
VANTAGE POINT SURVEYS 2017

Hade Edge

Jones Homes (Yorkshire) Ltd



**Applied Ecological Services Ltd
Ramshaw House, Ramshaw
County Durham
DL14 0NG**

**info@aes-ltd.com
01388 8350**

Field Investigations and Data

Where field investigations have been carried out these have been restricted to a level of detail required to achieving the stated objectives of the work. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by AES - Ltd for inaccuracies in the data supplied by any other party.

Copyright

© Applied Ecological Services Ltd (AES-LTD 2017). All rights reserved.

This document has been provided for your reference by Applied Ecological Services Ltd. No material from this document may be otherwise copied, altered, republished, transmitted or distributed in any way without permission.

Third Party Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by AES – Ltd at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. No other warranty, expressed or implied is made as to the professional advice included in this report

Report Reference & History: Document 1, version 2.

Issue Status	Prepared / Date	Approved / Date
Draft 1	DG & CM 22.05.17	
Final for Planning		GT 25.05.17

TABLE OF CONTENTS

1.0 Introduction.....	4
Golden Plover.....	4
Site Location / Description.....	5
The Proposed Development	5
2.0 Legislation & Policy Background	6
3.0 Methodology	9
Desk Study.....	9
Survey.....	9
Limitations to Survey	10
4.0 Results	11
Desk Study	11
Ecological Records.....	12
General Habitat Description	14
Vantage Point Survey 2017	15
5.0 Discussion	20
Timing of Works	21
Enhancement Recommendations.....	22
Appendix 1 – Drawings	23

1.0 INTRODUCTION

- 1.1 Applied Ecological Services Ltd. (AES-LTD) was commissioned by Jones Homes (Yorkshire) Ltd. to undertake ornithological surveys to ascertain if the proposed development site at Hade Edge was being used for foraging by the qualifying features of the South Pennine SPA (Special Protection Area); Merlin *Falco columbarius*, European golden plover *Pluvialis apricaria* and Short eared owl *Asio flammeus*. Golden Plover has been identified as the key species to survey as it qualifies for SPA designation in its own right as an Annex 1 species under Article 4.1 of the Birds Directive.
- 1.2 Survey was undertaken every two weeks between mid-March and mid-May 2017 using methodology designed by AES-LTD and agreed by the Local Planning Authority and Dr Tim Melling (RSPB) prior to the commencement of survey. The surveys were undertaken by experienced Ornithologist David Gash ¹(AES-LTD).

GOLDEN PLOVER

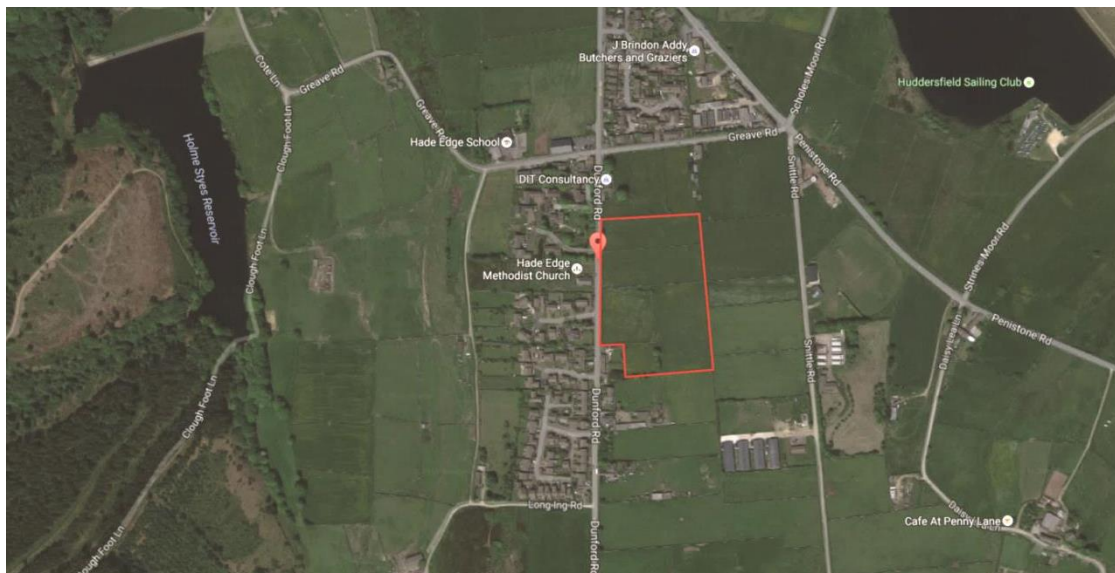
- 1.3 Golden plover occupy lowland pastures (and the moors) from late February to late July, but mid-March to late April is when they are used most. Three or four eggs are laid late April or early May, incubation is 28 days and the young fly after a further 28 days.
- 1.4 During incubation adult golden plover feed principally in enclosed fields and spend less than 5% of their foraging time on moorland. In contrast, birds with broods spend approximately 85% of their time foraging on moorland. ² Male birds are known to incubate nests during the day (06:00 – 20:00) and then fly to fields to forage where they remain overnight until returning to the nest to resume incubation. Inversely females incubate nests during the night (19:00 – 06:00) and fly to fields to feed during the day.

¹ David Gash (ACIEEM) is an experienced ornithologist with AES-LTD and has over 15 years of experience carrying out bird surveys

² Whittingham, M.J., Percival, S.M. & Brown A.F. (2000) Time budgets and foraging of breeding golden plover *Pluvialis apricaria*. *Journal of Applied Ecology* **37**, 632-646

SITE LOCATION / DESCRIPTION

- 1.5 The site is located along Dunford Road at Hade Edge, approximately 11km south of Huddersfield at grid reference SE 14684 05355 (approximate central point). The site area is approximately 2.4 hectares and consists of x5 improved grassland fields that are fertilised with chemical and cut for hay in June / July. The fields have rough grassland margins and are divided by dry stone walls. There are several trees within the site boundary. The site is bordered to the north by grazed grassland fields and residential properties beyond the fields. Approximately 500m northeast of the site there is a large body of water known as Boshaw Whams Reservoir which is used by the local sailing club. To the east and south of the site there are further areas of grazing / hay fields with occasional farm or residential buildings. The site is bordered to the west by Dunford Road and residential properties of Hade Edge. The site lies within 1.2km of South Pennine Moors SAC (Special Area of Conservation) and Peak District Moors (South Pennine Moors -Phase 1) SPA, and Dark Peak SSSI (Site of Special Scientific Interest).



Site Location Plan

THE PROPOSED DEVELOPMENT

- 1.6 Jones Homes (Yorkshire) Limited currently has two separate planning applications running on the site, one in outline form and one proposes the erection of 59 dwellings (including affordable housing provision) and associated mean of access.

2.0 LEGISLATION AND POLICY BACKGROUND

2.1 Birds are afforded various levels of protection and levels of conservation status on a species by species basis, with the inclusion of a number of species on the following legislation:

- Wildlife and Countryside Act 1981 (as amended) [Department of the Environment (1981)];
- EC Birds Directive (79/409/EEC);
- Natural Environment and Rural Communities Act 2006 – Section 41;

2.2 The most significant general legislation for British birds lies within Part 1 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built;
- Take or destroy an egg of any wild bird.

2.3 In addition Schedule 1 of the Act lists a number of species which are protected by special penalties at all times.

2.4 Council Directive 2009/147/EC on the conservation of wild birds (the 'Birds Directive') provides for the conservation and management of all wild bird species naturally occurring in the European Union, their nests, eggs and habitats. The Birds Directive bans activities that directly threaten birds (e.g. deliberate killing and destruction of nests and young), regulates hunting of selected species, bans non-selective and large scale killing of birds, and promotes research for bird conservation and management. Article 4(4) of the Birds Directive requires that member states "should strive to avoid pollution or deterioration of habitats." The Conservation of Habitats and Species (Amendment) Regulations 2012 provide a fuller transposition of the Birds Directive into English law. Regulation 8 introduces a new Regulation 9A to the Habitats Regulations for duties of appropriate authorities in relation to wild bird habitat. Regulation 9A(3) addresses the transposition of Article 2 of the Birds Directive, while Regulation 9A(8), requiring competent authorities to "use all reasonable endeavours" to "avoid any pollution or deterioration of habitats of wild birds."

2.5 Annex 1 of the EC Birds Directive also lists rare and vulnerable species of wild birds that are subject to special conservation measures.

- 2.6 In addition to statutory protection, some bird species have been identified within key documents as species of conservation concern
- UK Biodiversity Action Plan (1995) lists of globally threatened or declining species;
 - Local Biodiversity Action Plan (Kirklees); and
 - Eaton *et al.* (2015) Birds of Conservation Concern (2015) The population status of birds in the United Kingdom, Channel Islands and Isle of Man.
- 2.7 The UK Biodiversity Action Plan (UKBAP) (2007) lists 59 bird species as priority species requiring conservation action, and consequently action plans have been developed for the conservation of these species.
- 2.8 The Kirklees Biodiversity Action Plan (LBAP) lists 31 bird species as species of principal importance; Black Grouse *Tetrao tetrix subsp. Britannicus*, Common Bullfinch *Pyrrhula pyrrhula subsp. Pileata*, Common Cuckoo *Cuculus canorus*, Common Grasshopper Warbler *Locustella naevia*, Common Linnet *Carduelis cannabina subsp. autochthona/cannabina*, Common Starling *Sturnus vulgaris subsp. Vulgaris*, Corn Bunting *Miliaria calandra subsp. calandra/clanceyi*, Corn Crane *Crex crex* Eurasian Curlew *Numenius arquata*, Eurasian Tree Sparrow *Passer montanus*, European Nightjar *Caprimulgus europaeus*, European Turtle Dove *Streptopelia turtur*, Great Bittern *Botaurus stellaris*, Grey Partridge *Perdix perdix*, Hawfinch *Coccothraustes coccothraustes*, Hedge Accentor *Prunella modularis subsp. occidentalis*, House Sparrow *Passer domesticus*, Lesser Redpoll *Carduelis cabaret*, Northern Lapwing *Vanellus vanellus*, Red Grouse *Lagopus lagopus subsp. scotica*, Reed Bunting *Emberiza schoeniclus*, Ring Ouzel *Turdus torquatus*, Sky Lark *Alauda arvensis subsp. arvensis/scotica*, Song Thrush *Turdus philomelos subsp. Clarkei*, Spotted Flycatcher *Muscicapa striata*, Tree Pipit *Anthus trivialis*, Twite *Carduelis flavirostris subsp. bensonorum/pipilans*, Willow Tit *Parus montanus subsp. Kleinschmidtii*, Wood Warbler *Phylloscopus sibilatrix*, Yellow Wagtail *Motacilla flava subsp. Flavissima* and Yellowhammer *Emberiza citronella*. To date species action plans for birds of principal importance have not yet been prepared.
- 2.9 Some birds are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Eaton *et al* 2015).

- Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern.
- Amber List species are those whose breeding population is in moderate decline (25 – 49% in the last 25 years), rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe.
- Green List (low conservation concern) species fulfil none of the above criteria.

3.0 METHODOLOGY

DESK STUDY

3.1 In order to compile existing baseline information, relevant ecological information was requested from the following organisations which for the purposes of this report, included:

- West Yorkshire Ecology (WYE);
- Sheffield Biological Records Centre (SBRC);
- Huddersfield Birdwatchers
- Multi Agency Geographic Information for the Countryside (Magic) website;

3.2 A 2km radius was searched for sites of International nature conservation importance, such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), statutory sites of national, regional and local importance, such as Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs), and non-statutory designated sites such as Local Wildlife Sites (LWS) and also for records of protected and notable species. A 5km radius for records of Golden Plover (SPA qualifying feature) was requested from Huddersfield Birdwatchers’.

3.3 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

SURVEY

3.4 Survey has been undertaken using vantage point watches. The fields directly adjacent to the site have been considered as the wider study area.

3.5 Vantage points were chosen to maximise visibility over the study area with sufficient cover so as not to disturb birds³; vantage points were located outside the area of study and the observer was sufficiently distant so as not to disturb the survey area, or deter birds from coming in to feed. For the first survey (16-03-2017) three vantage points were used to

³ All parts of a survey area should be visible within 1km of a VP

watch the site; the vantage points were located on Dunford Road, Greve Road & Snittle Road. On subsequent surveys it was determined that the site may be viewed from two vantage points. A minimum of a two hour watch was undertaken on each survey visit. All birds observed were recorded using standard British Trust for Ornithology (BTO) notation. A plan showing the vantage points and study area is shown in **Appendix 1 – Drawings**

- 3.6 Survey was undertaken approximately every two weeks in periods of good visibility and weather conditions from mid-March until mid-May. See **Tables 3 & 4** for dates, times and weather conditions. Surveys were conducted so that female and male feeding birds if present would be recorded. Ideally diurnal surveys would take place between 9am & 6pm, however following consultation with Dr. Tim Melling (RSPB) and Tom Stephenson (Kirklees Biodiversity Officer) it was requested that survey for female golden plover would be undertaken soon after sunrise to enable survey at site before potential disturbances by local residents (eg. dog walkers). Nocturnal surveys were undertaken between 11pm and 4am⁴. A total of x5 (early morning) diurnal surveys were undertaken and a total of x5 nocturnal surveys were undertaken.

LIMITATIONS TO SURVEY

- 3.7 On the first diurnal survey fog rolled in from the moors at approximately 06:00 (sunrise 06:23) although visibility was still good enough to see all parts of the survey area from the vantage point – the fog had completely cleared by 06:40 and did not affect the survey significantly enough to call it off.

⁴ Nocturnal Survey visibility will be facilitated by use of a Nightsearcher Trigger Pro 1000 Lumen (700m beam) torch fitted with a red filter.

4.0 RESULTS

DESK STUDY

- 4.1 The desktop assessment indicates that there are 3 statutory sites and 5 non-statutory sites of nature conservation interest within 2km of the site boundary. In addition, one Site of Wildlife Significance, Boshaw Whams Reservoir, is present 500m northeast of the site. This reservoir is used by Huddersfield sailing club and is stocked with trout and fished by Huddersfield Angling Association. See Tables 1 & 2

TABLE 1: STATUTORY DESIGNATED SITES

Site Name & Description	Designation	Grid Ref.	Distance & Direction from Site
South Pennine Moors The area designated as SAC contains several habitats that are a primary reason for designation as a SAC. These include European dry heaths, blanket bog, old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> , Northern Atlantic wet heaths with <i>Erica tetralix</i> and transition mires and quaking bogs.	SAC	SK 144 960	1.2km S
Peak District Moors (South Pennine Moors Phase 1) The South Pennine Moors SPA includes major moorland blocks of the South Pennines, covering extensive tracts of semi-natural moorland habitats including upland heath and blanket mire. The area is of European importance for several upland breeding bird species including golden plover, merlin, peregrine and short-eared owl, as well as being important for the migration of dunlin.	SPA	SK 157 968	1.2km S
Dark Peak An area of wild, open and more or less continuous moorland, predominantly at an altitude of 400 – 600m. Underlays of millstone grit produces a coarse, gravelly soil which is usually overlain by blanket peat creating blanket mires, wet and dry heaths, acid grasslands, and flushes and mires on moorland slopes. These habitats represent an extensive tract of moorland vegetation of the South Pennines.	SSSI	SK 110 960	1.2km S

- 4.2 There are three non-statutory designated Sites within the 2km search area. See **Table 2**.

TABLE 2: NON-STATUTORY DESIGNATED SITES

Site Name & Description	Designation	Grid Ref.	Distance & Direction from Site
Holme Styles Heathland The site is a typical example of mature acidic heathland, dominated by heather and bilberry, with some acid grassland and a strip of deciduous woodland. The main ecological interest is the presence of a large colony of green hairstreak butterfly.	SSI	SE 140 055	670m W
Wild Boar Clough The site is a single field consisting of neutral and acid grassland with a good range of plant communities. The site supports a good population of the regionally rare <i>Dactylorhiza ericetorum</i> with species rich grassland.	SSI	SE 153 053	550m E
Morton Wood Oak/birch woodland with diverse streamside flushes and wet woodland communities. The herb layer is diverse in places and includes some ancient woodland indicators, such as <i>Lamium galeobdolon</i> and <i>Anemone nemorosa</i> .	SSI & LWS	SE 158 065	920m NE
Yateholme Reservoirs and Plantation The site is potentially the best example of south Pennine upland habitats for breeding birds outside the South Pennine Moors and Dark Peak SSSI. The site also displays a good range of upland habitats including woodlands, grassland, heath, open water, mires and flushes. Which support over 50 regular breeding bird species.	SSI	SE 115 050	1.7km SW
Western Moors Unimproved acid grassland	LWS	SE 165 037	960m S

ECOLOGICAL RECORDS

- 4.3 A data search of a 2km radius around the centre of the site extended over regions covered by two different Ecological Record Centres. The majority of the 2km search radius was within the area covered by West Yorkshire Ecology (WYE). A smaller section of the search area, to the south, was within area covered by Sheffield Biological Records Centre (SBRC).

Bird species

4.4 Bird species make up the majority of records returned by WYE from the 2km radius around the site, with 230 records from 41 species since 2005. The majority of bird records came from between 1.2 and 2km to the west of the site from Cartworth Moor and Yateholme Reservoirs and Plantation. There were no bird records from within the site boundary. There are several bird species represented in the dataset which Kirklees Council consider to be considered designated features of the SPA (golden plover – qualifying species, merlin – qualifying species, Short-eared owl – qualifying species, the following four species, dunlin, twite, curlew and lapwing as part of the breeding bird assemblage) and those species are discussed here.

- Golden Plover *Pluvialis apricaria* - seven records of field observations all from 2012. The closest record to the site is from March 2012 and is of a single bird at Bowshaw Whams reservoir 500m to the north east of the site. The remaining records are all to the west of the site boundary from Cartworth Moor and surrounding area. The largest counts of birds are of 10 individuals (two separate records) and are 1.6 km distant from the site boundary.
- Merlin *Falco columbarius* – One record of a single bird from 2010 from Bowshaw Whams Reservoir
- Curlew *Numenius arquata* - 17 records from between 2010 and 2013. Three records are from Bowshaw Whams Reservoir, two records of single birds and the remaining record of three birds. The remaining records are all to the west of the site boundary from Cartworth Moor and surrounding area.
- Lapwing *Vanellus vanellus* – 24 records from between 2010 and 2014. Five of the records are from Bowshaw Whams reservoir. One of these records from 2010 is of a count of 19 birds. The other records are all from Cartworth Moor and surrounding area to the west of the site.

4.5 Bird species also make up the majority of records returned by SBRC, with 173 records from 42 species since 2005. All the records are from over 950m to the south of the site boundary. The bird species that Kirklees Council considers to be considered designated features of the SPA are discussed here:

- Golden Plover *Pluvialis apricaria* - four records of field observations all from 2014 and one record from 2010. Three of the records (2014) are of birds heard calling but not seen, but of note the 2010 record is of ca500 resting birds however there is not a specific location for the record which is given as SE10 Whitley Common.
- Merlin *Falco columbarius* – Five records all from 2010 approximately 1.5km to the south of the site boundary from Flight Hill and Harden Vismig.
- Short Eared Owl *Asio flammeus* – Two records from 2009 and 2010 from over 1.36km to the south of the site boundary.
- Curlew *Numenius arquata* - Seven records from between 2009 and 2014. One of the records is of 15 birds nesting at fields at Broadstones Winscar Reservoir.
- Lapwing *Vanellus vanellus* – Nine records from 2009, 2011 and 2014. The records are from Snittlegate, Flight Hill and Western Moors LWS

4.6 Records for Golden plover within 5km of the site were requested from Huddersfield Birdwatchers on the 12th January 2017. 124 records were returned. The closest records of Golden Plover to the site are at Bowshaw Whams reservoir (1 bird mid-march 2012) and another record approximately 1km to the north west at Cartwright Moor (17 adults in breeding and non-breeding plumage, early May 2013). These records are illustrated on Golden Plover Records Plan in **Appendix 1 - Drawings**.

HABITATS – GENERAL SITE DESCRIPTION

4.7 The site is located along Dunford Road at Hade Edge, approximately 11km south of Huddersfield at grid reference SE 14684 05355 (approximate central point). The site area is approximately 2.4 hectares and consists of x5 improved grassland fields that are fertilised with chemical and cut for hay in June / July. The fields have rough grassland margins and are divided by dry stone walls. There are several trees within the site boundary. The site is bordered to the north by grazed grassland fields and residential properties beyond the fields. Approximately 500m northeast of the site there is a large body of water known as Boshaw Whams Reservoir which is used by the local sailing club. To the east and south of the site there are further areas of grazing / hay fields with occasional farm or residential buildings. The site is bordered to the west by Dunford Road and residential properties of Hade Edge. See Extended Phase 1 Habitat Survey for a detailed description of the habitats.

VANTAGE POINT SURVEY 2017

- 4.8 Vantage point surveys were undertaken over one season from mid-March 2016 to mid-May 2017. Details of dates, times and weather conditions are given below in **Tables 3 & 4**

TABLE 3: VANTAGE POINT SURVEY DETAILS – NOCTURNAL SURVEY

Date	Time Period	Weather Conditions
16-03-2017	02:00 – 04:00	Beaufort 1-2 W / Cloud 2/8 ^{ths} / Dry 6 °C
30-03-2017	02:00 – 04:00	Beaufort 3 SW / Cloud 8/8 ^{ths} / Dry 13 °C
13-04-2017	12:00 – 02:00	Beaufort 2 NW / Cloud 0/8 ^{ths} / Dry 4 °C
27-04-2017	01:55 – 04:00	Beaufort 2 NW / Cloud 4/8 ^{ths} / Dry 3 °C
11-05-2017	01:00 – 03:00	Beaufort 2 SE / Cloud 0/8 ^{ths} / Dry 7 °C

TABLE 4: VANTAGE POINT SURVEY DETAILS – DIURNAL SURVEY

Date	Sunrise	Time Period	Weather Conditions
16-03-2017	06:20	05:45 – 08:25	Beaufort 2-3 W / Cloud 1/8 ^{ths} / Dry 5 °C
30-03-2017	06:42	06:00 – 09:00	Beaufort 2-3 SW / Cloud 8/8 ^{ths} / Dry 14 °C
13-04-2017	06:08	06:10 - 08:30	Beaufort 2 NW / Cloud 6/8 ^{ths} / Dry 5 °C
27-04-2017	05:40	05:50 – 08:00	Beaufort 1 NW / Cloud 6/8 ^{ths} / Dry 5 °C
11-05-2017	05:14	05:15 - 08:30	Beaufort 1 SE / Cloud 0/8 ^{ths} / Dry 7 °C

- 4.9 Throughout the course of the surveys no Golden Plover (GP) were observed within the site (red line boundary) or the extended study area (yellow line boundary).
- 4.10 A single golden plover was heard calling during the last survey approximately 1.0km to the South of the site close to Snittle farm.
- 4.11 An account of the observations recorded each survey is given below in **Table 5**.

TABLE 5: OBSERVATIONS

Date	Ornithological Account		Notes
	Nocturnal Survey	Diurnal Survey	
16-03.17	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - A Robin was heard singing from one of the gardens on Dunford Road. - Several Lapwing heard calling from the fields, located to the north east, between Penistone Road and Scholes Moore Road. - Several Lapwing and Snipe heard calling from the fields on Snittle Road, approx. 0.5km to the south, close to Snittle Farm. 	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - Birds recorded within the red line boundary fields were Carrion Crow. - Birds recorded within the yellow line boundary fields were Meadow Pipit and Mistle Thrush. - Other birds seen and heard in the area were Song Thrush, Blackbird, Robin, Wren, Dunnock, Wood Pigeon, Black Headed Gull, Starling, Pied Wagtail, Jackdaw, Rook, Chaffinch, Collared Dove and Lapwing. 	<p>Three VPs were used to survey</p> <ul style="list-style-type: none"> - The grass in several of the fields is long enough to make foraging for food difficult, whereas in several others (yellow line boundary) it's short & has been sheep grazed. In the field on the south east corner, within the yellow line boundary, there are approx. 15 sheep currently grazing it. - There is significant light pollution from the street lights on both Dunford and Greave Roads. - Noise pollution from heavy lorries/cars is sporadic between the hours of 2am to 5am, on both Dunford, Greave & Penistone Road (B6106). But from 5am onwards this traffic becomes more frequent and from 7am onwards it gets very busy. - Disturbance by people started at 4.45am, when the farmer came down Snittle Road to tend to stock kept close to Greave Road. - The first person seen walking along the pavement on Dunford Road was at 06.20am, followed by a jogger at 06.25am. - The first walker on Snittle Road was at 07.45am.
30-03.17	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - A Robin was heard singing from one of the gardens on Dunford Road. - Several Lapwing were heard calling from the fields, located to the north east, between Penistone Road and Scholes Moore Road. 	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - Birds recorded within the site boundary were Mistle Thrush, Carrion Crow, Goldfinch and Black Headed Gull. The latter three species were flying over. - Birds recorded within the wider study area were Chaffinch, x2 Mallard, Carrion Crow, Black Headed Gull, Canada Goose, Rook, Greenfinch 	<p>Two VPs were used to survey</p> <ul style="list-style-type: none"> - The length of the grass varies from being closely cropped, where the sheep are still grazing within the wider study area to approx. 6 inches long in the site. - Noise pollution from heavy lorries/cars is sporadic between the hours of 2am to 5am, on both Dunford, Greave & Penistone Road (B6106). But from 5am onwards this traffic becomes more frequent and from 7am onwards it gets very busy.

	<ul style="list-style-type: none"> - Several Lapwing were heard calling from the fields on Snittle Road, approx. 1.0km to the south, close to Snittle Farm. 	<p>and Pied Wagtail. Only the Mallard and Rook were observed within the fields, the rest of the species were flying over.</p> <ul style="list-style-type: none"> - Other birds seen and heard in the area were Song Thrush, Lapwing, Blackbird, Robin, Wren, Dunnock, Magpie and Pheasant. - Several Curlew were heard calling from the north east, between Penistone Road and Scholes Moore Road and the fields on Snittle Road, approx. 1.0 km to the south, close to Snittle Farm. 	<ul style="list-style-type: none"> - Disturbance by people started at 4.50am, when the milkman drove down Dunford Road, delivering milk to several addresses. - Walkers were noted on Dunford Road from 05.30am.
13-04-17	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - A Robin was heard singing from one of the gardens on Dunford Road. - Several Lapwing were heard calling from the fields, located to the north east, between Penistone Road and Scholes Moore Road. - Several Lapwing and snipe were heard calling from the fields on Snittle Road, approx. 1.0km to the south, close to Snittle Farm. 	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - Birds recorded within the site boundary were Blackbird, Starling, Siskin, Jackdaw, Wood Pigeon, Mallard Duck, Barn Swallow, Goldfinch, Carrion Crow and Black Headed Gull. The latter nine species were flying over. - Birds recorded within the wider study area were Chaffinch, Mallard, Blackbird, Starling, Wood Pigeon, Carrion Crow, Mistle Thrush, Pheasant, Black Headed Gull and Greenfinch. The last two species were flying over. - Other birds seen and heard in the area were Song Thrush, Blackbird, Robin, Wren, Dunnock, Blue Tit and Magpie. - Several Curlew were heard calling from the same locations as the previous survey to the north east and south of the site 	<p>Two VPs were used to survey</p> <ul style="list-style-type: none"> - The length of the grass varies from being closely cropped, where the sheep are still grazing within the wider study area to approx. 8 inches long in the site. - Noise pollution from heavy lorries/cars is sporadic between the hours of 12am to 5am, on both Dunford, Greave & Penistone Road (B6106). But from 5am onwards this traffic becomes more frequent and from 7am onwards it gets very busy. - Disturbance by people started at 02:30am, on Dunford Road - Two council workers were then seen repairing a couple of street lights on Greave Road at 2.50am. The wagon they were using had flashing lights switched on, so adding to the light pollution. This disturbance lasted for approx. 30 minutes. - The milkman drove down Dunford Road, delivering milk to several addresses at 4.45am. - Walkers were noted on Dunford Road from 06.35am
27-04-17	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - A Tawny Owl was calling from a 	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - Birds recorded within the site boundary were 	<p>Two VPs were used to survey</p> <ul style="list-style-type: none"> - The length of the grass varies from being closely cropped, where the sheep are still grazing within the wider study area

	<p>tree on the edge of the site adjacent to Dunford Road</p> <ul style="list-style-type: none"> - Several Lapwing were heard calling from the fields, located to the north east, between Penistone Road and Scholes Moore Road. - Several Lapwing, curlew and snipe were heard calling from the fields on Snittle Road, approx. 1.0km to the south, close to Snittle Farm. 	<p>Wren, Goldfinch, Mistle Thrush, Robin, Wood Pigeon, Starling, Mallard, Carrion Crow and Black Headed Gull. The latter four species were flying over.</p> <ul style="list-style-type: none"> - Birds recorded within the wider study area were Blackbird, Wood Pigeon, Mistle Thrush, Pheasant, Greenfinch, Dunnock, Linnet, Carrion Crow, Cormorant and Black Headed Gull & Lapwing. The last five listed species were flying over. The Mistle Thrushes were foraging for food and taking it to a nest with young, in some leylandii trees close by, on Snittle Road. - Other birds seen and heard in the area were Blackbird, Robin, Wren, Dunnock, Blue Tit, Goldfinch, Chaffinch, Willow Warbler, Collared Dove, Black Headed Gull, Rook, Carrion Crow, Jay and Magpie. - Several Curlew were heard calling from the same locations as the previous survey to the north east of the site 	<p>to approx. 8-10 inches long in the site.</p> <ul style="list-style-type: none"> - Noise pollution from heavy lorries/cars is sporadic between the hours of 2am to 5am, on both Dunford, Greave & Penistone Road (B6106). But from 5am onwards this traffic becomes more frequent and from 7am onwards it gets very busy. - The milkman drove down Dunford Road, delivering milk to several addresses at 4.35am. - Walkers were noted on Dunford Road from 05.30am - A cat was noted during the nocturnal survey within the site boundary
11-05-17	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - A Robin was heard singing from one of the gardens on Dunford Road. - Several Lapwing were heard calling from the fields, located to the north east, between Penistone Road and Scholes Moore Road. - Several Lapwing, Curlew and snipe were heard calling from the fields on Snittle Road, approx. 1.0km to the south, near to Snittle Farm. 	<p>No GP were recorded foraging in the fields within the site or study area</p> <ul style="list-style-type: none"> - Birds recorded within the site were Wren, Goldfinch, Pheasant, Linnet, Pied Wagtail, Greenfinch, House Sparrow, Wood Pigeon, House Martin, Jackdaw, Carrion Crow, Magpie and Black Headed Gull. The latter five species were flying over. - Birds recorded within the wider study area were Sparrowhawk, Tawny Owl, Blackbird, Robin, Wood Pigeon, Mistle Thrush, Pheasant, Greenfinch, Chaffinch, Goldfinch, Wren, Meadow Pipit, Starling, Pied Wagtail, Swallow, 	<p>Two VPs were used to survey</p> <ul style="list-style-type: none"> - The length of the grass varies from being closely cropped, where the sheep are still grazing within the wider study area to approx. 10-12 inches long in the site. - Noise pollution from heavy lorries/cars is sporadic between the hours of 1am to 5am, on both Dunford, Greave & Penistone Road (B6106). But from 5am onwards this traffic becomes more frequent and from 7am onwards it gets very busy. - The milkman drove down Dunford Road, delivering milk to several addresses at 4.40am & the farmer was active on snittle road from 04:45am - Walkers were noted on Dunford Road from 05.28am

		<p>Heron, Rook, Collared Dove, Mallard, Carrion Crow, Cormorant, Lesser Black Backed Gull and Black Headed Gull. The latter nine species were flying over.</p> <ul style="list-style-type: none"> - Other birds seen and heard in the area were Blackbird, Robin, Wren, Dunnock, Goldfinch, Chaffinch, Willow Warbler, Jackdaw and Carrion Crow. - Curlew were heard calling from the same locations as the previous survey to the north east of the site - Lapwing, Curlew, Snipe and a golden plover were heard calling from the fields on Snittle Road, approx. 1.0 km to the south, close to Snittle Farm 	
--	--	--	--

5.0 DISCUSSION

- 5.1 The presence of Internationally designated sites within a relatively close proximity to the proposed site initiated the request for further information to determine if the proposed site was being used by SPA qualifying species and therefore functionally linked to the SPA.
- 5.2 Thorough survey of the site using methodology agreed to be adequate to inform an assessment of SPA bird species using the site was undertaken bi-monthly between the months of March and May (the period when golden plover use lowland pasture for feeding the most). Throughout the course of the surveys no Golden Plover, Merlin or Short-eared Owl (SPA qualifying features) or other designated features Dunlin, Twite, Curlew or Lapwing were recorded using the site or wider study area. A single lapwing was observed during the diurnal visit on the 27th April 2017 flying over the north-east corner of the wider study area in a southerly direction.
- 5.3 Much research has been undertaken into the requirements for suitable foraging areas by Golden Plover⁵, and the site itself is largely unsuitable for this species. Golden Plover preferentially feed in short grazed pasture and wetter undrained pastures are generally preferred. The site is not used to graze animals but is fertilised and cut for hay in June / July. The grass within the site was too long for birds such as golden plover to forage and had no dung from grazing animals in which prey use to reproduce and feed. The site is also subject to disturbance including light pollution from the surrounding roads and existing residential areas, noise from traffic and disturbance from day to day human activity which increased as the day progressed which Golden Plover will not tolerate.
- 5.4 A dedicated breeding bird survey has not been undertaken, although the surveys reported here have recorded bird species that are typically found within sub-urban environments.

⁵ Whittingham, M.J., Percival, S.M. & Brown A.F. (2000) Time budgets and foraging of breeding golden plover *Pluvialis apricaria*. *Journal of Applied Ecology* **37**, 632-646

Percival, S.M. & Smith, C. (1992) Habitat Requirements of Golden Plover: A Pilot Study. English Nature Research Report No. 1. English Nature, Peterborough, UK.

Whittingham, M.J. (1996b) The use of radio telemetry to measure the feeding behaviour of breeding European golden plovers *Pluvialis apricaria*. *Journal of Field Ornithology*, **67**, 463±470.

Pearce-Higgins, J.W. & Yalden, D.W. (2003) Variation in the use of pasture by breeding European Golden Plovers *Pluvialis apricaria* in relation to prey availability *IBIS* **145**, 365-381

Brown, A.F. 1(993). The status of Golden Plover *Pluvialis apricaria* in the South Pennines. *Bird Study* **40**: 196–202.

There were no species recorded within the site or the wider study area that are protected, however some species of birds of conservation interest were noted within or close to the site & surrounding area and include species as follows - House Sparrow, Starling, Song Thrush and Linnet are listed on the UKBAP, Kirklees LBAP, NERC S. 41 and are Red on the RSPB's Birds of Conservation Concern (BoCC) list; Dunnock is UKBAP, NERC S.41 and Amber listed and Mistle Thrush, Meadow Pipit, Willow Warbler, Lesser Black Backed Gull, Black Backed Gull, Black Headed Gull, Mallard and House Martin are all on the BoCC Amber list.

- 5.5 Careful timing of works will ensure that breeding birds will not be affected by clearance or construction works and will be undertaken in accordance with the breeding bird mitigation scheme: Timing of Works;

TIMING OF WORKS

- 5.6 In order to protect wild birds, their nests and eggs from damage and destruction, it is proposed to undertake vegetation clearance / management, wherever possible, outside the bird breeding season. This includes all ground level vegetation as well as woodland, scrub, hedgerows and standard trees. The bird breeding season can extend from March until August (inclusive), weather and species depending, but generally birds have completed breeding by the end of July.
- 5.7 Where vegetation clearance cannot be undertaken outside the bird breeding season, it is confirmed that all such areas would be subject to a thorough walkover survey by a suitably qualified ecologist prior to any clearance or disturbance work being undertaken. It is proposed that such vegetation clearance would be carried out in sections and only further to the ecologist having undertaken a survey of the relevant area and confirmed that such works can proceed.
- 5.8 An ecological clerk of works will be appointed to undertake checking surveys prior to commencement and during peak breeding / dispersal periods.

ENHANCEMENT RECOMMENDATIONS

5.9 In order to minimise the impacts of the development on local populations of breeding birds the following measures are recommended.

- Where practicable boundary features including stone walls, trees and marginal areas should be retained and incorporated into the overall site design. This will retain a measure of maturity around the site and will aid the development of species movement corridors around and into the local landscape. Any planting will be characteristic of the natural area. AES-LTD available to advise. In the long-term this will provide a greater range and quantity of bird nesting and foraging opportunities to those existing.
- High intensity lighting will be avoided wherever possible and light spillage into adjacent areas will be minimised.
- Bird nesting facilities will be incorporated into the fabric of the buildings. Local biodiversity Action Plan species noted in the locality are to be targeted. It is important to provide enough nesting facilities to enhance the ecological function of the site without over mitigating and providing an excess of boxes that would not be taken up by birds. It is recommended that 'good quality' boxes are installed into 15% of the properties. X8 Sparrow terraces will be installed (www.birdbrickhouses.co.uk / www.habibat.co.uk / or woodcrete / Schwegler 1SP), X4 starling nest box (50mm aperture) will be installed (www.birdbrickhouses.co.uk / www.habibat.co.uk or woodcrete Schwegler 1S)

