



Roxhill (Junction 15) Ltd.

Northampton Gateway, Northampton

Winter Bird Survey Report

May 2018

FPCR Environment and Design Ltd

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1.0 SUMMARY

- 1.1 FPCR were commissioned by Roxhill (Junction 15) Ltd to conduct Wintering bird surveys at a site that comprises two main site areas including an area of land adjacent to J15 of the M1 motorway and a site to the west of the village of Roade, Northamptonshire. Proposals for the site include the construction of a bypass road around the village.
- 1.2 Desktop study results indicated that there was a single statutorily designated site within 10km of the site identified for its ornithological value. The Upper Nene Valley Gravel Pits SPA/Ramsar was present approximately 5.5 west of the Main Site and there were a number of records for notable bird species in the local area as detailed in Appendix B.
- 1.3 A total of 45 bird species were recorded during the surveys within the Main Site, of which 19 were considered 'notable' species.
- 1.4 A total of 39 bird species were recorded during the surveys within the Bypass Corridor site, of which 13 were considered 'notable' species.
- 1.5 The arable habitats present on both sites were considered to be of **Local** importance for the farmland bird assemblage recorded on site, comprising a number of common, but declining, species. The assemblages of breeding birds making use of the hedgerows and woodland areas of the sites were typical of these habitats and comprised for the most part common and widespread species and were therefore considered to be of **Local** importance.
- 1.6 The habitats on both sites were considered to be of **Local** nature conservation value for 18 of the notable species recorded.
- 1.7 The sites were assessed against published criteria for Local Wildlife Site selection (Northamptonshire Biodiversity Partnership 2014) and were not found to meet the criteria for its breeding bird assemblage.
- 1.8 The impacts of the proposed development were considered against the unique ecological requirements of each species considered to be the most vulnerable. Local adverse impact was for a range of farmland species including skylark, yellow wagtail, linnet and yellowhammer with negligible or beneficial impacts expected for all other species.
- 1.9 Assessment has demonstrated that the development will have **Negligible** impacts on the Upper Nene Valley Gravel Pits SPA/Ramsar as the site does not provide regularly used habitat for any features of interest.
- 1.10 A range of enhancement opportunities have been suggested based on the habitats and bird species recorded in order to achieve biodiversity gains. These include sensitive planting and habitat creation schemes and the provision of a range of nest boxes.

2.0 INTRODUCTION

- 2.1 This report has been prepared by FPCR Environment and Design Ltd. on behalf of Roxhill Development Limited and provides details of a series of breeding bird surveys undertaken during 2016 at two sites to the west of junction 15 of the M1, Northamptonshire. The first site is known as the 'Main Site' whilst the other is named 'Bypass Corridor'.
- 2.2 This report has been produced to accompany an Environmental Statement of the development proposals and should be read in conjunction with that document.

Main Site

- 2.1 The site is located to the west of Junction 15 of the M1 motorway (central grid reference SP 74749 54728), in Northamptonshire. It is bound by Collingtree Road to the north, the M1 and A508 to the east, a rail line to the west and agricultural land to the south. The site comprises agricultural fields bisected by hedgerows, with woodland blocks, tree lines and ditches also present. An area used for recreational shooting is located roughly at the centre of the site and this comprises a mosaic of habitats, including woodland, dense and scattered scrub, closely mown grassland, a pond and several shooting features such as a shed and a shooting lodge. Several other buildings are also present across the site, some of which are now disused.
- 2.2 The surrounding landscape consists of farmland with further wooded areas, hedgerows, and waterbodies. The villages of Collingtree and Milton Malsor are located close to the north-east and north-west of the site respectively.

Bypass Corridor

- 2.3 The site includes a strip of land that crosses arable fields to the north and west of the village of Roade, Northamptonshire (centred on grid reference SP 748 516) as shown on Figure 2. The site was dominated by cereal crop stubble at the time of survey with a series of boundary hedgerows and two small woodland blocks in the south and north of the site. The central part of the site was dominated by improved grassland pasture fields with associated boundary hedgerows. Surrounding land use included the residential environs within the village of Roade to the east and further arable farmland with associated hedgerows and woodland blocks to the north, west and south. The northern part of the site was bisected by an active railway that ran through the centre of Roade.

Development Proposals

- 2.4 The Proposed Development comprises a Strategic Rail Freight Interchange (SRFI) (referred to herein as the 'Main Site') and associated Highway Mitigation Works (referred to collectively herein as the 'Highway Mitigation Works').
- 2.5 Full details of the Proposed Development are provided separately in Chapter 2: Application Site and Proposed Development. In brief, the Proposed Development consists of the following:
- An intermodal freight terminal including container storage and HGV parking, rail sidings to serve individual warehouses, and the provision of an aggregates facility as part of the intermodal freight terminal, with the capability to also provide a 'rapid rail freight' facility;

- Up to 468,000 sq m (approximately 5 million sq ft) (gross internal area) of warehousing and ancillary buildings, with additional floorspace provided in the form of mezzanines;
- A secure, dedicated, HGV parking area of approximately 120 spaces including driver welfare facilities to meet the needs of HGVs visiting the site or intermodal terminal;
- New road infrastructure and works to the existing road network, including the provision of a new access and associated works to the A508, a new bypass to the village of Roade, improvements to Junction 15 and to J15A of the M1 motorway, the A45, other highway improvements at junctions on the local highway network and related traffic management measures;
- Strategic landscaping and tree planting, including diverted public rights of way;
- Earthworks and demolition of existing structures on the SRFI site.

Survey Objectives

2.6 The objectives of the survey were to:

- Identify the presence and distribution of wintering birds on the site, in particular any species that contribute to the designation of the Upper Nene Valley Gravel Pits Special Protection Area (SPA)/Ramsar;
- Evaluate the importance of local bird populations and their habitat requirements;
- Evaluate the conservation importance of the site and identify any areas of ornithological interest;
- In accordance with the requirements of the Habitats and Species Regulations 2010 (as amended), evaluate the likelihood of a significant effects upon the Upper Nene Valley Gravel Pits SPA / Ramsar; and
- Make recommendations to minimize the potential impact of development and where feasible to consider opportunities for additional habitat creation.

Legislation & Status

2.7 The Wildlife and Countryside Act 1981 (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to recklessly or intentionally:

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

2.8 Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA Sch.1) are specially protected at all times. This extends their protection whereby they are protected against intentional disturbance whilst building or occupying a nest, and against disturbance of dependent young.

2.9 A number of birds feature on the Natural Environment and Rural Communities Act, Section 41 (NERC S.41) as species which are of principal importance for the conservation of

biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

- 2.10 The Biodiversity Action Plan (BAP) for Northamptonshire features species action plans for barn owl *Tyto alba* and nightingale *Luscinia megarhynchos* (Northamptonshire Biodiversity Partnership 2008), in addition to plans related to other taxa.

Status

- 2.11 In addition to statutory protection, some bird species 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 UK¹:
- Red list (high conservation concern) species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.
 - Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
 - Green list (low conservation concern) species fulfil none of the above criteria.

3.0 METHODOLOGY

Desktop Study

- 3.1 In order to compile existing baseline information, a desktop survey was undertaken in 2014 and 2016. The desk study comprised a search for existing ecological data regarding statutorily and non-statutorily designated habitats/sites of interest to nature conservation and protected bird species. The following organisations were contacted as part of this exercise:
- Northamptonshire Biological Records Centre; and
 - Additional records were also requested from the former county recorder².
- 3.2 The Multi-Agency Government Information for the Countryside (MAGIC) website (www.magic.gov.uk) was also consulted for information on the presence of statutorily protected sites including Special Protection Areas (SPA) within 5km and Sites of Special Scientific Interest (SSSIs) within 2km.

¹ Eaton MA, Aebischer NJ, Brown AF, Hearn R, Lock L, Musgrove AJ, Noble DG, Stroud D, and Gregory RD (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man*. British Birds 108, pp708-746

² Data includes records of bird species recorded during the winter period (November – February) between 2007 + 2011, and bird species recorded during the breeding season (April – July) between 2008 + 2011

Previous Survey Work

- 3.3 The Main Site area was subject to a suite of winter bird surveys in 2013/14. Surveys include a total of 17 surveys which either focused on the general assemblage (all species) or qualifyinf species for the SPA (see para 3.6 – 3.10 below for methods). Table 1 provides details of survey dates and conditions for all previous winter bird survey work.
- 3.4 The survey methodology employed during full wintering bird surveys in 2013/14 was broadly based on that of territory mapping³ as used for the British Trust for Ornithology (BTO) Common Bird Census (CBC). Standard BTO species codes and symbols for bird activities were used to identify birds and denote activity, sex and age where appropriate. A route was mapped out prior to the surveys being undertaken, paying particular attention to any linear features, such as hedgerows and tree lines, and natural features such as ponds, areas of scrub and woodland.
- 3.5 No previous surveys were conducted on the Bypass Corridor Site.

Table 1: Survey Dates and Conditions of Previous Survey Work

Survey	Date	Survey Rationale	Cloud Cover (%)	Rain	Wind	Visibility
1	30.11.13	SPA and full WBS assemblage survey	0	None	Light Air	Excellent
2	10.12.13	SPA only	100	None	Light Breeze	Very Good
3	24.12.13	SPA and full WBS assemblage survey	50	None	Moderate/ Occasional gusts	Good
4	10.01.14	SPA only	50	None	Light Air	Good
5	16.01.14 (pm) & 17.01.14 (am)	SPA only. Dusk and dawn survey	60 / 80	Showers/None	Gentle Breeze	Good/Very Good
6	28.01.14	SPA and full WBS assemblage survey	70	Light Showers	Gentle Breeze	Very good
7	13.02.14	SPA only	50	None	Light	Good
8	20.02.14 (pm) & 21.02.14 (am)	SPA only. Dusk and dawn survey	10 / 10	None	Light Breeze	Excellent
9	28.02.14	SPA and full WBS assemblage survey	100	Occasional Rain	Light Breeze	Moderate
10	12.03.14	SPA only	20	None	Calm	Excellent

³ Bibby, C.J., N.D. Burgess & D.A. Hill, 2000: Bird Census Techniques: 2nd Edition. London: Academic Press

11	19.03.14 (pm) & 20.03.14 (am)	SPA only. Dusk and dawn survey	10 / 70	None	Moderate Breeze	Excellent
12	26.03.14	SPA only	70	None	Gentle Breeze	Very Good
13	17.10.14	SPA only.	70	None	Gentle Breeze	Very Good
14	23.10.14	SPA only.	80	None	Gentle Breeze	Excellent
15	29.10.14 (pm) & 30.10.14 (am)	SPA only. Dusk and dawn survey	100 / 50	Light Rain on and off /None	Light Air	Good
16	06.11.14	SPA only.	100	None	Moderate Breeze	Good
17	24.11.14 (pm) & 25.11.14 (am)	SPA only. Dusk and dawn survey	10 / 70	None	Calm	Excellent /Moderate

¹ SPA – Survey to determine the use of the site by species which contribute to the interest features of the Upper Nene Valley Gravel Pits SPA.
WBS – Wintering Bird Survey of the site to determine the use of the site by over-wintering bird populations.

Field Survey

Main Site

- 3.6 The Annex I and II species of the SPA designation comprise; gadwall *Anas strepera*, common pochard *Aythya farina*, tufted duck *Aythya fuligula*, bittern *Botaurus stellaris*, coot *Fulica atra*, cormorant *Phalacrocorax carbo*, golden plover, great-crested grebe *Podiceps cristatus* and lapwing *Vanellus vanellus*. Mute swan *Cygnus olor* and gadwall form part of sites designation as a Ramsar.
- 3.7 The qualifying species of the SPA/Ramsar and which are considered most likely to use the habitats present on site are golden plover and lapwing. These waders can use areas of open farmland habitat as both a foraging and loafing resource. Given the predominance of arable habitats within the site boundary and surrounding area, particular attention was given to any occurrence of golden plover or lapwing on site, in addition to areas adjacent to the site.
- 3.8 A total of 12 surveys were undertaken between November 2016 to March 2017 and 10 survey were undertaken between , i.e. 2 per calendar month, for the purpose of identifying any species from the over-wintering bird populations that contribute to the designation of the Upper Nene Valley Gravel Pits SPA / Ramsar.
- 3.9 Six of the survey occasions involved a dusk and dawn visit with monitoring at least an hour after dusk and an hour before dawn during the same night to assess the likely nocturnal use of the site by golden plover and lapwing.

- 3.10 A predetermined route was mapped out prior to the surveys being undertaken, paying particular attention to field centres and linear features such as hedgerows and tree lines, plantation and natural features such as ponds and areas of scrub.
- 3.11 Table 2 provides the dates and weather conditions of the 12 SPA/Ramsar species specific surveys carried out in 2016/17 and 2017/18.

Table 2: Survey Dates and Conditions for SPA Species Wintering Bird Surveys Carried out from October 2016 to March 2017 and November 2017 to March 2018.

Survey Occasion	Date	Cloud (%)	Rain	Wind	Visibility
2016-2017 Survey Period					
1	14.10.16	10	None	Light air	Very Good
2	27.10.16 (pm)	40-70	None	Light breeze	Excellent
	28.10.16 (am)	50-80	None	Light breeze	Excellent
3	09.11.16	100	Light shower at start of survey	Calm to light breeze	Moderate at start then improving to good
4	28.11.16 (pm)	0-40	None	Calm/light air	Very good
	29.11.16 (am)	0-10	None	Light air	Excellent
5	12.12.16	100	Light Drizzle	Light breeze	Good
6	20.12.16 (pm)	10	None	Light air	Excellent
	21.12.16 ² (am)	50-70	None	Gentle breeze	Good
7	16.01.17	100	Light drizzle partway through survey	Light breeze	Good
8	30.01.17	100	None	Light breeze	Good
	31.01.17	100	Light drizzle at beginning	Gentle breeze	Moderate/Good
9	15.02.17	70	None	Light breeze	Excellent
10	27.02.17	90	None	Light breeze	Good/very good
	28/02.17	5-30	None	Light air/light breeze	Good/excellent
11	16.03.17	100	None	Light breeze	Excellent
	17.03.17	30	None	Light breeze	Good
12	29.03.17	90	None	Light breeze	Excellent
2017-2018 Survey Period					

Survey Occasion	Date	Cloud (%)	Rain	Wind	Visibility
1	21.11.17	100	None	Light breeze	Excellent
2	27.11.17 (pm) & 28.11.17 (am)	100 / 13	None	Gentle / light breeze	Excellent
3	06.11.17 (pm) & 07.11.17 (am)	90	None / Rain	Gentle / moderate breeze	Excellent
4	19.12.17	85	None	Moderate breeze	Excellent
5	04.01.18	50-100	Fine drizzle for 10 mins	Fresh breeze	Excellent
6	18.01.18 (pm) & 19.01.18	60 / 0	None	Gentle / light breeze	Excellent
7	05.02.18	40	None	Gentle breeze	Excellent
8	22.02.18 (pm) & 23.02.18 (am)	20 / 25	None	Light breeze	Excellent
9	07.03.18	50	None	Light air	Excellent
10	28.03.18 (pm) & 29.03.18 (am)	30-75	None	Light Air	Excellent

¹ Dusk/Dawn surveys constituted a single survey occasion

² No dawn survey completed on the mitigation area due to staff illness

Bypass Corridor

- 3.12 Full wintering bird surveys were carried out at the Bypass Corridor site in 2015/16 following the same methodology employed during the full wintering bird surveys on the Main Site area in 2013/14 as described above. Table 3 provides the dates and weather conditions for these surveys.

Table 3: Survey Dates and Conditions for Full Wintering Bird Surveys Carried out on the Bypass Corridor site from November 2015 to February 2016

Survey	Date	Cloud Cover (%)	Rain	Wind	Visibility
1	14.12.15	100	None	Light Breeze	Good
2	23.12.15	10	None	Moderate Breeze	Good
3	21.01.16	80-40	None	Light breeze	Good

Survey	Date	Cloud Cover (%)	Rain	Wind	Visibility
4	10.02.16	30	None	Light breeze	Good

Survey Limitations

- 3.13 Access was denied for land covering the central western of part of the site and surveys were unable to cover this area. It was therefore deemed appropriate to cover a wider survey area to assess the species composition present within the local area to in turn determine the likely assemblage that would be present on site. This approach was considered suitable to make an assessment of the potential impacts of the development on the local winter bird assemblage.

Species & Assemblage Assessment

- 3.14 The Chartered Institute of Ecology and Environmental Management (CIEEM) guidance on ecological impact assessment assesses nature conservation importance within a geographical context⁴. To attain each level of importance, an ornithological resource or one of the features (species population or assemblage of species) should meet the criteria set out in Table 4. In some cases, professional judgment may be required to increase or decrease the allocation of importance, based upon local knowledge

Table 4: Evaluation Criteria

Nature Conservation Value	Examples of Selection Criteria
International	A species which is part of the cited interest of an SPA and which regularly occurs in internationally or nationally important numbers. A species present in internationally important numbers (>1% of international population).
National	A species which is part of the cited interest of a SSSI and which regularly occurs in nationally or regionally important numbers. A nationally important assemblage of breeding or over-wintering species. A species present in nationally important numbers (>1% UK population). Rare breeding species (<300 breeding pairs in the UK).
Regional	Species listed as being of principal importance under NERC S.41 which are not covered above, and which regularly occurs in regionally important numbers. Species present in regionally important numbers (>1% of regional population). Sustainable populations of species that are rare or scarce within a region. Species on the BoCC Red List and which regularly occurs in regionally important numbers.

⁴ http://www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf

Nature Conservation Value	Examples of Selection Criteria
County	Species listed as being of principal importance under NERC S.41 which are not covered above and which regularly occurs in county important numbers Species present in county important numbers (>1% of county population). Sustainable populations of species that are rare or scarce within a county, or are listed as being of principle importance under S41 of the NERC Act. A site designated for its county important assemblage of birds (e.g. a SINC Site). Species on the BoCC Red List and which regularly occur in county important numbers.
Local	Other species of conservation interest (e.g. all other species on the BoCC Red and Amber List or species listed as being of principal importance under NERC S.41 which are not covered above) regularly occurring in locally sustainable populations. Sustainable populations of species which are rare or scarce within the locality.
Site	Species that are common and widespread

- 3.15 The site has also been assessed against the selection criteria for LWS⁵ for Northamptonshire on a number of criteria set out for breeding and wintering birds. LWSs are recognised by central government as an important tool in promoting sustainable development and protecting biodiversity.
- 3.16 The recent county annual bird report *Northants Birds – County Bird Records for 2015⁶* was consulted to inform the assessment.

4.0 RESULTS AND EVALUATION

Desk Top Study

Designated Sites

- 4.1 The details of all designated sites within the local area are provided in Chapter 5: Figure 6.1 of the ES.

Upper Nene valley Gravel Pits SPA / Ramsar

- 4.2 The Upper Nene Valley Gravel Pits SPA/Ramsar lies c. 5.5km to the east boundary of the Main Site at its closest point. The Upper Nene Valley Gravel Pits SPA/Ramsar is a discontinuous series of water bodies stretching over 35km from Clifford Hill on the edge of Northampton to the north of Thrapston. The habitats support internationally important populations of two Annex I bird species and a high proportion of the total European population of Gadwall *Anas strepera* and a nationally important numbers of breeding bird (Table 4). Integrity of the site is dependent upon maintenance of the structure and function

⁵ Northamptonshire Biodiversity Partnership (2014): *Wildlife Site Selection Guidelines Northamptonshire 2007 (update 2010)*

⁶ Northants Bird Club (2016), *Northants Birds: County Bird Records for 2015*.

of wet woodland in the floodplain, the varied wetland habitats, water quality and supply and suitable breeding, foraging and roosting areas for birds.

- 4.3 With regard to the qualifying populations of individual breeding, passage and wintering bird species and assemblage species, the conservation objectives of the Upper Nene Valley Gravel Pits SPA/Ramsar, and subject to natural change, are to:

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*
- *The population of each of the qualifying features, and,*
- *The distribution of the qualifying features within the site.”*

Upper Nene Valley Gravel Pits SSSI

- 4.4 The national importance of the Upper Nene Valley Gravel Pits is recognised by their designation as a SSSI under the Wildlife and Countryside Act 1981 (as amended). The interest features of this SSSI are also summarised in Table 5 and include nationally important breeding and over-wintering populations of birds and wet woodland habitat.

Table 5: Statutory Sites of Nature Conservation Interest within the Desktop Search Area

Designation	Justification / Interest Feature									
SPA	<p>The high proportion of the total UK population of wintering and breeding bird species listed on Annex I of the Birds Directive. These are:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Bittern</td> <td style="width: 40%; text-align: center;"><i>Botaurus stellarsi</i></td> <td style="width: 30%; text-align: right;">W</td> </tr> <tr> <td>Golden Plover</td> <td style="text-align: center;"><i>Pluvialis apricaria</i></td> <td style="text-align: right;">W</td> </tr> </table> <p>The high proportion of the total European population of Annex II bird species. These are:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Gadwall</td> <td style="width: 40%; text-align: center;"><i>Anas strepera</i></td> <td style="width: 30%; text-align: right;">W, P</td> </tr> </table> <p>The large total numbers of wildfowl supported by the estuary; 23,821 (5 year peak mean 1999/2000 – 2003/04).</p>	Bittern	<i>Botaurus stellarsi</i>	W	Golden Plover	<i>Pluvialis apricaria</i>	W	Gadwall	<i>Anas strepera</i>	W, P
Bittern	<i>Botaurus stellarsi</i>	W								
Golden Plover	<i>Pluvialis apricaria</i>	W								
Gadwall	<i>Anas strepera</i>	W, P								
Ramsar	<p>Criterion 1: Water bird assemblage of international importance (23,821 waterfowl)</p> <p>Criterion 6: Nationally important numbers of the following bird species:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Mute swan</td> <td style="width: 30%; text-align: center;"><i>Cygnus olor</i></td> <td style="width: 40%; text-align: right;">629 individuals (1.7% national population)</td> </tr> </table>	Mute swan	<i>Cygnus olor</i>	629 individuals (1.7% national population)						
Mute swan	<i>Cygnus olor</i>	629 individuals (1.7% national population)								

Designation	Justification / Interest Feature
	Gadwall <i>Anas strepera</i> 773 individuals (2% NW European population)
SSSI	Nationally important breeding bird assemblage of lowland waters and their margins Nationally important numbers of wintering waterbird species including: wigeon, shoveler, pochard, tufted duck, great-crested grebe, cormorant, coot, mallard, gadwall, golden plover and lapwing Nationally important assemblage of wintering waterbirds

B, breeding population; P, passage population; W, wintering population.

Main Site Species Records

- 4.5 Numerous records for birds within 1km of the site were provided by NBRC and the County Recorder as part of the desk study. The majority of records occurred to the north of the site in association with the fringe of Northampton, particularly along Wootton Brook, and to the south-west around the village of Blisworth.
- 4.6 There were a number of records for bird species within the local area recorded within the winter bird season including a number of protected or 'notable' species as listed in Table 6.

Table 6: 2014 Records of Protected and Notable Birds from Local Area around the Main Site

Name		WCA Sch.1	NERC S.41
BoCC Red List			
Grey partridge	<i>Perdix perdix</i>		+
Lapwing	<i>Vanellus vanellus</i>		+
Curlew	<i>Numenius arquata</i>		+
Herring gull	<i>Larus argentatus</i>		+
Merlin	<i>Falco columbarius</i>	+	
Marsh tit	<i>Poecile palustris</i>		+
Skylark	<i>Alauda arvensis</i>		+
Starling	<i>Sturnus vulgaris</i>		+
Fieldfare	<i>Turdus pilaris</i>	+	
Song thrush	<i>Turdus philomelos</i>		+
Redwing	<i>Turdus iliacus</i>	+	+
Mistle thrush	<i>Turdus viscivorus</i>		
House sparrow	<i>Passer domesticus</i>		+
Yellow wagtail	<i>Motacilla flava flavissima</i>		+
Grey wagtail	<i>Motocilla cinerea</i>		
Linnet	<i>Linaria cannabina</i>		+
Lesser redpoll	<i>Carduelis cabaret</i>		+
Yellowhammer	<i>Emberiza citrinella</i>		+
BoCC Amber List			
Goldeneye	<i>Bucephala clangula</i>		
Snipe	<i>Gallinago gallinago</i>		
Black-headed gull	<i>Chroicocephalus ridibundus</i>		

Common Gull	<i>Larus canus</i>		
Kingfisher	<i>Alcedo atthis</i>	+	
Kestrel	<i>Falco tinnunculus</i>		
Bullfinch	<i>Pyrrhula pyrrhula</i>		+
BoCC Green List			
Barn owl	<i>Tyto alba</i>	+	

Bypass Corridor Species Records

- 4.7 Records returned by NBRC identified the presence of a number of barn owl, red kite *Milvus milvus* and ring-necked parakeet *Psittacula krameri* records all of which were located within the Stoke Bruerne Brickpits LWS c.1.2km south west of the survey area.
- 4.8 As with the Main Site, there were a number of records for bird species within the local area recorded within the winter bird season including a number of protected or 'notable' species as listed in Table 7.

Table 7. Notable Wintering Bird Species Recorded Within the Local Area

Name		WCA Sch.1	NERC S.41
BoCC Red list			
Grey partridge	<i>Perdix perdix</i>		+
Lapwing	<i>Vanellus vanellus</i>		+
Herring gull	<i>Larus argentus</i>		+
Marsh tit	<i>Poecile palustris</i>		+
Skylark	<i>Alauda arvensis</i>		+
Starling	<i>Sturnus vulgaris</i>		+
Fieldfare	<i>Turdus pilaris</i>	+	
Song thrush	<i>Turdus philomelos</i>		+
Redwing	<i>Turdus iliacus</i>	+	
Mistle thrush	<i>Turdus viscivorus</i>		
House sparrow	<i>Passer domesticus</i>		+
Tree sparrow	<i>Passer montanus</i>		+
Grey wagtail	<i>Motacilla cinerea</i>		
Linnet	<i>Linaria cannabina</i>		+
Lesser redpoll	<i>Acanthis cabaret</i>		+
Yellowhammer	<i>Emberiza citrinella</i>		+
BoCC Amber list			
Mute swan	<i>Cygnus cygnus</i>		
Eurasian teal	<i>Anas crecca</i>		
Mallard	<i>Anas platyrhynchos</i>		
Kestrel	<i>Falco tinnunculus</i>		
Snipe	<i>Gallinago gallinago</i>		
Gull	<i>Larus canus</i>		
Lesser black-backed gull	<i>Larus fuscus</i>		
Black-headed gull	<i>Chroicocephalus ridibundus</i>		
Stock dove	<i>Columba oenas</i>		
Kingfisher	<i>Alcedo atthis</i>	+	
Dunnock	<i>Prunella modularis</i>		+
Meadow pipit	<i>Anthus pratensis</i>		
Bullfinch	<i>Pyrrhula pyrrhula</i>		+
BoCC Green list			
Peregrine	<i>Falco peregrinus</i>	+	
Barn owl	<i>Tyto alba</i>		+

Field Survey

Qualifying Species of the Upper Nene Gravel Pits SPA / Ramsar

2013/14 Surveys

- 1.1 During previous surveys of the site carried out in 2013/14, golden plover was regularly recorded both foraging and loafing within the centre of a large (c.40ha) arable field compartment on site as illustrated by TN1 on Figure 1. Golden plover was recorded on 10 of the 17 survey occasions within this field compartment with a maximum count of 507 birds.

Table 8: Summary of Golden Plover *Pluvialis apricaria* recorded on-site

Survey Occasion	Maximum Number Recorded
1	350-400
2	200
7	22
9	507
11	17 (pm) / 1 (am)
13	112
14	116
15	40 (pm) / 130 (am)
16	120
17	11 (pm) / 0 (am)

¹ 5 year peak mean 1999/2000 – 2003/2004 of 5790 wintering individuals.

- 1.2 A number of the dusk and dawn surveys (survey occasions 11, 15 and 17) demonstrated that small numbers of golden plover make occasional use of the site at night for roosting and/or feeding. During survey occasion 15, the flock of 40 birds was observed to leave the site prior to dusk with small numbers of birds returning from 07:10am the following morning, reaching a peak of 130 birds by 09:20am. Eleven golden plover were observed during the evening of the final survey occasion, using the field both for roosting, and after dark, for feeding. These birds were not observed on site the following morning, having moved on sometime overnight.
- 1.3 A single lapwing was observed within the same large arable field compartment and separate from the golden plover flock on a single survey occasion (28.02.14) and represents 0.03% of the five year peak mean Upper Nene Gravel Pits SPA⁷.

2016/17 Surveys

- 1.4 No golden plover were recorded on site during 2016/17 winter bird surveys.

⁷ 5 year peak mean 1999/2000 – 2003/2004 of 3349 wintering individuals

- 1.5 The only other species recorded that contributes to Upper Nene Valley Gravel Pits SPA/Ramsar was lapwing. Lapwing were recorded in small to moderate numbers during five survey occasions with a peak count of 35 birds recorded during a badger survey of the site on the 8th December 2016. Observations included foraging and loafing birds with a single observation of a flock of 54 birds overflying a field in the north of the site.

2017/18 Surveys

- 1.6 Golden golden plover were recorded on site during 2017/18 surveys on only two occasions: on the evening of 27th November 2017 and on the 7th March 2018 when a total of ten and two birds were observed respectively.
- 1.7 A flock of eighteen lapwing were also noted on the 7th March 2018.

Full Winter Bird Surveys (2013/14)

- 4.9 A total of 45 species were recorded within the site boundary during 2013/14 winter bird surveys, of which 19 appear on one or more of the following:
- Schedule 1 of the Wildlife & Countryside Act 1981 (as amended);
 - BoCC Red or Amber lists;
 - Section 41 of the NERC Act 2006;
- 1.8 A summary of the status of those notable species recorded on site is provided in Table 9. An illustration of the location of notable species recorded within the site is shown in Figure 1. A full list of 45 species recorded and the numbers observed on each survey occasion is provided in Appendix C.

Table 9: Protected, S41 NERC Act priority species, BoCC Red and Amber Listed Recorded at the Main Site during Wintering Bird Surveys and their Recent Status within Northamptonshire

Species	Legal / Conservation status	Maximum Count	Status in Northamptonshire ¹
Golden Plover <i>Pluvialis apricaria</i>	Green list	507/2	Fairly common passage migrant and winter visitor
Lapwing <i>Vanellus vanellus</i>	Red list S.41 NERC	1/1	Declining resident, common passage migrant and winter visitor
Woodcock <i>Scolopax rusticola</i>	Red list	1/1	Rare local breeder supplemented by winter visitors
Lesser Black-baked Gull <i>Larus fuscus</i>	Amber list	1/1	Common passage migrant and winter visitor, recent summering
Herring Gull <i>Larus argentatus</i>	Red list S.41 NERC	1/1	Fairly common, mainly winter visitor, recent summering
Stock Dove <i>Columba oenas</i>	Amber list	22/2	Widespread resident
Kestrel <i>Falco tinnunculus</i>	Amber list	1/2	Widespread resident

Species	Legal / Conservation status	Maximum Count	Status in Northamptonshire ¹
Skylark <i>Alauda arvensis</i>	Red list S.41 NERC	13/4	Declining common resident and winter visitor
Starling <i>Sturnus vulgaris</i>	Red list S.41 NERC	71/1	Common resident and winter visitor
Fieldfare <i>Turdus pilaris</i>	Red list Schedule 1	184/4	Common passage migrant and winter visitor
Song Thrush <i>Turdus philomelos</i>	Red list S.41 NERC	4/3	Widespread resident and passage migrant
Redwing <i>Turdus iliacus</i>	Red list Schedule 1	148/4	Common passage migrant and winter visitor
Mistle Thrush <i>Turdus viscivorus</i>	Red list	3/2	Common resident
Dunnock <i>Prunella modularis</i>	Amber list S.41 NERC	10/4	Common resident
Meadow Pipit <i>Anthus pratensis</i>	Amber list	2/1	Common passage migrant, winter visitor and scare breeder
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber list S.41 NERC	4/4	Widespread but scarce resident
Linnet <i>Linaria cannabina</i>	Red list S.41 NERC	130/3	Declining resident
Yellowhammer <i>Emberiza citrinella</i>	Red list S.41 NERC	4/2	Fairly common, but declining resident
Reed Bunting <i>Emberiza schoeniclus</i>	Amber list NERC S.41	5/2	Declining resident and passage migrant

¹ Taken from *The Annual Report of Birds in Northamptonshire 2015*

Bypass Corridor Winter Bird Surveys

- 4.10 A total of 39 bird species were recorded within the survey area (Appendix C). Of these, 13 appear on one or more of the following:
- Schedule 1 of the Wildlife & Countryside Act 1981 (as amended);
 - BoCC Red or Amber lists;
 - Section 41 of the NERC Act 2006;
- 4.11 The distribution of the 13 notable species is illustrated on Figure 2 and Table 10 provides a summary of the species recorded.

Table 10: Protected, Species of Principal Importance and BoCC Red and Amber Listed Bird Species Recorded during Wintering Bird Surveys 2016, and their Recent Status within Northamptonshire

Species	Legal/ Conservation status	Maximum Count / Number of Survey Occasions Recorded	Recent Status in Northamptonshire
Stock dove <i>Columba oenas</i>	Amber list	15/2	Widespread resident
Kestrel <i>Falco tinnunculus</i>	Amber list	3/2	Widespread resident
Marsh tit <i>Poecile palustris</i>	Red list NERC S.41	2/1	Declining widespread resident
Skylark <i>Alauda arvensis</i>	Red list NERC S.41	32/3	Declining common resident and winter visitor
Starling <i>Sturnus vulgaris</i>	Red list NERC S.41	33/2	Common resident and winter visitor
Fieldfare <i>Turdus pilaris</i>	Red list WCA Sch.1	186/3	Common passage migrant and winter visitor
Song thrush <i>Turdus philomelos</i>	Red list NERC S.41	4/2	Widespread resident and passage migrant
Redwing <i>Turdus iliacus</i>	Red list WCA Sch.1	54/3	Common passage migrant and winter visitor
Dunnock <i>Prunella modularis</i>	Amber list NERC S.41	6/3	Common resident
Meadow pipit <i>Anthus pratensis</i>	Amber list	2/1	Common passage migrant, winter visitor and scarce breeder
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber list NERC S.41	4/3	Widespread but scarce resident
Linnet <i>Linaria cannabina</i>	Red list WCA Sch.1	70/1	Declining resident
Yellowhammer <i>Emberiza citrinella</i>	Red list WCA Sch.1	20/3	Fairly common, but declining resident

Evaluation

Main Site

Local Wildlife Site Assessment

- 4.12 Criterion a) of the Northamptonshire Wildlife Site Selection Criteria for birds states:
'Any site that regularly contains 0.1% or more of the total British non-breeding population of any species during any period (e.g. wintering, non-breeding summer, moulting, passage).'
- 4.13 The guidelines stipulates that a *'three-year mean peak count should be used.'* SPA surveys have covered three winters: 2013/14, 2016/17 and 2017/18. Over this period, golden plover have only been recorded on site during two of the winter survey seasons covered, with no

golden plover identified during 2016/17 surveys. As a result, this falls well short of 0.1% of the total British non-breeding population and the site would not qualify under the criteria.

Breeding & Wintering Assemblage

- 4.14 Wintering bird surveys have identified that the site is used sporadically by foraging flocks of farmland specialist species including skylark, meadow pipit, linnet and yellowhammer. Skylark were regularly recorded on site in small numbers while the remaining three species were irregularly recorded in small numbers with sporadic records of large flocks foraging/moving across the site. These habitats also provided benefits to other flocking species including starling, lapwing and winter thrush species which were occasionally recorded in large and small to moderate flocks, respectively. The arable habitats on site are therefore considered to be of Local significance to the starling, lapwing and the farmland bird population in the locality where it forms part of a network of foraging resources.
- 4.15 Hedgerows and woodland habitats provided good breeding opportunities to a range of notable woodland/generalist species, particularly where they provided a mosaic of resources with other habitats. This assemblage included song thrush, mistle thrush, bullfinch and the winter thrush species in addition to a range of common and widespread species. These habitats were therefore considered to represent an overwintering resource that is of Local significance for this assemblage.

Individual Species

- 4.16 As previously discussed, the arable habitats present on site provide a foraging resource for large numbers of golden plover on a very irregular basis. Given the suitability of the foraging habitats available and the numbers recorded during previous survey work the arable habitats present on site are considered to be of Local significance for this species.
- 4.17 Whilst kestrel were only occasionally recorded in small numbers during winter bird surveys and no barn owl were observed, additional observations during SPA species surveys and evidence from breeding bird surveys suggests that the derelict farm buildings in the east of the site are regularly used by both species. The site is therefore considered to be of Local significance for these species.
- 4.18 Small numbers of reed bunting were observed using hedgerows and ponds where they provided suitable over wintering habitat in association with arable foraging habitats. These habitats were considered to be of Local significance for this species.
- 4.19 The majority of the other breeding and over wintering bird species were either recorded in smaller numbers, were recorded flying over the site, were noted in unsuitable breeding habitats and / or are considered common and widespread breeding species. These individual species that make use of the available habitats are recognised as being of only site/negligible importance.

Bypass Corridor

Local Wildlife Site Assessment

- 4.20 The site was assessed against published criteria for Local Wildlife Site selection (Northamptonshire Biodiversity Partnership 2014) to assess the site against the thresholds for county value. The criterion relevant to this assessment included the presence of any notable birds listed in Appendix 13 of the LWS selection document. None of the species listed were present on site during wintering bird surveys and it is therefore considered that the site would not meet the criteria for an LWS based on its wintering bird assemblage alone.

Wintering Bird Assemblage

- 4.21 Arable habitats and their associated field margins provided suitable foraging habitat for several farmland species, including skylark, linnet and yellowhammer. Arable land within the site boundary likely forms part of a network of foraging habitat that is abundant within the surrounding landscape that is used by the local overwintering farmland bird populations and the site is therefore considered to be of no more than Local importance for this assemblage.
- 4.22 Although a number of notable species were recorded, the overall assemblage recorded within woodland and hedgerows was unremarkable and typical of the habitats present within the survey area. Woodland blocks and boundary hedgerows are a common feature of the surrounding arable landscape and the habitats present within the site boundary were therefore considered to be of no more than Local level importance for its wintering bird assemblage.

Individual Species

- 4.23 Woodland and hedgerow habitats across the site were noted to support small numbers of bullfinch. Whilst widespread in Northamptonshire, this species is considered to be a scarce resident and the population recorded within the survey area is therefore considered to be of **Local** importance.
- 4.24 Marsh tit were recorded in small numbers (two during the second survey occasion) within woodland habitats west of the A508 (Stratford road). This species, while widespread in Northamptonshire, has experienced population declines in the county and the habitats present on site are therefore considered to be of Local nature conservation value for this species.
- 4.25 Other notable species recorded regularly and/or in reasonable numbers include stock dove, starling and song thrush. Each of these individual breeding species is considered to be of Local importance.
- 4.26 Buzzard are listed as a rare breeding species in guidelines for Local Wildlife Site selection (Northamptonshire Biodiversity Partnership 2014). However, buzzard populations are well known to have undergone increases in recent times, and the Northamptonshire Bird Report 2014 lists them as a widespread resident. Therefore, the presence of this species within the foraging over arable farmland on site is therefore considered to be of Site importance.
- 4.27 Although fieldfare and redwing are Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), this protection is attributed to breeding individuals of each species, with numbers of breeding redwing and fieldfare having experienced significant declines in the UK. Both species, however, are common winter visitors to Northamptonshire and although they were

recorded in large numbers, there is an abundance of arable foraging habitat available for winter thrushes in the surrounding landscape and the site is therefore considered to be of no more than Site importance for redwing and fieldfare.

- 4.28 The majority of the other breeding and over wintering bird species were either recorded in smaller numbers, were recorded flying over the site, were noted in unsuitable breeding habitats and/or are considered common and widespread breeding species. These individual species that make use of the available habitats are recognised as being of only Site importance.
- 4.29 Table 11 provides a summary of the notable species recorded on both the main and Bypass site.

Table 11: Birds of Local Importance

Name		Status		Survey Area Recorded	Importance
		WCA Sch.1	NERC S.41		
BoCC Red list					
Lapwing	<i>Vanellus vanellus</i>		+	Main Site only	Local
Woodcock	<i>Scolopax rusticola</i>			Main Site only	Site
Herring gull	<i>Larus argentatus</i>		+	Main Site Main Site	Site
Marsh tit	<i>Poecile palustris</i>		+	Bypass Corridor only	Local
Skylark	<i>Alauda arvensis</i>		+	Main Site and Bypass Corridor	Local
Starling	<i>Sturnus vulgaris</i>		+	Main Site and Bypass Corridor	Local
Fieldfare	<i>Turdus pilaris</i>	+		Main Site and Bypass Corridor	Local
Song thrush	<i>Turdus philomelos</i>		+	Main Site and Bypass Corridor	Local
Redwing	<i>Turdus iliacus</i>	+		Main Site and Bypass Corridor	Local
Mistle thrush	<i>Turdus viscivorus</i>			Main Site	Local
Linnet	<i>Carduelis cannabina</i>		+	Main Site and Bypass Corridor	Local
Yellowhammer	<i>Emberiza citrinella</i>		+	Main Site and Bypass Corridor	Local
BoCC Amber list					
Mallard	<i>Anas platyrhynchos</i>			Main Site only	Site
Black-headed gull	<i>Chroicocephalus ridibundus</i>			Main Site only	Site
Lesser black-backed gull	<i>Larus fuscus</i>			Main Site	Site

Stock dove	<i>Columba oenas</i>			Main Site and Bypass Corridor	Local
Kestrel	<i>Falco tinnunculus</i>			Main Site and Bypass Corridor	Local
Dunnock	<i>Prunella modularis</i>		+	Main Site and Bypass Corridor	Local
Meadow pipit	<i>Anthus pratensis</i>			Main Site and Bypass Corridor	Local
Bullfinch	<i>Pyrrhula pyrrhula</i>		+	Main Site and Bypass Corridor	Local
Reed bunting	<i>Emberiza schoeniclus</i>		+	Main Site	Local
BoCC Green list					
Barn owl	<i>Tyto alba</i>		+	Main Site only	Local
Golden plover	<i>Pluvialis apricaria</i>			Main Site only	Local

5.0 DISCUSSION AND RECOMMENDATIONS

- 5.1 The following section provides an evaluation of the survey results and an assessment of likely effects upon European Sites and of the potential impacts of the proposals upon breeding and overwintering birds. Where appropriate, recommendations are provided for mitigation and enhancement that take account of the likely ecological effects. Throughout the evaluation, any recommendations for mitigation have been informed by the most up-to-date Master Plan.
- 5.2 The site is proposed for the development of two warehouse units with associated access, parking and green infrastructure. Included within green infrastructure proposals are additional areas of grassland and shrub planting, the creation of a pond and some seasonally wet areas.
- 5.3 The recommendations below have been given with the aim of informing development proposals on how to best maintain the conservation status of bird species present.

Assessment of Likely Effects on the Upper Nene Valley Gravel Pits SPA/Ramsar

- 5.4 The current proposals are situated outside the boundary of the Upper Nene Valley Gravel Pits SPA/Ramsar and will not lead to any direct effects upon habitats within the boundary of this designated site. However, it is acknowledged that the proposals for development have the potential to have indirect effects upon the interest features of this European Site, particularly given the sites proximity to the SPA boundary.
- 5.5 In addressing the potential effects, consideration has been given to the conservation objectives (Appendix A).

- 5.6 This field will be permanently lost during construction of the site, reducing the overall availability of occasionally used foraging habitat for this species. However, research has demonstrated that numerous fields within the wider area also have the potential to support populations of golden plover (Environ 2010⁸) and the site is likely used as one of many irregularly used foraging resources by the SPA/Ramsar golden plover population. It is considered that even in the absence of mitigation or compensation the loss of habitat that is only used on an occasional basis by golden plover is unlikely to affect the conservation status of the SPA/Ramsar. Therefore, it is considered that this habitat loss is likely to result in an impact of Negligible significance upon the Upper Nene Valley Gravel Pits SPA/Ramsar. A full assessment is provided in the Report on European Sites: Habitat Regulations Assessment Pursuant to Regulation 5(2)(g) (FPCR 2018).

Potential Effects and Mitigation for Overwintering Birds

- 5.7 The potential impact of the loss or change of habitat upon breeding and overwintering bird species arising from the effects of development is based upon an understanding of each species' ecological requirements, the type of development, number of birds recorded on site, their nature conservation criteria based on legislation and current guidance, their county status according to *The Annual Report of Birds in Northamptonshire 2014* and professional judgement.
- 5.8 The following potential impacts to the recorded bird populations and assemblage may result from the proposals:
- Direct loss / change of wintering habitat;
 - Disturbance during construction and / or operation.

⁸ Environ (2010) *Survey Work to Support the Appropriate Assessment for the west Northamptonshire Joint Core Strategy – Report of Elements 3 and 4 A* report produced on behalf of the West Northamptonshire Joint Planning Unit

Table 12: Evaluation of Species Considered Potentially Sensitive to Habitat Loss/Change

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Golden Plover	Likes short vegetation or bare areas on upland heaths.	<u>Main Site:</u> Large flocks of up to 507 recorded in 2013/14 using large open arable field in the east of the site. None recorded in 2016/17 <u>Bypass Corridor:</u> None recorded	Local	The loss of arable habitats may lead to the loss of golden plover as an irregular winter visitor to the site. While retained habitats in the south of the site may supply foraging habitats for reduced numbers, increases in disturbance on site will likely render these areas largely unsuitable.
Lapwing	In winter found mainly on pasture, arable fields and wetland areas in which they often occur in large feeding and roosting flocks. They feed on invertebrates, such as earthworms, beetles, flies and caterpillars that are on or close to the surface.	<u>Main Site:</u> A single individual was recorded within the large arable field compartment at the eastern extent of the site at the end of February 2013. Given the date recorded, it is possible that this individual was attempting to set up a breeding territory rather than forming part of the sites over-wintering bird assemblage. <u>Bypass Corridor:</u> None recorded	Local	Loss of the open arable field compartments from the Main Site will remove all potential over-wintering habitats within the application site. There is potential for the retained fields in the southern part of the site to continue to provide foraging habitat for over-wintering lapwing, albeit it in reduced numbers.
Stock dove	Nest holes are excavated within sandy banks located around fish rich slow flowing water courses.	<u>Main Site:</u> Small numbers recorded foraging within arable fields, particularly around the derelict farm buildings in the eastern part of the site. <u>Bypass Corridor:</u> Flock of 15 birds recorded foraging within arable in the north western part of the site on the third survey occasion. Single bird also recorded overflying the north eastern onsite arable field.	Local	Loss of arable habitat will reduce the overall availability of winter foraging habitat for the local stock dove populations. The provision of woodland and scrub planting will provide a supplementary foraging resource for this species. Planting should include native, fruit bearing species that will contribute to a mosaic of foraging resources within the surrounding landscape that will benefit this species.

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Barn owl	Breeds in open country especially farmland, but also marshes and forest edge in buildings, hollow trees or cliffs. Hunts over areas of rank grassland, along field edges, ditches, riverbanks, railway embankments and roadside edges.	<u>Main Site:</u> Single bird flushed from derelict buildings in the east of the site during several SPA species surveys. Several fresh pellets regularly recorded in the buildings <u>Bypass Corridor:</u> None recorded	Local	Please refer to the accompanying breeding bird report.
Kestrel	Survives in a variety of habitats including towns and cities, most numerous in areas of rough grassland.	<u>Main Site:</u> Small numbers recorded foraging over the site. An adult was flushed from a roosting site within the derelict farm buildings in the east of the site. <u>Bypass Corridor:</u> Small numbers recorded foraging over arable habitats	Local	Loss of arable and grassland habitats at the Main Site and the fragmentation of these habitats at the Bypass Corridor site could reduce the overall availability of foraging habitat for kestrel in the locality. The demolition of derelict farm buildings at the Main Site may reduce the availability of roosting sites. While retained areas in the south of the Main Site will continue to provide some foraging habitat, this will be in a reduced extent. The margins of scrub planting along the proposed Bypass Corridor should be planted with conservation headland that will provide suitable foraging habitat for kestrel. Consideration should be given to the provision of a number of kestrel nest boxes along the western and southern parts of the Main Site.
Marsh tit	Marsh tits forage on insects and seeds and are most often found in broadleaved woodland, copses, park and gardens.	<u>Main Site:</u> None recorded. <u>Bypass Corridor:</u> Two birds recorded within woodland habitats to the west of the A508 (Stratford road) in the south of the survey area.	Local	Losses of woodland habitat within the Bypass Corridor site, particularly in the south, will reduce the overall availability of foraging habitat used by this species during surveys. Additional woodland planting in this part of the site will compensate for this loss and help to reduce any potential impacts associated with increased noise disturbance. Further areas of woodland planting will improve connectivity to further habitats to the north

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Skylark	Requires open, dry, flat habitat of grassland or arable crops such as cereals. Ground nester in these habitats. Forages on a mixture of plant and insect food types, with insects becoming highly important during the breeding season. Population decline due to agricultural practices and a reduction in suitable habitat.	<p><u>Main Site:</u> Recorded widely within the arable field compartments in relatively small numbers.</p> <p><u>Bypass Corridor:</u> Moderate flocks and small numbers of individual birds recorded within arable farmland across the site during all three survey occasions. Peak count of 32 birds on the first survey occasion.</p>	Local	The loss of arable habitat within the Main Site may lead to a reduction in the site skylark population.
Starling	During breeding season will concentrate where suitable holes are available, either naturally or in apertures of buildings. Invertebrate food fed to young. Forages mainly on the ground in open areas of short grass or sparse vegetation, e.g. cereal stubble, farmyards.	<p><u>Main Site:</u> Recorded on one survey occasion only and associated with the area of game bird cover crop and an arable field compartment at the northern extent of the site which offer some foraging opportunities. Additional sightings included large flocks foraging in arable association with winter thrushes.</p> <p><u>Bypass Corridor:</u> Small groups recorded foraging within hedgerows and arable habitats across the survey area. Peak count of 33 birds on the final survey occasion.</p>	Local	<p>Loss of arable farmland may reduce the overall availability of foraging habitat for overwintering Starling although habitat creation measures could compensate for losses.</p> <p>Scrub and woodland planting along the Bypass Corridor environmental bund will provide an additional resource for this species, contributing to a mosaic of feeding habitats within the wider landscape. Planting should include a range of native, fruit bearing species. Aspects of the development proposals at the Main Site, including tree and ornamental planting along with lawned areas for example adjacent to car parking areas, will offer foraging and roosting opportunities to small numbers of over-wintering starling.</p>

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Fieldfare	Widespread winter visitor occurring almost anywhere. Feeds along hedgerows and in orchards, pastures and other areas of short grass, and on arable fields. Feeding sites are often close to woodland and tall hedges. Nomadic in winter as they travel the countryside for food, sometimes joined by other thrushes and starlings.	<p><u>Main Site:</u> Recorded widely throughout the site and often foraging with other over-wintering thrushes within open arable fields, hedgerows and plantation woodland, notably the area surrounding the clay pigeon shooting club.</p> <p><u>Bypass Corridor:</u> Recorded widely across the survey area in varying numbers foraging within hedgerows and arable habitats in association with other wintering thrushes.</p>	Local	Loss of open arable fields and hedgerows will reduce the overall over-wintering opportunities available on site to fieldfare. The inclusion of woodland and structural planting to be included within the development areas should aim to include some berry or fruit bearing species which would continue to offer over-wintering foraging opportunities to large numbers of fieldfare
Song thrush	In winter can be found almost anywhere in mainland Britain especially inland. Birds from Iceland, Scandinavia, northern Europe and Russia join wintering resident birds.	<p><u>Main Site:</u> Recorded in small numbers associated with hedgerows and plantation woodland.</p> <p><u>Bypass Corridor:</u> Peak count of four birds recorded during the second survey occasion within hedgerow and woodland habitat, including three in the northern part of the site.</p>	Local	<p>Losses of woodland and hedgerow habitats associated with the development of both sites will reduce the overall availability of foraging habitat available for this species in the short term until alternative habitats develop.</p> <p>Scrub and woodland planting along the length of the proposed Road Bypass will provide additional foraging habitat for this species and will improve connectivity between woodland habitats in the north and south of the site. Additional woodland planting and the creation of wet habitats associated with the Main Site will provide additional foraging opportunities for this species.</p>

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Redwing	In winter, occurs in a wide range of habitats, from open woodland to fields, and in smaller numbers, gardens; in autumn (especially) primarily related to availability of fruit. The winter population of Britain and Ireland has been estimated at over a million birds. Will feed and roost with other thrushes, especially fieldfares.	<u>Main Site:</u> Recorded widely throughout the site in varying numbers and often in association with fieldfare. <u>Road Bypass:</u> Moderate numbers recorded widely across the site foraging along with other winter thrushes.	Local	As with fieldfare
Mistle thrush	Commonly found in woodland, parks and scrub. Forages on worms, slugs, insects and berries.	<u>Main Site:</u> Small numbers recorded foraging within arable fields near to hedgerows. <u>Bypass Corridor:</u> None recorded	Local	As with song thrush
Meadow pipit	Breeds in open country, especially upland moors, also on lowland heaths, downland, salt marshes, rough grassland and dune systems. In winter can be found on agricultural land, ploughed fields, coastal marches and along the edges of rivers and lakes.	<u>Main Site:</u> Large flocks recorded in association with skylark during SPA species surveys. <u>Bypass Corridor:</u> Small numbers recorded foraging in arable fields.	Local	As with skylark

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Bullfinch	Breeds mainly in broad-leaved woods, but also commonly in dense hedgerows and thickets. Adults are vegetarian, but invertebrates are important in diet of young.	<p><u>Main Site:</u> Recorded in small numbers on each of the 4 WBS survey occasions. Largely absent from the arable dominated habitats, only occurring within the more established habitats and particularly within the mosaic of plantation, scattered scrub and grassland surrounding the clay pigeon shooting club located outside of the current application boundary.</p> <p><u>Bypass Corridor:</u> Regularly recorded within boundary hedgerows and woodland habitats, with a peak count of four birds including a group of three individuals within a hedgerow to the east of the site.</p>	Local	<p>Habitats of greatest value to bullfinch are to be largely retained, with the exception of loss of hedgerows.</p> <p>The provision of woodland and buffer planting at both sites will offer a greater over-wintering habitat resource to bullfinch by providing greater foraging opportunities and provide greater connectivity of retained areas of plantation both within and outside of the site boundary.</p>

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Linnet	Holds habitat preferences for scrub, farmland hedgerows, uncultivated fields, young plantations and woodland fringe habitats. Found in foraging flocks in the winter. Breeds in low dense bushes or hedgerows. Forages almost exclusively on seeds, taking few insects.	<p><u>Main Site:</u> Recorded outside of the current application boundary and in large numbers only on one survey occasion in association with the area of game bird cover crop.</p> <p><u>Bypass Corridor:</u> Large flock of 65 birds recorded foraging within arable habitats to the north of the site on the third survey occasion before being flushed to fly south eastwards. Small numbers of individuals also recorded over flying the site during the same survey occasion.</p>	Local	<p>The loss of arable habitat within the Main Site and the fragmentation of arable habitats along the Bypass Corridor will reduce the potential opportunities that are available to over-wintering linnet. Large flocks of linnet were recorded infrequently at both sites and given the predominance of arable habitat in the wider landscape, both sites are considered to provide a supplementary foraging resource for the local linnet population..</p> <p>Aspects of the landscape planting scheme will inevitably include the natural colonisation of some herb species, such as adjacent to areas of tree planting and around the edges of the balancing ponds. This will continue to offer a foraging resource to reduced local over-wintering linnet population.</p> <p>Consideration should be given to creating wild bird seed planting areas along created woodland/scrub habitats along the Bypass Corridor that should be planted with seed rich species to supplement the availability of foraging resources.</p>
Yellowhammer	Traditionally based on edges of open areas of forest and fringing scrub of gorse, broom and hawthorn. Extends widely across cultivated land with hedges, plantations, and paths. Feeds mainly on grass seeds, invertebrates in the breeding season. Feeds wholly on the ground by hedges, tracks and newly sown fields.	<p><u>Main Site:</u> Small numbers recorded foraging within arable field compartments. Additional observations in 2016/17 found a large flocks foraging and moving across the north eastern part of the site.</p> <p><u>Bypass Corridor:</u> Small numbers of individuals regularly recorded within hedgerows across the site in addition to flocks observed foraging within arable fields.</p>	Local	<p>While winter bird surveys recorded very few yellowhammer, a large flock were observed foraging and moving across arable fields in the north west of the site during 2016/17 surveys. This indicates that the site provides some value as a foraging resource for the local yellowhammer population, though survey has demonstrated that this is likely to be on an irregular basis.</p> <p>The loss of arable habitats will therefore limit the overall availability of foraging habitat for the local yellowhammer population until other alternative habitats develop within the Green Infrastructure.</p>

Species	Habitat Requirements ¹	Species Account (Refer to Figure 1)	Nature Conservation Value ²	Characterisation of Expected Impact and Suggested Mitigation & Compensation
Reed Bunting	Traditional habitat is that of prolific fairly low vegetation, mainly associated with intense soil moisture. Increasingly found in cultivated drier habitats.	<p><u>Main Site:</u> Recorded on the first two WBS surveys outside of the application site. Birds were recorded in association with the water body associated with the shooting club and the game bird cover crop</p> <p><u>Bypass Corridor:</u> None Recorded</p>	Local	Loss of open arable farmland within the application boundary is unlikely to impact on the local over-wintering reed bunting population in the short-term. Proposals to include a number of balancing ponds within the application boundary will introduce significant opportunities for over-wintering reed bunting once created.

¹ Snow & Perrins, 1998

² Based upon criteria set out in Table 2 and professional judgement.

³ Assumes that any suggested or proposed mitigation, compensation or habitat enhancements are undertaken in full.

Appendix A (Bird Report) –Upper Nene Valley Gravel Pits SPA / Ramsar Citation

EC Directive 2009/147 on the Conservation of Wild Birds Special Protection Area (SPA)

Name: Upper Nene Valley Gravel Pits

Unitary Authority/County: Northamptonshire

Boundary of the SPA: Upper Nene Valley Gravel Pits SPA encompasses most of the Upper Nene Valley Gravel Pits Site of Special Scientific Interest (SSSI);

Site description: The disused sand and gravel pits extend for approximately 35 kilometres along the alluvial deposits of the River Nene floodplain from Clifford Hill on the southern outskirts of Northampton, downstream to Thorpe Waterville, north of Thrapston. They form an extensive series of shallow and deep open waters which occur in association with a wide range of marginal features, such as sparsely-vegetated islands, gravel bars and shorelines, and habitats including reedswamp, marsh, wet ditches, rush pasture, rough grassland and scattered scrub. This range of habitat and the varied topography of the lagoons provide valuable resting and feeding conditions for major concentrations of wintering waterbirds, especially ducks and waders. Species such as golden plover *Pluvialis apricaria* and lapwing *Vanellus vanellus* also spend time feeding and roosting on surrounding agricultural land outside the SPA.

Size of SPA: The SPA covers an area of 1,357.67 ha.

Qualifying species:

The site qualifies under article 4.1 of the Directive (Directive 2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex 1 species	Count and season	Period	% of GB population
Bittern <i>Botaurus stellaris</i>	2 individuals – wintering	5 year peak mean 1999/2000 – 2003/04	2.0%
Golden plover <i>Pluvialis apricaria</i>	5,790 individuals – wintering	5 year peak mean 1999/2000 – 2003/04	2.3%

The site qualifies under article 4.2 of the Directive (Directive 2009/147/EC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	Count and season	Period	% of subspecies/population
Gadwall <i>Anas strepera</i>	773 individuals – wintering	5 year peak mean 1999/2000 – 2003/04	2.0% <i>strepera</i> , NW Europe (breeding)



Assemblage qualification:

The site qualifies under article 4.2 of the Directive (Directive 2009/147/EC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 23,821 individual waterbirds (5 year peak mean 1999/2000 – 2003/04), including wigeon *Anas penelope*, gadwall *Anas strepera*, mallard *Anas platyrhynchos*, shoveler *Anas clypeata*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, great crested grebe *Podiceps cristatus*, cormorant *Phalacrocorax carbo*, bittern *Botaurus stellaris*, golden plover *Pluvialis apricaria*, lapwing *Vanellus vanellus* and coot *Fulica atra*.

Bird counts from: Denton Wood Associates. 2005. *Wintering waterbirds in the Upper Nene Valley – supplementary data analysis in relation to possible SSSI, SPA and Ramsar site designation*. Unpublished report to English Nature.

Interests that do not currently meet the SPA selection guidelines: The SPA is used by breeding common tern *Sterna hirundo* and kingfisher *Alcedo atthis* (both species listed in Annex I of the EC Birds Directive) in numbers of less than qualifying thresholds.

This citation relates to a site entered in the Register of European Sites for England.
Register reference number: UK9020296
Date of registration: 7 April 2011

Signed:

S G Hopkins

On behalf of the Secretary of State for
Environment, Food and Rural Affairs



Appendix B – 2014/15 Winter Bird Survey Results

Species	Latin	Survey 1	Survey 2	Survey 3	Survey 4	Conservation Status
Pheasant	<i>Phasianus colchicus</i>	0	1	0	0	Not listed
Little Egret	<i>Egretta garzetta</i>	0	0	1	0	Green list
Golden Plover	<i>Pluvialis apricaria</i>	350-400	0	0	507	Green list
Lapwing	<i>Vanellus vanellus</i>	0	0	0	1	Red list NERC S.41
Buzzard	<i>Buteo buteo</i>	0	0	1	0	Green list
Woodcock	<i>Scolopax rusticola</i>	1	0	0	0	Red list
Lesser Black-backed Gull	<i>Larus fuscus</i>	0	1	0	0	Amber list
Herring Gull	<i>Larus argentatus</i>	0	1	0	0	Red list NERC S.41
Feral Pigeon/Rock Dove	<i>Columba livia</i>	0	10	0	0	Green list
Stock Dove	<i>Columba oenas</i>	2	0	0	22	Amber list
Woodpigeon	<i>Columba palumbus</i>	17	35	1	204	Green list
Kestrel	<i>Falco tinnunculus</i>	0	0	1	1	Amber list
Green Woodpecker	<i>Picus viridis</i>	0	1	1	3	Green list
Great-spotted Woodpecker	<i>Dendrocopos major</i>	2	0	1	0	Green list
Magpie	<i>Pica pica</i>	3	0	4	3	Green list
Jay	<i>Garrulus glandarius</i>	0	1	0	0	Green list
Jackdaw	<i>Corvus monedula</i>	0	24	0	50	Green list
Rook	<i>Corvus frugilegus</i>	1	0	0	0	Green list
Carrion Crow	<i>Corvus corone</i>	8	1	6	61	Green list
Goldcrest	<i>Regulus regulus</i>	2	0	2	6	Green list
Blue Tit	<i>Cyanistes caeruleus</i>	8	4	11	11	Green list

Species	Latin	Survey 1	Survey 2	Survey 3	Survey 4	Conservation Status
Great Tit	<i>Parus major</i>	5	7	14	9	Green list
Coal Tit	<i>Periparus ater</i>	1	0	0	0	Green list
Skylark	<i>Alauda arvensis</i>	2	3	5	13	Red list NERC S.41
Long-tailed Tit	<i>Aegithalos caudatus</i>	1 flock	10	1 flock	3	Green list
Treecreeper	<i>Certhia familiaris</i>	1	0	0	0	Green list
Wren	<i>Troglodytes troglodytes</i>	8	3	5	6	Green list
Starling	<i>Sturnus vulgaris</i>	0	71	0	0	Red list NERC S.41
Blackbird	<i>Turdus merula</i>	14	18	28	27	Green list
Fieldfare	<i>Turdus pilaris</i>	138	184	50	17	Red list WCA Sch. 1
Song Thrush	<i>Turdus philomelos</i>	3	0	4	3	Red list NERC S.41
Redwing	<i>Turdus iliacus</i>	45	148	21	82	Red list WCA Sch. 1
Mistle Thrush	<i>Turdus viscivorus</i>	3	0	1	0	Red list
Robin	<i>Erithacus rubecula</i>	8	4	11	15	Green list
Dunnock	<i>Prunella modularis</i>	9	3	7	10	Amber list NERC S.41
Pied Wagtail	<i>Motacilla alba</i>	1	0	0	1	Green list
Meadow Pipit	<i>Anthus pratensis</i>	2	0	0	0	Amber list
Bullfinch	<i>Pyrrhula pyrrhula</i>	1	1	4	2	Amber list NERC S.41
Chaffinch	<i>Fringilla coelebs</i>	17	15	154	41	Green list
Greenfinch	<i>Carduelis chloris</i>	17	1	14	20	Green list
Linnet	<i>Carduelis cannabina</i>	2	130	1	0	Red list NERC S.41
Goldfinch	<i>Carduelis carduelis</i>	5	31	1	22	Green list
Siskin	<i>Carduelis spinus</i>	0	10	0	0	Green list
Yellowhammer	<i>Emberiza citronella</i>	1	0	0	4	Red list NERC S.41

Species	Latin	Survey 1	Survey 2	Survey 3	Survey 4	Conservation Status
Reed Bunting	<i>Emberiza schoeniclus</i>	4	5	0	0	Amber list NERC S.41
Total No. Species	45	32	27	26	27	

Appendix C: Bypass Corridor – 2015/2016 Winter Bird Survey Results

Species: British Common Name	Species: Latin name	Survey 1	Survey 2	Survey 3	Survey 4	Conservation Status & Protection
Pheasant	<i>Phasianus colchicus</i>		1	1	3	Not listed
Buzzard	<i>Buteo buteo</i>		1	1	2	Green list
Black-headed gull	<i>Chroicocephalus ridibundus</i>		1	0	3	Amber list
Rock dove/Feral pigeon	<i>Columba livia</i>		0	1	0	Green list
Stock dove	<i>Columba oenas</i>		1	0	15	Amber list
Woodpigeon	<i>Columba palumbus</i>		9	13	23	Green list
Green woodpecker	<i>Picus viridis</i>		2	5	1	Green list
Great spotted woodpecker	<i>Dendrocopos major</i>		0	1	2	Green list
Kestrel	<i>Falco tinnunculus</i>		3	1	0	Amber list
Magpie	<i>Pica pica</i>		6	6	9	Green list
Jay	<i>Garrulus glandarius</i>		0	0	3	Green list
Jackdaw	<i>Corvus monedula</i>		71	0	6	Green list
Rook	<i>Corvus frugilegus</i>		0	0	16	Green list
Carrion crow	<i>Corvus corone</i>		5	6	4	Green list
Raven	<i>Corvus corax</i>		0	1	0	Green list
Goldcrest	<i>Regulus regulus</i>		2	3	1	Green list
Blue tit	<i>Cyanistes caeruleus</i>		13	31	11	Green list
Great tit	<i>Parus major</i>		3	7	6	Green list
Coal tit	<i>Periparus ater</i>		0	1	0	Green list
Marsh tit	<i>Poecile palustris</i>		2	0	0	Red list NERC S.41
Skylark	<i>Alauda arvensis</i>		32	23	13	Red list WCA Sch.1

Species: British Common Name	Species: Latin name	Survey 1	Survey 2	Survey 3	Survey 4	Conservation Status & Protection
Long-tailed tit	<i>Aegithalos caudatus</i>		2	5	5	Green list
Treecreeper	<i>Certhia familiaris</i>		0	1	0	Green list
Wren	<i>Troglodytes troglodytes</i>		5	2	4	Green list
Starling	<i>Sturnus vulgaris</i>		29	0	33	Red list NERC S.41
Blackbird	<i>Turdus merula</i>		22	18	12	Green list
Fieldfare	<i>Turdus pilaris</i>		85	15	186	Red list WCA Sch.1
Song thrush	<i>Turdus philomelos</i>		0	4	1	Red list NERC S.41
Redwing	<i>Turdus iliacus</i>		54	31	25	Red list WCA Sch.1
Robin	<i>Erithacus rubecula</i>		8	10	10	Green list
Dunnock	<i>Prunella modularis</i>		6	3	2	Amber list NERC S.41
Pied wagtail	<i>Motacilla alba</i>		3	13	6	Green list
Meadow pipit	<i>Anthus pratensis</i>		0	2	0	Amber list
Chaffinch	<i>Fringilla coelebs</i>		8	16	41	Green list
Bullfinch	<i>Pyrrhula pyrrhula</i>		2	3	4	Amber list NERC S.41
Greenfinch	<i>Carduelis chloris</i>		4	1	1	Green list
Linnet	<i>Carduelis cannabina</i>		0	0	70	Red list NERC S.41
Goldfinch	<i>Carduelis carduelis</i>		1	3	8	Green list
Yellowhammer	<i>Emberiza citrinella</i>		17	9	20	Red list NERC S.41
Total No. Species	39		31	31	32	