

A358 Taunton to Southfields Dualling Breeding bird Technical report

PCF Stage 2

HE551505-MMSJV-EBD-000-RP-LB-0052

Notice

This document has been prepared on behalf of Highways England by Mott MacDonald Sweco JV for Highways England's Collaborative Delivery Framework (CDF). It is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose. Mott MacDonald Sweco JV accepts no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from Highways England.

Date: March 2021

Version: P02

Highways England Programme Leader:	Andrew Alcorn
Highways England Project Manager:	Olivia Blok
Mott MacDonald Sweco Joint Venture Project Manager:	Amar Parkinson
PCF STAGE 2 Supplier:	Mott MacDonald Sweco Joint Venture

Document control

Client	Highways England
Project	A358 Taunton to Southfields Dualling
Document title	Breeding bird technical report
Job no.	HE551508
Document reference	HE551505-MMSJV-EBD-000-RP-LB-0052

Revision history

Job number: HE551508			Document ref: HE551505-MMSJV-EBD-000-RP-LB-0052			
Revision	Purpose description	Originator	Checked	Approved	Authorised	Date
P01	First revision	D Locke	N Shelton	K Atkinson	E Rapa	4/12/2020
P02	Updated following comments	D Locke	N Shelton	K Atkinson	E Rapa	10/3/2021

Prepared for:

Highways England
Temple Quay House
2 The Square
Temple Quay
Bristol
BS1 6HA

Prepared by:

Mott MacDonald Sweco Joint Venture
Stoneham Place
Stoneham Lane
Southampton
Hampshire
SO50 9NW

Table of contents

Executive summary		
1.	Introduction	1
1.1.	Background	1
1.2.	Scheme proposal	3
1.3.	Purpose of the report	5
1.4.	Scope of report	5
1.5.	Legislation	5
1.6.	National conservation status assessment	7
1.7.	Breeding bird ecology	8
2.	Methodology	9
2.1.	Desk study	9
2.2.	Field survey	9
2.3.	Mapping and data analysis	11
2.4.	Constraints	11
3.	Results	12
3.1.	Desk study	12
3.2.	Field survey	14
4.	Conclusion	17
	Appendix A: Survey timings and weather	18
	Appendix B: All species results	20
	Appendix C: Species richness and species abundance maps	24
	Appendix D: Breeding bird access restrictions map	25
	Appendix E: June 2020 survey route	26
Figures		
	Figure 1:1 : A358 Taunton to Southfields Existing Road Layout	1
	Figure 1:2 : Route options presented at the public consultations	3
	Figure 1:3 : Pink Modified option	4
Tables		
	Table 2:1 : Summary of breeding evidence categories	11
	Table 2:2 : Species richness criteria	11
	Table 3:1 : Historical records of bird species returned within 2km of the scheme footprint	12
	Table 3:2 : Statutory and non-statutory designated sites within 2km	13
	Table 3:3 : Notable species, status, minimum, maximum, average count and nesting status	14

Executive summary

The proposed A358 Taunton to Southfields Dualling scheme (hereafter referred to as 'the scheme') would provide a dual carriageway along the length of the A358 between Taunton and Ilminster in Somerset, connecting the A303 at Ilminster to the M5 motorway to the north.

This report provides methods, constraints and results of the breeding bird surveys undertaken in 2017 and 2020.

The surveys covered all suitable habitats within 250m of the scheme footprint, with monthly visits in April, May and June along the length of the scheme in 2017 and in June during the 2020 breeding seasons.

Nineteen records of notable bird species with breeding evidence were returned by the data search within 2 kilometres of the scheme.

Five statutory and non-statutory designated sites are located within 2 kilometres of the scheme which mention birds in their designation. The closest is South Taunton Streams Local Nature Reserve, which is 600m west of the scheme. Kingfisher *Alcedo atthis*, sand martin *Riparia riparia* and dipper *Cinclus cinclus*, are mentioned in its designation.

Twenty-six notable species were recorded within the survey area. Records of notable species which showed breeding evidence include:

- two species listed under Schedule 1 of the *Wildlife and Countryside Act 1981*
- twelve species listed under Section 41 of the *Natural Environment and Rural Communities Act 2006*
- twelve species on the Red List *Birds of Conservation Concern*
- eleven species on the Amber List *Birds of Conservation Concern*

The overall breeding bird community (n=62) of the study area is of "County" conservation importance. Notable areas and habitats that contain the highest breeding species richness (distance from scheme footprint) include:

- Taunton Gateway Park & Ride (0m)
- Fivehead River tributary, Capland (0m)
- Ash (0m)
- Kenny, Ashill (50m)
- Bickenhall Wood (150m)

1. Introduction

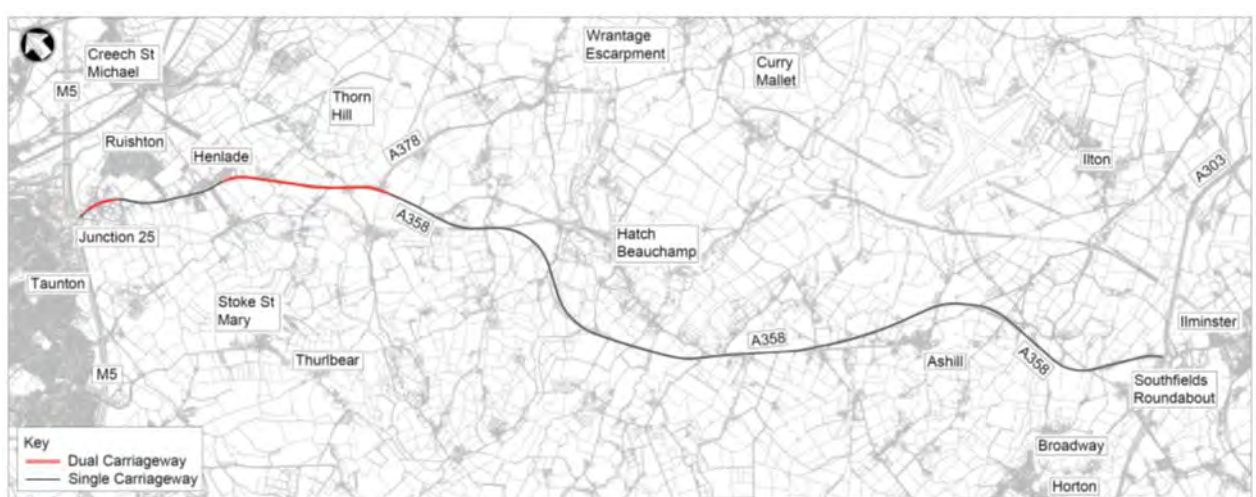
1.1. Background

1.1.1. The A303 / A358 corridor is a vital connection between the south-west, London and the south-east. Due to the population density, employment opportunities, urban concentrations and tourist attraction of the South West the A303 / A30 / A358 corridor experiences a wide range of traffic flows which lead directly to severe and regular instances of congestion and delay.

1.1.2. The A303 / A30 is part of the strategic road network (SRN) and together with the A358 forms a key strategic link between the South West Peninsular (SWP) and the rest of the south, southeast and London. Although it is dual carriageway over much of its length there are several unimproved single carriageway sections between the M3 motorway at Basingstoke and the M5 at Taunton and Exeter which cause congestion, especially during summer weekends.

1.1.3. The existing A358 between Taunton and Southfields Roundabout is predominantly single carriageway with a short (1.1 miles) dual carriageway section in the vicinity of Thornfalcon and a 3 lane (2+1) section (0.3 miles) immediately to the south of that. It has many side roads and private accesses directly onto it. The national speed limit applies between Southfields and Henlade where it reduces to 30mph; the speed limit increases to 40mph north of Henlade on the approach to M5 junction 25. A plan showing the existing route between Taunton and Southfields is provided in Figure 1:1.

Figure 1:1 : A358 Taunton to Southfields Existing Road Layout

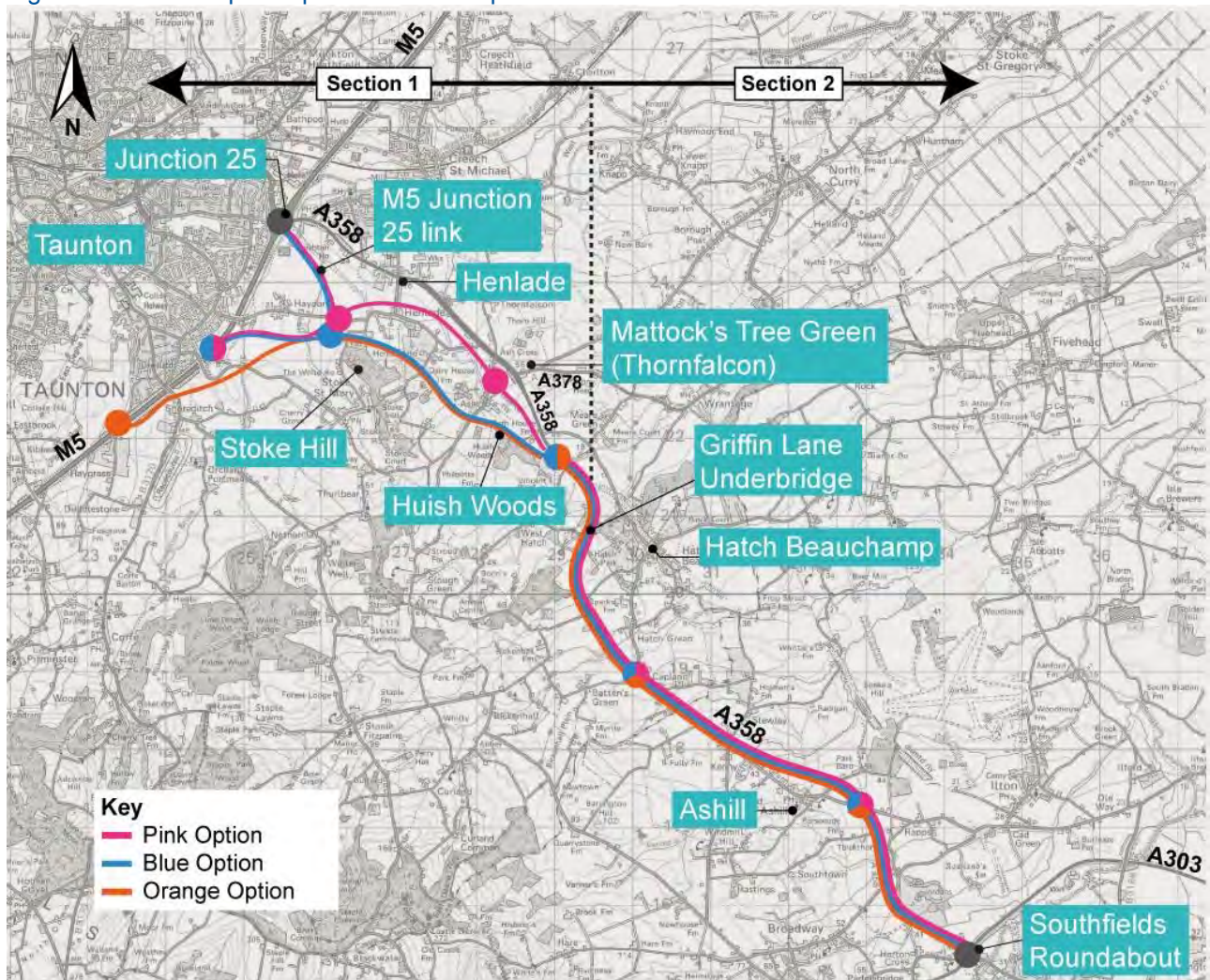


Source: Mott MacDonald Sweco Joint Venture. This Map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100030649 2016.

1.1.4. Three potential route options were chosen, the Orange, Pink and Blue. At the public consultation in 2017 only the Orange option was presented. A further consultation was held in 2018 in which all three options were presented. The three route options presented at the 2018 consultation are described below and are shown in Figure 1:2.

- The **Pink option** commences at a new junction on the M5 approximately 1.2 miles (2 kilometres) south of junction 25. South-facing slip roads from the M5 would combine to become the new dual carriageway, which runs eastwards and north of Stoke Hill. Here a limited-movement junction is proposed with east-facing slip road connections to the new road which would allow traffic to travel between the new A358 and junction 25 via a new 0.9 mile (1.5 kilometre) dual carriageway link past the planned Nexus 25 site. The proposed route would then follow the existing A358 to Southfields Roundabout enabling the existing road to be upgraded from a single to a dual carriageway. The total length of the Pink option is 9 miles (14.6 kilometres), plus the 0.9 miles (1.5 kilometres) spur leading to M5 junction 25.
- The **Blue option** commences at the M5 approximately 1.2 miles (2 kilometres) south of junction 25 and runs eastwards on a more southerly alignment. At Stoke Hill a junction is proposed similar to that with the Pink option which would allow traffic to travel between the road and junction 25 via a new 1.2 miles (2 kilometres) dual carriageway link past the planned Nexus 25 site. The road would then continue in a south easterly direction to West Hatch Lane, where an all-movement, grade-separated junction is proposed to allow access to Hatch Beauchamp, Henlade and surrounding communities, and the A378. This option is identical to the Pink option from this point onwards to Southfields Roundabout. The total length of the Blue option is 8.7 miles (14.1 kilometres), plus the 1.2 miles (2 kilometres) spur leading to M5 junction 25.
- The **Orange option** commences at the M5 approximately 2.1 miles (3.5 kilometres) south of junction 25 at a proposed new 2-bridge roundabout which would form a new all-movements junction between the new A358 and the motorway. The proposed road initially takes a north-easterly course towards Henlade before arcing around the north of Stoke Hill. In contrast to the Blue option, there is no link to junction 25 from this location, and therefore no junction at Stoke Hill. This option is identical to the Blue option from this point onwards. The total length of the Orange option is 9.5 miles (15.3 kilometres).

Figure 1:2 : Route options presented at the public consultations



Source: Mott MacDonald Sweco Joint Venture. This Map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100030649 2016.

1.2. Scheme proposal

1.2.1. The scheme would provide a dual carriageway along the length of the A358 between Taunton and Ilminster in Somerset, connecting the A303 at Southfields Roundabout, Ilminster to the M5 motorway to the north. The scheme would include grade separated junctions with the purpose of providing a high-quality free flow journey for those using the route, with the removal of at-grade junctions and direct accesses.

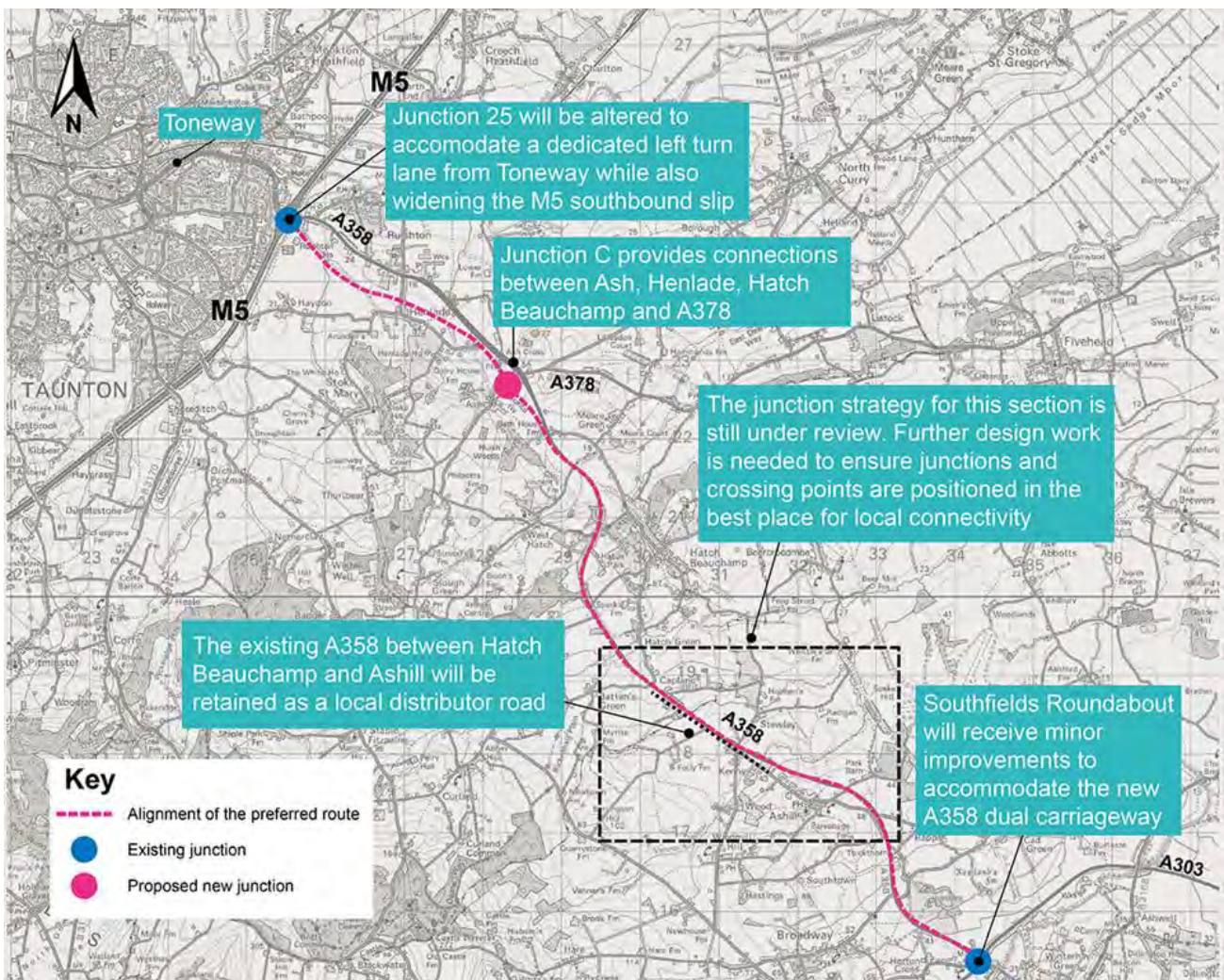
1.2.2. The Preferred Route Announcement (PRA) on the 13 June 2019 identified the Pink Modified option as the preferred route option, (refer to the Scheme Appraisal Report (SAR) for details of the development of the Pink option to the Pink Modified option).

1.2.3. The scheme would comprise online widening between West Hatch Lane and Southfields Roundabout. This would involve the re-use of a large amount of the existing

A358 corridor, and between West Hatch Lane and Henlade the route would pass close to the A378 junction at Mattocks Tree Green. This would enable direct interchange between the proposed road and the A378. The scheme retains the bypass at Henlade, connects with the A378, and connects directly to junction 25 on the M5. A plan showing the scheme is shown in Figure 1:3 below.

1.2.4. The scheme would provide a dual carriageway along the length of the A358 between Taunton and Ilminster in Somerset, connecting the A303 at Ilminster to the M5 motorway to the north. The scheme would include grade separated junctions and, with the purpose of providing a high-quality free flow journey for those using the route, the removal of at-grade junctions and direct accesses.

Figure 1:3 : Pink Modified option



Source: Mott MacDonald Sweco Joint Venture. This Map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100030649 2016.

1.3. Purpose of the report

1.3.1. This breeding bird Technical Report has been prepared during Stage 2 of the Highways England's Project Control Framework (PCF). This Technical Report provides an overview of the breeding bird surveys results with the surveys undertaken in 2017 and 2020 within 250m of the Pink Modified option. The report provides methods, constraints and results of the breeding bird surveys undertaken.

1.4. Scope of report

1.4.1. The objectives of the report are to present the methodology, constraints and results of the 2017 and 2020 breeding bird surveys.

1.4.2. The report does not provide any detailed impact assessment or recommendations for mitigation as this aspect will be developed by the RDP DIP during PCF Stage 3 of the scheme.

1.4.3. Guidance on ecological assessment recommends that all ecological features that occur within a zone of influence (Zol) for a proposed scheme are investigated¹. A distance of 250m was decided as an appropriate Zol for the scheme after consultation with Natural England. This took into consideration:

- the current usage of and disturbance from the existing A358
- the small realignment along most of the scheme
- habitat suitability for breeding birds within and adjacent to the redline boundary
- length of the scheme

1.5. Legislation

Legal Protection

1.5.1. In the UK all wild birds, their nests and their eggs are protected by the *Wildlife and Countryside Act 1981* (as amended), hereafter referred as the 1981 Act. Offences under the 1981 Act include:

- Intentionally killing injuring or taking any wild bird
- Intentionally taking, damaging or destroying the nest of any wild bird whilst it is in use or being built
- Intentionally taking or destroying the egg of any wild bird.

1.5.2. Birds listed on Schedule 1 of the 1981 Act have further protection making it an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is

¹ Chartered Institute of Ecology and Environmental Management (CIEEM) (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. 2nd Edition.

nest building, or at / near a nest containing eggs or young, or to disturb the dependent young of such a bird.

1.5.3. The 1981 Act is supplemented by the *Natural Environment and Rural Communities Act 2006* (NERC), which enhances the protection to certain habitats and species and places a duty on governments and public bodies / authorities to have regard for nature conservation. The NERC Act 2006 requires public bodies, including local authorities, 'to have regard to the conservation of biodiversity in England' when carrying out their normal functions.

1.5.4. The list of species of 'principal importance for the conservation of biodiversity in England (Section 41 of the *Natural Environment and Rural Communities Act 2006*) guides public bodies in implementing their duty – the 'Biodiversity Duty'. The Local Authority therefore must consider the impact on biodiversity of the proposed development. The recommendations section of this report illustrates ways in which this Biodiversity Duty can be met.

National Planning Policy Framework

1.5.5. The *National Planning Policy Framework* (NPPF) 2019 sets out government's planning policies for England and how these are expected to be applied. Chapter 15 'Conserving and enhancing the natural environment', sets out the Government's policies on biodiversity. In summary, with regards to ecology and biodiversity, the NPPF requires that the planning system and planning policies should:

- protect and enhance valued landscapes, sites of biodiversity or geological value and soils
- minimise impacts on; and provide net gains for, biodiversity
- refuse planning permission for a development if significant harm to biodiversity cannot be avoided, adequately mitigated, or, as a last resort, compensated for
- not normally permit development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it
- refuse development resulting in the loss or deterioration of irreplaceable habitats, unless there are wholly exceptional reasons and a suitable compensation strategy exists
- support development whose primary objective is to conserve or enhance biodiversity; while encouraging opportunities to incorporate biodiversity improvements in and around developments, especially where this can secure measurable net gains for biodiversity.

1.6. National conservation status assessment

Birds of Conservation Concern

1.6.1. Also referred to as the UK Red List for birds, the fourth review of the status of wild birds within Great Britain was undertaken in 2015, titled *Birds of Conservation Concern*² (BoCC4). Two hundred and forty-four species were assessed and assigned to the Red, Amber or Green lists regarding conservation concerns.

1.6.2. Focusing at a national level, the quantitative criteria assessed the historical and recent trends in the population and range of each species, as well as its current population size, localised distribution and international importance. Bird species in the red and amber lists will be subject to at least one of the relevant factors as listed below.

Red list criteria

- Globally threatened
- Historic population decline in UK during the period 1800-1995
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first Birds of Conservation Concern (BoCC) review, starting in 1969)
- Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period

Amber list criteria

- Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern)
- Historical population decline during 1800-1995, but recovering; population size has more than doubled over last 25 years
- Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period
- Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period
- Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period
- Rare breeder; 1-300 breeding pairs in UK
- Rare non-breeders; less than 900 individuals
- Localised at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeder

² Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D. & Gregory, R.D., 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, 708–746.

- Internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively)

Green list criteria

- Species that occur regularly in the UK but do not qualify under any of the above criteria

Local biodiversity action plans

1.6.3. Biodiversity Action Plans (BAPs) set out actions for the conservation and enhancement of biological diversity at various spatial scales. The *UK Biodiversity Action Plan (UKBAP) 1994 – 2010* has been superseded by the *UK Post-2010 Biodiversity Framework covering the period 2011 – 2020*. UKBAP priority habitats and species were used to form the basis for the statutory list of habitats and species of ‘principal importance for the conservation of biodiversity in England’ under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*.

1.6.4. Local Biodiversity Action Plans (LBAP) are a means for delivering UK Biodiversity Action Plan targets at a local level. The proposed works area falls within the area covered by the *Taunton Deane and South Somerset Biodiversity Action Plans*. Lapwing *Vanellus vanellus* is the only bird identified within either LBAP.

1.7. Breeding bird ecology

1.7.1. In the UK birds typically breed between March and August (inclusive). This is subject to species and regional variations with some species commencing breeding in late February (or earlier in the case of raven *Corvus corax* and crossbill *Loxia curvirostra*) and others being able to breed through the end of the summer period until October. Other species such as barn owl *Tyto alba* may nest throughout the year.

1.7.2. There is also a large variation in where and how species breed. Nests can be formed in scrub, woodland and hedgerows for protection or in exposed open areas such as heathland or grassland. Some pairs of breeding birds will defend the territory around their nest from nest building until the young have fledged; proclaiming this with singing, aggressive encounters or aerial displays, whilst others will form colonies with others of the same species. Some species such as house sparrow *Passer domesticus* will commonly have multiple broods in a year.

2. Methodology

2.1. Desk study

2.1.1. A detailed biological records search was requested from Somerset Environmental Records Centre (SERC) in 2016 up to 2 kilometres from the scheme as part of the Preliminary Ecological Appraisal. This was used to identify records of birds within the Zone of Influence (Zoi) and wider surrounds. The records search was undertaken for the scheme options under consideration at the time and was not updated in 2020 due to the changing timescales of the project and to avoid multiple repeats of data search requests. The data search should be updated during PCF Stage 3 to support the Development Consent Order (DCO) application.

2.1.2. A search for any statutory or non-statutory designated sites, where birds are a feature of interest, within 2 kilometres of the scheme boundary, was undertaken. The following sources were reviewed / consulted:

- Multi Agency Geographical Information for the Countryside (MAGIC) website (<https://magic.defra.gov.uk>)
- Joint Nature Conservation Committee (JNCC) (<https://jncc.gov.uk/>)
- *Taunton Deane & Somerset West Biodiversity Action Plans*

2.2. Field survey

2.2.1. The survey methodology broadly followed that used for the *Common Bird Census and Breeding Bird Survey*³. The field survey was carried out along the length of the proposed scheme with monthly visits in April, May and June in 2017, and in June in the 2020 breeding seasons.

2.2.2. Surveys were completed by experienced ornithologists, using binoculars and capable of identifying a wide range of European bird species by sight and sound.

2.2.3. Dedicated barn owl *Tyto alba* surveys were undertaken separately and the results of these surveys are presented within a separate report.

Survey area and coverage

2.2.4. The field survey covered all suitable habitats within 250m of the scheme footprint, hereafter referred to as the “survey area” within this report, as set out in section 1.4.3. The majority of habitat on site is typical of lowland farmland in southern England, dominated by arable, pasture and woodland.

³ C J Bibby, Bird census techniques, 2000,

2.2.5. Survey coverage of the survey area was based on the perimeter count methodology⁴. Public footpaths, tractor lines, roads, field boundaries and manmade paths were walked to cover all suitable habitat within the survey area. Set transects were not planned but coverage included:

- Every accessible hedgerow, drain and field boundary within the survey area extent
- Passing across the centre of fields larger than 25 hectares (ha)
- Passing within 50m of every part of any woodland present

2.2.6. The starting point and direction route were reversed on alternate visits to avoid potential temporal bias. Surveys began approximately one hour after sunrise to avoid the heightened bird activity that can lead to uneven coverage as a result of rapid changes in the detection of birds.

2.2.7. In order to maintain a relatively consistent ability to detect breeding bird activity, the surveys were conducted where practicable in optimal or near optimal conditions and avoided periods of heavy rain and/or strong wind (above wind Force four).

2.2.8. Full details on survey dates, timings and weather are included within Appendix A. The survey route followed in June 2020 is included in Appendix E.

Data collection

2.2.9. Birds identified by sight or sound were registered electronically on a Samsung Galaxy Note 2 Tablet using the ArcCollector application. The number of birds of each species was recorded with breeding evidence; if displayed, as per the standard British Trust for Ornithology (BTO) codes. The following signs were identified as potential signs of breeding:

- territorial alarm
- song
- aggressive encounter
- occupied nest, nest box, or sitting on nest
- carrying nest material
- carrying food or faecal sac

2.2.10. Table 2:1 sets out the criteria for confirmed, probable and possible breeding.

⁴ Atkinson, Philip & Fuller, Richard & Gillings, Simon & Vickery, Juliet. (2006). Counting birds on farmland habitats in winter. *Bird Study*. 53. 303-309

Table 2:1 : Summary of breeding evidence categories

Confirmed	Probable	Possible
Distraction display or injury feigning.	Pair observed in suitable nesting habitat.	Observed in suitable nesting habitat.
Used nest or egg shell remains.	Permanent territory presumed through registration of territorial behaviour (song etc.) from many individuals on one day.	Singing male in suitable breeding habitat.
Recently fledged young.	Courtship and display.	
Adults entering or leaving nest site or adults seen incubating.	Visiting probable nest site.	
Adult carrying faecal sac or food for young.	Agitated behaviour or calls suggesting probable presence of nest or young nearby.	
Nest containing eggs.	Nest building or excavation.	
Nest with young.		

Notable species

2.2.11. For the purpose of this report, notable bird species are defined as those which are listed in Schedule 1 of the 1981 Act, Section 41 of the *Natural Environment and Rural Communities Act 2006*, either listed as Red or Amber in BoCC4, and / or species listed on the *South Somerset or Taunton Deane Biodiversity Action Plans*.

2.3. Mapping and data analysis

2.3.1. Data were spatially analysed using ArcGIS. A hexagonal grid with 50m wide grid cells covering the full extent of the survey area was created using the generate tessellation tool. Individual maps were produced illustrating; on a grid cell basis, the spatial variation in the number of records, species richness, abundance, and the distribution of notable species across the survey area.

Assessment of bird community importance

2.3.2. An assessment of the breeding bird community of the survey area was undertaken based on the methodology described by Fuller¹ on species richness and the breeding bird community quality. The conservation importance of the site with respect to species richness is set against the criteria in Table 2:2.

Table 2:2 : Species richness criteria

Conservation importance	National	Regional	County	Local
Number of species	85+	70-84	50-69	25-49

¹ Fuller, R., 1980. A method for assessing the ornithological interest of sites for conservation. *Biological Conservation*, 17. pp. 229-239.

Species excluded from analysis

2.3.3. Species observed during surveys but excluded from the analysis include:

- non-native species, including those protected under the *Game Act 1831* (as amended) but likely to be derived from a self-sustaining population
- non-native species considered to be under the permanent or temporary control of man

2.4. Constraints

2.4.1. Surveys were carried out in daylight hours only and therefore species most frequently observed during hours of darkness or twilight are likely to have been under recorded.

2.4.2. The survey methodology does not detect all species evenly and it is known that cryptic species such as grey partridge *Perdix perdix*, snipe *Gallinago gallinago* and goshawk *Accipiter gentilis* will be under-recorded.

2017

2.4.3. Access was denied in 2017 to some areas of the scheme. A map of areas where surveys were not possible and could not be covered by adjacent land is included in Appendix D. The main areas of restricted access were at:

- Horton Cross
- Rapps
- West Hatch
- Ash
- Mattock's Tree Green
- Henlade

2.4.4. Walking a pre-defined route was deemed impractical as access limitations often prevented adjacent fields being surveyed due to limited visibility and fields of view.

2020

2.4.5. Surveys were restricted to June 2020 because of the nationwide lockdown in response to Covid-19. This will have reduced the likelihood of detecting species which display early in the season or stop displaying once paired; such as nightingale *Luscinia megarhynchos* and lesser spotted woodpecker *Dryobates minor*.

2.4.6. Access was denied to Hatch Park, Hatch Beauchamp. This is an area of farmland, woodland and parkland, and is adjacent to Line Wood Ancient and Semi-natural woodland.

3. Results

3.1. Desk study

Historic species records

3.1.1. Overall, 687 records of 97 bird species were returned from within 2 kilometres of the scheme. Nineteen of these were notable bird species with breeding evidence and are presented below in Table 3:1. The number of records occurring within the typical breeding season for most species (March to September) is noted.

Table 3:1 : Historical records of bird species returned within 2km of the scheme footprint

Species	Latin Name	Status	Number of records within breeding season	Year of most recent record
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber list Section 41	5	2013
Cuckoo	<i>Cuculus canorus</i>	Red list Section 41	2	2002
Grasshopper warbler	<i>Locustella naevia</i>	Red list	2	2004
Kingfisher	<i>Alcedo atthis</i>	Schedule 1 Amber list	24	2012
Nightingale	<i>Luscinia megarhynchos</i>	Red list	48	2005
Dunnock	<i>Prunella modularis</i>	Amber list Section 41	8	2013
Curlew	<i>Numenius arquata</i>	Red list Section 41	1	2009
Woodcock	<i>Scolopax rusticola</i>	Red list	1	1999
Turtle dove	<i>Streptopelia turtur</i>	Red list Section 41	5	2000
Herring gull	<i>Larus argentatus</i>	Red list Section 41	2	2004
Lesser spotted woodpecker	<i>Dendrocopos minor</i>	Red list Section 41	4	2003
Marsh tit	<i>Poecile palustris</i>	Red list Section 41	11	2013
Mistle thrush	<i>Turdus viscivorus</i>	Red list	1	2002
Spotted flycatcher	<i>Muscicapa striata</i>	Red list Section 41	24	2011
Willow warbler	<i>Phylloscopus trochilus</i>	Amber list	3	2002
Yellowhammer	<i>Emberiza citrinella</i>	Red list Section 41	4	2002
Song Thrush	<i>Turdus philomelos</i>	Red list Section 41	4	2013

Species	Latin Name	Status	Number of records within breeding season	Year of most recent record
Skylark	<i>Alauda arvensis</i>	Red list Section 41	7	2003
Stock dove	<i>Columba oenas</i>	Amber list	4	2010

Designated sites

3.1.2. Five statutory and non-statutory designated sites are located within 2 kilometres of the scheme which mentioned birds in their reason for designation. The closest is South Taunton Streams Local Nature Reserve, which is 600m west of the scheme.

Table 3:2 : Statutory and non-statutory designated sites within 2km

Name	Designation	Reason for designation	Distance and Direction
Barrington Hill	National Nature Reserve	<p>The hedgerows (some with large oaks) are also home to a wide range of birds, small mammals and insects. Local butterflies include common blue, meadow brown, speckled wood, brimstone and orange tip.</p> <p>To maintain the grassland, a late hay cut is taken from each field in July or August. The aftermath growth is then grazed with cattle and/or sheep. Hedgerows are left to grow uncut for a few years to provide habitat for small mammals and birds. A section of hedge is laid each year.</p>	1.3km south-west
South Taunton Streams	Local Nature Reserve	<p>The four sites support a wide range flora and fauna with colonies of water vole in several locations. Otters, kingfisher, sand martin and dippers can also be found. These linear wetland habitats are important foraging areas for bats, especially pipistrelle, lesser horseshoe and noctule.</p>	600m west
Children's Wood / Riverside	Local Nature Reserve	<p>Habitats include the River Tone, lake, grassy banks and berms with standard trees and a small area of woodland.</p> <p>The reserve is an important habitat and movement corridor for a host of animals with otter and a number of bats being recorded. A large number of bird species occur including kingfisher, dipper, grey wagtail, mute swan, grey heron and reed warbler. Butterflies include small and large skipper, marbled white, small heath and small copper. Also good for dragonflies and damselflies.</p>	850m north
Donyatt Railway Cutting	Local Wildlife Site	Mosaic of habitats with good bird population.	2km west
Staple Farm Area	Local Wildlife Site	Large arable farm with headlands and substantial areas of fallow set aside some of them marshy with Somerset notable breeding birds.	1.5km west

3.2. Field survey

3.2.1. A total of 66 species were recorded across the two years within the survey area. Of these, 62 displayed breeding behaviour. Of the species recorded on site, 26 are of conservation concern (that is, Red listed or Section 41 listed).

3.2.2. Records of notable species which showed breeding evidence include:

- two Schedule 1 species
- twelve Section 41 listed species
- twelve species on the Red List
- eleven species on the Amber List

Table 3:3 : Notable species, status, minimum, maximum, average count and nesting status

Species	Latin name	Schedule 1	Section 41	BoCC4	Minimum count per survey	Average count per survey	Maximum count per survey	Breeding status
Bullfinch	<i>Pyrrhula pyrrhula</i>		•	Amber	8	9	11	Probable
Cetti's warbler	<i>Cettia cetti</i>	•			0	0.25	1	Possible
Cuckoo	<i>Cuculus canorus</i>		•	Red	0	0.25	1	Possible
Dunnock	<i>Prunella modularis</i>		•	Amber	38	62.75	79	Confirmed
Grey wagtail	<i>Motacilla cinerea</i>			Red	2	2.75	4	Confirmed
Herring gull	<i>Larus argentatus</i>		•	Red	0	1.25	3	Possible
House martin	<i>Delichon urbicum</i>			Amber	0	23.25	55	Confirmed
House sparrow	<i>Passer domesticus</i>		•	Red	22	75.25	169	Confirmed
Kestrel	<i>Falco tinnunculus</i>			Amber	0	0.75	2	Probable
Kingfisher	<i>Alcedo atthis</i>	•		Amber	1	1.5	2	Probable
Lesser black-backed gull	<i>Larus fuscus</i>			Amber	0	3	10	Probable
Linnet	<i>Linaria cannabina</i>		•	Red	8	25	59	Probable
Mallard	<i>Anas platyrhynchos</i>			Amber	0	2	5	Probable
Marsh tit	<i>Poecile palustris</i>		•	Red	0	0.25	1	Possible

Species	Latin name	Schedule 1	Section 41	BoCC4	Minimum count per survey	Average count per survey	Maximum count per survey	Breeding status
Meadow pipit	<i>Anthus pratensis</i>			Amber	0	2	8	Non-breeding
Mistle thrush	<i>Turdus viscivorus</i>			Red	2	5.25	10	Confirmed
Reed bunting	<i>Emberiza schoeniclus</i>		•	Amber	0	1	2	Possible
Skylark	<i>Alauda arvensis</i>		•	Red	8	9.5	15	Probable
Song thrush	<i>Turdus philomelos</i>		•	Red	16	25	47	Confirmed
Spotted flycatcher	<i>Muscicapa striata</i>		•	Red	0	3.25	11	Confirmed
Starling	<i>Sturnus vulgaris</i>		•	Red	3	20.5	31	Confirmed
Stock dove	<i>Columba oenas</i>			Amber	4	12.75	29	Confirmed
Swift	<i>Apus apus</i>			Amber	0	3.75	10	Possible
Willow warbler	<i>Phylloscopus trochilus</i>			Amber	0	1.5	4	Possible
Woodcock	<i>Scolopax rusticola</i>			Red	0	0.25	1	Possible
Yellowham mer	<i>Emberiza citrinella</i>		•	Red	11	14.25	18	Probable

3.2.3. Results of all species are included in Appendix B.

Species richness

3.2.4. The overall breeding bird community (n=62) of the study area is of “County” conservation importance. Notable areas and habitats that contain the highest breeding species richness (distance from scheme footprint) include:

- Taunton Gateway Park & Ride (0m). Mitigation planting in the early stages of growth, with small trees, shrubs, tall ruderal and ponds. This borders Broughton Brook which is lined with mature ash *Fraxinus excelsior* and poplar *Populus species* trees.
- Fivehead River tributary, Capland (0m). Small watercourse lined by mature trees with dense undergrowth. Woodland 70m wide in places.
- Ash (0m). Dismantled railway dominated by scrub. This borders a campsite, farm buildings and is surrounded by arable and pasture farmland.
- Kenny, Ashill (50m). Extensively grazed pasture, large hedgerows with mature trees. Bordered by rural houses with large gardens dominated by mature trees. Small watercourse.

- Bickenhall Wood (150m). Ancient Replanted Woodland bordered by extensively grazed rough grassland.

3.2.5. Maps showing species richness and species abundance are provided in Appendix C. These maps combine the survey data from 2017 and 2020.

Schedule 1 species

3.2.6. A single cetti's warbler *Cettia cetti* was recorded singing in June 2020 along the River Isle at Iminster, approximately 200m south of the A303.

3.2.7. A pair of kingfisher *Alcedo atthis* were recorded at Batten's Green, Bickenhall, on a tributary of the Fivehead River in May 2017. A record of a single kingfisher was also made a month later in the same place in June 2017. Single birds were also recorded at:

- River Isle, Iminster
- Sewage works, Horton Cross
- Fivehead River tributary, Batten's Green

4. Conclusion

4.1.1. Nineteen records of notable bird species with breeding evidence were returned by the data search within 2 kilometres of the scheme.

4.1.2. Five statutory and non-statutory designated sites are located within 2 kilometres of the scheme which include wild birds in their reason for designation. The closest is South Taunton Streams Local Nature Reserve, which is 600m west of the scheme. Kingfisher *Alcedo atthis*, sand martin *Riparia riparia* and dipper *Cinclus cinclus* are mentioned in its designation.

4.1.3. Twenty-six notable species were recorded within the survey area. Meadow pipit were recorded as single birds in unsuitable habitat in April 2017 and are considered to be non-breeding. A single cuckoo was recorded (flying) in May 2017 and is also considered to be a non-breeder. Records of notable species which showed breeding evidence include:

- two Schedule 1 species (Kingfisher and Cetti's warbler)
- twelve Section 41 listed species
- twelve species on the Red List
- eleven species on the Amber List

4.1.4. The overall breeding bird community (n=62) of the study area is of "County" conservation importance. Notable areas and habitats that contain the highest breeding species richness.

- Taunton Gateway Park & Ride
- Fivehead River tributary, Capland
- Ash
- Kenny, Ashill
- Bickenhall Wood

Appendix A: Survey timings and weather

2017

Table A.1: Survey Dates, Times and Weather Conditions

Date	Start Time	Finish Time	Start temperature (°C)	Finish temperature (°C)	Wind speed (Beaufort scale)	Cloud cover (0-8)
5/4/17	08:15	12:15	6	10	2	2
6/4/17	07:45	11:20	4	9	1	2
7/4/17	07:00	11:05	4	12	1	3
11/4/17	10:55	12:40	10	12	1	0
12/4/17	06:50	12:00	8	12	2	8
13/4/17	06:55	11:10	7	9	2	8
18/4/17	06:50	11:25	5	8	3	5
19/4/17	06:45	10:00	4	9	2	2
20/4/17	10:15	13:00	8	11	2	7
21/4/17	07:10	11:15	8	12	1	6
25/4/17	07:10	11:05	4	6	3	1
26/4/17	07:10	09:10	2	6	4	1
27/4/17	07:10	08:50	2	5	1	3
10/5/17	05:30	09:30	3	10	2	1
11/5/17	06:00	12:10	7	17	4	4
12/5/17	05:55	08:00	7	11	3	8
18/5/17	06:00	12:30	8	14	2	6
19/5/17	05:45	09:25	8	12	3	6
23/5/17	05:30	11:30	12	16	4	5
24/5/17	05:45	11:15	13	18	3	5
25/5/17	05:45	10:15	15	21	2	4
26/5/17	05:35	11:45	13	22	4	0
7/6/17	05:20	11:20	10	12	5	7
8/6/17	05:00	11:20	12	13	4	8
9/6/17	05:00	10:45	10	15	4	7
14/6/17	05:10	09:10	11	18	2	6
15/6/17	05:10	11:50	11	17	4	7

Date	Start Time	Finish Time	Start temperature (°C)	Finish temperature (°C)	Wind speed (Beaufort scale)	Cloud cover (0-8)
16/6/17	05:30	09:50	12	15	4	8
21/6/17	05:40	09:40	14	20	3	4
22/6/17	05:20	11:30	17	15	3	8
27/6/17	05:10	11:05	11	13	4	8
28/6/17	05:20	07:20	10	11	4	8

2020

Table A.2: Survey Dates, Times and Weather Conditions

Date	Start Time	Finish Time	Start temperature (°C)	Finish temperature (°C)	Wind speed (Beaufort scale)	Cloud cover (0-8)
2/6/2020	06:14	11:56	12	24	0	1
3/6/2020	05:58	10:25	14	15	4	7
4/6/2020	05:55	11:15	10	15	2	7
5/6/2020	06:10	10:55	10	14	2	0
9/6/2020	05:50	10:55	10	14	1	4
10/6/20	05:57	12:21	11	14	0	8
11/6/20	05:57	11:30	11	14	3	8
12/6/20	05:55	10:00	13	15	0	6
16/6/20	06:30	10:55	15	19	1	2
17/6/20	06:20	10:50	13	17	0	7
18/6/20	06:00	09:00	14	16	0	8
19/6/20	09:00	11:50	14	17	0	8
23/6/20	06:25	10:45	17	24	1	1
24/6/20	05:58	10:35	17	24	1	1
25/6/20	05:50	10:50	16	23	1	1
26/6/20	05:59	11:15	17	21	0	2
30/6/20	05:42	09:30	13	15	1	8

Appendix B: All species results

Table B.1: All species, status, maximum, minimum, average count and distribution within the Scheme survey area

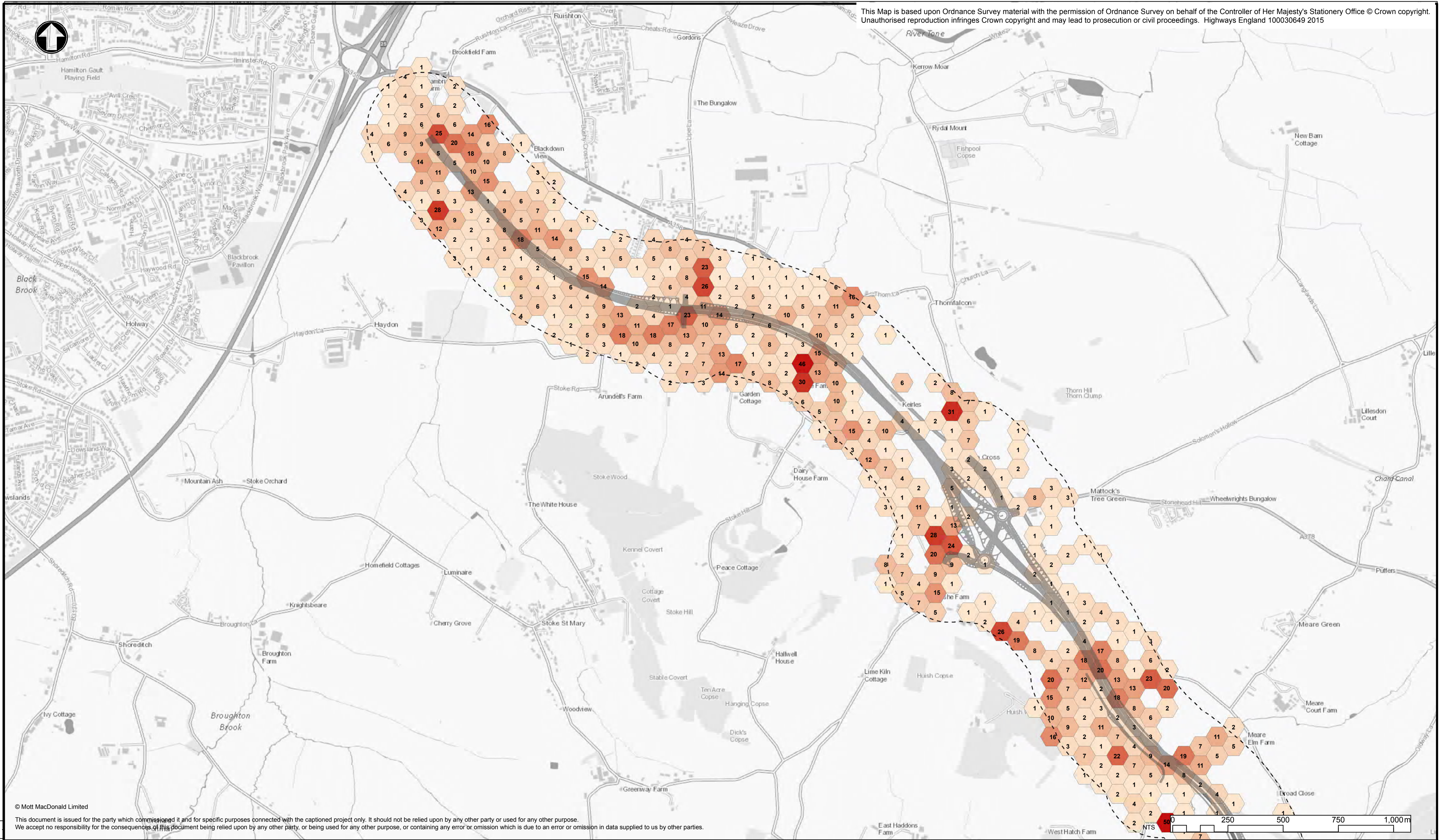
Species	Scientific name	Schedule 1	Section 41	BoCC4	Minimum per survey	Average count per survey	Maximum count per survey
Bullfinch	<i>Pyrrhula pyrrhula</i>		•	Amber	8	9	11
Cetti's warbler	<i>Cettia cetti</i>	•			0	0.25	1
Cuckoo	<i>Cuculus canorus</i>		•	Red	0	0.25	1
Dunnock	<i>Prunella modularis</i>		•	Amber	38	62.75	79
Grey wagtail	<i>Motacilla cinerea</i>			Red	2	2.75	4
Herring gull	<i>Larus argentatus</i>		•	Red	0	1.25	3
House martin	<i>Delichon urbicum</i>			Amber	0	23.25	55
House sparrow	<i>Passer domesticus</i>		•	Red	22	75.25	169
Kestrel	<i>Falco tinnunculus</i>			Amber	0	0.75	2
Kingfisher	<i>Alcedo atthis</i>	•		Amber	1	1.5	2
Lesser black-backed gull	<i>Larus fuscus</i>			Amber	0	3	10
Linnet	<i>Linaria cannabina</i>		•	Red	8	25	59
Mallard	<i>Anas platyrhynchos</i>			Amber	0	2	5
Marsh tit	<i>Poecile palustris</i>		•	Red	0	0.25	1
Meadow pipit	<i>Anthus pratensis</i>			Amber	0	2	8
Mistle thrush	<i>Turdus viscivorus</i>			Red	2	5.25	10

Species	Scientific name	Schedule 1	Section 41	BoCC4	Minimum per survey	Average count per survey	Maximum count per survey
Reed bunting	<i>Emberiza schoeniclus</i>		•	Amber	0	1	2
Skylark	<i>Alauda arvensis</i>		•	Red	8	9.5	15
Song thrush	<i>Turdus philomelos</i>		•	Red	16	25	47
Spotted flycatcher	<i>Muscicapa striata</i>		•	Red	0	3.25	11
Starling	<i>Sturnus vulgaris</i>)		•	Red	3	20.5	31
Stock dove	<i>Columba oenas</i>			Amber	4	12.75	29
Swift	<i>Apus apus</i>			Amber	0	3.75	10
Willow warbler	<i>Phylloscopus trochilus</i>			Amber	0	1.5	4
Woodcock	<i>Scolopax rusticola</i>			Red	0	0.25	1
Yellowhammer	<i>Emberiza citrinella</i>		•	Red	11	14.25	18
Blackbird	<i>Turdus merula</i>			Green	61	97	160
Blackcap	<i>Sylvia atricapilla</i>			Green	30	66.25	131
Blue tit	<i>Cyanistes caeruleus</i>			Green	38	68.25	128
Buzzard	<i>Buteo buteo</i>			Green	4	8.25	10
Carrion crow	<i>Corvus corone</i>			Green	16	19	23
Chaffinch	<i>Fringilla coelebs</i>			Green	22	40.5	54
Chiffchaff	<i>Phylloscopus collybita</i>			Green	40	70	100
Coal tit	<i>Periparus ater</i>			Green	3	9.25	17
Collared dove	<i>Streptopelia decaocto</i>			Green	3	6	11

Species	Scientific name	Schedule 1	Section 41	BoCC4	Minimum per survey	Average count per survey	Maximum count per survey
Cormorant	<i>Phalacrocorax carbo</i>			Green	0	0.25	1
Goldcrest	<i>Regulus</i>			Green	8	14.25	31
Goldfinch	<i>Carduelis carduelis</i>			Green	26	43.25	75
Great spotted woodpecker	<i>Dendrocopos major</i>			Green	9	17.25	35
Great tit	<i>Parus major</i>			Green	13	32.75	55
Greenfinch	<i>Chloris chloris</i>			Green	5	21.75	43
Green woodpecker	<i>Picus viridis</i>			Green	1	5	7
Grey Heron	<i>Ardea cinerea</i>			Green	1	0.75	2
Jackdaw	<i>Coloeus monedula</i>			Green	58	71	98
Jay	<i>Garrulus glandarius</i>			Green	1	2.25	3
Lesser whitethroat	<i>Sylvia curruca</i>			Green	0	1	2
Little owl	<i>Athene noctua</i>			Green	0	0.25	1
Long tailed tit	<i>Aegithalos caudatus</i>			Green	13	40.25	107
Magpie	<i>Pica pica</i>			Green	13	21.5	36
Moorhen	<i>Gallinula chloropus</i>			Green	2	2	2
Nuthatch	<i>Sitta europaea</i>			Green	0	2.75	8
Pheasant	<i>Phasianus colchicus</i>			Green	7	11	18
Pied wagtail	<i>Motacilla alba yarrelli</i>			Green	5	10.5	15
Raven	<i>Corvus corax</i>			Green	0	0.5	1

Species	Scientific name	Schedule 1	Section 41	BoCC4	Minimum per survey	Average count per survey	Maximum count per survey
Robin	<i>Erithacus rubecula</i>			Green	56	132.35	210
Rook	<i>Corvus frugilegus</i>			Green	12	53.25	111
Sand martin	<i>Riparia riparia</i>			Green	0	0.75	2
Sedge warbler	<i>Acrocephalus schoenobaenus</i>			Green	0	0.75	2
Siskin	<i>Spinus spinus</i>			Green	0	0.5	1
Sparrowhawk	<i>Accipiter nisus</i>			Green	0	1	3
Swallow	<i>Hirundo rustica</i>			Green	8	37	77
Tawny owl	<i>Strix aluco</i>			Green	0	0.25	1
Treecreeper	<i>Certhia familiaris</i>			Green	2	7.75	16
Whitethroat	<i>Sylvia communis</i>			Green	5	20.5	42
Woodpigeon	<i>Columba palumbus</i>			Green	28	57.75	95
Wren	<i>Troglodytes troglodytes</i>			Green	113	164.25	286

Appendix C: Species richness and species abundance maps



© Mott MacDonald Limited

This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes

Pink Modified Scheme, Mott MacDonald (2018)
Breeding bird data, Mott MacDonald (2017 - 2020)
Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

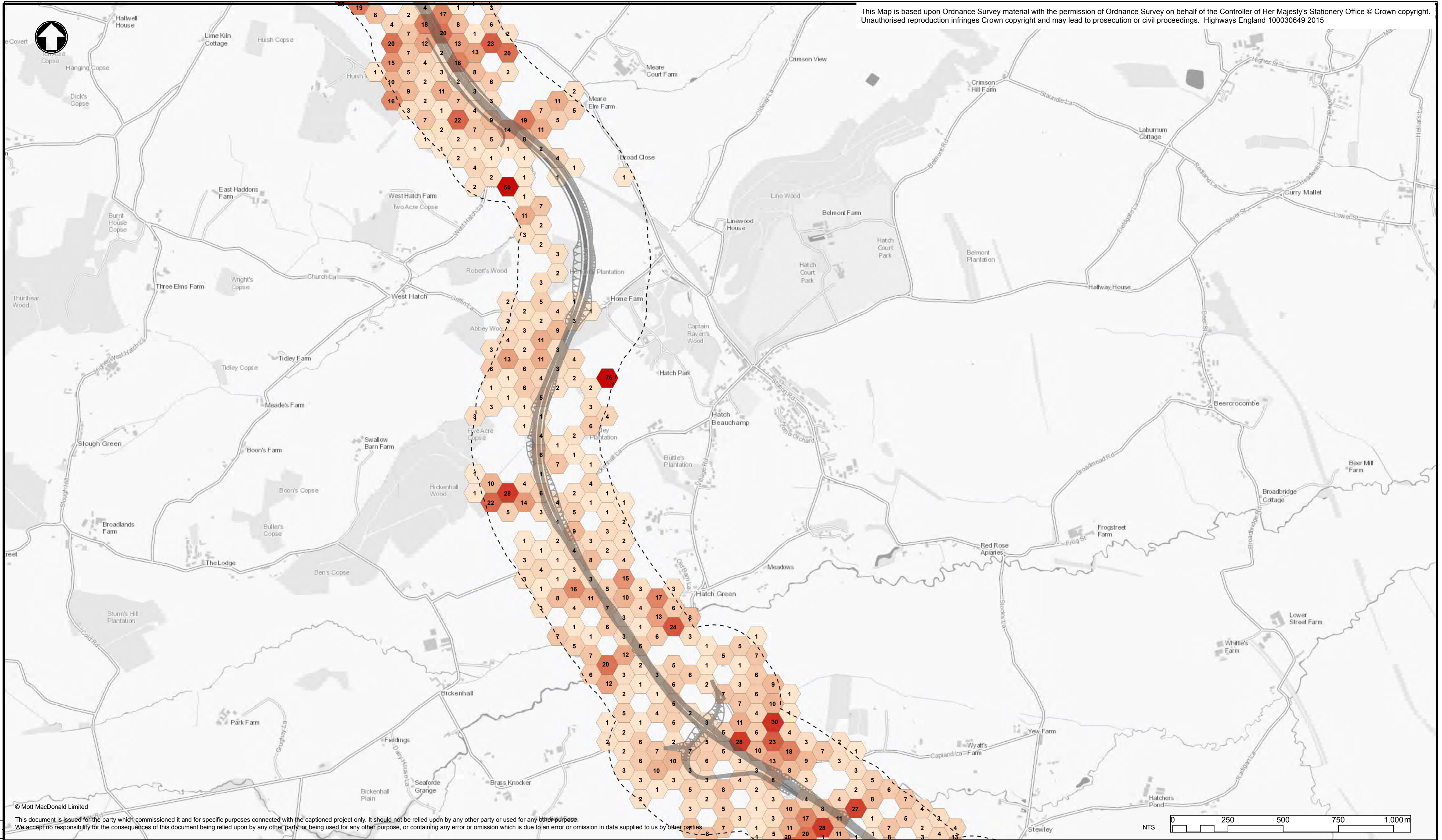
Key to symbols

- Pink modified scheme option
- 250m buffer
- Abundance**
- 1
- 75
- Number of individual birds

References drawings

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields			
Client		Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Breeding bird species abundance Page 1 of 3			
Scale	NTS	Designed	DL	Drawn	ER	Checked	DL	Approved	ER		
Original Size	A1	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020		
Drawing Number	HE PIN		Originator	Volume	Project Ref. No.		370774				
000	- DR - LB -		0123	Revision		P1					
Location		Type		Role		Number					

P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



© Mott MacDonald Limited
 This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

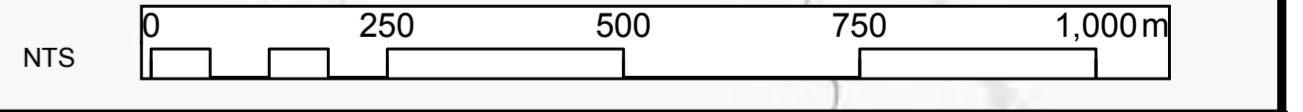


Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 Breeding bird data, Mott MacDonald (2017 - 2020)
 Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

Key to symbols

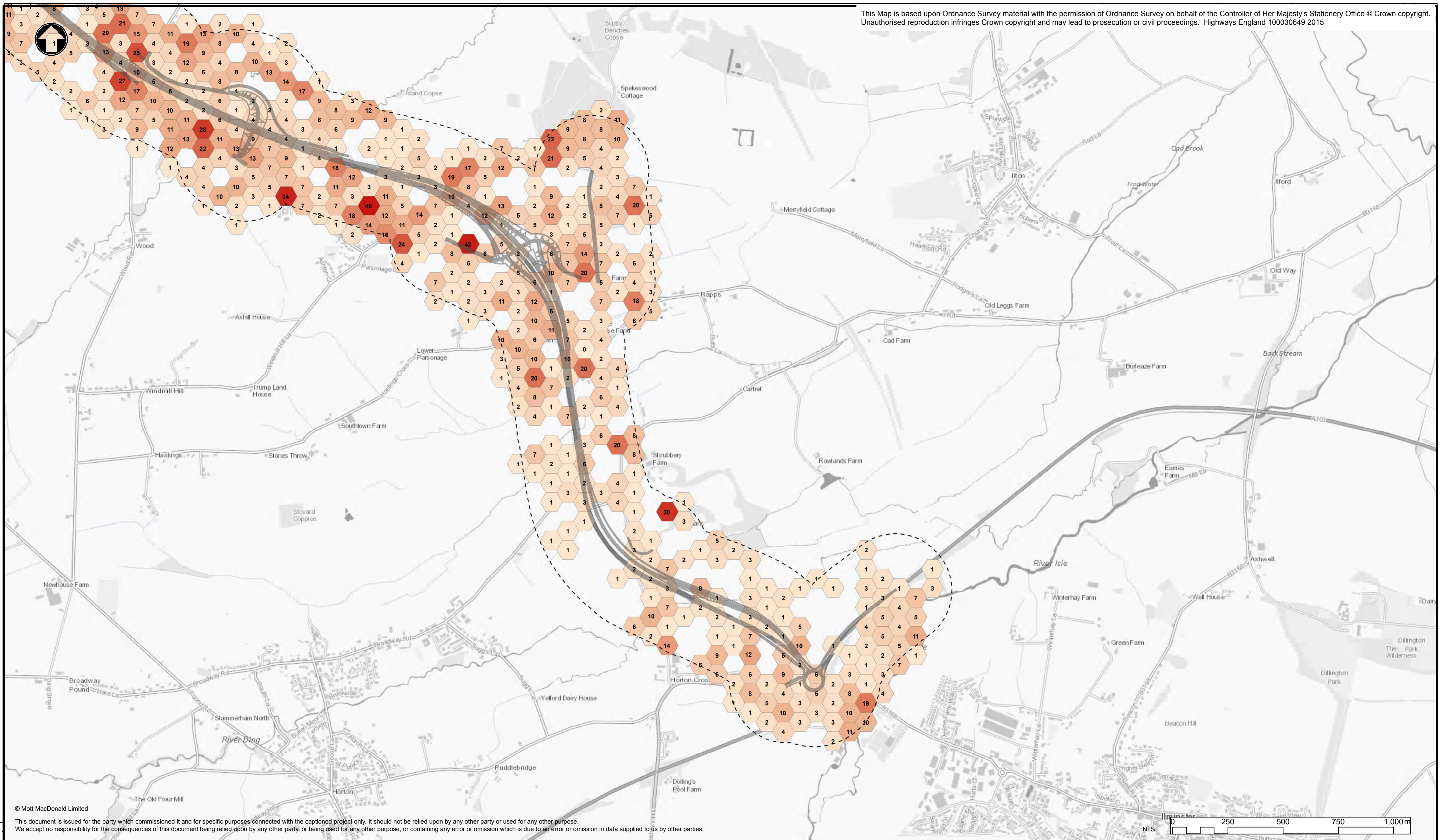
- Pink modified scheme option
- 250m buffer
- Abundance**
- 1
- 75
- Number of individual birds

References drawings



P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields	
Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW		Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Breeding bird species abundance Page 2 of 3	
Scale	NTS	Designed	DL	Drawn	ER	Checked	DL	Approved	ER
Original Size	A1	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020
Client			Drawing Number		HE PIN		Project Ref. No.		370774
000		- DR - LB - 0124		HE551508 - MMSJV - EBD -		Revision		P1	



© Mott MacDonald Limited

This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 Breeding bird data, Mott MacDonald (2017 - 2020)
 Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

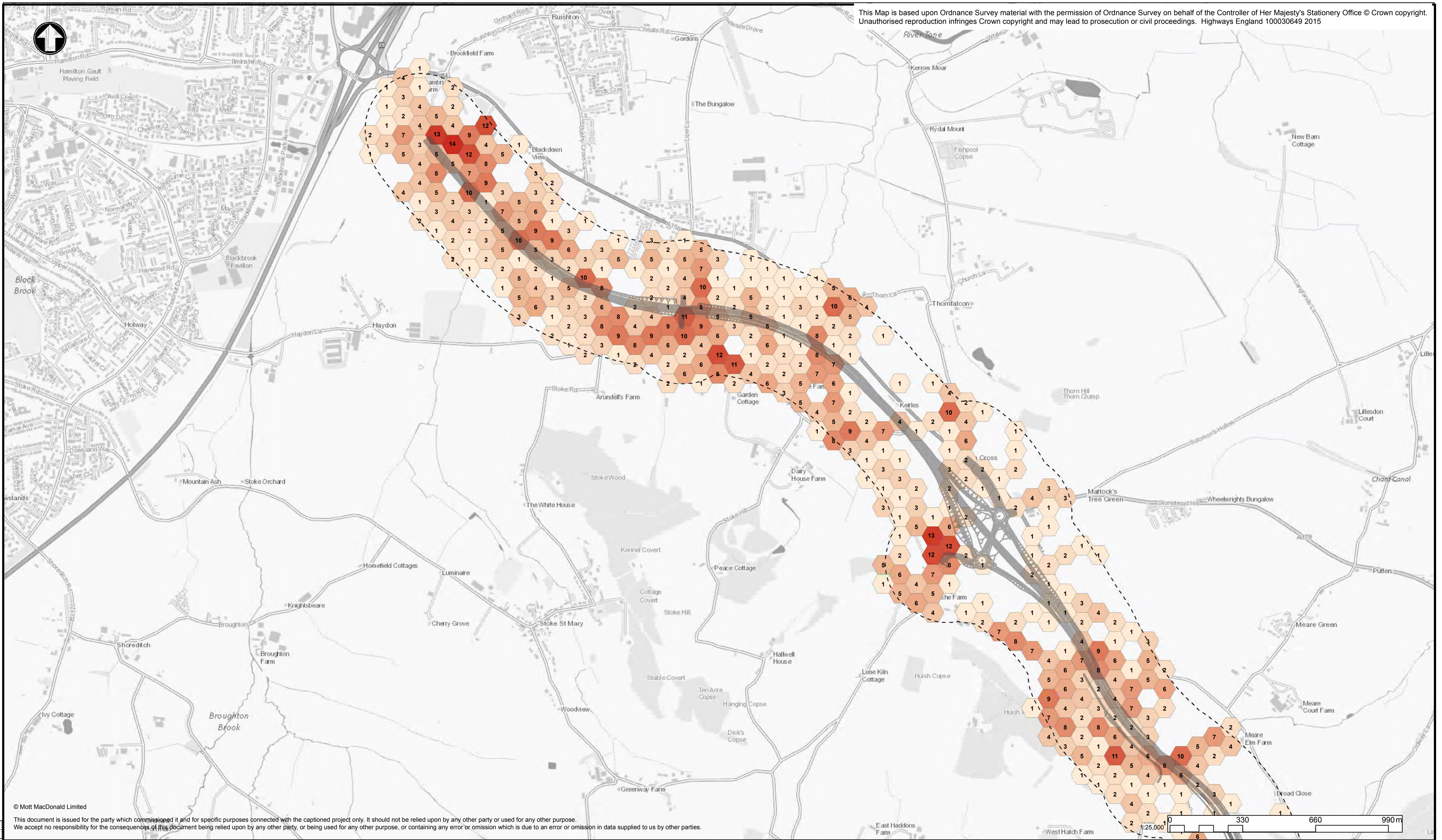
Key to symbols

- Pink modified scheme option
- 250m buffer
- Abundance**
- 1
- 75
- Number of individual birds

References drawings

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields	
Client		Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Breeding bird species abundance Page 3 of 3	
Scale	NTS	Designed	DL	Drawn	ER	Checked	DL	Approved	ER
Original Size	A1	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020
Drawing Number	HE PIN	Originator	MMSJV	Volume	EBD	Project Ref. No.		370774	
000						Revision		P1	
Location		Type		Role		Number			

P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



© Mott MacDonald Limited

This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used in any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes

Pink Modified Scheme, Mott MacDonald (2018)
No access layer, Mott MacDonald (2017 - 2020)

Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

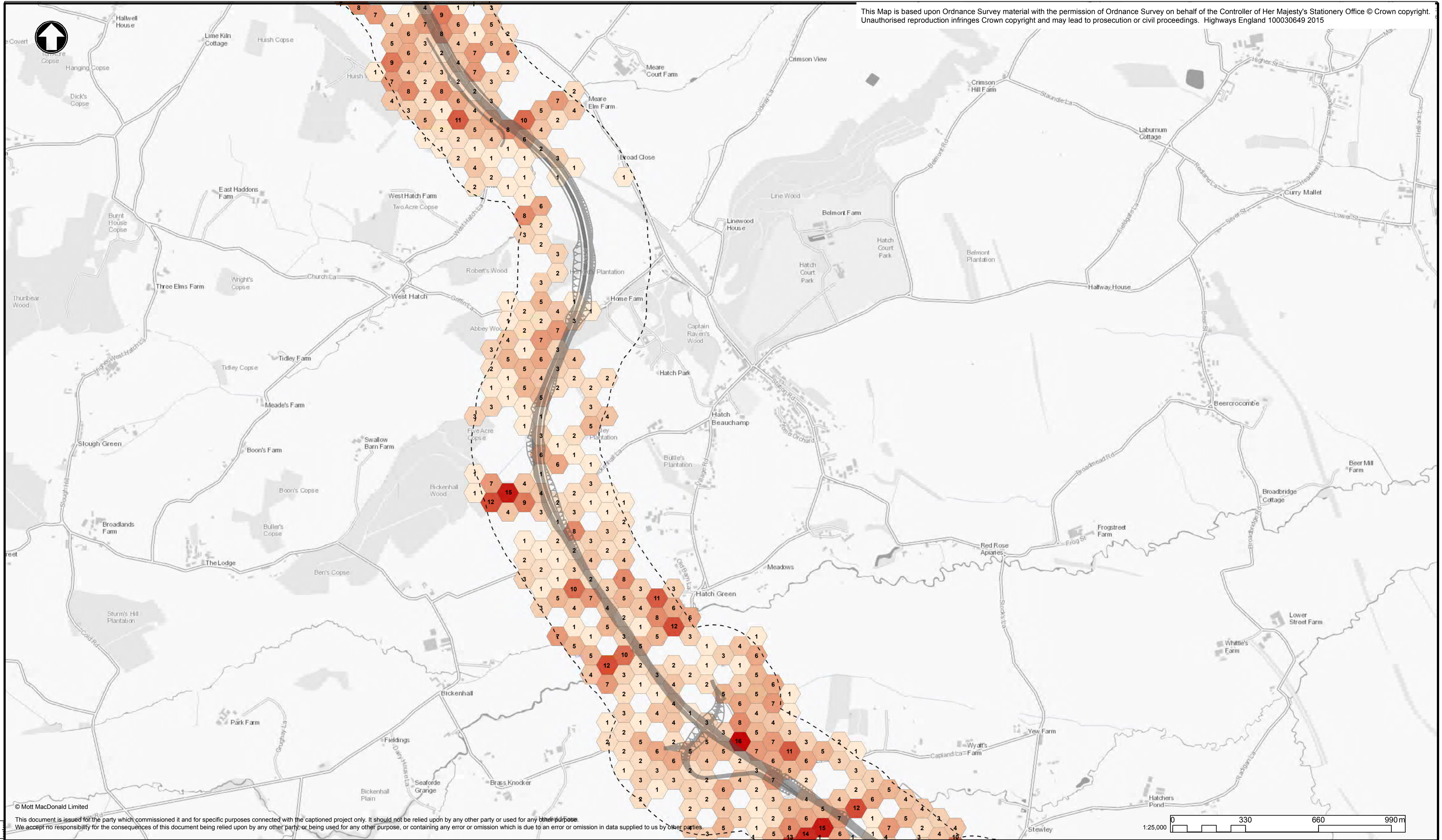
Key to symbols

- Pink modified scheme option
- 250m buffer
- Richness**
- 1 to 16
- Number of individual birds

References drawings

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields			
Client		Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Breeding bird species richness Page 1 of 3			
Scale	1:25,000	Designed	DL	Drawn	ER	Checked	DL	Approved	ER		
Original Size	A1	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020		
Drawing Number	HE PIN	Originator	MMSJV	Volume	- EBD -		Project Ref. No.	370774			
Location	000	Type	DR	Role	LB	Number	0126	Revision	P1		

P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



© Mott MacDonald Limited
 This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission in data supplied to us by other parties.



Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 No access layer, Mott MacDonald (2017 - 2020)
 Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

Key to symbols

- Pink modified scheme option
- - - 250m buffer

Richness

1
16

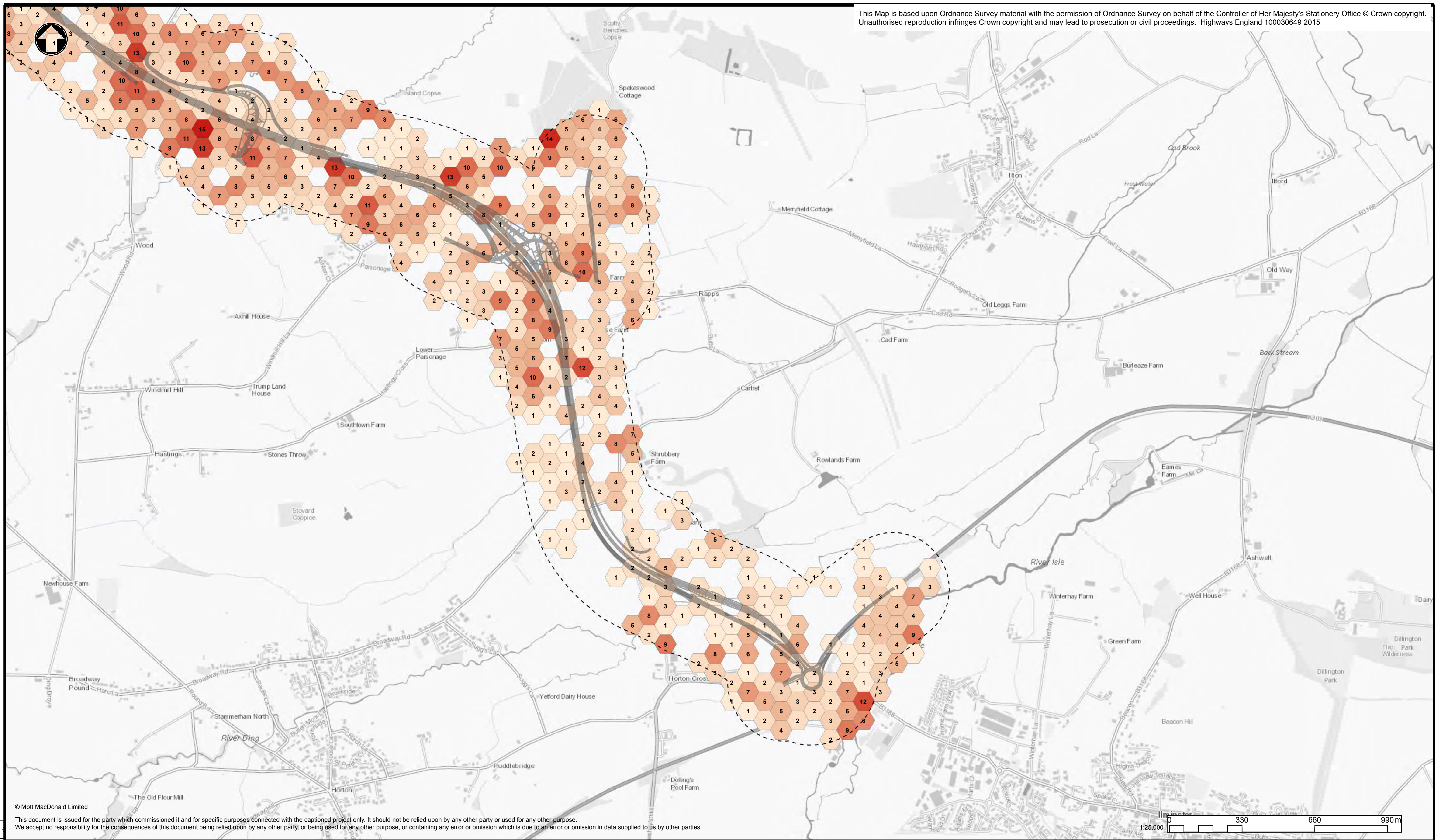
References drawings

Number of individual birds



P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

Drawing Status Suitable for Stage Approval		Suitability S4		Project Title A358 Taunton to Southfields	
Mott MacDonald Sweco Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title Breeding bird species richness Page 2 of 3			
		Scale 1:25,000	Designed DL	Drawn ER	Checked DL
		Original Size A1	Date 02/12/2020	Date 02/12/2020	Date 02/12/2020
		Drawing Number HE PIN HE551508 - MMSJV - EBD - 000		Project Ref. No. 370774 Revision P1	



© Mott MacDonald Limited
 This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 No access layer, Mott MacDonald (2017 - 2020)
 Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

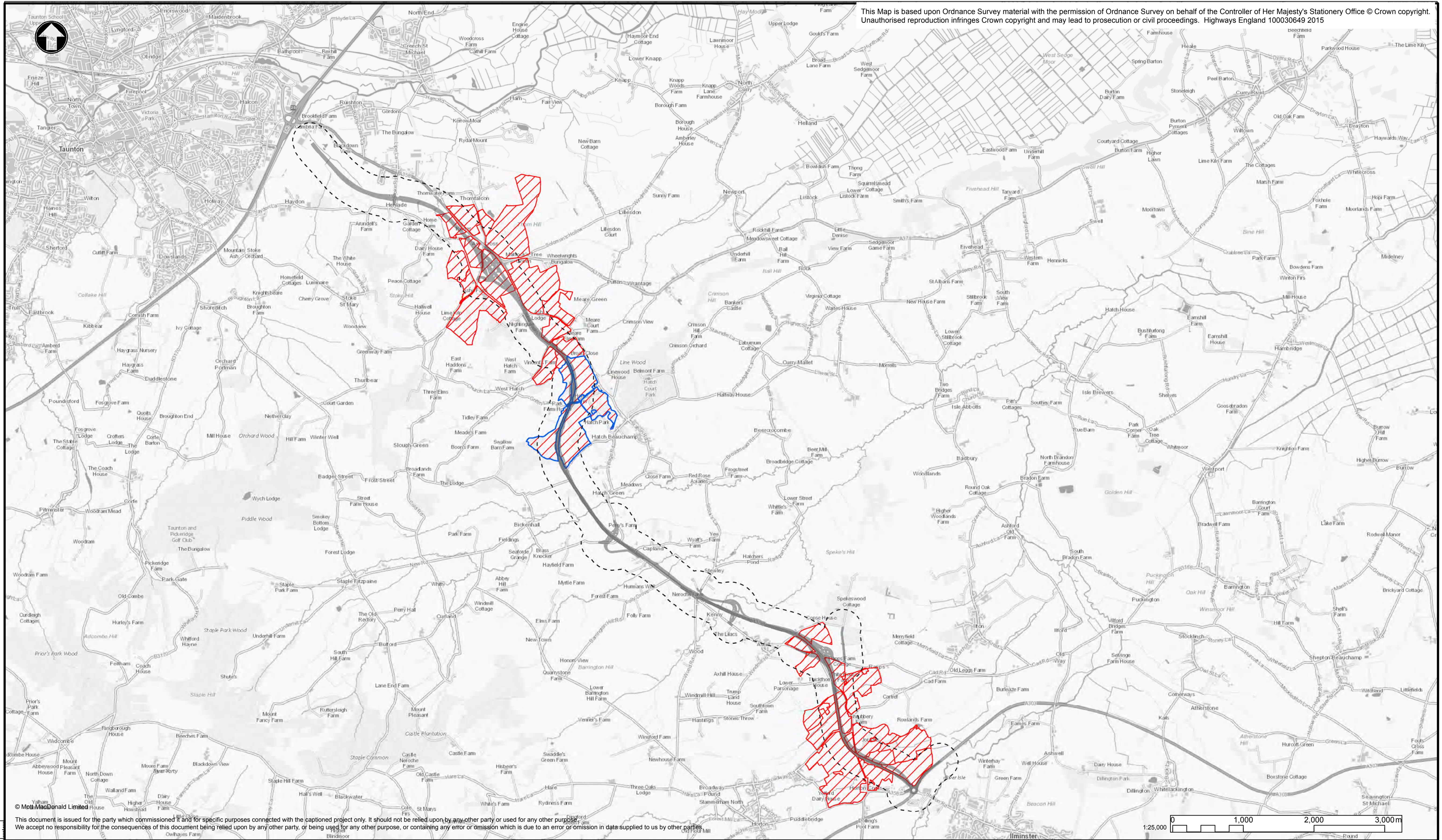
Key to symbols
 — Pink modified scheme option
 - - - 250m buffer
Richness
 1
 16
 Hexagon symbol: Number of individual birds

References drawings

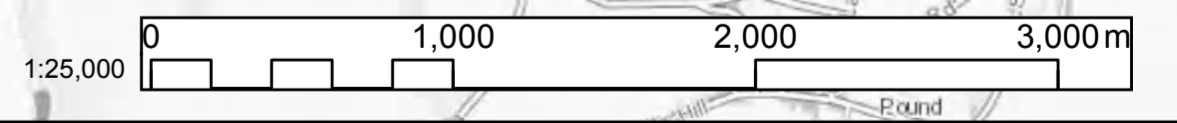
Drawing Status	Suitable for Stage Approval	Subsidiarity	S4	Project Title	A358 Taunton to Southfields							
Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com			Drawing Title	Breeding bird species richness Page 3 of 3						
Client			Scale	1:25,000	Designed	DL	Drawn	ER	Checked	DL	Approved	ER
Drawing Number	HE PIN	Originator	Volume	Date	Date	Date	Date	Date	Date	Date	Project Ref. No.	370774
000	HE551508 -	MMSJV -	EBD -	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	02/12/2020	Revision	P1
Location		Type		Role		Number						

P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

Appendix D: Breeding bird access restrictions map



© Mott MacDonald Limited
 This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 No access layer, Mott MacDonald (2017 - 2020)

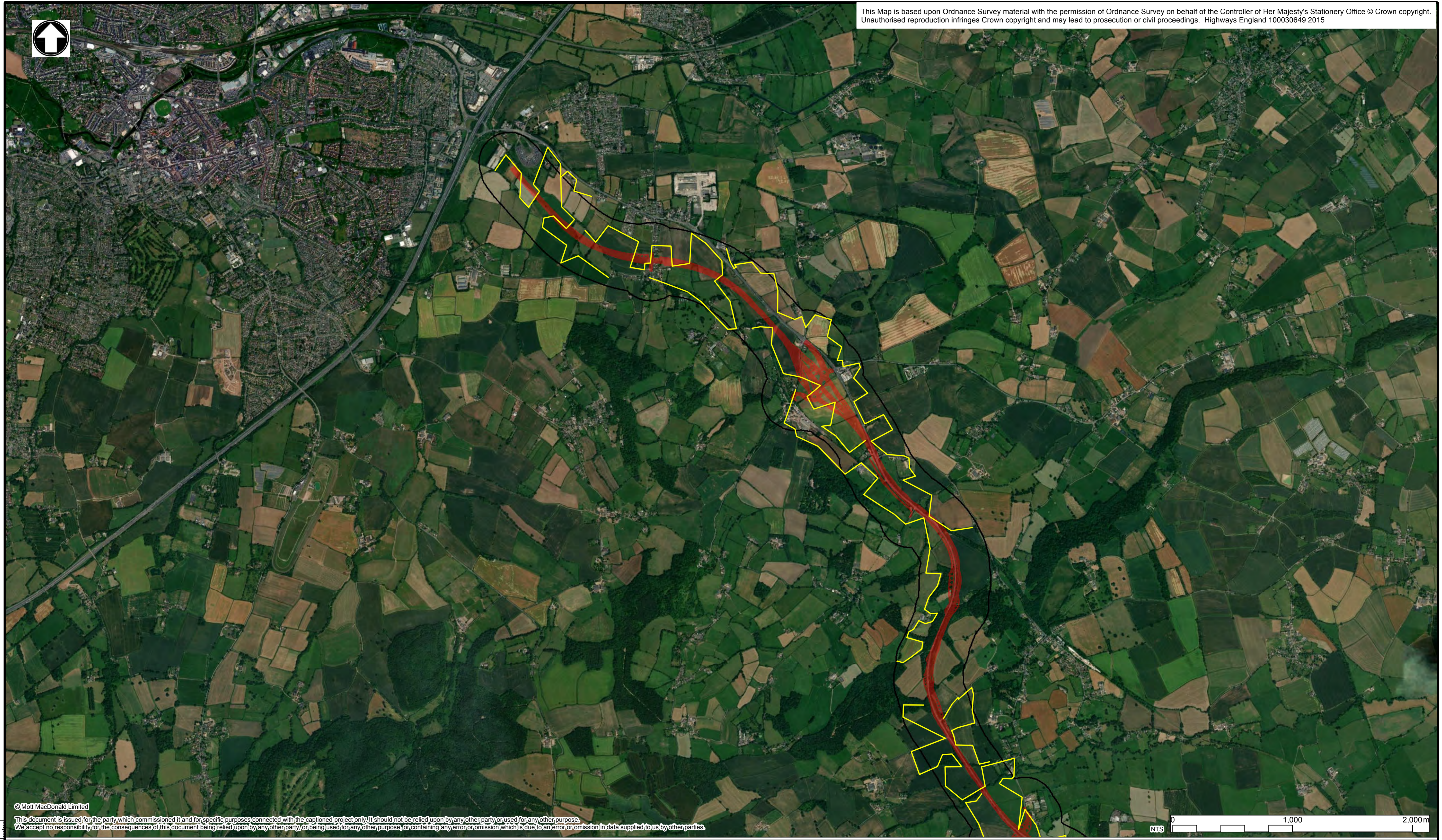
Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

Key to symbols	
	Pink modified scheme option
	250m buffer
No access	
	2017
	2020

Drawing Status		Suitable for Stage Approval		Subsidiary		S4		Project Title		A358 Taunton to Southfields	
				Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com				Drawing Title		Breeding bird no access	
								Scale	1:25,000	Designed	DL
Client				Original Size	A1	Date	02/12/2020	Date	02/12/2020	Date	02/12/2020
Drawing Number		HE551508 - MMSJV - EBD -		Volume		000		Project Ref. No.		370774	
Location		000		Type		- DR - LB -		Revision		P1	

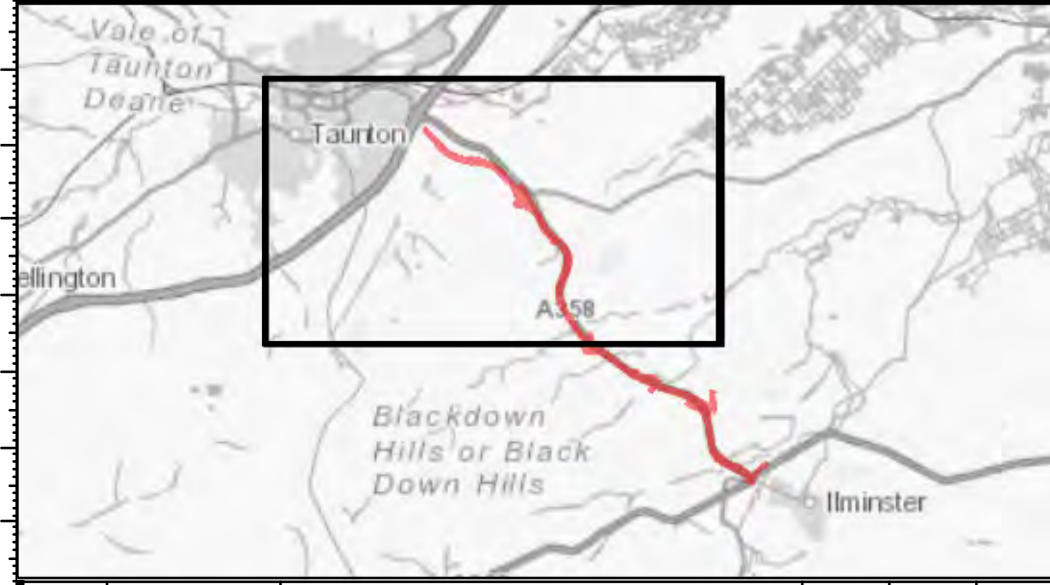
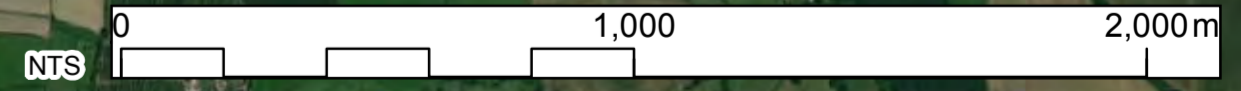
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
P1	02/12/2020	Suitable for Stage Approval	ER	DL	ER

Appendix E: June 2020 survey route



© Mott MacDonald Limited

This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes

Pink Modified Scheme, Mott MacDonald (2018)
Badger sett locations, Mott MacDonalds (2018)

Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

Key to symbols

- June 2020 Survey Route
- Pink modified scheme option
- 250m Buffer

References drawings

Drawing Status

Suitable for Stage Approval

Mott MacDonald Sweco

Stoneham Place
Stoneham Lane
Southampton
SO50 9NW

Tel : +44 (0)23 8062 8800
Fax : +44 (0)23 8062 8801
www.mottmac.com

Suitability

S4

Project Title

A358 Taunton to Southfields

Drawing Title

June 2020 Survey Route
Page 1 of 2

Scale NTS	Designed DL	Drawn TW	Checked DL	Approved ER
--------------	----------------	-------------	---------------	----------------

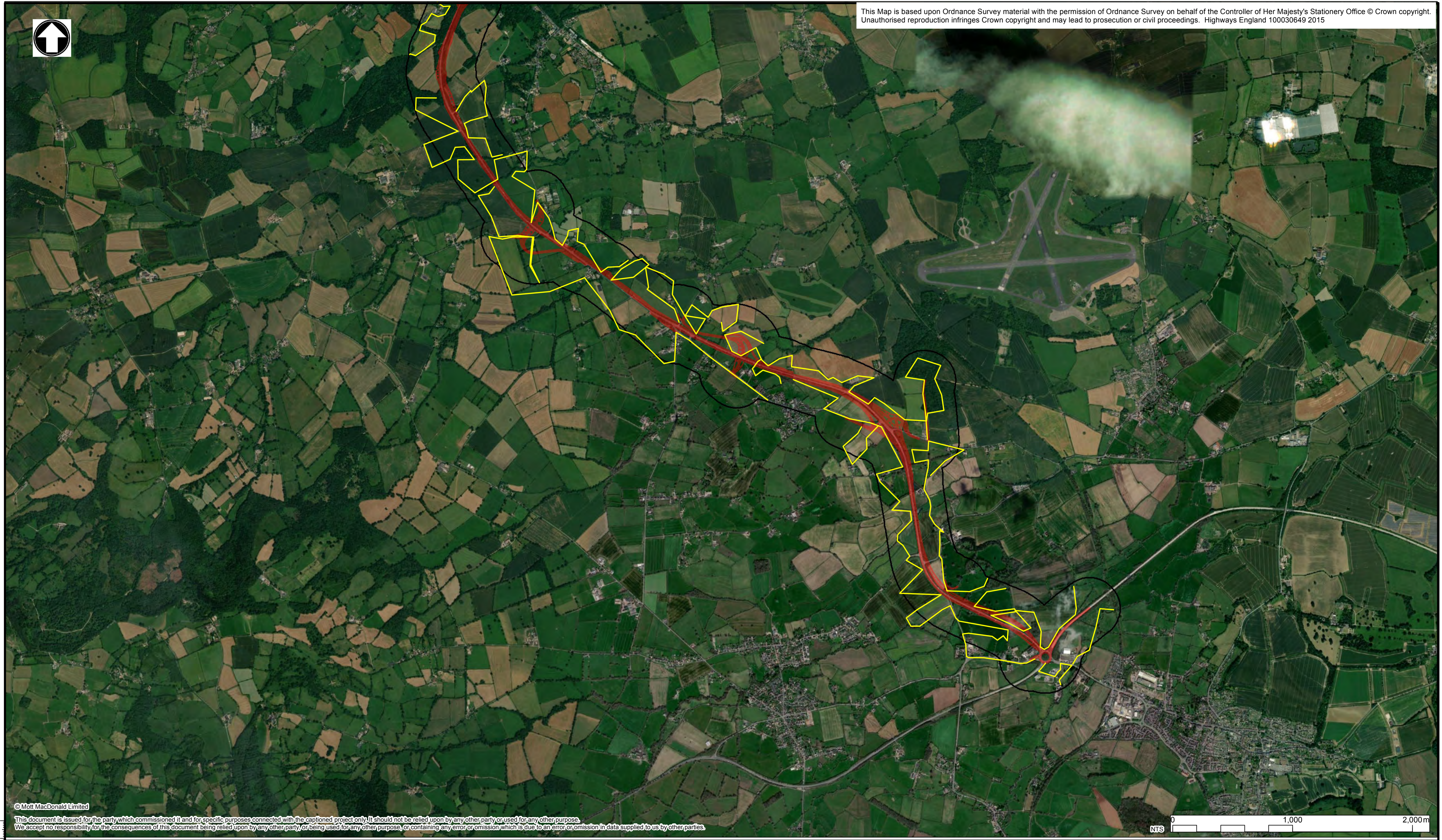
Original Size A1	Date 03/12/2020	Date 03/12/2020	Date 03/12/2020	Date 03/12/2020
---------------------	--------------------	--------------------	--------------------	--------------------



Drawing Number HE PIN HE551508 - MMSJV - EBD -	Originator - DR - LB -	Volume 0129	Project Ref. No. 370774
--	---------------------------	----------------	----------------------------

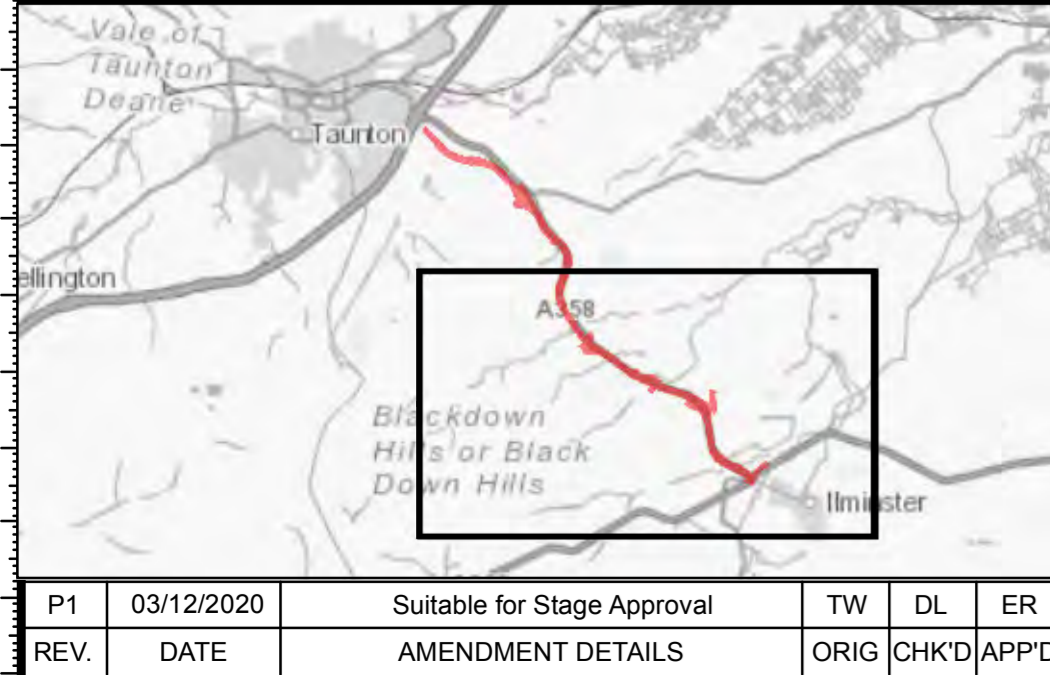
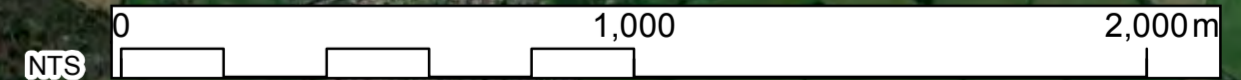
000	- DR - LB -	0129	Revision P1
-----	-------------	------	----------------

P1	03/12/2020	Suitable for Stage Approval	TW	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D



© Mott MacDonald Limited

This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



Notes
 Pink Modified Scheme, Mott MacDonald (2018)
 Badger sett locations, Mott MacDonalds (2018)
 Service Layer Credits: Contains OS data © Crown Copyright and database right 2020

Key to symbols

- June 2020 Survey Route
- Pink modified scheme option
- 250m Buffer

References drawings

Suitable for Stage Approval		S4		Project Title A358 Taunton to Southfields	
Mott MacDonald Sweco		Stonham Place Stonham Lane Southampton SO50 9NW Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title June 2020 Survey Route Page 2 of 2	
Scale NTS	Designed DL	Drawn TW	Checked DL	Approved ER	
Original Size A1	Date 03/12/2020	Date 03/12/2020	Date 03/12/2020	Date 03/12/2020	
Drawing Number HE PIN HE551508 - MMSJV - EBD -		Volume - DR - LB - 0130		Project Ref. No. 370774	
Revision 000		Type - DR - LB -		Number 0130	
Location		Role		Number	

P1	03/12/2020	Suitable for Stage Approval	TW	DL	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D