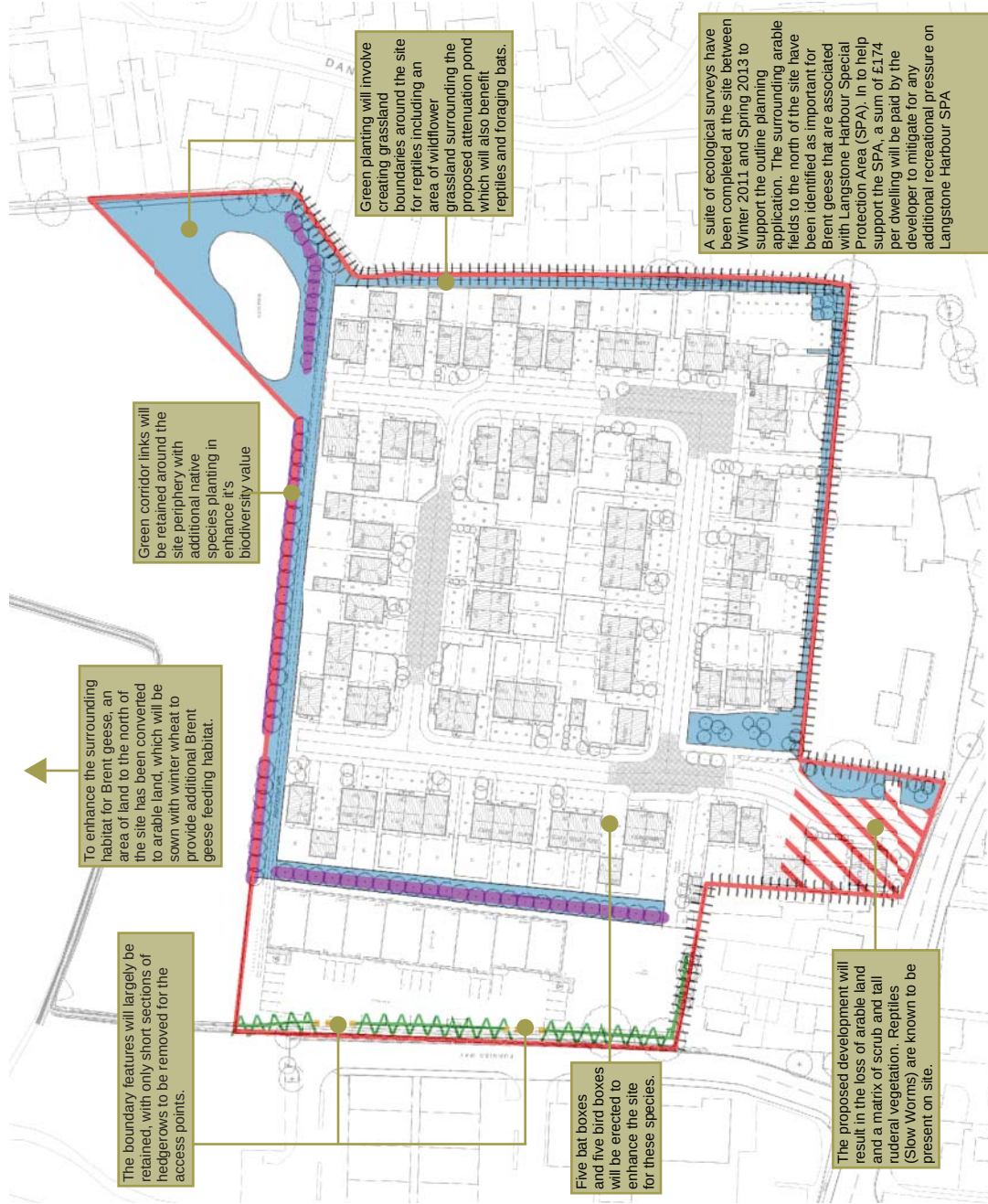
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Botleigh Grange Office Campus
Hedge End
Southampton
Hants
SO30 2AF
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email: ecology@wyg.co.uk
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Updated Brent Goose Mitigation Strategy

Adapted From Tyler Grange Drawing 1435/PO3

Scale at A3:	Drawn by: Date:	Checked By: Date:	Approved By: Date:
	FS 01/07/15	DW 01/07/15	CM 01/07/15
Project No:	Office	Type	Drawing No.
A092944	45	94	Figure 07
Revision			
Base map provided by...			





Appendix B – Wildlife Boxes



Introduction

The information in this appendix relates to bat and bird boxes that can be easily incorporated into building and landscape plans. The information provided is not exhaustive and provides examples of some of the types of boxes available.

Including bat and bird boxes throughout the development site has a number of benefits:

- Any roosting or resting places lost as a result of the work will be replaced;
- The ecological value of the site will be enhanced;
- Priority species within the UK and local Biodiversity Action Plans (BAPs) will be encouraged.

Bats

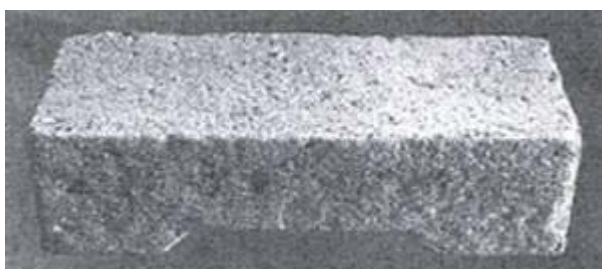
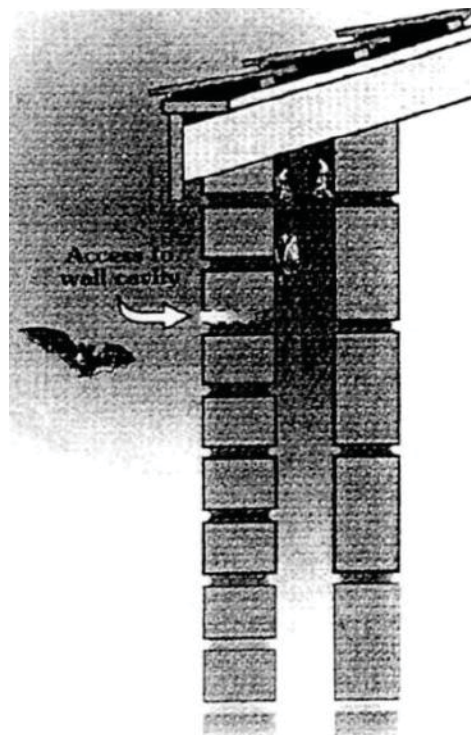
For Buildings

The inclusion of a variety of bat bricks, tubes and boxes for buildings is recommended to encourage a diversity of bat species. Bat bricks and tubes require no maintenance.

Bat Access and Roost Bricks

Source: Marshalls Clay Products (approved by the Bat conservation Trust)

'... Marshall Clay Products have been producing a Bat Access Brick specially designed to help the country's badly depleted bat population by provided access to wall cavities or roof spaces where most bat colonies tend to be (see diagram). In recent years bats have been declining at an alarming rate. Nearly all colonies tend to be on the outside of houses, in wall cavities, under slates, flashing or tiles, et c. ... Contrary to popular opinion, bats do not make pests and do absolutely no damage to buildings or roof timbers, indeed many people encourage bat colonies in their area because of the large number of insect pests, woodworm, et c. which they eat. Most colonises will use a house for only a few weeks in summer before dispersing in autumn.'



Marshall's Bat Access Brick, which is now also available in stone.

A Bat Brick should ideally be placed as high as possible at the gable apex or close to the soffit.

Marshalls Clay Products - Quarry Lane,
Howley Park, Woodkirk, Dewsbury, West
Yorkshire, WF12 7JJ – Tel: (01132) 203535,
Fax: (01132) 203555.

Bat Tube

Brick bat tubes are designed for buildings, or underneath bridges, arches or tunnels, where conditions are relatively humid. They are particularly useful for new buildings or bridges to attract bats, or to provide new roost sites where existing buildings with bats are being renovated.

This long box can be installed within brick masonry, beneath plasterwork or wood panelling, or incorporated into concrete structures such as factory buildings or bridges. Inside it contains a woodcrete surface, a roughened wood board, and a metal mesh, providing a choice of roosting areas depending on the weather conditions and the bats' habits. This box is maintenance-free as the entrance slit is at the bottom.

No painting required, but if painting is necessary a natural breathable paint should be used.

Width: 20cm; Height: 47.5cm; Depth: 12.5cm; Entrance Width: 15cm; Entrance Depth: 2cm; Weight: 13kg



Bat Box

This type of box is made of woodcrete and is expected to last approximately 25 years. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats. Woodcrete (75% wood sawdust, concrete and clay mixture).

Width: 27cm; Height: 43cm; Weight: 8.3kg.



For Trees

Woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are long lasting (approx. 25 years) and are rot- and predator-proof. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail. Attractive to smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture);

Diameter: 16cm; Height: 33cm; Weight: 4kg.



Bird Boxes

A variety of bird box designs could be installed throughout the development site to attract a diversity of species. Open fronted boxes will attract species such as robins, pied wagtails and spotted flycatchers, while boxes with entrance holes will attract tits, wrens and tree sparrows. Roost pockets will be used by roosting birds over the winter and by smaller species, such as wrens, for nesting in the spring.

Open Fronted Boxes

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts and is best sited on the walls of buildings with the entrance on one side.

These woodcrete boxes are designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.



Boxes with Entrance Holes

This box is attractive to smaller birds such as tits, wrens and tree sparrows. Sparrow terraces are also available.



Swift Boxes

The No.17 Schwegler Swift Nest Box (single cavity) is attractive to swifts. The Swift Box No. 17 is made from a special mixture of compressed plant fibres and concrete which enables it to provide good insulation and an extremely long life. Due to its light weight these boxes are particularly suitable for mounting on existing external walls with insulation or facing which makes the installation of heavier boxes problematic. The box is supplied in a natural grey colour but can be painted to match the background using an air-permeable paint. Multi-cavity and enlarged cavity variants are available.



Material: Plant fibre and wood-concrete (100% asbestos-free); Width: 34cm (+ wing screws); Height: 15cm; Depth: 15cm

Brood chamber dimensions: 14cm x 14cm x 30cm

Weight: 3.1kg

Boxes with Entrance Holes

This box is attractive to smaller birds such as tits, wrens and tree sparrows. Sparrow terraces are also available.



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The No.17 Schwegler Swift Nest Box (single cavity) is attractive to swifts. The Swift Box No. 17 is made from a special mixture of compressed plant fibres and concrete which enables it to provide good insulation and an extremely long life. Due to its light weight these boxes are particularly suitable for mounting on existing external walls with insulation or facing which makes the installation of heavier boxes problematic. The box is supplied in a natural grey colour but can be painted to match the background using an air-permeable paint. Multi-cavity and enlarged cavity variants are available.



Material: Plant fibre and wood-concrete (100% asbestos-free); Width: 34cm (+ wing screws); Height: 15cm; Depth: 15cm

Brood chamber dimensions: 14cm x 14cm x 30cm

Weight: 3.1kg

Insect Boxes

As with the bat and bird boxes, a variety of insect boxes is recommended to encourage a diversity of species.

Wooden Insect House

A general insect habitat for beneficial insects in summer and, later in the year, over wintering ladybirds and lacewings. Locate in a sheltered place near nectar or pollen plants or by a pond.

Durable and strong construction in acacia, oak or larch with no maintenance necessary. Dimensions: 22 × 13.5 × 13.5cm.



Woodcrete Insect House

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps.

Dimensions: 14 × 8 × 26cm; Weight: 3.65kg



Insect House with Inspection Tubes

This nesting and hibernation box for insects has a woodcrete exterior with a wooden front panel which can be removed for observation. Through the transparent tubes you can see the usually hidden lifecycle of many solitary types of bees and hymenoptera including egg-laying, development of larvae and sealing of brood chambers.

Typical inhabitants are wild bees and thread-waisted wasps. All the species attracted to this box are harmless non-aggressive pollinating insects. Dimensions: 33 × 21 × 51 cm; Weight: 7.1kg.

