OTTERPOOL PARK

Environmental Statement Appendix 7.1 Survey Summary, Mitigation, Impact Assessment and ES Figures

MARCH 2022

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1 Introduction

Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool LLP ('the applicant') to undertake a suite of ecological assessments in relation to Otterpool Park. Otterpool Park is a proposed new garden settlement located in Kent (the proposed Development). These assessments were undertaken as part of a feasibility assessment, masterplanning and Environmental Impact Assessment exercise for the proposed Development.

The definitions of the site and other areas are as per those utilised in the Chapter 7: Biodiversity.

This appendix presents supplementary information to the Chapter 7: Biodiversity, where this data is considered better separated from the main chapter to aid legibility.

The chapters within this report present the following information:

- Section 2 : Dedicated Data Collection, Survey and Assessment Summary
- Section 3: Details of impact assessment and required design mitigation;
- Section 4: Impact assessment summary table.

2 Dedicated Data Collection, Survey and Assessment Summary

This section of the report outlines the surveys conducted to inform the Biodiversity chapter of the ES. It should be read alongside the following ES Appendices:

- 7.3: Habitat and Hedgerow Survey Report;
- 7.4: Arboriculture Scoping report;
- 7.5: Desk Study Report;
- 7.6: Reptile Survey Report;
- 7.7: Badger Survey Report;
- 7.8: Dormouse Survey Report;
- 7.9: Great Crested Newt Survey Report;
- 7.10: Otter and water vole survey report;
- 7.11: Bat Survey Results Summary Report and impact assessment;
- 7.12: Bat Transect Survey Report;
- 7.13: Bat Emergence Survey Report;
- 7.14: Bat Static Survey Report;
- 7.15: Breeding birds Survey Report;
- 7.16: Wintering birds Survey Report; and
- 7.17: Invertebrate Scoping Report.

Table 1 presents a summary of the surveys and assessments conducted to inform the ES.

Table 1: Summary of identified 'Ecological Features' and surveys conducted

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
Designated sites	Presence of statutory and non-statutory designated sites within the vicinity of the site, identified from the data search and from 'MAGiC' mapping.	Initially a 'long-list' of designated sites with the potential to be impacted by the proposed Development was drawn up, this included: • International statutory designated sites within 30km of the Study Area (Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Sites). • National statutory designated sites within 5km of the Study Area (Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR) and Local Nature Reserve (LNR)). • Non-statutory designated sites within 2km of the Study Area (Local Wildlife Site (LWS) and Roadside Nature Reserve (RNR)). From this list a short list of sites with the potential to be impacted by the proposed Development (assessed within the ES) was identified. A desk study conducted using data from MAGIC mapping and from Kent and Medway Biological Records Centre (KBMRC). Assessments of potential recreational impacts and air quality impacts were conducted as a component of the ES. N.B. Additional details are also presented within the Habitats Regulations Assessment (HRA) Stage 1 and Stage 2 Assessment (ES Appendix 7.19).	18 European Sites with the potential to be impacted by the proposed Development were identified within 30km of the site. Within 5km of the site, there are seven national statutory designated sites. Within 2km of the site, there are nine non-statutory designated sites.	Chapter 6; Air Quality, 7: Biodiversity and 14; Socio-Economic Effects and Community and ES Appendix 7.19.
Ancient Woodlands	Harringe Brooks Wood and Folks / Kiln Woods are identified as ancient woodland on the AWI and are adjacent to the OPA (Outline Planning Application) boundary of the proposed Development.	No dedicated habitat surveys were conducted within ancient woodlands outside of the OPA as these areas are to be retained and buffered. Locations of ancient woodlands are presented in Chapter 7: Biodiversity. Information on the presence of woodlands listed on the AWI obtained from Magic Mapping.	Within 2km of the site, 24 ancient woodland blocks were recorded upon the AWI.	Chapter 7: Biodiversity and ES Appendix 7.3.
Kent BAP 'Mid Kent Greensand & Gault' biodiversity opportunity area (BOA)	The Study Area contains areas which are part of the Kent 'Mid Kent Greensand and Gault Biodiversity Opportunity Area'.	No specific baseline surveys were proposed, however, the approach to scheme design will consider the targets within the BOA Statement. Information on BOAs obtained from Kent Nature Partnership.	'Mid Kent Greensand & Gault' BOA falls partly within the OPA boundary.	Details of BOA areas are presented in Chapter 7: Biodiversity.
Biodiversity Net Gain	Policy and targets set in the 25 Year Environment Plan, Environment Act 2021, emerging local plan and Stakeholder requests require demonstration of biodiversity and environmental net gain	Net gain calculations based on the Natural England Metric 3.0 have been undertaken Assessment conducted throughout the design process. Valuation of habitats based on the Habitat Survey Presented in ES Appendix 7.3.	Refer to Habitat Survey	ES Appendix 7.21.
Habitats	The majority of habitats within the Study Area are likely to range between Site and Local value but will be fully assessed within the EIA.	An initial Phase 1 habitat survey was conducted in October 2016 by a skilled botanist, this survey was updated with multiple site visits between March and September 2017 (within the optimum season for botanical identification). Indicative species lists were compiled with target notes. As a component of these updates, details of quality are to be assessed to allow monitoring to be conducted. No specific detailed botanical surveys were undertaken as the habitat quality within the Study Area is common and typical of an intensive agricultural landscape and no particular areas of interest were returned from the Phase 1 Habitat Survey. Indicative species lists were compiled with target notes. Desk Study data obtained from previous surveys and from the Kent Habitat Survey Data held by Kent County Council. Initially visited October 2016 with further surveys conducted between 2016 and 2021.	Across the site, a range of habitats were recorded. Of these, the largest by area were arable farmland and improved grassland pasture. However, there were also a range of more valuable habitats including hedgerows, ponds, rivers, woodland, wet woodlands and open mosaic habitats.	Details of Habitat Surveys are presented in ES Appendix 7.3.

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
Habitats of Principal Importance	Potential for the proposed Development to impact habitats of principal importance.	Identification and mapping of these habitats has been undertaken as a component of the ES as presented in ES Appendix 7.3. Desk Study data obtained from previous surveys and from the Kent Habitat Survey Data held by Kent County Council. Initially visited October 2016, with update survey visits between 2017 and 2021.	The Study Area supports habitats that fall within categories of principal importance; however, the quality of these habitats is generally low and they are common and typical of the wider area. • Arable field margins; • Traditional orchards; • Hedgerows; • Ponds; • Rivers; • Lowland mixed woodlands. Habitats listed on the Kent BAP (now largely archived but still relevant) to be present within the Study Area. Habitats listed on the Kent BAP which may be impacted by the proposed Development include: • Species rich hedgerows; • Built up areas and gardens; • Native woodland; • Standing water; • Traditional orchards.	Details of Habitat Surveys are presented in ES Appendix 7.3.
Arboricultural features	Arboricultural features with value are present around the OPA, including woodlands, hedgerows and individual trees. There are Tree Preservation Orders (TPOs) on individual trees.	An arboricultural scoping survey has been conducted. It was conducted to inform the masterplanning process. This separated the site into broad landscape character areas and helped identify potentially important groups of trees for retention. For the ES a full survey scope in accordance with BS5837:2012 was not conducted, which was decided through liaison with stakeholders. This will be required once detailed topographical surveys have been undertaken and are subject to the outline planning application being determined. The proposed Development is being evolved to avoid impacts to significant trees and valuable arboricultural features including woodlands. A hedgerow assessment has been undertaken as part of the Habitat Survey. TPO information obtained from the LPA. An Arboricultural Scoping Survey was completed in accessible areas in winter 2016 and spring 2017, and updated in 2020. A Hedgerow Assessment was completed in February and June 2018 and updated in 2020–2021.	It is estimated that within the site there are in excess of 500 individual trees, 40 hedgerows and 25 areas of woodland (which vary greatly in size, quality and age). The individual trees within the area of search do not have an overall uniform characteristic. However, there are a significant number of trees within the mature age class throughout the area of search. No veteran or ancient trees were identified during the surveys, although notable trees and trees with Tree Preservation Orders (TPOs) were identified.	ES Appendix 7.4
Badger	Badgers were recorded within previous surveys conducted on and around the OPA and setts were identified within the initial site surveys.	A full badger survey was undertaken in spring 2017, with updates throughout 2017 and 2018 by experienced surveyors within the site boundary and was updated via incidental signs of badger found during other surveys. No bait marking, camera trapping etc. was undertaken for the OPA application within this ES. Desk Study Data obtained from previous applications and surveys in the vicinity of the site. Badger survey was undertaken in spring 2017, with updates between 2017 and 2020.	Across the survey area, 103 badger setts were discovered during the surveys conducted in 2016, 2017 and 2018 and 59 badger setts within the accessible survey area during the re-assessment of the survey area in 2020. Setts were found to be widely distributed across the site. Based on the number of setts found and the size of each sett, it is estimated that the number of badgers inhabiting the survey area is between 80 and 145. Overall, the number of main setts identified suggests that the survey area supports a density of badgers larger than the average for similar rural habitats.	ES Appendix 7.7.
Bats	Bat roosts were known to be on and adjacent to the OPA, as are habitats of value for foraging and commuting.	Given the large size of the OPA area and the stage in the planning application a proportionate level of survey effort was undertaken for bats. **Bat activity transects**	Ten species were recorded and identified to species level. The vast majority of bats recorded were common or soprano pipistrelles. Some rarer and / or less recorded bats were identified, and areas of the site that are important for these species were identified.	ES Appendices 7.11, 7.12, 7.13, 7.14.

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
		Five transects were defined which cross the initial Study Area, covering key habitat areas. These transects were conducted at either dusk or dawn once a month from April – September 2017 inclusive, with one dusk and predawn survey within this period. Transect surveys were updated in 2021 between April and September. All five transects were repeated. **Bat static surveys** Fifteen static positions were identified in the Study Area, comprising three per transect. Static monitoring equipment (Wildlife Acoustics SM4's) was positioned in each of these positions (or nearby areas depending upon access etc.) for a minimum of five nights a month between April and September (and in two locations for five nights in October where autumn swarming potential is identified). Five static detectors were utilised and moved between positions to ensure coverage of the Study Area and to reduce the risk of vandalism. Data from the static monitors was analysed using 'sonochiro' software. Static surveys were updated in 2021, with a subset of 10 of the detector positions being repeated. In 2021, data was analysed using kaleidoscope software. **External ground assessments for buildings** Any buildings which will be removed or have a large proportion of the surrounding GI to be removed (hedgerows etc.) as part of the proposed Development were scoped into the assessment. These buildings were externally assessed for bat roosting potential. All buildings which are negligible or with low bat roosting potential were scoped out of further assessment within the ES. Internal surveys of buildings were not conducted due to health and safety considerations (asbestos, structural condition) and access issues. Building surveys were updated in 2020 and 2021. **Bat emergence surveys on buildings** Buildings with moderate or high potential for bat roosting that had the potential to be significantly affected within the OPA were surveyed using dusk / dawn emergence surveys where access was permitted. Where buildings were in distinct groups, these were treated as 'woodlands/clusters' and were surveyed through a 'woodland backtracking' approach whereby multiple buildings can be assessed in the survey. These surveys were conducted between spring 2017 and autumn 2018. Additional buildings to which access was obtained at a later date were surveyed in 2019 and 2020. The castle was fully inspected internally. Where droppings were found these were identified using DNA techniques. **Bat tree roost survey** Tree roost assessment was not undertaken for the OPA ES but will be recommended for trees with potential to be impacted in future phases of the planning process Desk Study Data was initially obtained from previous applications and surveys in the vicinity of the site. Data also obtained from KMBRC which utilised KBG (Kent Bat Group) data.	One barbastelle was recorded during 2021 (one pass). This species is not considered to be reliant on the site. The most valuable areas appeared to be the following: • The corridor along the East Stour tributary in the south east of the site; • The area around the Folkestone Racecourse Lake; • An area around the racecourse buildings, although the activity here was almost all pipistrelles; • An area around Park Wood in the west of the site; • Harringe Brooks Woods and adjacent to Sandling Park Wood and a small woodland nearby the Link Park industrial area. Four locations had a notably higher proportion of not common or soprano pipistrelle calls. These locations were: • An area adjacent to Folkestone Racecourse Lake; • Within the bunker area to the west of the site; • Adjacent to Harringe Brooks woodland in the west of the site; • Adjacent to Park Wood in the west of the site. A total of 125 buildings were assessed for bat roosting potential, of which 33 were assessed as having negligible roosting potential, 47 were assessed as having low potential, 36 as having moderate potential and 9 as having high roost potential. The follow-up survey in 2020 assessed the buildings for roosting potential. One new building with low potential was noted and two buildings had their bat roost potential ungraded from negligible to low and low to moderate respectively. Further follow-up survey in 2021 upgraded one building from negligible to low and downgraded one building from moderate to low. Of these structures assessed, a subset consisting of those structures with moderate or high roosting potential was selected for emergence and re-entry surveys and backtracking to identify any roosts present. Where individual structures were to be surveyed, a standard emergence / re-entry survey approach was undertaken, where multiple structures were to be surveyed together a backtracking approach was undertaken. During these surveys a total of 13 confirmed / probable roosts and three possible roosts were identified. All but one of these roosts was a small roost of common or soprano pipistrelles, with one roost being a likely maternity roost of brown long-eared bats (within building 7j). Also in 2020 the castle buildings at Westenhanger were inspected internally. During this inspection roosts were confirmed in three of the castle buildings using DNA analysis of droppings. The results of DNA analysis confirmed that building 2f is a brown long-eared roost and Building 2h is a common pipistrelle, brown long-eared and Natterer's bat roost. Further follow-up building assessment surveys in 2021 upgraded one building from negligible to low and downgraded one building from moderate to low. The collection and DNA analysis of droppings from building 2a confirmed that it had been used as a roost by three species of bat: common pipistrelle, brown long-eared and serotine. In addition, the desk study revealed a number of roosts on and around the site which had been recorded previously and within surveys conducted for previous planning applications. These included a maternity roost of pipistrelle bats within Lympne Village.	

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
Great Crested Newt (GCN)	Records of GCN were returned within the records search and within surveys of ponds within the OPA conducted for previous planning applications.	All ponds on or within 500m of the OPA (other than those isolated from the OPA by significant barriers (or inaccessible) were assessed using the HSI scoring system. Full population surveys in line with the GCN mitigation guidelines were completed on all suitable ponds with connectivity in spring 2017 where access was possible / permitted. Additional ponds outside the OPA were scoped in for eDNA assessment in spring 2018. Population surveys were completed in spring 2017. eDNA surveys were conducted in spring 2018 on off-site ponds. In April and May 2020 ponds that were accessible were resurveyed for their current suitability for GCN. In total, 17 ponds were visited. Two additional ponds were surveyed in 2021 near Stone Street to the east of the site; one had an eDNA and HSI survey undertaken, the second pond had a HSI assessment carried out.	Ten ponds had confirmed GCN presence (nine on site and one adjacent to site). One pond, Pond 15, had a medium population, while the rest were low. The highest peak adult count on any one night of survey was 11 found on 15 April 2017 at Barrow Hill Farm in Pond 15. 2020 surveys found three were dry and could not be surveyed and one was a new pond that had not been surveyed before. Eight ponds were deemed suitable for GCN and had no previous records of GCN; eDNA samples were taken to check their presence. Two ponds gave a positive eDNA result. 2021 eDNA results of one additional pond were negative for GCN. On 2 September 2021 a single GCN was observed within the edge of an arable field (at approximately TR 12545 36263) <50m south-west of Pond 31. It is therefore considered that Pond 31 is likely to be colonised by GCN in the future, despite previous surveys concluding that GCN were absent.	ES Appendix 7.9.
Birds (wintering and breeding)	The OPA contains habitats of value for bird species, foraging and sheltering habitat for wintering and breeding birds (waterbodies surrounded by large areas of grassland, arable crops, hedgerows, trees and woodlands).	**Wintering bird surveys** Eight visits were undertaken between November and February 2016/2017. These were conducted twice monthly, covering either dusk or dawn taking 5–8 hours in total. A transect route which encompassed the key habitats in the Study Area was covered. The start point varied between the visits to obtain a representative survey of the Study Area. The OPA does not support or maintain populations functionally linked to the Dungeness, Romney Marsh and Rye Bay SAC, SPA and Ramsar Wintering bird surveys were updated in 2019 and 2020. **Breeding Bird Surveys** Eight visits were undertaken between March and June 2017 at two-weekly intervals. The surveys commenced one hour before dawn and continued for up to 6 hours. The start point and route of the surveys was varied to give a representative survey of the Study Area. Breeding bird surveys were updated in April 2020 and 2021. **Barn Owl Assessment** Buildings in the Study Area with the potential to be impacted by the proposed Development were assessed for potential to support nesting barn owls. Where access was possible (and safety could be assured), the inside of these structures was examined for the presence of this species. Inspections at height were not conducted. Barn owl foraging habitat within the site was also assessed. Barn owl surveys were updated in 2021.	The site supports a varied assemblage of wintering birds typical of a farmland setting, with a total of 69 species being recorded during the 2016/2017 wintering bird surveys. Of these, 30 were considered notable. On average, around 2500 birds were recorded on each of the eight surveys. Update survey in 2019 recorded 49 species, of which 22 were notable with one species (raven) that had not been recorded in the previous surveys, bringing the total number of recorded species during all wintering bird surveys to 70. Update surveys in December 2020 recorded a total of 59 species, 32 of these were considered notable. Five additional species were recorded that had not been identified during previous surveys: firecrest, cormorant, little grebe, lapwing and pochard, these are all notable with the exception of firecrest. Three species recorded peak counts higher than previous surveys: skylark, stock dove and kestrel. The 2020 surveys brought the total number of species recorded over all surveys to 77. In total, 85 bird species were recorded during the 2017 breeding field surveys (of which 79 are considered to be breeding birds, the remaining 6 were from an outlying early March survey and are discussed in the wintering bird report). Of these 79, 39 are considered 'notable'. April 2020 surveys recorded 52 species, of which 17 were notable with three species (cuckoo, nightingale and sedge warbler) that had not been recorded in the previous surveys, bringing the total number of recorded species during all surveys to 88. The habitat assessment conducted in 2019 identified no significant changes likely to greatly impact upon the populations of birds supported by the site (when compared to the 2017 assessments). This was supported by the results of the surveys, which did not identify any significant changes in the bird assemblage of the site Surveys undertaken in April 2021 recorded a total of 58 species, of which 25 were notable with two species (raven and wheatear) that had not been recorded in previous surveys, bring the total number of recorded species during all surveys to 90. The 2021 surveys did not identify any significant changes in the bird assemblage. During other surveys a breeding black redstart was observed on the site. This was discussed through consultation with the LPA but was concluded not to impact the overall assessment.	ES Appendices 7.15, 7.16.

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
			Details located within ES Appendix 7.15.	
Reptiles ('common' species)	Common reptile records were returned from the data search. Previous planning applications identified common reptiles from within the Study Area and a common reptile translocation was conducted as a component of the Link Park development (in the south-west of the OPA).	**Population surveys utilising artificial refugia** Artificial refugia were placed in suitable habitats across the Study Area. Some suitable habitat areas were not possible to survey due to access restrictions or the land use of the area (these areas were to be utilised for hay cutting or are impacted by farming practices). In these areas, the population is extrapolated from the results of the surrounding areas with a similar habitat condition 7 to 10 visits conducted between April and September 2017. Update surveys were undertaken in 2021.	Across the site, three common reptile species were recorded, common lizard, grass snake and slow worm. In 2017, over 500 individual records of reptiles were recorded across the site; in 2021, over 600 individual records of reptiles were recorded in the targeted areas.	ES Appendix 7.6
Water vole	Water vole records were returned from the data search. A latrine was identified in the OPA during the initial site survey.	**Field survey of potentially suitable diches and water bodies** A dedicated survey of potentially suitable habitat within the Study Area was undertaken in spring 2017, autumn 2017 and spring 2018. Latrines, burrows, feeding signs, runs etc. were noted and mapped and a population estimate undertaken. Updated surveys were undertaken in spring 2020.	Of the 44 water bodies surveyed (on site and in the ZOI of the proposed Development) for water vole during the 2017 and 2018 surveys, one water body had a high water vole population, four water bodies had medium water vole populations and 19 water bodies had low water vole populations (once all of the survey results were combined). The results of the 2020 survey suggested the water vole population across the site was lower than in the previous surveys, however there was no significant change in water vole habitat within the site. It is considered that this is the result of natural cycles in population size and not a change in the suitability of the site resulting in a long-term population decline.	ES Appendix 7.10
Otter	No records of otter were returned within the ZoI of the proposed Development. A potential otter sign was noted during one of the surveys, additional surveys have been undertaken.	**Otter Survey** Otter surveys were conducted in 2017 and 2018, with a total of six surveys conducted. These surveys initially covered significant water bodies within the site but were extended to include the East Stour River 2km up and down stream. A total of 6 surveys were conducted in 2017–2018. An update survey was carried out in 2020 and again in 2021.	Two probable otter signs were identified on the 28 September 2017. These included one otter spraint and one 'anal jelly', located approximately 185m apart, in the north-west corner of the site, along the East Stour River between Harringe Lane and Somerville Court Farm. These results are the first evidence of otter found within the local area (i.e. within 2km of the site) in over 40 years. No other otter signs were observed within the surveys, although anecdotal evidence from local residents suggests that otter have been observed. Surveys undertaken in 2020 and 2021 did not identify evidence of otter.	ES Appendix 7.10
Dormouse	One dormouse record was returned within a 1 Km square which covers part of the site. One dormouse record was returned within a previous planning application submission recorded on the eastern edge of Harringe Brooks Wood. No definitive dormouse signs have been found within the Arcadis surveys within the Study Area to date. Some potential dormouse nests were found within the site in 2021, these could not be conclusively identified as dormouse but are precautionarily assessed as being dormouse within this ES assessment.	**Dormouse Nest Tube Surveys** Survey 1 Dormouse nest tubes were utilised to determine the potential presence of dormice across the OPA. A total of 422 dormouse tubes were checked on site within habitats suitable for this species, in and adjacent to the OPA (excluding areas isolated by roads etc.). These tubes were examined approximately every 5 - 6 weeks between April and September to determine the usage of the site by dormice. Dormouse tubes were installed in April 2017 checked until October 2017. Survey 2 Following consultation comments, an additional survey was conducted within woodlands adjacent to the site, within Harringe Brooks Wood and Kiln Wood. 100 tubes and 20 boxes were placed in each of the woodlands. Within survey 2, a double density of tubes was utilised, in addition to additional nest boxes, in order to ensure the survey results were valid. The nest boxes and tubes in each woodland were checked in August and October / November 2018. During the 2018 surveys (Survey 2), no dormice were found within Kiln Wood. However, three dormouse nests were found in Harringe Brooks Woods (one nest was recorded twice during the surveys). Update surveys were carried out in 2020 and 2021.	Survey 1 During the surveys, no evidence of dormice within the Study Area was observed. Survey 2 During Survey 2, no dormice were found within Kiln Wood. However, three dormouse nests were found within Harringe Brooks Woods (one nest was recorded twice during the surveys). The 2020 dormouse habitat assessments identified no significant change in the status of habitats for dormouse on the site. 2021 surveys focused on Harringe Brooks Wood and identified no significant change in the status of habitats for dormouse on the site. Some nests which could not be definitively confirmed to be dormouse were found in vegetation connected to Harringe Brooks Woods. As it was already known that dormouse were present in the area and had potential to colonise the site, this does not impact the overall assessment. Survey 3 The 2021 survey found six potential dormouse nests within the site. These were formed of loose green leaves, and whilst did not demonstrate all of the characteristics off a dormouse nest, could not definitively be confirmed	ES Appendix 7.8

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
			not to be dormouse. Therefore, it was precautionarily assumed that dormice may be present within the site.	
Invertebrates (terrestrial)	The data search returned one protected invertebrate within the vicinity of the Study Area, the Sussex emerald moth, *Thalera fimbrialis* however the site has no potential to support this species which breeds on shingle beaches. The habitat within the Study Area is largely common and typical of the wider area comprised of intensive agricultural habitats.	A walkover of the site was conducted on 8 August 2018. The areas that are to be lost or degraded as a component of the proposed Development were visited and photographed along with all the areas that present the most promising habitats for invertebrates. Most of the site has been intensively farmed for many decades (arable/grazing) and is of limited value to invertebrates. The field margins and hedgerows in the intensively farmed areas are species poor and would support impoverished invertebrate communities. Indeed, very few species of conservation concern have been recorded from the site. A survey of the Lympne Airfield site was undertaken by volunteers (Bumblebee Conservation Trust) on 5 August 2020. Five bumblebee species and three solitary bee species of conservation interest were identified. Rarer species comprised brown-banded carder (*Bombus humilis*), ruderal bumblebee (*Bombus ruderatus*) and moss carder bee (*Bombus muscorum*). Targeted glow worm surveys were undertaken in July and August 2021.	The more interesting habitats for invertebrates in the proposed Development site includes species rich hedgerows, semi-improved neutral grassland, woodland, water bodies and riparian habitats. However, with the exception of the riparian corridor there is limited connectivity of these habitats at the landscape scale, which places invertebrates, especially those with limited dispersal abilities, at rick of localised extinction. Two incidental records of adult glow-worm were made during the bat activity surveys on 14 July 2021. The first of these was sighted at TR121372, to the west of Westenhanger Castle and the second at TR110375, along a hedgerow to the south of the railway line. No observations of glow-worms were made during the glow-worm field surveys. Anecdotal reports from people in the local area reported that adult female glow-worms had been observed on the disused Lympne airfield area over three years ago. Habitats on site are potentially suitable for this species, including but not limited to arable margins, woodland edges, Folkestone Racecourse and the disused Lympne Airfield.	ES Appendix 7.17
Fish	Habitats for fish located within the East Stour River corridor and other water bodies, including the Folkestone Racecourse Lake and a pond south of the A20 (referred to as pond 16 in Technical Appendices of the ES).	Data from EA obtained in January 2017.	The EA data defined the assemblage of aquatic invertebrates within the East Stour as being 'good'. No species of particular note were reported. However, the aquatic features on the site are limited in distribution, all of the good quality aquatic habitats are retained within the proposed Development	Chapter 7: Biodiversity
Common Toad	Habitats for this species on site.	Desk study data from KMBRC, March 2018 and April 2020, and recorded during GCN surveys and incidental sightings 2017 - 2021.	Records returned from KMBRC. Recorded during the GCN surveys conducted in spring 2017. Toads were found associated with ponds 15 and 19, the Folkestone Racecourse Lake (OSGR TR 12364 36893 and TR 11138 37095).	Details located within Chapter 7: Biodiversity and ES Appendix 7.9
Hedgehog	Habitats for this species on site.	Desk study data from KMBRC, March 2018 and April 2020	Recorded on site, but there is relatively limited availability of suboptimal habitat, (i.e. intensively farmed arable land). Likely to be present in discreet areas.	Chapter 7: Biodiversity
Harvest Mouse	Habitats for this species on site.	Desk study data from KMBRC, March 2018 and April 2020	Recorded on site, but there is relatively limited availability of suboptimal habitat, (i.e. intensively farmed arable land).	Chapter 7: Biodiversity
Brown hare	Habitats for this species on site.	Incidental results from surveys in 2018. Desk study data from KMBRC, March 2018 and April 2020	Records returned from KMBRC. Observed once on site on 12.06.2018 at OSGR TR 09648 37241 in the west of the site.	Chapter 7: Biodiversity
Invasive Plants	During the extended Phase 1 habitat survey a range of species listed on Schedule 1 of the WCA (1981 as amended) were identified including: Swamp stonecrop Crassula helmsii; Japanese Knotweed Fallopia japonica; Parrots feather Myriophyllum aquaticum; Canadian Pondweed Elodea canadensis; Virginia Creeper Cotoneaster horizontalis; Montbretia Crocosmia x crocosmifolia;	Data on the distribution of these species was collected during other surveys, including the Phase 1 mapping surveys, between 2016 and 2021.	The following species were recorded within the site. • Parrot's Feather • Canadian Pondweed • Japanese Knotweed • Montbretia • Cotoneaster (Wall) • Virginia Creeper • Giant Rhubarb	ES Appendix 7.5

Receptor	Reason the receptor(s) were initially identified for survey / assessment.	Baseline surveys / assessments conducted	Survey summary (detail and limitations in the associated ES Appendix)	Location of data within the ES
	Wall Cotoneaster Crocosmia x crocosmifolia; Giant Rhubarb Gunnera tinctoria. New Zealand Stonecrop Crassula helmsii Variegated Yellow Archangel Lamiastrum galeobdolon subsp. argentatum Himalayan Balsam Impatiens glandulifera There is potential for adverse effects from spread of these species during construction and benefits from the proposed Development from the removal of these species.		• New Zealand Stonecrop • Variegated Yellow Archangel • Himalayan Balsam	
Non-native Invasive Animals (listed on Schedule 9 of the WCA)	Potential for these species within the site.	Desk study data obtained from KMBRC, March 2018 and April 2020 Incidental records from surveys conducted 2016–2021.	Signal Crayfish (*Pacifastacus leniusculus*) records returned by NBN from within the site and presence within the East Stour River was confirmed by the Environment Agency. One trap for signal crayfish was found within the Stour River at OSGR TR09431 37713. Signal crayfish are known to be vectors of crayfish plague, which can have a major impact upon native white clawed crayfish (*Austropotamobius pallipes*) within a catchment. American Mink (*Neovison vison*) records returned from KMBRC. NBN also returned records of this species from within 2km of the site. Evidence of this species including footprints and scats recorded during otter and water vole surveys conducted in 2017 and 2018. Mink are voracious predators and are known to prey upon native fauna, including water voles. Details of signs observed in ES Appendix 7.10. Marsh Frog (*Rana Ridibunda*) found on site during habitat and amphibian surveys (GCN surveys) in ponds including pond 9, pond 16, and pond 19 (OSGR TR 10352 36663, TR 11816 36270 and TR 12364 36893 respectively).	Chapter 7: Biodiversity

3 Details of Impact Assessment and Required Design Mitigation

An assessment of impacts and details of the assessed design measures (embedded) is set out below. A summary of the embedded design measures has been included within the ES Chapter.

The proposed Development was designed to avoid and minimise impacts where possible and to enhance biodiversity, natural capital and ecosystem services.

This section is organised into the following sub-sections:

- Designated sites and off-site ancient woodlands;
- Kent Biodiversity Opportunity Areas (BOAs);
- Habitats; and
- Species;

3.1 Designated Sites and Ancient Woodland

Within the design, a range of measures have been implemented to avoid potential impacts, where this is applicable to a particular ecological site, this is identified.

Preventing recreational impacts

Recreational usage of designated sites, including dog walking and other usage has the potential to impact upon a range of designated sites, especially those supporting an assemblage of fauna which is sensitive to recreational disturbance (Gibbins Brook and ancient woodlands, Harringe Brooks Wood and Kiln Wood).

Within the proposed Development, extensive areas of high quality public open space are being created for dog walking and recreation, to control recreational impacts upon adjacent and nearby designated sites. This includes the routing of footpaths away from certain sensitive adjacent areas (such as Harringe Brooks Wood LNR and ancient woodland) to prevent recreational impacts. It is foreseen that the two designated sites adjacent to the proposed Development (Harringe Brooks Wood and Kiln Wood, both LWS and semi-natural ancient woodlands on the AWI), will remain private and public access to these areas will be discouraged.

To Harringe Brooks Woods, access will be discouraged through a buffer area around the woodland which uses planting and topography to discourage access to the Harringe Brooks Wood. For Kiln Wood, moving the A20 road away from the woodland will reduce disturbance of the ancient woodland. The positioning to the A20 realignment between the proposed Development and the woodland will discourage access to this woodland.

Details of the assessment of recreational impacts upon internationally designated sites are presented within the HRA Stage 1 and Stage 2 report (ES Appendix 7.19). In summary, no significant effects are foreseen resulting from the proposed Development, and no further assessment (beyond HRA Stage 2) was considered necessary.

Assessment of pollution (air pollution)

Impacts upon ecological features that are identified as being sensitive to air pollution, including impacts from traffic relating to the proposed Development are fully quantified within the air quality chapter (ES Chapter 6 and Appendix 6.6). The selection of ecological features receptors for assessment in relation to air quality is presented in the ES Chapter 7. As outlined in Chapter 7, for the ecological assessment, sensitivity testing data that accounts for minor changes in site layouts since the traffic dataset modelling (including a new link road north of Newingreen) is utilised as this is more precautionary data and therefore presents a worst case scenario. However, as outlined in ES Chapter 6, the sensitivity testing

concluded that the change in Air Quality impact between the modelled and sensitivity testing dataset are insignificant.

Transects were modelled to determine the potential for air quality impacts, including oxides of nitrogen and nitrogen deposition. The full details of the location of the modelled locations are presented in Figure 6.4, this section of this Appendix presents excepts from that document where applicable.

Full details of the modelling methodology are presented in Chapter 6 (Air Quality). Three future scenarios are modelled, one in 2024 (first year of residential occupation at the proposed Development), one in 2030 (construction peak year) and one in 2044 (completed proposed Development + Framework Masterplan). The projected air quality impacts (relating to nitrogen deposition on habitats for ecological features) are modelled and these are compared to a future baseline where the Proposed Development does not progress (a Do Minimum 'DM' future scenario). The change is then compared, and where the projected change is above 1% of the site relevant critical load for the habitat at the receptor, this is then assessed further to determine significance.

The tables below shows the modelled change in nitrogen deposition in the future years (2024 in Table 2, 2030 in Table 3 and 2044 in Table 4) on the receptor locations where the change in deposition exceeds 1% of the site relevant critical load (when compared to the 'do minimum' future baseline).

Table 2: Modelled locations that exceed the 1% LCL in the 2024 future baseline

Receptor_ID	Site Name	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					% LCL
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	
FolksWood1	Woodland	14.4	16.3	20.8	4.17	4.72	6.05	28.84	33.01	33.56	34.89	1.32	0.1	13.2
FW2	Woodland	7.0	7.8	9.7	2.02	2.27	2.81	28.84	30.86	31.11	31.65	0.55	0.1	5.5
FW3	Woodland	5.0	5.7	6.8	1.46	1.64	1.98	28.84	30.30	30.48	30.82	0.34	0.1	3.4
FW4	Woodland	4.1	4.6	5.5	1.19	1.34	1.59	28.84	30.03	30.18	30.43	0.25	0.1	2.5
FW5	Woodland	3.6	4.0	4.7	1.04	1.17	1.37	28.84	29.88	30.01	30.21	0.20	0.1	2.0
FW6	Woodland	3.2	3.6	4.2	0.93	1.05	1.21	28.84	29.77	29.89	30.05	0.16	0.1	1.6
FW7	Woodland	2.9	3.3	3.8	0.85	0.96	1.10	28.84	29.69	29.80	29.94	0.14	0.1	1.4
FW8	Woodland	2.7	3.1	3.5	0.79	0.89	1.01	28.84	29.63	29.73	29.85	0.12	0.1	1.2

Table 3: Modelled locations that exceed the 1% LCL in the 2030 future baseline

Receptor_ID	Site Name	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					%
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	
FolksWood1	Woodland	14.4	16.2	21.5	4.17	4.69	6.23	28.84	33.01	33.53	35.07	1.54	0.1	15.4
FW2	Woodland	7.0	7.7	9.7	2.02	2.23	2.81	28.84	30.86	31.07	31.65	0.57	0.1	5.7
FW3	Woodland	5.0	5.6	6.8	1.46	1.63	1.98	28.84	30.30	30.47	30.82	0.35	0.1	3.5
FW4	Woodland	4.1	4.6	5.5	1.19	1.35	1.60	28.84	30.03	30.19	30.44	0.25	0.1	2.5

Receptor_ID	Site Name	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
FW5	Woodland	3.6	4.1	4.8	1.04	1.18	1.38	28.84	29.88	30.02	30.22	0.20	0.1	2.0
FW6	Woodland	3.2	3.7	4.2	0.93	1.07	1.23	28.84	29.77	29.91	30.07	0.16	0.1	1.6
FW7	Woodland	2.9	3.4	3.9	0.85	0.99	1.12	28.84	29.69	29.83	29.96	0.14	0.1	1.4
FW8	Woodland	2.7	3.2	3.6	0.79	0.92	1.04	28.84	29.63	29.76	29.88	0.12	0.1	1.2
FW9	Woodland	2.6	3.0	3.4	0.74	0.88	0.98	28.84	29.58	29.72	29.82	0.10	0.1	1.0

Table 4: Modelled locations that exceed the 1% LCL in the 2044 future baseline

Receptor_ID	Woodland/Grass	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
FolkstoneEtchB1	Grassland	26.9	9.8	11.1	3.76	1.37	1.55	19.60	23.36	20.97	21.15	0.17	0.15	1.2
LympneEsc1	Woodland	5.2	2.3	3.5	1.51	0.66	1.02	24.36	25.87	25.02	25.38	0.36	0.15	2.4
LE2	Woodland	2.9	1.3	1.9	0.84	0.37	0.54	24.36	25.20	24.73	24.90	0.17	0.15	1.1
FolksWood1	Woodland	14.4	7.0	11.0	4.17	2.04	3.18	28.84	33.01	30.88	32.02	1.14	0.1	11.397
FW2	Woodland	7.0	3.3	5.0	2.02	0.95	1.46	28.84	30.86	29.79	30.30	0.51	0.1	5.1

Receptor_ID	Woodland/Grass	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
FW3	Woodland	5.0	2.3	3.5	1.46	0.67	1.01	28.84	30.30	29.51	29.85	0.34	0.1	3.4
FW4	Woodland	4.1	1.9	2.8	1.19	0.54	0.80	28.84	30.03	29.38	29.64	0.26	0.1	2.6
FW5	Woodland	3.6	1.6	2.3	1.04	0.46	0.68	28.84	29.88	29.30	29.52	0.21	0.1	2.1
FW6	Woodland	3.2	1.4	2.1	0.93	0.41	0.59	28.84	29.77	29.25	29.43	0.18	0.1	1.8
FW7	Woodland	2.9	1.3	1.8	0.85	0.37	0.53	28.84	29.69	29.21	29.37	0.16	0.1	1.6
FW8	Woodland	2.7	1.2	1.7	0.79	0.34	0.49	28.84	29.63	29.18	29.33	0.15	0.1	1.5
FW9	Woodland	2.6	1.1	1.6	0.74	0.32	0.45	28.84	29.58	29.16	29.29	0.13	0.1	1.3
FW10	Woodland	2.4	1.1	1.5	0.70	0.30	0.42	28.84	29.54	29.14	29.26	0.12	0.1	1.2
FW11	Woodland	2.3	1.0	1.4	0.68	0.29	0.40	28.84	29.52	29.13	29.24	0.11	0.1	1.1
HouseWoodAW157m	Woodland	5.6	2.0	2.7	1.62	0.58	0.77	28.84	30.46	29.42	29.61	0.19	0.1	1.9
HouseWoodAW160m	Woodland	5.6	2.0	2.6	1.61	0.58	0.77	28.84	30.45	29.42	29.61	0.19	0.1	1.9

Receptor_ID	Woodland/Grass	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
HouseWoodAW170m	Woodland	5.5	2.0	2.6	1.59	0.57	0.75	28.84	30.43	29.41	29.59	0.18	0.1	1.8
HouseWoodAW180m	Woodland	5.4	2.0	2.5	1.58	0.57	0.74	28.84	30.42	29.41	29.58	0.17	0.1	1.7
HouseWoodAW190m	Woodland	5.4	1.9	2.5	1.56	0.56	0.73	28.84	30.40	29.40	29.57	0.17	0.1	1.7
HouseWoodAW200m	Woodland	5.4	1.9	2.5	1.55	0.56	0.72	28.84	30.39	29.40	29.56	0.16	0.1	1.6
BartholemewsWoodAW5m	Woodland	8.3	2.8	3.4	2.40	0.82	1.00	28.84	31.24	29.66	29.84	0.18	0.1	1.8
BartholemewsWoodAW10m	Woodland	6.7	2.3	2.8	1.95	0.67	0.81	28.84	30.79	29.51	29.65	0.15	0.1	1.5
BartholemewsWoodAW20m	Woodland	5.3	1.8	2.2	1.53	0.53	0.64	28.84	30.37	29.37	29.48	0.11	0.1	1.1
CowtyeWoodAW_N10m	Woodland	5.0	1.8	2.3	1.45	0.52	0.65	26.88	28.33	27.40	27.53	0.14	0.1	1.4
CowtyeWoodAW_S10m	Woodland	4.8	1.7	2.2	1.40	0.50	0.63	26.88	28.28	27.38	27.51	0.13	0.1	1.3
GrangeAldersOakBanksAW_W170m	Woodland	5.9	2.1	2.5	1.70	0.60	0.73	26.88	28.58	27.48	27.61	0.13	0.1	1.3
GrangeAldersOakBanksAW_W180m	Woodland	5.6	2.0	2.4	1.62	0.57	0.70	26.88	28.50	27.45	27.58	0.12	0.1	1.2

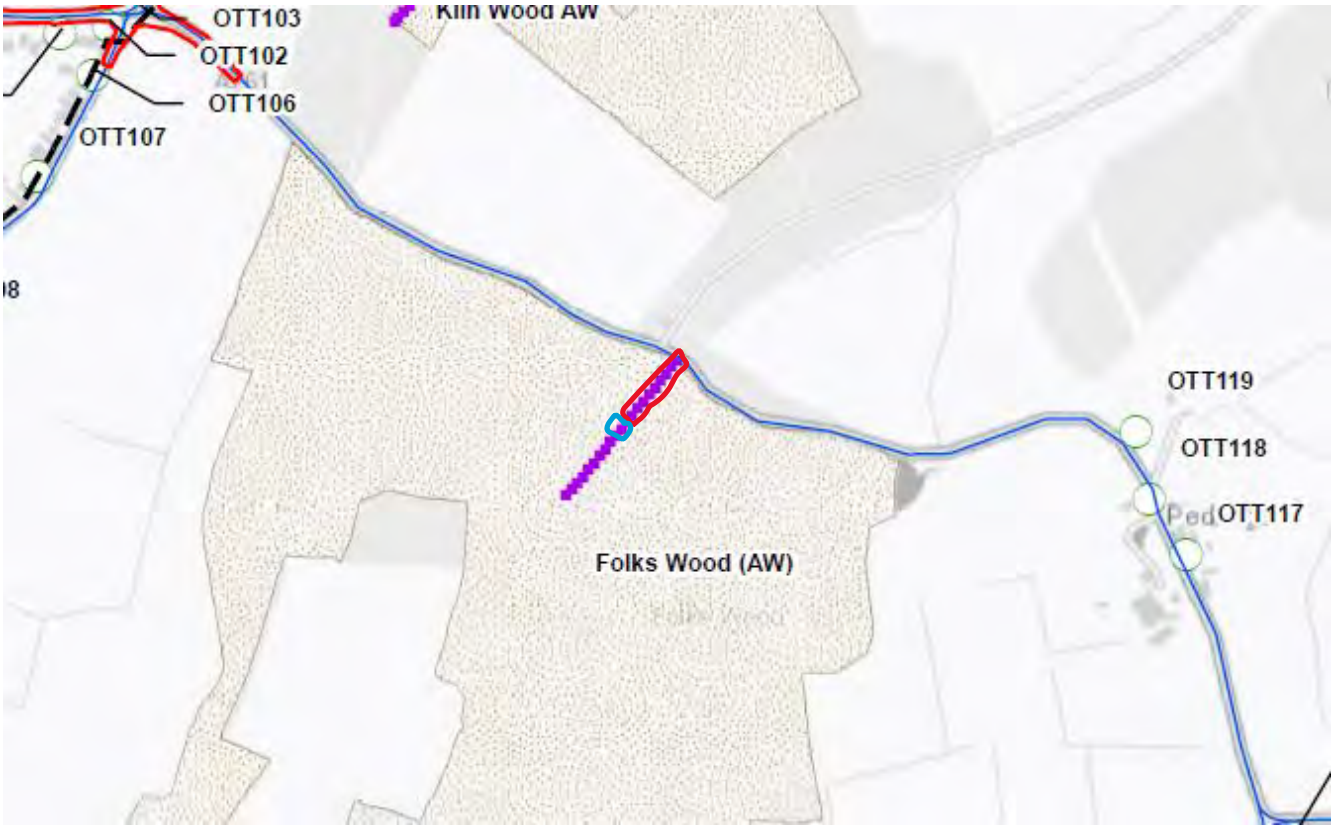
Receptor_ID	Woodland/Grass	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
GrangeAldersOakBanksAW_W190m	Woodland	5.4	1.9	2.3	1.56	0.55	0.67	26.88	28.44	27.43	27.55	0.12	0.1	1.2
GrangeAldersOakBanksAW_W200m	Woodland	5.2	1.8	2.2	1.50	0.53	0.64	26.88	28.38	27.41	27.52	0.11	0.1	1.1
PerryWood_AW132m	Woodland	7.0	2.5	3.0	2.02	0.74	0.88	28.84	30.86	29.58	29.72	0.15	0.1	1.5
PerryWood_AW140m	Woodland	6.8	2.5	3.0	1.96	0.71	0.86	28.84	30.80	29.55	29.70	0.14	0.1	1.4
PerryWood_AW150m	Woodland	6.5	2.4	2.8	1.89	0.69	0.82	28.84	30.73	29.53	29.66	0.13	0.1	1.3
PerryWood_AW160m	Woodland	6.3	2.3	2.7	1.83	0.66	0.79	28.84	30.67	29.50	29.63	0.13	0.1	1.3
PerryWood_AW170m	Woodland	6.1	2.2	2.6	1.77	0.64	0.77	28.84	30.61	29.48	29.61	0.13	0.1	1.3
PerryWood_AW180m	Woodland	5.9	2.1	2.6	1.71	0.62	0.74	28.84	30.55	29.46	29.58	0.12	0.1	1.2
PerryWood_AW190m	Woodland	5.7	2.1	2.5	1.66	0.60	0.72	28.84	30.50	29.44	29.56	0.12	0.1	1.2
PerryWood_AW200m	Woodland	5.6	2.0	2.4	1.61	0.58	0.69	28.84	30.45	29.42	29.53	0.11	0.1	1.1
Folkstone Etchinghill GRID_621648.62_137909.91	Grassland	27.0	9.8	11.1	3.78	1.37	1.56	19.60	23.38	20.97	21.16	0.18	0.15	1.2

Receptor_ID	Woodland/Grass	Road NO_2 (ug/m3)			Road N Deposition (kg N ha yr)			Bgd N Dep (kg N ha yr)	Total N Deposition (kg N ha yr)					
		Base	DM	DS	Base	DM	DS		Base	DM	DS	Impact	LCL	%
Folkstone Etchinghill GRID_621856.81_138118.02	Grassland	26.0	8.5	9.6	3.64	1.19	1.35	19.60	23.24	20.79	20.95	0.16	0.15	1.1
Folkstone Etchinghill GRID_621797.31_138144.03	Grassland	26.8	9.1	10.4	3.75	1.28	1.45	19.60	23.35	20.88	21.05	0.17	0.15	1.2
Folkstone Etchinghill GRID_621856.81_138144.03	Grassland	31.7	10.4	11.9	4.44	1.46	1.67	19.60	24.04	21.06	21.27	0.21	0.15	1.4
Folkstone Etchinghill GRID_621856.81_138170.03	Grassland	31.7	10.4	11.8	4.44	1.45	1.65	19.60	24.04	21.05	21.25	0.19	0.15	1.3

Folks Wood

In the 2026 and 2030 scenarios, modelled locations in Folks Wood LWS and ancient woodland are predicted to experience an increase in nitrogen deposition which exceeds 1% of the site-specific lower critical load. The exceedance is applicable to each point along a transect to a distance of 80m from the A261. The largest increase is predicted at a distance of 2m from the road.

Image 1: Locations which exceed the 1% LCL threshold in 2026 (circled in red) and 2030 (circled in red and blue)



At the locations shown above, the change in loading is >1% of the critical load. However, there areas already receive a loading above the critical load - base line deposition at the point 2m from the road is 33.01 kg N ha yr, (above the critical load of 10 kg N ha yr). The highest increases in the 2026 and 2030 mod years in the DS scenario (Do Something) are to 34.89 and 35.07 kg N ha yr respectively, against a DM (Do Minimum Scenario) of 33.56 and 33.53 kg N ha yr respectively. This is a marginal increase in load against the DM scenario but is considered to be imperceptible in the context of the baseline loading. As the modelled locations already exceed the critical load, it is considered that these habitats will already experience an impact from nitrogen loading. It is therefore considered that the marginal increases in N deposition on Folks Wood will not cause a significant detrimental impact on this ecological feature.

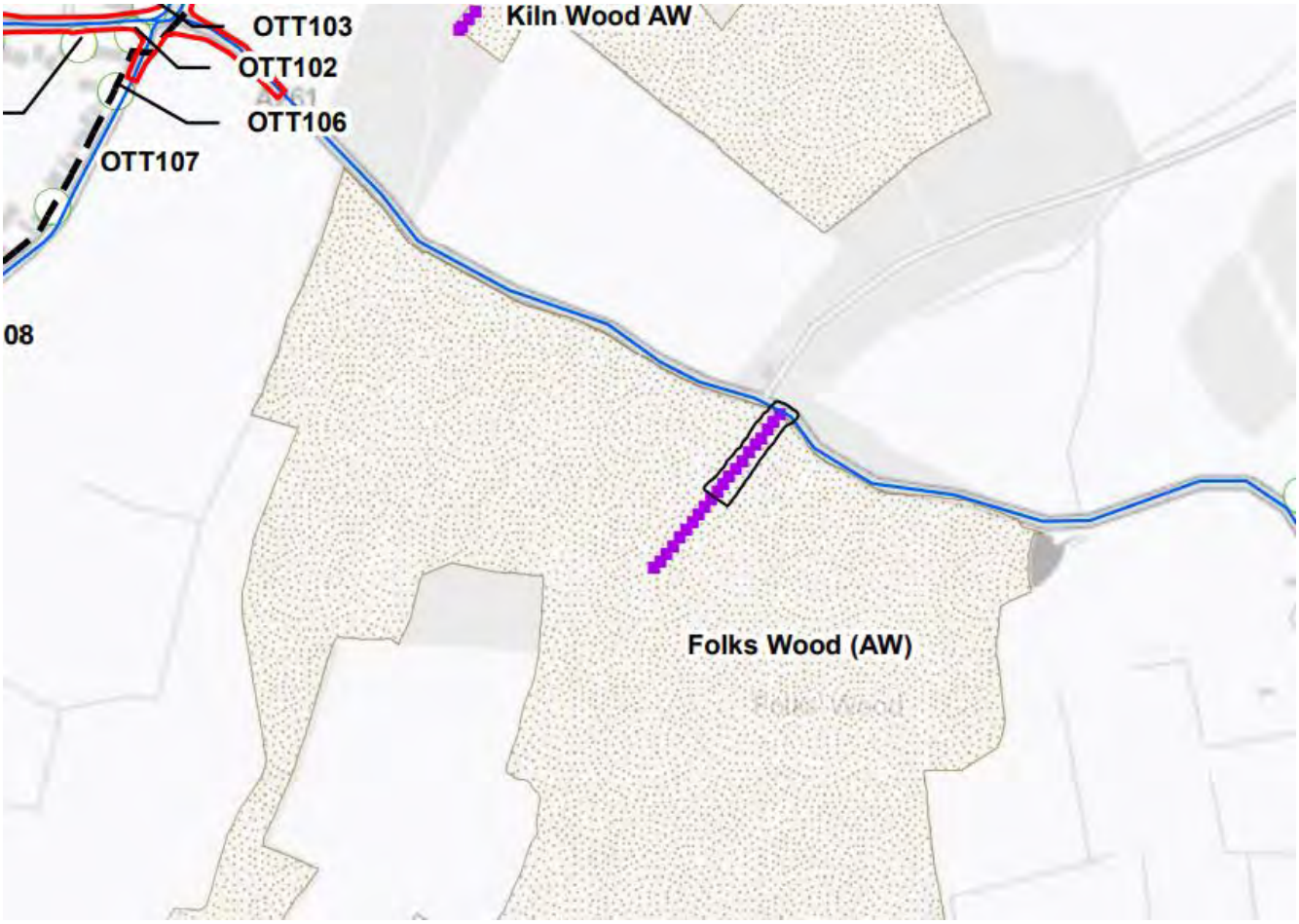
As a result, it is assessed that in the 2026 and 2030 DS scenarios there is **no significant impact upon the Folks Wood LWS and Ancient Woodland** as a result of air quality impacts.

At all other modelled receptors at designated sites, DS impacts are below 1% of the relevant critical load until 2044 when several sites show an increase in nitrogen deposition greater than 1% of the relevant lower critical load. Full details are presented in Chapter 6: Air Quality.

The sites exceeding the 1% in 2044 are as follows:

- Folks Wood AW at the locations shown in below.

Image 2: Locations within Folks Wood where DS loadings increase more than 1% of LCL in 2044 modelled locations



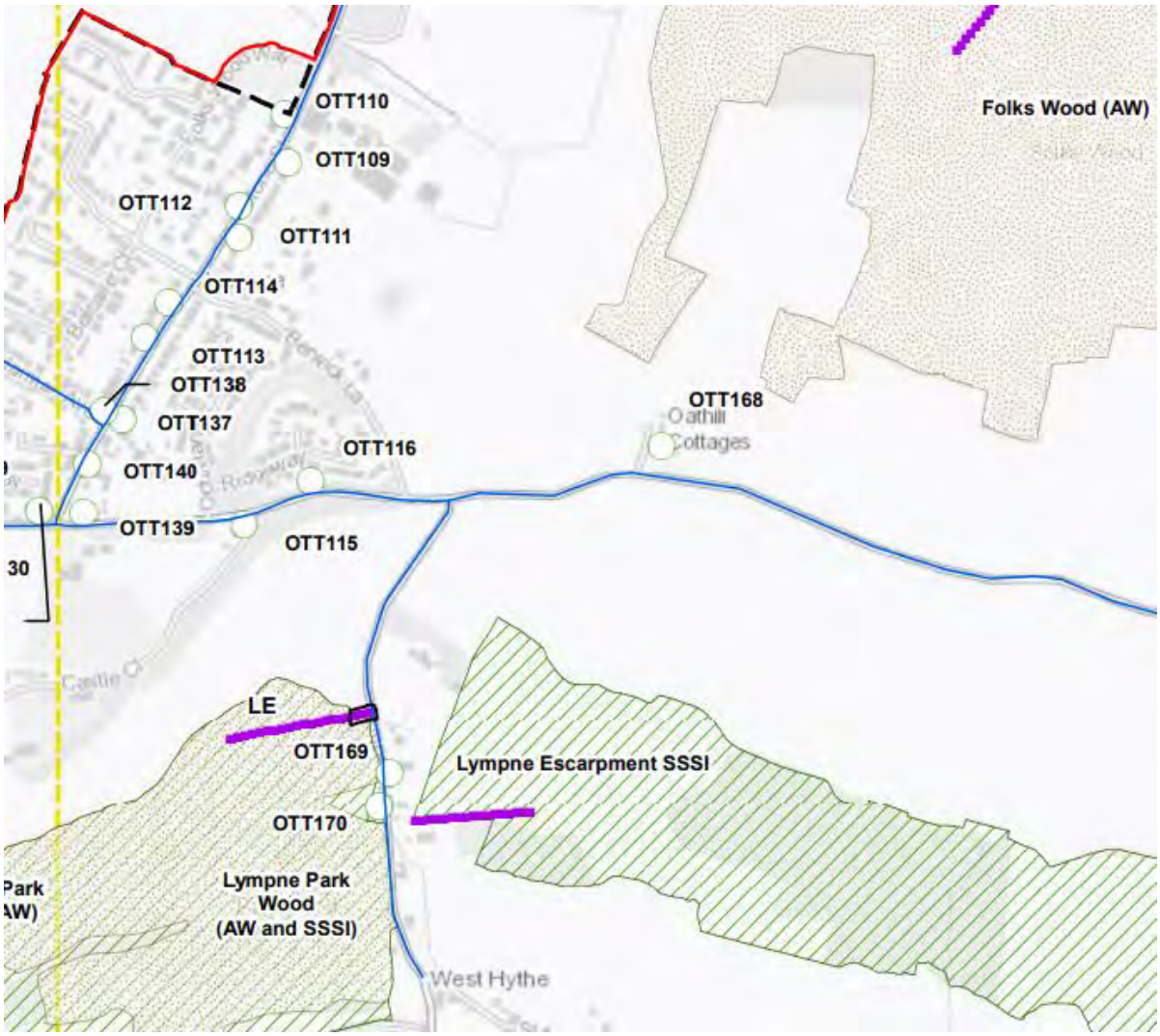
As with the 2026 and 2030 modelled scenarios, modelled locations within Folks Wood exceed the 1% LCL in the DS projected depositions over the DM depositions. However, in this scenario, the deposition falls from 33 kg N ha yr (baseline) to 32 kg N ha yr in the 2044 DS scenario. As a drop in deposition is still predicted, the impact of the development is considered negligible.

As such in the 2044 scenario the air quality effect on Folks Wood is foreseen to be **not significant**.

Lympne Escarpment SSSI

The modelled locations within Lympne Escarpment SSSI and AW shown in black in Image 3 had predicted changes in the deposition rate of >1% of the LCL in the 2044 DS scenario vs the DM scenario.

Image 3: Locations within Lympne Escarpment where DS loadings increase more than 1% of LCL in 2044 modelled locations



The exceedance at Lympne Escarment SSSI in the 2044 modelled scenario is only at two locations to the immediate west of the road. In these locations the exceedance in the 2044 modelled scenario is lower than the baseline (25.3 kg N ha yr form 25.8 kg N ha yr). As such, although the projected DS deposition is above the DM deposition (25.0 kg N ha yr), this is considered a negligible change.

Therefore, as a drop in deposition is still predicted, the impact of the development is considered negligible.

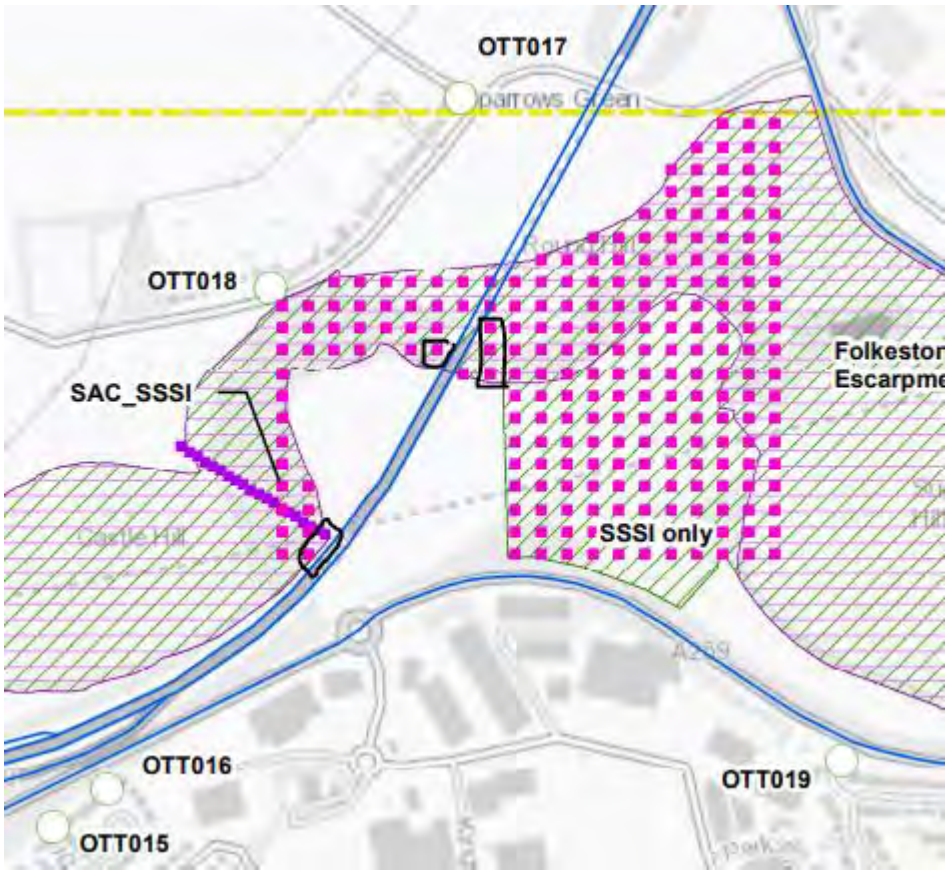
As such in the 2044 scenario the air quality effect on Lympne Escarpment is foreseen to be **not significant**.

Folkestone to Etchinghill SSSI (10m Grid)

An assessment of air quality impacts on Folkestone to Etchinghill Escarpment SAC is presented in the HRA (ES Appendix 7.19). Within the HRA, it is outlined that in line with current advice, the Local Plan HRA (which assesses the Otterpool site alongside other proposals) should be deferred to. In the Local Plan HRA, potential effects on Folkestone to Etchinghill Escarpment SAC were not identified, and this assessment is also used within the Otterpool Park HRA (ES appendix 7.19).

A supplementary assessment was made of potential impacts to the Folkestone to Etchinghill Escarpment SSSI. Within this assessment, 6 modelled locations exceeded the 1% LCL threshold (DS vs DM in 2044). These are presented in Image 4.

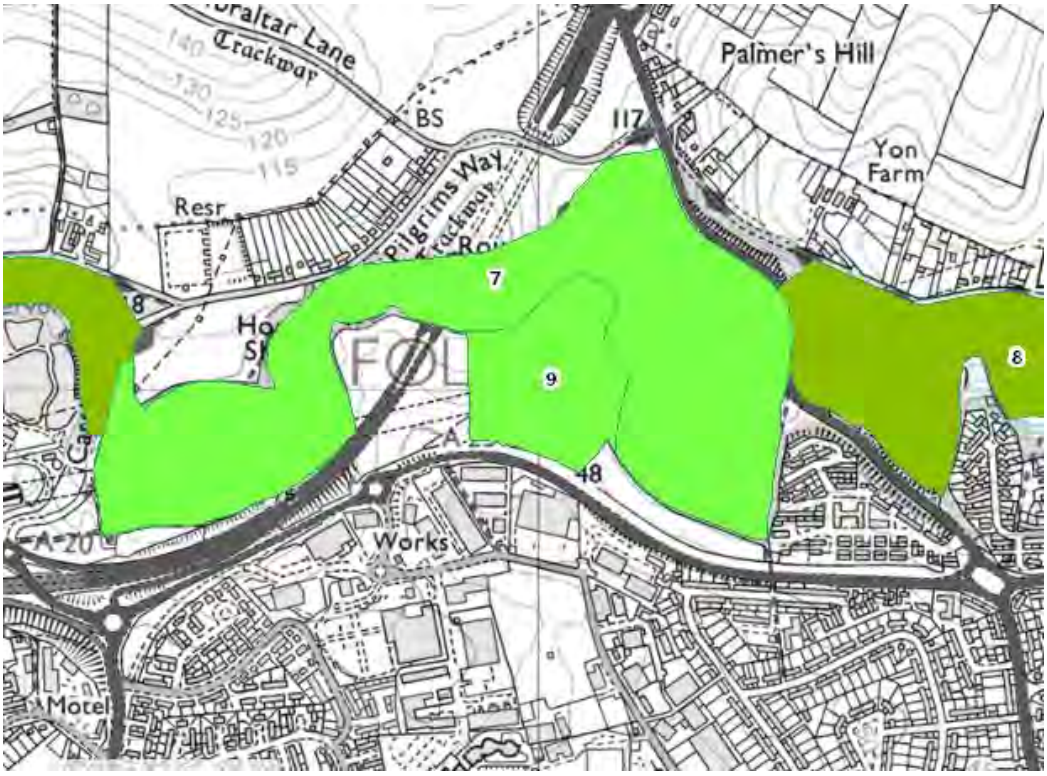
Image 4: Locations in Folkestone to Etchinghill Escarpment DS loadings increase more than 1% of LCL in 2044 modelled locations



In these locations, the maximum exceedance was 1.2% (only marginally above the 1% level at which impacts could be immediately ruled out without any further assessment). As with the sites above, in the 2044 scenario, the projected 2044 deposition is lower than the current baseline (29.85 kg N ha yr vs 30.3 kg N ha yr), and is only slightly higher than the DM scenario (29.51 kg N ha yr). Considering that the deposiotn rate in the 2044 scenario is lower than the current baseline, and that is site is currently in favourable condition (see below), there is negligible potential that the change in deposition form the DM scenario to the DS scenario will impact upon the SSSI. In addition, the habitats in the locations where exceedances were identified is roadside screening planting, not the grassland habitats for which the SSSI is designated.

As such, the in the 2044 scenario the air quality effect on Folkestone to Etchinghill Escarpment (SSSI and SAC) is foreseen to be **not significant**.

Image 5: Excerpt from Magic Mapping showing Folkestone to Etchinghill Escarpment in favourable condition



House Wood AW, Perry Wood AW, Bartholomew's Wood AW, Cowtye Wood AW (1.4%) and Grange Alders/Oak Banks AW

The images below (*Image 6*, Image 7) present the locations where the nitrogen loading exceeds the 1% LCL limit in the DS scenario vs the DM scenario. As with the other ancient woodlands assessed, in each location, exceedances are only marginally above 1%, and in all scenarios the 2044 deposition rate is lower than the current baseline.

As with the woodlands assessed above, it is concluded that there is negligible potential for an effect on these woodlands and therefore air quality effects upon House Wood AW, Perry Wood AW, Bartholomew's Wood AW, Cowtye Wood AW (1.4%) and Grange Alders/Oak Banks AW are considered **not significant**.

Image 6: Locations in House Wood AW, Perry Wood AW and Bartholomew's Wood AW DS where loadings increase more

than 1% of LCL in 2044 modelled locations compared to DM

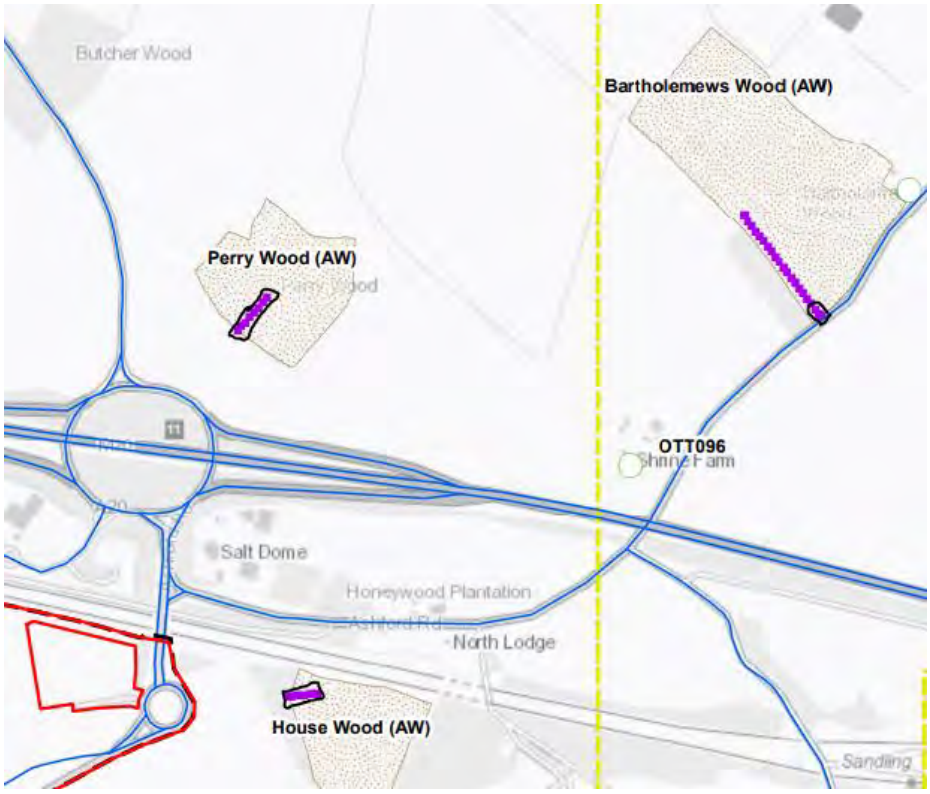
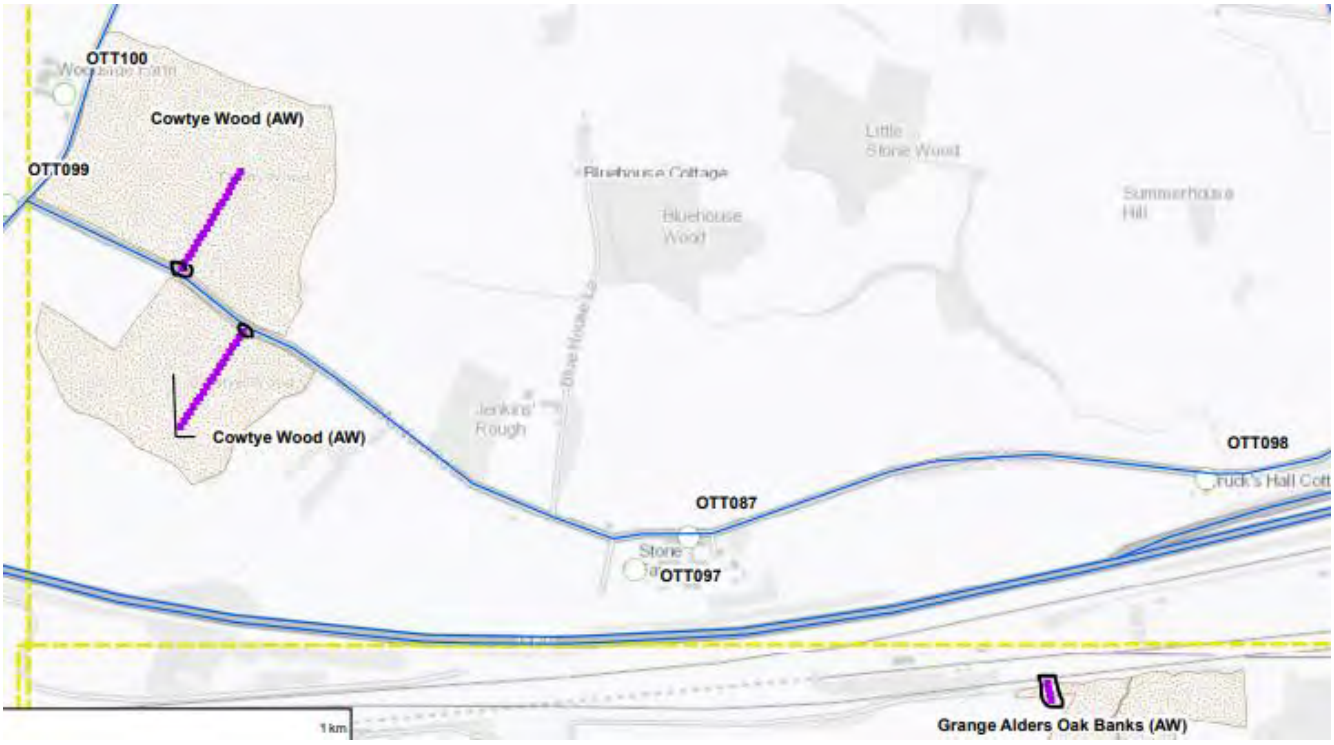


Image 7: Locations in Cowtye Wood AW (1.4%) and Grange Alders/Oak Banks AW where DS loadings increase more than 1% of LCL in 2044 modelled compared to DM



In addition to the assessments above, it must be noted that for all the modelled ecological features, the increase in nitrogen deposition predicted in 2044 is likely to be highly pessimistic since the air quality predictions assume no air quality improvements between 2030 and 2044.

This assessment is also based on Emission Factor Toolkit (EFT) v10 as opposed to EFT v11, as the new toolkit was released shortly prior to submission. However, this is not considered a constraint, as EFT v10 is more pessimistic on forecast emissions and this assessment therefore presents a worst-case scenario.

In all future baselines, due to the predicted use of electric vehicles (and because all emission factors are pessimistic and don't fully account for zero emission vehicles) the total NOx will actually decrease in real terms. This is anticipated to result in the actual deposition rates in 2044 to be less than predicted, which is already relatively small in the worst-case scenario for most of the designated sites; any elevated nitrogen deposition rates are likely to be minor and constrained to within 20m of a road; in the context of the designated sites' integrity and features of interest within the overall designated area, effects are considered likely to be not significant (particularly as the exceedances are small and the habitats within the exceedance areas are all verges and roadside vegetation which is not the habitats for which the sites are designated).

The predicted nitrogen deposition rates for Folks Wood exceed the lower critical load in scenarios both with and without the proposed Development in 2024 and 2030 (the long-term trends calculation can only be applied as far as 2030 in the tool provided by Highways England (now National Highways)). In addition, the highest deposition rates are adjacent to the road; in the context of the designated sites' integrity and features of interest within the overall designated area, effects are considered likely to be not significant. This is further supported by the current traffic levels not impacting upon the woodland.

In summary, the current design and road layout ensures that there are no significant effects upon designated sites sensitive to air quality impacts resulting from the proposed Development.

Overall, no mitigation is considered necessary in relation to air quality and ecological receptors.

Impacts to ecological features identified as being sensitive to air quality impacts are considered not significant.

Pollution (water quality)

The design of the site, including SuDS and other features should ensure that the operational risks related to water quality are controlled. This is outlined in Chapter 15: Surface Water Resources and Flood Risk and within the Water Framework Directive (WFD) Screening Assessment.

Potential impacts from nutrient loading were identified relating to the Stodmarsh SAC, SPA and Ramsar Site. These are addressed in full in Chapter 15: Surface Water Resources and Flood Risk and the HRA (ES Appendix 7.19). No residual impact is foreseen as the site will achieve nutrient neutrality.

Preventing direct impacts (Otterpool Quarry SSSI)

There is potential for Otterpool Quarry to be directly affected by the proposed Development. The details of how this is being safeguarded are presented in Chapter 10: Geology, Hydrogeology and Land Quality.

Otterpool Quarry is scoped out of the assessment (as the SSSI is designated for geological reasons) but is included here to signpost to the location of this assessment and for the avoidance of doubt.

Preventing disturbance from development

Direct disturbance has the potential to affect designated sites through noise, light and visual disturbance, in the construction and operational phases. The designated sites which have the potential to be directly impacted are Harringe Brooks Wood (LWS and ancient woodland) and Kiln Wood (LWS and ancient woodland). These impacts are controlled through buffering (minimum of 50m along the length of Harringe Brooks Wood and a buffer plus a new road separating the site and Kiln Wood) and retention as a private area.

Preventing predation and disturbance from domestic animals

Buffers have been integrated into the design around the key areas for ecological receptors, particularly Harringe Brooks Wood and Kiln Wood (LWS and ancient woodland). The buffer area around Harringe Brooks Wood is a minimum of 50m of semi-natural habitat with a mixture of permanent grassland, trees and water features to deter frequent access by domestic animals. There will be a new road between the site and Kiln Wood, which will also deter access by domestic animals.

The wildlife area to the north-west of the site will be a designated 'no dogs' area. This will be controlled through signage. Impacts from dogs will be further controlled through the layout of this area, with the water features (proposed for habitat creation and water quality attenuation) making this area unsuitable for dog exercising. Fenced areas within the major open spaces will also safeguard other areas from dogs.

Preventing hydrological disruption

Three designated sites are located within the ZoI of the proposed Development for hydrological disruption, namely Lympne Escarpment SSSI, Harringe Brooks Wood (LWS and ancient woodland) and Folks Wood (LWS and ancient woodland) Impacts to these sites are avoided through the mitigation hierarchy as follows:

- Lympne Escarpment lies to the south of the site, and the drainage for the site is to flow to the north-west, controlling the potential for impacts.
- Harringe Brooks Wood is off-site to the immediate south-west of the site, and drainage from this woodland area flows north through the site to the East Stour. This drainage is to be retained and buffered. No significant impacts upon the hydrology of this woodland are considered likely.
- Folks Wood is off-site to the immediate east of the site. The drainage of the site flows to the west away from this development. The proposed Development is unlikely to have the potential to impact upon the hydrology of Folks Wood.

3.2 Kent Biodiversity Opportunity Areas (BOA)

The Kent Biodiversity Opportunity Areas (BOAs) show where efforts should be targeted to achieve the maximum biodiversity benefits. Each one gives broad guidance on the conservation priorities in a given BOA.

In line with this, the BOAs each have targets which guide these conservation actions. Of these wider Kent BOAs, a small area of the site (including the East Stour River and an area of farmland in the north-east of the site) falls within the mid-Kent Greensand and Gault BOA for which there are 8 targets. The project has endeavoured to contribute towards these targets, where relevant. Of these 8 targets, no.1 is not applicable and while there are no species rich grasslands currently on site (no.2) the proposed Development will create these. The other targets (no. 3 to 8) are relevant, scheme design mitigation (embedded) is presented in Table 5 below.

Table 5: Mid-Kent greensand and gault BOA targets and how the design of the project contributes towards them

Target Number	Description	How the project contributes towards these targets
1	Restore acid grassland and heath	N/A, the soil types and habitats are not suitable to achieve this target on the site.
2	Enhance 10ha of species rich grassland on acid soils.	Again, the soil types are not suitable to contribute towards this target. However, within the green infrastructure of the proposed Development, extensive areas of species rich grassland are to be

Target Number	Description	How the project contributes towards these targets
		created. This is quantified within ES Appendix 7.21.
3	Enhance or reinstate woodland management, including reconnecting fragmented woodlands	It is proposed that areas of new tree and woodland planting on the site will increase the connectivity between wooded areas, particularly along the west of the site, between Harringe Brooks Wood and the East Stour River.
4	Achieve a quantifiable improvement in ecological status of all water bodies, as judged by Water Framework Directive indicators.	As evidenced in ES Appendix 7.22, the proposed Development will not have a negative impact upon the East Stour River (one of the Rivers within the BOA). Conversely, the increase in buffers around the river, and subsequent reduction in agricultural runoff is likely to increase the value of the river, as assessed according to WFD indicators.
5	Pursue opportunities to restore or recreate wetland habitats along the Stour and its tributaries, particularly where this may: Provide opportunities for flood risk management and for recreation; Contribute to the conservation of priority species; or Extend and buffer Local Wildlife Sites. Enhance at least 20ha of species-rich neutral grassland to bring it to UK BAP priority habitat Lowland Meadow quality.	Extensive measures are proposed within the proposed Development which will contribute towards this goal. North of the East Stour River, in the north-west of the site, a new wetland area with extensive areas of ditches and pond is being created to provide habitat for a range of species, including water vole and great crested newt. There are also extensive wetland areas proposed to contribute to achieving nutrient neutrality. All along the East Stour River corridor, a new riparian park is being created, which will contain SuDS and recreation areas, contributing to both flood alleviation and providing a recreation resource. To the west of the East Stour River, an area of grass land is to be created (to the east of Barrowhill, Sellindge). This will be targeted as BAP quality lowland meadow, with appropriate actions and targets within the Otterpool BAP (ES Appendix 7.20).
6	Maintain appropriate management of key brownfield sites	There is only one small area of abandoned lorry park which could be termed as brownfield site within the OPA, Otterpool Quarry SSSI south of the A20. This is safeguarded within the country park, but mitigation actions to preserve the limited habitats of note are proposed. These are outlined in the 'Invertebrates' mitigation section below.
7	Infrastructure and other development should avoid further fragmentation, particularly of wetland habitats and woodlands.	The proposed Development contains an extensive green grid and a large amount of GI (over 50%). The design of the proposed Development retains the vast majority of the notable habitats within the site and retains and enhances connectivity. Where roads have the potential to fragment habitats wildlife tunnels are proposed and bridges have been designed to allow wildlife passage along the East Stour River Corridor.

Target Number	Description	How the project contributes towards these targets
8	Action for naturally widely dispersed habitats (ponds, traditional orchards), wildlife associated with arable farmland, and widely dispersed species such as great crested newt will need to focus across the whole of the area and not just within the Biodiversity Opportunity Area boundary.	Although one very small orchard is to be lost to the proposed Development, new orchard areas are proposed. Within the proposed Development, a large number of new ponds, both wildlife ponds and SuDs features are to be created, which will increase connectivity between on and off-site ponds.

3.3 Habitats

Habitat categorisation for master planning and mitigation

The design of the masterplan has been considered in line with the mitigation hierarchy to limit impacts to important ecological receptors.

In order to inform the masterplan layout, following the initial habitat survey conducted in 2016, habitats and areas were initially categorised depending on their likely value to determine their requirement for retention. The following categorisations were utilised:

- 'Grade 1': likely to contain S41 or uncommon habitat types that are likely to maintain multiple notable and/or protected species and deliver key ecosystem services and must be retained and buffered;
- 'Grade 2' contain habitats of high value and/or protected species and strongly recommended to retain and buffer;
- 'Grade 3': habitats that provide important connectivity or strategic value throughout the site or have value for notable species and are recommended to be retained;
- 'Grade 4': areas supporting less commonly found habitat across the site, retention desirable; and
- Other habitats: these areas have no intrinsic value for retention, however they may have value for associated notable species.

This valuation was utilised to inform the masterplan and identify areas where development should be avoided (detailed in the ES Appendix 7.3). Valuable retained habitats were 'buffered' within the design to reduce potential impacts. Buffers have been based upon the requirements of these habitats and the species which they support.

Habitat retention

As outlined above, habitats which are assessed as being of high value are preferentially retained within the proposed Development. Table 6 outlines the retention of valuable habitats within the design. Overall, more than 50% of the proposed Development area is GI, both retained habitats and newly created GI areas.

Table 6: Retention of Valuable habitats within the OPA.

Habitat	Area / amount	Area / amount lost	Percentage retained
Woodland	c. 10ha of broad-leaved semi-natural woodland, mixed plantation woodland and plantation woodland.	All retained	100%
River corridor	c.14km	All retained and enhanced, with crossings of the corridor utilising clear span bridges.	100%
Hedgerows	c. 12.5km of hedgerows (includes native species-rich intact hedge, species poor intact hedge, species poor defunct hedge, native species-rich hedge with trees and species poor hedge with trees).	Majority retained. Hedgerows removed to facilitate road crossings and pathways. In order to quantify this, a 'worst case' scenario where all roads are 25m wide (including associated footways) and all standalone footways and cycle paths are 5m wide has been utilised	c. 90% of hedgerows are being retained within the proposed Development.

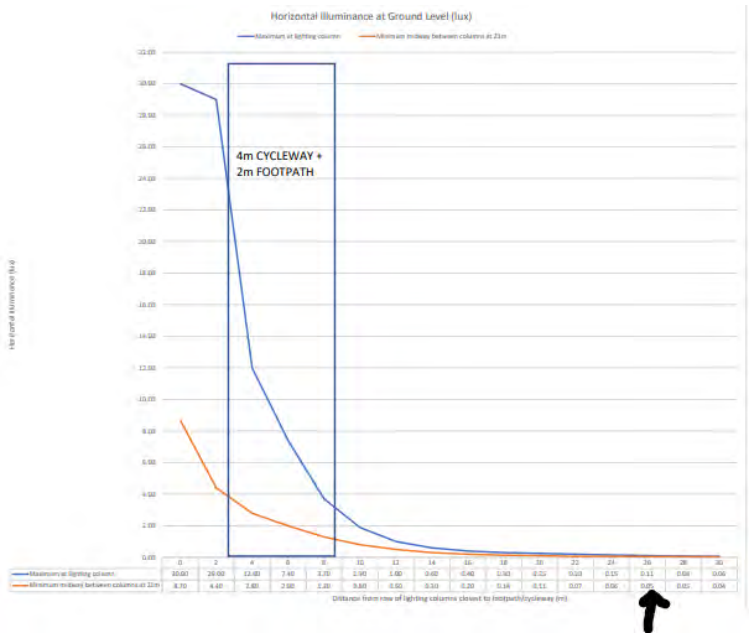
Habitat	Area / amount	Area / amount lost	Percentage retained
		Using this calculation, a total of 1.3km of hedgerow would need to be removed.	
Ditches	c.8.5km of ditch and tributary to the East Stour River	Majority retained. One area of ditches to the east of the Folkestone Race course (Ditch 1 c.700m long) and one ditch in the north east of the site (Ditch 16 c.250m long) are to be removed to facilitate the proposed Development.	c. 89% of ditches and tributaries are retained within the proposed Development and their hydrological conditions maintained.
Ponds	Of the 19 ponds • Two ponds are ornamental ponds with minimal ecological value (pond 24 and 44); • Four ponds were found to be permanently dry (or only hold water for very short period during heavy rain) and were found to be of negligible ecological value (ponds 25, 26, 28, 41).	Majority of ecologically valuable ponds retained. Of the remaining ponds with ecological value only one is to be removed to facilitate the proposed Development (pond 27).	Eleven of 13 ponds with notable ecological value retained. Twelve of 19 ponds identified from mapping retained in total.
Trees	c. 450m^2 (estimate from aerial mapping)	Majority retained within the proposed Development, as demonstrated in ES Appendix 7.21.	Very minor vegetation removal is required as presented on the Parameter plan in Figure 7.6 in ES appendix 7.1

Habitat buffers

Habitat buffers were implemented as required by the sensitivity of the habitats adjacent and the ecosystem services and species that they support. These buffers are designed to safeguard these areas, providing a buffer from pollution, disturbance (form light and noise) and also to provide supporting habitats. Details of habitat buffers are provided within Table 7, and are secured through the GI Strategy.

Table 7: Details of buffers of retained habitat

Habitat	Buffer width and design	Notes
Hedgerows (not dark corridors)	The buffer to these habitats is required to include supporting habitat, likely to be rough grassland. Buffer is 5m offset from edge of retained hedge. In the case of hedgerows with significant trees this should be extended to 10m as a minimum (see comments on trees below). Where it is identified that the hedgerow may be important for the movement of fauna, appropriate crossings will be provided (ES Appendix 7.18). No access to this buffer by motorised vehicle will be permitted. No lighting is permitted within the buffer. Lighting on adjacent land will be directed away from hedgerow, with backspill limited. Pedestrian and cycle routes are permitted within buffer, as detailed in the DAS.	Details of locations of hedgerows within ES Appendix 7.3. Buffer details in the DAS and GI strategy.

Habitat	Buffer width and design	Notes
Hedgerows (dark corridors)	These areas will be buffered with a range of habitats, including, wildflower meadows, and grassland. Buffer is 25m offset from edge of habitat. No lighting permitted within the buffer. Lighting on adjacent land will be directed away from hedgerow, with backspill limited. No access to buffer by motorised vehicles. (Unlit) pedestrian and cycle routes permitted within buffer. Where roads and pathways cross the dark corridor, lighting in these crossing areas will be minimised and measures to ensure that bats can navigate these crossings will be incorporated. Crossings should have sufficient clear span to ensure that fauna (badgers, etc) can navigate beneath them, or tunnels should be installed. Links into riparian corridor, woodlands and other habitats are maintained, these dark corridors form a key part of the green grid around the site. Evidence that these features will be sufficiently buffered to ensure darkness is provided in this Appendix. The image below demonstrates that behind lit main roads, beyond 25m form the lighting, the illumination will be <0.2lux.  	Location of dark corridors presented in DAS and Technical Appendix 7.11 – 7.14 Buffer details in the DAS and GI strategy.
Trees	These features will be buffered sufficiently to exclude activity that would have a detrimental impact on the tree and root zone, including soil compaction and water supply. Buffers should be determined according to BS 5837:2012 as a minimum, as specified by arboricultural surveys conducted prior to the commencement within each proposed Development parcel. Buffers will depend upon the size of the tree but are likely to be a minimum of 15m for woodland, a minimum of 10m for trees, with 15m buffers for significant trees.	Information on the presence of trees within ES Appendix 7.4
Ancient woodlands	These areas will be buffered with a range of habitats, including wildflower meadows and grassland. These habitats have a minimum of a 50m offset from edge of habitat. Access by the public will be discouraged to limit the risk of vandalism and damage to these areas, and to allow the retention of mature /over mature trees containing deadwood habitat.	The exception to these buffer parameters is the ancient woodland to the east of the site, Kiln Wood. This already separated from the site by the A20 and experiences extensive

Habitat	Buffer width and design	Notes
	Pedestrian and cycle routes are NOT permitted within the ancient woodlands. Access to these areas will be discouraged. Some access within the buffer areas for bridleways, pedestrians and cyclists within the buffer areas to limit disturbance to woodland.	disturbance from the A20. As a component of the proposed Development, the A20 would be moved to the west, increasing the buffer between the A20 and this woodland, although some activities would occur within this buffer.
Woodlands	Designs buffer the woodlands with suitable natural or semi-natural areas, including tree planting, scrub and grassland. The details are presented in the DAS and GI strategy for details. There would be a minimum of a 25m offset from edge of habitat for ecologically sensitive woodlands. The buffer is reduced around young, plantation woodlands, particularly where baseline disturbance is high. No lighting will be permitted within the buffer. Lighting on adjacent land will be directed away from feature, with backspill limited. Pedestrian and cycle routes are permitted within the buffer and woodlands (but not ancient woodlands).	Buffer details in the DAS and GI strategy.
River (East Stour)	Designs buffer the woodlands with suitable natural or semi-natural areas, including tree planting, scrub and grassland. Pathways will be a minimum of 8m from the edge of the river. The details are presented in the DAS and GI strategy for details. Offset buffer is in excess of 50m (100m total) along its length, with the exception of where the river is crossed by roads or pathways. No lighting is permitted within the buffer Retention of existing vegetation wherever possible will be conducted within the buffer. Some areas will be opened up (removing scrub) to increase visual amenity value and recreation value, and as enhancement for species (as specified in ES Appendix 7.18). Locate crossings away from sensitive habitats. Where roads and pathways cross the East Stour River corridor, lighting in these crossing areas should be minimised and measures to ensure that bats can navigate these crossings. Crossings should have sufficient clear span to ensure that fauna can navigate beneath them, or tunnels should be installed. Discourage human activity/dog walking in areas of retained/enhanced habitats for e.g. water vole and otter.	Further information in the DAS, GI strategy and ES Appendix 7.18.

Further detail of the design mitigation is presented in the Biodiversity Net Gain Report (ES Appendix 7.21) and the design of buffer habitat is presented in the DAS (Design and Access Statement accompanying the Application).

The planting within the buffers also contributes to the proposed Development being able to achieve quantifiable net gain, as described within ES Appendix 7.21.

The table below (Table 8) outlines the land uses and features which are considered to be permissible within each of the buffer types. The impact assessment assumes that the uses will be limited to those outlined in this table.

Table 8: Land uses and features which are considered to be permissible within each of the buffer types

Buffer Type / Permitted land use within buffer	Built development	Hard surfacing	Lighting	Footpaths	SuDs	Drainage Ditches	Bridge abutments	Roads	NEAP	LEAP	Tree planting
50m buffer from built development (minimum) around Ancient Woodlands (SuDS can be included within the buffer)	N	N	N	Y	Y	Y	N/A	N	Y – if natural and unlit	Y- If unlit	Y
25m buffer from built development (minimum) around other woodlands[1] (SuDS can be included within the buffer)	N	N	N	Y	Y	Y	N/A	N	Y – if natural and unlit	Y- If unlit	Y
25m buffer from the edge of each dark corridor asset[2] (e.g. either side of a hedgerow) (with exceptions where these features must be transected by movement and SuDS corridors). Movement corridors includes roads, cycleways and footpaths.	N	Y	N	Y	Y	Y	Y – if unlit	Y (only where transected by roads and must be unlit)	Y – if natural and unlit	Y- If unlit	Y
Minimum 5m buffer around retained hedgerows (SuDS will be permitted in these buffers) and 10m from any major infrastructure (with exceptions where these features must be transected by movement corridors (as above) and SuDS crossings).	N	N	N	Y (if root impacts can be avoided)	Y (if root impacts can be avoided)	Y (if root impacts can be avoided)	N	N	N	N	Y
Minimum 25m from the East Stour River Corridor from built development[3] (with exceptions where these features must be transected by movement corridors). SuDS and landscaping is permitted in these areas.	N	N	N	Y - if natural surface	Y – if natural	Y	Y – if unlit and 10m from the river bank top	Y (only where transected by roads and must be unlit)	Y – if natural and unlit	Y- If unlit	Y

Habitat creation

Multiple large areas of green space that have been incorporated into the design would provide habitats of benefit to biodiversity. Overall, over 50% of the proposed Development area is identified as GI, both retained habitats and newly created GI areas. The detailed design of these open spaces will evolve at Tier 2-3. However, within these areas of substantial green space there will be areas that would support Section 41 habitats and species, which is presented in the mitigation strategies for protected species and within the GI (Green Infrastructure) strategy. Habitats proposed to be created include: Orchards; Hedgerows; Ponds and Lowland meadows, tree planting and scrub and additional ditches. These habitats would provide conditions suitable for the Section 41 species that have been recorded on the site and those that may colonise the site in the future, particularly amphibians, including common toad and great crested newt; reptiles, including common lizard, grass snake; mammals including hedgehog, bats (soprano pipistrelle, brown long-eared bat, noctule); and invertebrates.

The key areas within this GI for ecology are listed below:

- A Country Park;
- A Town Park,
- A wildlife area (14ha); A large area in the north-west of the site and a smaller area adjacent to the tributary to the East Stour south of the A20 (by TN186). These will be a species rich aquatic habitat providing a valuable habitat for a range of receptors.
- Lympne resilience area (recreational green open space);
- Barrowhill, Sellindge resilience area (wildlife and SuDS area);
- East Stour Riparian Park; and
- A woodland burial area.

Across the site, a range of habitats would be created to maximise the value of the GI around the site. Where these habitats are to be created as mitigation for impacts to a particular species, these are described in ES Appendix 7.18. Integrated GI and artificial habitat to be included within the proposed Development are presented in ES Appendix 7.21. An overview of the GI to be created on the site is presented in Figure 7.7 in ES Appendix 7.1.

Within the GI, valuable habitats are to be created, including:

- Ponds created for biodiversity, these will be designed to meet the prescriptions of the relevant ‘habitat of principal importance’ description. Areas where ponds are to be created include the buffer around Harringe Brooks Wood and south of the Folkestone Racecourse Lake.
- Areas of woodland planting, these areas are to be planted to screen the proposed Development and to create connectivity. This includes planting linking Harringe Brooks Wood to the river corridor to the north. This tree planting will be to the west of the proposed Development.
- SuDS features including ponds, drainage ditches, swales and rain gardens (some of which will be primarily for biodiversity value other primarily for drainage but will have biodiversity value);
- Areas of ditch to be created for water voles;
- Hedgerows will be planted across the proposed Development. These will be native species hedges and will be planted to subdivide parcels within the proposed Development, but also to provide a permeable barrier for wildlife between properties and GI. These features will provide a notable habitat for a range of species;
- Areas of species rich wildflower grassland will be created across the site. The habitat composition / seed and planting mix should be based upon the soil present but would largely be based upon the descriptions of priority habitat (lowland meadow). Areas;
- Scattered trees are to be planted through the GI of the proposed Development. The species of these will be designed to safeguard against disease and climate change but will be native where

appropriate. Tree planting will greatly exceed the trees to be removed, as secured by the principles in the GI strategy;

- Areas of scrub will be created/allowed to develop, which will have value for invertebrates and provide a heterogeneous habitat for reptiles;
- Microhabitat features will also be created for a range of receptors, including earth banks and deadwood piles for invertebrates; and
- GI and artificial habitats will also be integrated into proposed Development zones.

Biodiversity net gain has been calculated using the Defra 3.0 offsetting metric. It is calculated that there will be biodiversity net gain of approximately 20% once the proposed Development is completed. Full details of this net gain calculation are presented in ES Appendix 7.21. In addition, all hedgerows removed will be translocated with a minimum additional hedgerow planting of 1.5km in the GI areas and an estimated 30km in the development parcels. This will lead to an increase in hedgerow biodiversity units of over 75%.

Habitat enhancements

The locations of all of the enhancement areas referred to in the table above are presented in Figure 7.7 in ES Appendix 7.1.

Areas where enhancement will occur includes (but is not limited to):

- Hedgerow enhancements to improve connectivity in the form of gapping up; improved management and restoration of ground flora;
- Pond enhancement to achieve the parameters of the 'habitats of principal importance' descriptions;
- Enhancements of the river corridor to increase the heterogeneity and improve the value for notable receptors, including water vole (described in further detail in ES Appendix 7.10).

Overall, the enhancements combined with the retention of habitats within the site achieves a quantifiable net gain in line with the biodiversity offsetting metrics(as evidenced in ES Appendix 7.21). This has been calculated using the scheme design, represented by GI typologies, each of which has associated habitat parameters detailed within the Biodiversity Net Gain Report. Any evolution of these parameters, through detailed design, must fulfil the required net gain and ecosystem function as discussed within Chapter 7: Biodiversity and the associated appendices.

3.4 Species

Wintering birds

Full details of the baseline surveys and design and mitigation proposed in relation to wintering birds is presented in ES Appendix 7.16. In line with the mitigation hierarchy, within the masterplan, the initial approach to limiting impacts would be through avoidance. The most important areas for a number of bird species, specifically farmland birds, wintering waders, wintering ducks, house sparrow and kingfisher are to be retained. These areas are:

- The Folkestone Racecourse Pond, which is to be retained and included within an improved buffer area;
- The area to the west of the Folkestone Racecourse lake where woodcock and snipe were recorded;
- The pond to the south of the A20 (Pond 16);
- The East Stour River corridor, which is to be retained and buffered

In addition, there are areas designed to provide valuable habitats for wintering birds within the masterplan design and GI within the proposed Development. These include:

A large area of varied space to be created to the south east of the site, including orchard, wet areas (for SuDS) and rough grassland;

- A new wetland area to be created in the north west of the site. This is to be approximately 14ha and include predominantly ditches, scrub, grassland and trees;
- New hedgerows to be created across the site;
- A large number of SuDS and water features to be created within the proposed Development;
- Sports pitch boundaries and buffers which will be of value for the proposed Development.

Nevertheless, it is not possible to fully mitigate for impacts to wintering farmland birds and other groups which require large areas of open farmland within the proposed Development. However, the site is set within extensive areas of arable and pasture farmland, and this habitat is extremely common at the local, county and regional scale.

Breeding birds / farmland birds (general), barn owl and kingfisher

Full details of the baseline surveys and design and mitigation proposed in relation to breeding bird, including barn owl and kingfisher is presented in ES Appendix 7.15. In line with the mitigation hierarchy, the masterplan has been designed to minimise impacts to breeding birds. The following approaches have been incorporated within the masterplan to avoid impacts to breeding birds:

- The majority of hedgerows are being retained and buffered within suitable GI (Green Infrastructure) to allow these features to continue to provide a resource for breeding birds, both nesting and feeding, and hedgerow sections which are removed to facilitate road and footpath crossings will be translocated;
- The vast majority of trees are being retained within the proposed Development;
- Aquatic features and areas identified as having particular value for notable bird species, including the East Stour River corridor and Folkestone Racecourse lake are to be retained, buffered and enhanced within the proposed Development;
- The ancient woodland, off-site to the west (Harringe Brooks Wood) is to be retained and buffered, in a buffer which is a minimum of 50m along its length;
- Multiple small woodlands are to be retained and buffered within the proposed Development, including Park Wood, Springfield Wood and a young woodland to the north of Link Park (Centred on TR 112 361).

In addition to this retention, there will be significant area created within the GI of the proposed Development that will be of value for breeding birds. This will include:

- A wetland area containing ditches, channels, trees and scrub in the north west of the proposed Development, which will provide foraging and nesting habitat for breeding birds, particularly waders, water fowl and kingfisher;
- A large amount of additional hedgerows, which are to be buffered would be planted across the proposed Development, these will subdivide proposed Development plots and provide a permeable barrier to wildlife;
- A large number of new water features are to be created, including SuDS and specific wildlife ponds, which will provide a foraging resource for breeding birds;
- A large area of orchard, grassland and SuDS features are proposed to be created in the south east of the site, between Lympne and the proposed Development, which will be of value for foraging and breeding birds, particularly farmland species, including ground nesting species;
- New parkland areas are to be created, in the centre of the proposed Development a woodland park is proposed, which will provide enhanced foraging and breeding habitats for breeding birds. A

town park is proposed, adjacent to the Folkestone Racecourse Lake, which will provide a resource for breeding bird species which are associated with urban areas, such as house sparrow, song thrush and starling.

- New areas of woodland and tree planting are proposed, largely as landscape buffers, but these areas will provide significant nesting opportunities for breeding birds.
- Within the design barn owl nest boxes should be erected, however only a small number are likely to be required (five is recommended at this stage, this may increase if nests are found within trees to be removed). These should be located at least 1km from the M20, locations along the southern and western boundaries of the site is recommended as this will enable any pairs utilising these boxes to forage in retained habitats in the south and west of the proposed Otterpool Park development and on off-site habitats.
- Banks for kingfisher nesting will be created along the East Stour River corridor, and within the wildlife area in the north west of the proposed Development. Exact details will be informed by pre-commencement surveys.

Native planting, including scrub and trees, will provide habitats and food sources for birds and nesting habitats. In addition, bird nest boxes may be strategically placed to target specific species, and a minimum number of bird boxes per a certain number of built structures should be installed.

Open fronted nest boxes of different sizes within a green wall would be of value for robin, house sparrow and starling, those with apertures could be exploited by tits. The inclusion of artificial house and song thrush nests attached to the structure of any proposed buildings would benefit these species which are declining nationally.

Within the built parcels, there will also be parameters set (dependent upon the proposed density of the parcels buildings) for GI which will be of value for wintering birds. This will include:

- Parameters for amounts of green roofs within built parcels;
- Parameters for the number of trees and street trees within built parcels.

Bats

Bat foraging

Full details of the design and mitigation for bats is presented in ES Appendix 7.18. Bat survey details and impact assessments are presented in ES Appendix 7.11, 7.12, 7.13 and 7.14. In summary, the following approaches are proposed to safeguard bats in areas of high foraging value:

- Retention and buffering of important foraging areas;
- Maintenance of known and likely commuting routes between foraging and roosting areas across the site;
- Creation of new habitats likely to be of high value for foraging bats;
- Creation of new valuable habitats such as ponds and SuDS;
- Enhancement of existing habitats, such as crating heterogeneity in the East Stour River Corridor.

Bat commuting

The incorporation of bat commuting features into the masterplan will allow the impact to bats resulting from the proposed Development to be minimised. The approach for areas of high commuting activity will include:

- Maintenance of known and likely commuting routes between foraging and roosting areas across the site;
- Where roads etc. cross commuting corridors, planting / underpasses / bridges to ensure that bats can continue to traverse these features;

- Masterplanning to limit light spill onto retained habitats and design specifications that all artificial lighting must be directional and low light spill;
- Creation of dark corridors within the proposed Development, that are designed to ensure that bats can continue to use the area for commuting and foraging. These will be designed to limit light spill into these areas and maximise continuity of these dark areas. A drawing showing that the width of the buffers to the dark corridors (25m) is sufficient to ensure that these can be kept dark is presented as Image 8 below;
- Identification of commuting routes and enhancement of these corridors, including landscaping and maintenance of low light levels;
- Creation of new commuting routes between areas known to be of value for bats.

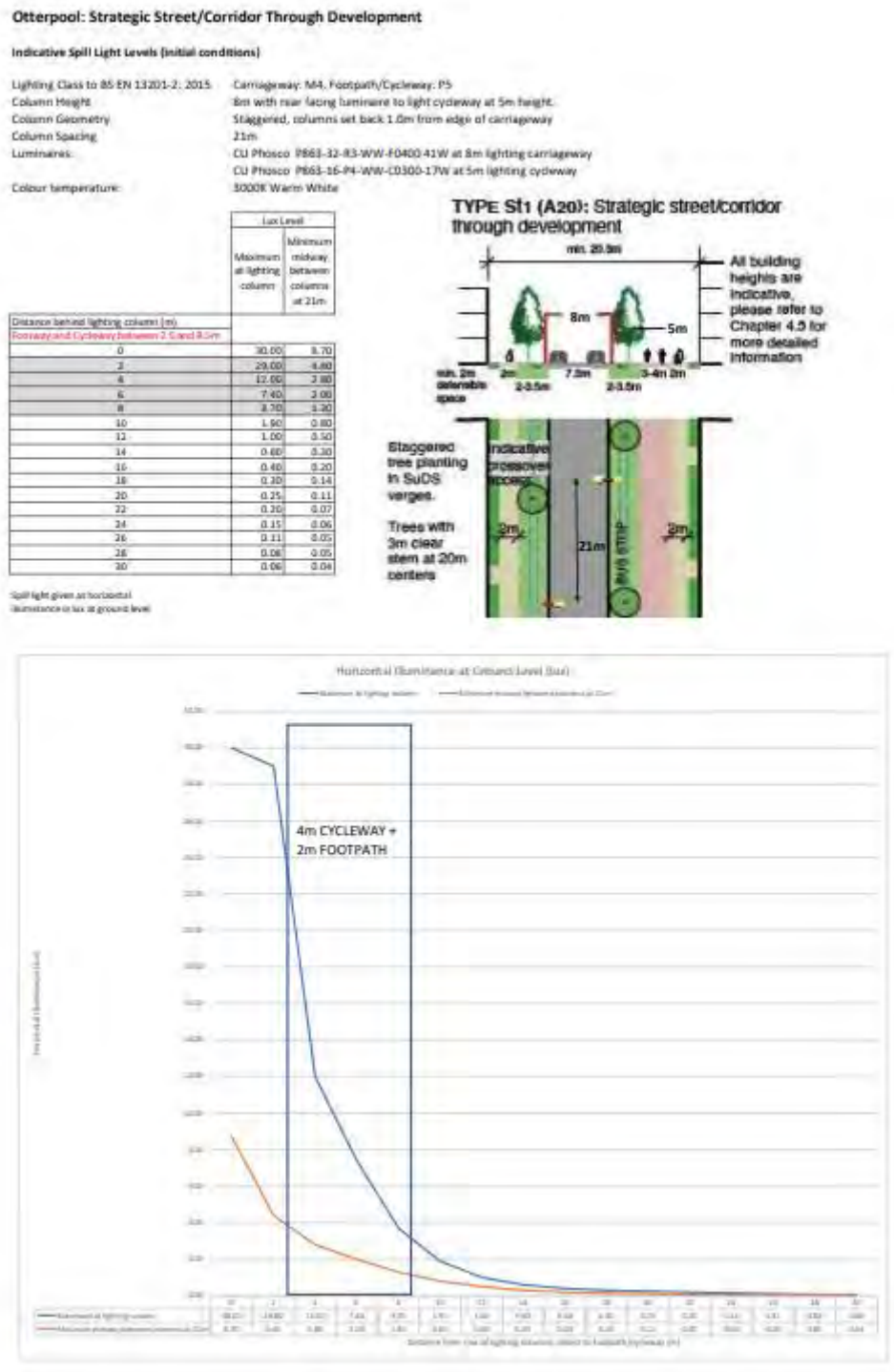
As outlined above, dark corridors are proposed across the site. A light spill assessment has been calculated to assess whether the required lighting levels on the roads (the areas where the highest lighting is required) conflict with the requirements for dark corridors in order to inform this chapter. Full details on this assessment are presented in Appendix A

The calculations utilise the following specifications for calculations relating to the dark corridor, where it is adjacent to an illuminated road:

- “The carriageway lighting comprises a staggered arrangement of 8m lighting columns at 21m spacing (i.e. columns on the same side of the carriageway are at 42m intervals).
- This calculation is based on initial conditions, where the lanterns are clean and LEDs at maximum output, thereby representing the worst case in terms of light spill towards the dark corridor.”

Full details of the lighting modelling in relation to the illuminated areas of the site is presented in Appendix A.

Image 8: Details of light spill behind lit roads (the most illuminated features on site) showing that the darkness of the dark corridors can be maintained with a 25m buffer either side



Otterpool: Strategic Street/Corridor Through Development

Indicative Spill Light Levels (initial conditions)

Lighting Class to BS EN 13201-2: 2015	Carriageway: M4, Footpath/Cycleway: P5
Column Height	8m with rear facing luminaire to light cycleway at 5m height.
Column Geometry	Staggered, columns set back 1.0m from edge of carriageway
Column Spacing	21m
Luminaires:	CU Phosco P863-32-R3-WW-F0400-41W at 8m lighting carriageway
	CU Phosco P863-16-P4-WW-C0300-17W at 5m lighting cycleway
Colour temperature:	3000K Warm White

Distance behind lighting column (m)	Lux Level: Maximum at lighting column	Lux Level: Minimum midway between columns at 21m
Footway and Cycleway between 2 Sand 8.0m		
0	30.00	8.70
2	29.00	8.40
4	12.00	3.80
6	7.40	2.00
8	3.70	1.20
10	1.90	0.80
12	1.00	0.50
14	0.60	0.30
16	0.40	0.20
18	0.30	0.14
20	0.25	0.11
22	0.20	0.07
24	0.15	0.06
26	0.11	0.05
28	0.08	0.05
30	0.06	0.04

Spill light given as horizontal illuminance in lux at ground level

TYPE St1 (A20): Strategic street/corridor through development

min. 20.0m

All building heights are indicative, please refer to Chapter 4.5 for more detailed information

8m

5m

min. 2m defensible space

2m

2-3.5m

7.3m

3-4m 2m

2-3.5m

Staggered tree planting in SuDS verges.

Trees with 3m clear stem at 20m centers

Indicative crossover access

2m

21m

2m

4m CYCLEWAY + 2m FOOTPATH

Bat roosting

The design of the proposed Development has been iterated to minimise impacts to bats from the masterplanning stage. This section is an overview of the design mitigation to be applied. Full details are provided within the mitigation strategy, presented in ES Appendix 7.18.

The approach will include:

- Retention of on-site roosts where possible;
- Masterplanning to limit impacts on offsite roosts, through pollution, light spill, recreational impacts etc.
- Installation of new roosting opportunities including bat houses/barns and tree/structure mounted boxes;
- Retention and enhancement of connectivity between known / likely roosting sites and foraging habitats.
- Specification for creation of bat roosting features including bat barns and installation of tree roost boxes and roost boxes within newly created structures;
- Prescriptions for the provision of bat boxes within the developed parcels and within retained / created habitats.

Water vole

Full details of the design and mitigation relating to water vole is presented in ES Appendix 7.18. Survey results are presented fully in ES Appendix 7.10. In line with the mitigation hierarchy, the first step of the proposed mitigation for impacts to water vole has been avoidance. Within the parameter plans, many areas of value for water vole have been retained and will be enhanced including the following:

- The East Stour River corridor;
- Tributaries of the East Stour River from South to north, both from the south east of the A20 and extending from Harringe Brooks Woods
- the Racecourse Lake;
- The pond south of the A20; and
- The pond south of the A20.

These areas have been designed to ensure that water vole can utilise areas of the site and move through the site by the:

- Retention and enhancement buffers of rough grassland around retained habitat features; and
- Retention and enhancement of hedgerows between retained areas of habitats.

Upon the successful implementation of the avoidance mitigation described above, there will be some residual effects upon water vole, which additional construction and operational mitigation will largely address.

There is likely to be some impact to some retained watercourses from recreational pressure and domestic animals. In addition, in certain areas, it will not be practicable to retain water bodies which support water vole. The loss of these areas will be accounted for and mitigated in the design of the site (for example the ditches to the east of Folkestone Racecourse Lake will be lost to the proposed Development).

In order to mitigate for these impacts, elsewhere within the site, areas designed specifically to provide habitat for water vole will be created, including a large area (approximately 15ha) in the north-west of the site, which will be a dedicated wildlife area, and will include multiple water bodies designed for water vole, within a mosaic of species rich grassland and scrub. It is considered that this area will have created within it a mosaic of water bodies with a combined bank length which much exceeds the water body length to be lost to the proposed Development. This area has connectivity to water bodies which support water vole, including water body 6A (location presented in ES Appendix 7.9).

This area will include compensatory water courses/ ponds or replacement or installation of wet woodland and other suitable aquatic vegetation, strategically placed so that connectivity is maintained

throughout the site, and to offsite habitats known to be populated by water vole. In addition, areas within the site known to support water vole, including sections of the East Stour River, will be enhanced for water vole. This would include creation of habitat heterogeneity, specifically to increase bankside vegetation of emergent plants such as reeds, rushes and sedges.

Sustainable Drainage systems (SuDS) areas, including swales (retention, attenuation and conveyance), ditches and ponds will be created within the proposed Development, these will be designed to maximise their biodiversity potential, including creating habitat for water vole.

In total, approximately 950m of water vole ditch will be lost to the proposed Development, and approximately 2200m of water vole habitat will be reduced in value for this species, predominantly due to the potential for increased disturbance. However, 3,700m of water vole habitat/potential water vole habitat will be enhanced (primarily along the East Stour River corridor), 550m of water vole ditches will be created south of the A20 and in excess of 3km of water vole ditches will be created in a14ha area in the north west of the site. This is a total of:

- Replacement of 3 X the amount of ditch lost:
- Enhancement of 1.5 X the amount of habitat reduced in value.

Badger

Early in the masterplanning design process, main setts were identified and green infrastructure and habitat corridors were designed to retain the majority of these setts and create a buffer around the retained setts.

Of the 18 active main setts identified, initial impact assessments suggest that only two of these setts will likely require closure to facilitate the proposed Development. This will need to be re-appraised as the detailed design is finalised. If a sett needs to be closed, areas have been identified within the site where replacement setts could be created, connected to existing foraging and commuting areas. Exact locations for any replacement setts will likely need to be informed by bait marking surveys at the appropriate time -likely Tier 3 of the planning process. An area of approximated 32ha has been identified where a replacement sett(s) could be positioned in the north-west of the site. The exact location of this is presented in ES Appendix 7.18.

Design includes green infrastructure design to ensure that badgers can continue to utilise the site, for commuting and foraging. Habitat corridors have been created across the site, where it was possible, these corridors follow the main pathways of badgers identified within the surveys. A green grid has been built into the designs to permit wildlife, including badgers to move through and beyond the site.

The design of the green infrastructure within the proposed Development will maximise foraging opportunities within the site for badger. Habitats will include rough grassland, managed grassland, traditional orchards, Sustainable Drainage Systems (SuDS) including swales and woodland and tree planting. There is likely to be a loss of foraging area for badgers within the proposed Development, however connectivity between retained and created foraging areas is maintained. Further information is provided in ES Appendix 7.18.

Common reptiles

Full details of the design and mitigation proposed for reptiles is presented in ES Appendix 7.18 (Mitigation Strategies). In line with the mitigation hierarchy, the first step of the proposed mitigation for impacts to common reptiles will be avoidance. Within the proposed Development, many areas of value for reptiles will be retained and enhanced.

In total it is calculated that once developed, the site will need to provide a total of 50ha of high-quality reptile habitat in order to ensure the conservation status of reptiles within the site. As presented in ES Appendix 7.18, it is estimated that post development, the site will provide double the required habitat area (both existing, created and enhanced reptile habitat areas).

Examples of areas where reptile habitats will be retained and enhanced include:

- Areas around the Folkestone Racecourse Lake;
- Areas along the East Stour river corridor north and south of the A20;
- Throughout the 'Lympne Resilience Area' in the south east of the proposed Development.
- Bunds around the Lympne Airfield site (which have previously been utilised as a receptor site for animals translocated from the Link Park sites).

Within the proposed Development, there will be embedded design measures to ensure that reptiles can utilise areas of the site and move through the site. This will include retention and enhancement buffers of rough grassland around retained habitat features including hedgerows and between retained areas of habitats. In addition, SuDS areas, where appropriate, will be designed to provide reptile habitats with the provision of rough grassland and hibernacula.

Elsewhere within the site, areas designed specifically to provide habitat for reptiles will be created, including a large area (approximately 14ha) in the north west of the site, which will be a dedicated wildlife area, and will include dedicated enhancement for reptiles, including a mosaic of species rich grassland and scrub, hibernacula and water bodies.

In excess of double the required c.50ha of created and enhanced habitat for reptiles will be a component of the proposed Development, as evidenced within the reptile mitigation strategy presented in ES Appendix 7.18.

Great crested newt

Full details of the design and mitigation for great crested newt is presented in ES Appendix 7.18. In line with the mitigation hierarchy, the first step of the proposed mitigation for impacts to great crested newts is avoidance. Within the proposed Development, many areas of value for great crested newts will be retained and enhanced.

- Pond 5 (refer to ES Appendix 7.9 for pond numbers), which supported a small population of GCN is to be retained adjacent to the proposed Development. This will be immediately surrounded by excellent woodland habitat associated with Harringe Brooks Woods and the surrounding area. In addition, enhancement for GCN around the north and east of the woodland is proposed.
- Pond 9; which supports a small population of GCN is to be retained. Connectivity between this pond and the woodland to the south (Harringe Brooks Woods), beyond which lies pond 5 is to be retained. Connectivity to pond 11 and 12 to the east is also to be retained. As with pond 5, the conservation status of the population associated will be enhanced through the creation of new ponds and habitats around the north and east of Harringe Brooks Woods.
- Pond 11 and 12, which support a small GCN population, are to be retained adjacent to the site. Connectivity between these ponds and ponds 5 and 9 to the west will be maintained. Connectivity to Terrestrial habitat to the east will also be enhanced, and new terrestrial habitat will be formed within the SSSI to the east.

- Pond 15, which supports a medium GCN population will be retained within the proposed Development. Habitat to the east adjacent to the East Stour River will be enhanced to provide terrestrial habitat for these species.
- Pond 17, which supports a low population of GCN is to be retained. Terrestrial habitat to the south east of the site is to be enhanced.
- Pond 22,23 and 23a which support a small GCN population are to be retained within the proposed Development. The country park south of the castle and retained habitats around this pond will provide terrestrial habitat for the species associated with this pond.

Only one pond which supports GCN will be directly lost to the proposed Development, which is pond 27 located in the east of the site. It was not possible to preserve this pond with sufficient terrestrial habitat to support a GCN population. This pond supports an isolated, small population of GCN therefore an alternative mitigation approach to retention was deemed more appropriate.

There will however be a loss/modification of terrestrial habitat associated with the ponds and additional mitigation will be required to safeguard GCN populations. Table 9 shows the area of habitat within the site that are likely to be impacted due to the proposed Development. The total area of habitat within 500m of a GCN pond is 215.6ha, however the majority of this area (>70%) is very poor GCN habitat, consisting of intensively managed arable land or improved grassland.

Table 9 Impacts to GCN habitat

Potential impact area	Area (ha)
Core < 50m from a GCN Pond	5.9
Intermediate < 250m from a GCN Pond	111.6
Distant < 500m from a GCN Pond	215.6

A summary of the impacts to GCN populations on and around the site as a result of the proposed Development is shown in Table 10 below. It is this information that has guided the embedded and additional mitigation proposals.

Table 10 Summary of impacts to GCN populations on the site

GCN population	Impacts to ponds and mitigation	Impacts to terrestrial habitats and mitigation
Small population associated with Pond 5	No direct impacts Fragmentation from pond 9	Terrestrial habitat loss >50m from the pond
	Mitigated via tunnel creation and new pond creation around Harringe Brooks Wood.	Mitigation will be in the form of enhanced habitat around Harringe Brooks Wood.
Small population associated with Pond 9	No direct impacts Fragmentation from ponds 11, 12 and 5	Extensive terrestrial habitats loss
	Mitigated via tunnel creation and new pond creation around Harringe Brooks Wood.	Mitigation will be in the form of habitat creation and enhancement including greater connectivity around Harringe Brooks Wood
Small population associated	No direct impacts Fragmentation from ponds 5 and 9	Terrestrial habitat loss >50m from the pond

GCN population	Impacts to ponds and mitigation	Impacts to terrestrial habitats and mitigation
with ponds 11 and 12	Mitigated via tunnel creation and new pond creation around Harringe Brooks Wood.	Mitigation will be in the form of habitat creation and enhancement including greater connectivity around Harringe Brooks Wood and within the SSSI east of the ponds (enhanced connectivity across Otterpool Lane)
Pond 15	No direct impacts	Terrestrial habitat loss >50m from the pond
	Additional ponds will be created around the East Stour River corridor, particularly to the north.	Mitigation will be in the form of habitat creation and enhancement around the East Stour River corridor and particularly to the north of pond 15, associated with a SuDS area.
Pond 17	No direct impacts	Terrestrial habitat loss >50m from the pond
	Additional ponds will be created around the East Stour River corridor	Mitigation will be in the form habitat creation and enhancement to the west of Lympne village
Pond 23	No direct impacts	Some impacts to terrestrial habitats (>50m from the pond).
	Additional ponds will be created around the East Stour River corridor	Mitigation will be in the form habitat creation and enhancement around the East Stour River corridor, and within the park between Westenhanger Castle and the retained racecourse lake.
Pond 27	Pond removed	All terrestrial habitat lost
	Additional ponds will be created around Harringe Brooks Wood and in the north west of the site	Mitigation will be in the form habitat creation and enhancement in the area around Harringe Brooks Wood and in the north west of the site.

Within the proposed Development design, there is embedded design to ensure that GCN can utilise areas of the site and move through the site. This will include retention and enhancement buffers of rough grassland around retained habitat features including hedgerows and between retained areas of habitats. In addition, SuDS areas, where appropriate, will be designed to provide GCN habitats with the provision of rough grassland, ponds and ephemeral waterbodies and hibernacula.

Elsewhere within the site, areas designed specifically to provide habitat for GCN will be created, including a large area (approximately 14ha) in the north west of the site, which will be a dedicated wildlife area, and will include dedicated enhancement for GCN, including ponds and hibernacula. This is shown in more detail in the mitigation strategy (ES Appendix 7.18).

In total 215.6ha of area of value to GCN will be impacted by the proposed Development. Of this, an estimated 53ha offers terrestrial habitat for GCN (i.e. 25%), with the remaining area being intensively farmed arable and improved grassland. However, extensive areas of existing habitat area retained, and approximately 85ha of GCN habitat will be enhanced within the proposed Development. The table below (Table 11) describes these areas. Details on the locations of this enhancement are described below and presented within ES Appendix 7.18.

Table 11: Areas of Habitat for GCN post development

Type of habitat creation / enhancement	Area
Terrestrial habitat creation and new breeding pond creation (i.e. not within the vicinity of existing breeding ponds).	15ha
Terrestrial habitat enhancement within the vicinity of existing GCN ponds	60ha
Terrestrial habitat creation and new pond creation within the vicinity of existing GCN ponds.	10ha
Total	c. 85ha

An area of terrestrial habitat enhancement will also be located adjacent to Harringe Brooks woods, which will contain ponds and terrestrial habitats. Overall, it is targeted that there will be a net gain for high quality habitat for GCN within the proposed Development.

In order to enhance the connectivity between new and retained ponds on the site, tunnels for GCN will be created beneath roads where key connectivity is identified.

The parcels of the proposed Development will also be designed to safeguard GCN, with permeable garden barriers (hedges) where appropriate and offset gulley pots, where practicable.

Otter

Full details of the design and mitigation relating to otter are presented in ES Appendix 7.10. The site is unlikely to support or maintain an otter population at this time. However, it may support an individual otter on occasion. Therefore the proposed Development is unlikely to impact this species. However, there is potential for this species to return to the area. The masterplan retains the East Stour River corridor which is also buffered and enhanced. The main tributaries to this river, and the significant water bodies, such as Folkestone Racecourse Lake, (water body 2, ES Appendix 7.10) south of the A20 and the off-site water bodies within Harringe Brooks Woods are also retained and buffered. Overall, in many locations, there will be a buffer of increased biodiversity value, changing from agricultural boundaries to species rich grassland and scrub, which will enhance the available habitat for otter. The BAP (ES Appendix 7.20) includes prescriptions for otter, including the creation of holts where appropriate.

Hazel dormouse

Avoidance has prevented the majority of impacts to dormouse. A precautionary assessment that dormouse may be present on the site is made to inform the ES. Within the masterplan design, measures will be implemented to maximise the value of the site for dormouse and to safeguard dormouse which are present within adjacent and nearby habitats. The following measures are being incorporated within the masterplan design:

- A minimum buffer of 50m around Harringe Brooks Wood from built development;
- Appropriate buffers around retained woodlands within the site;
- Retention of hedgerows where possible;
- Planting of new woodland blocks and creation of new hedgerows, including a block of trees to the west of the site between Harringe Brooks Woods and the East Stour River Corridor.

Overall, across the Otterpool Park site, there will be a net gain in the amount of habitat suitable for dormouse, with approximately 23ha of additional woodland and tree planting proposed within the proposed Development.

Invertebrates (terrestrial)

As proposed, the vast majority of the existing habitats that have some value to invertebrates are being retained and buffered as part of the GI 'green-infrastructure' across the proposed Development and enhanced with broad margins and the creation of entirely new habitats, e.g. ponds, ditches, botanically-rich grassland, bare ground, scrub and woodland.

Some habitats of potential value to invertebrates are proposed to be lost as part of the development. These include:

- the network of ditches to the east of Folkestone Racecourse Lake;
- a seasonal flush in sheep grazed field;
- areas of neutral semi improved grassland bordering the railway; and
- hawthorn hedges.

However, these are of very limited value to invertebrates and the current designs for the site will more than compensate for the loss of these areas.

Table 12 below summarises the key areas for invertebrates, proposed avoidance, mitigation and enhancement. The target note numbers referenced are presented in Figure 7.5 in ES Appendix 7.1 and detailed fully in ES Appendix 7.17.

Table 12 Summary of habitats, their value to invertebrates, impact of Development and appropriate mitigation

Habitat	Value	Impact of development	Mitigation
TN19 – Racecourse lake and margins	High	Retained, but modification planned	Retained and buffered. If modification to the lake margin takes place, detailed surveys would be needed to inform mitigation. Enhancement would include an increase in the structural complexity of the lake margin and creation of bare ground and dead wood micro-habitats.
TN20 – 600m of ditches	Low	To be lost	Create new wetland habitats with long-term management plans. Locations for approximately 1200m of new diches in the vicinity of those to be lost have been proposed. A BAP will specify targets for habitat creation in these features.
TN41 – Ephemeral pools and ditches	High	Retained	Potential to be significantly enhanced with margins and dedicated management. Will also benefit from the creation of new wetland habitats
TN51 – Wet flush	Moderate	Area will be lost in development	Creation of better quality and better-connected wetland habitats throughout the site
TN51 – Dead oak	Moderate	Area will be lost in development	Can be moved to a retained area
TN52 – Ditch	Low	To be lost	Creation of better quality and better-connected wetland habitats throughout the site
TN53 – Semi-improved grassland	Low	To be lost	Creation of similar, better quality and better-connected habitats throughout the site, e.g. margins and buffers
TN65 – Hawthorn hedge	Low	To be lost	Creation of similar, better quality and better-connected habitats throughout the site, e.g. margins and buffers
TN66 – Pond	Moderate	To be lost	Creation of similar, better quality and better-connected habitats throughout the site, e.g. wildlife ponds and ditches, SuDS
TN100 – Riparian corridor	High	Retained	Development buffers would provide significant enhancement
TN110/111 – Woodland edge scrub	High	Retained	Development buffers would provide significant enhancement. Similar habitats to be created throughout the site
TN115 – Species-rich hedge	High	Retained	Could be enhanced with better connectivity to similar habitats
TN118/225/227 – Long hedge and ditch	High	Retained	Three crossings will be made over this ditch and mitigation will need to translocate these hedgerows and restore connectivity. New hedgerows to be planted across the site.
TN165/167 – Mounds of debris in a mosaic of bare ground, grassland and scrub.	High	To be lost	Creation of similar habitats on and around nearby bunds, but detailed surveys recommended for this area prior to development, to be conducted at the appropriate stage of planning.

Habitat	Value	Impact of development	Mitigation
TN180/182 – Lorry park bare ground and spoil heaps	Moderate	To be lost	Creation of bare ground habitats throughout the site and provision of diverse, native nectar sources
TN193 – Neutral, semi-improved grassland	Moderate	To be lost	Creation of similar, better quality and better-connected habitats throughout the site, e.g. margins and buffers and enhancement of nearby bunds
TN195 – Old runway	Moderate	Retained	Creation of better quality and better-connected habitats throughout the site is proposed, e.g. margins and buffers and enhancement of nearby bunds
TN197/198	Moderate	Retained	Would be enhanced with better management to create a greater range of microhabitats with a mosaic bare-ground, species-rich short sward and scrub

Fish and aquatic invertebrates

Within the design, all of the notable aquatic features for fish and aquatic invertebrates are retained and buffered. This includes:

- East Stour River and its tributaries;
- Folkestone Racecourse Lake; and
- Ecological notable ponds, including pond 9, pond 15 and pond 16.

To control the risk to these receptors from the construction phase, particularly pollution, the design of the proposed Development has incorporated watershed buffers to avoid and minimise impacts to existing water bodies.

The total width of the East Stour River buffer is in excess of 50m (100m total) along its length, except for where the river is crossed by roads or pathways.

The tributaries of the East Stour River (tributary south of the A20 and tributary Harringe Brooks Wood to the East Stour) have a minimum buffer of 15m (30m total).

Where possible existing vegetation will be retained to minimise machinery and excavations and therefore reduce the likelihood of soil or other construction materials entering the water bodies.

Brown hare

No specific design is proposed for this species. It is not possible to avoid all foreseen impacts to brown hare within the OPA boundary.

Common toad

Within the proposed Development, measures are being incorporated to ensure that GCN can utilise areas of the site and move through the site, which will also benefit toad. This includes retention and enhancement buffers of rough grassland around retained habitat features including hedgerows and between retained areas of habitats. In addition, SuDS areas, where appropriate, are designed to provide GCN habitats with the provision of rough grassland, ponds and ephemeral waterbodies and hibernacula.

Elsewhere within the site, areas designed specifically to provide habitat for GCN will also provide excellent habitat for toad, including a large area (approximately 14ha) in the north west of the site, which is a dedicated wildlife area. This is shown in more detail in the GCN mitigation strategy (ES Appendix 7.18).

An area of terrestrial habitat enhancement is located adjacent to Harringe Brooks Woods, which contains ponds and terrestrial habitats. In order to enhance the connectivity between new and retained ponds on the site, tunnels for GCN, which toad will be able to utilise, are to be created beneath roads where key connectivity is identified.

The proposed Development will also be designed to safeguard GCN, with permeable garden barriers (hedges) where appropriate and offset gulley pots, where practicable.

It is likely that there will need to be a suite of enhancement conducted to ensure that areas identified for GCN mitigation and compensation is created prior to certain construction milestones within the proposed Development phasing. Details of the proposed management of all created and retained habitats is also likely to be required.

Hedgehog

Within the proposed Development, woodlands and hedgerows are being retained and buffered, and extensive additional areas of hedgerow and tree planting are to be created, as illustrated in the separately issued DAS and GI strategy.

Within the parameters of the proposed Development, there will be prescriptions for integrated GI and hedgehog permeable fencing throughout the proposed Development, including:

- Hedging along perimeters of properties, particularly where these are between GI areas;
- ‘Hit and miss’ fencing throughout the proposed Development,
- Hedgehog holes throughout the proposed Development.

Harvest mouse

No specific design is proposed for this species, however, there will be significant gain in habitat for this species throughout the site. This will include:

- Areas of rough grassland (for both reptiles and GCN);
- Areas of reeds around newly created water vole habitats;
- Wildflower rich grassland within buffer habitats, especially along retained and newly created hedgerows.

The creation of habitat for this species is evidenced in the net gain for the site as evidenced in ES Appendix 7.21.

4 Impact Assessment Summary Table

This section presents the impact assessment conducted to inform the ES. A summary of the results of this assessment are presented in Chapter 7: Biodiversity. The assessment rationale is presented in Table 13.

Within this table, the following process has been followed, in line with CIEEM guidance:

- Ecological features are valued;
- Potential impacts in the absence of mitigation are identified;
- Key design / embedded measures are identified for each receptor;
- Potential residual impacts are characterised and where these are not significant this is identified as not significant 'NS' in the table;
- Key additional mitigation is identified;
- Residual effects identified;
- Requirement for offsetting identified;
- Assessment of residual effects;
- Assessment of the residual effect significance.

Table 13 Impact assessment summary table - NS is 'Not Significant'

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
International designated sites within 30km (scoped in)	Dungeness, Romney Marsh and Rye Bay SPA (Marine Component)	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity
Dungeness, Romney Marsh and Rye Bay SPA (Marine Component)	International	*Impact on species using functionally linked land*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
Folkestone to Etchinghill Escarpment SAC	International	*Damage to designated site as a result of Recreation*	O&C	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
Folkestone to Etchinghill Escarpment SAC	International	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
Wye and Crundale Downs SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					recreational impacts												
	Dungeness, Romney Marsh and Rye Bay SPA (with Marine extension)	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Dungeness, Romney Marsh and Rye Bay SPA (with Marine extension)	International	*Changes in species distribution*	O&CU	Proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Parkgate Down SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Dungeness SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Dungeness, Romney Marsh and Rye Bay Ramsar	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Dungeness, Romney Marsh and Rye Bay Ramsar	International	*Changes in species distribution (functionally linked land)*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lydden and Temple Ewell Downs SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Dover to Kingsdown Cliffs SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Blean Complex SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Stodmarsh SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Stodmarsh SAC	International	*Water quality*	O&CU	Nutrient neutrality achieved through masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Stodmarsh SPA	International	*Changes in species distribution*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Stodmarsh SPA	International	*Water quality*	O&CU	Nutrient neutrality achieved through design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Stodmarsh Ramsar	International	*Changes in species distribution*	O&CU	Proposed Development site shown to not be functionally linked; therefore, no mitigation required	NA	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Stodmarsh Ramsar	International	*Water quality*	O&CU	Nutrient neutrality achieved through masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	The Swale Ramsar	International	*Changes in species distribution*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	The Swale SPA	International	*Changes in species distribution*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Thanet Coast and Sandwich Bay SPA	International	*Changes in species distribution*	O&CU	proposed Development site shown to not be functionally linked; therefore, no mitigation required	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Sandwich Bay SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Tankerton Slopes and Swalecliffe SAC	International	*Damage to designated site as a result of Recreation*	O&CU	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
National designated sites within 5km (scoped in)	Lympne Escarpment SSSI	National	*Indirect habitat degradation or disturbance*	C&O	GI areas are located between the development areas and this site to minimise impacts.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Lympne Escarpment SSSI	National	*Damage to designated site as a result of Recreation*	O&CU	Placement of open space and integration of footpaths to deter public use of this area. Inclusion of accessible open space within the masterplan design to minimise impacts.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lympne Escarpment SSSI	National	*Pollution (air)*	C&O	Inclusion of air quality design measures outlined in ES chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lympne Escarpment SSSI	National	*Predation and disturbance from domestic animals*	C,O&CU O	Buffers are included in the masterplan to minimise impacts from domestic animals	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lympne Escarpment SSSI	National	*Water quality impacts from road run-off*	C,O&CU O	Water management from road runoff from the B2067 to be within the Otterpool Park Site	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Gibbin's Brook SSSI	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hatch Park SSSI	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
																	Chapter 7: Biodiversity.
	Seabrook Stream SSSI	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folkestone to Etchinghill Escarpment SSSI	National	*Recreation*	O&C	Inclusion of suitable open space in the masterplan design to reduce recreational impacts	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folkestone to Etchinghill Escarpment SSSI	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Poulton Wood, Aldington LNR	County	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
Non-statutory designated sites within 2km (scoped in)	Harringe Brooks Wood, Sellindge LWS	Local	*Indirect habitat degradation or disturbance*	C&O	Suitable buffers around this site are incorporated to minimise degradation or disturbance impacts.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood, Sellindge LWS	Local	*Recreation*	O&CU	Kept as a private woodland to deter access.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
																	Chapter 7: Biodiversity.
	Harringe Brooks Wood, Sellindge LWS	Local	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood, Sellindge LWS	Local	*Predation and disturbance from domestic animals*	O	Buffers are included within the masterplan to this area to address predation and disturbance from domestic animals. Fences will prevent dogs accessing this area. Topography will be used to deter access by dog walkers and water features (SuDS) will deter cats.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folks Wood, Pedlinge LWS	Local	*Indirect habitat degradation or disturbance*	C&O	This designated site is isolated from the proposed scheme by the A20. Landscape buffering is included in the masterplan.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folks Wood, Pedlinge LWS	Local	*Recreation*	O&CU	Placement of open space and integration of footpaths to deter public use of this area. Inclusion of accessible open	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					space within the masterplan design.												
	Folks Wood, Pedlinge LWS	Local	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6. The 2044 calculations are pessimistic and the woodland where the thresholds are exceeded are not sensitive to this impact.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folks Wood, Pedlinge LWS	Local	*Predation and disturbance from domestic animals*	O	Buffers are included in the masterplan to minimise impacts from domestic animals	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Pasture and Woods Below Court-at-Street, Lympne LWS	Local	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Pasture and Woods Below Court-at-Street, Lympne LWS	Local	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
Ancient Woodland Inventory sites within 2km (scoped in)	Royal Military Canal LWS	Local	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood	National	*Indirect habitat degradation or disturbance*	C&O	Suitable buffers around this site are incorporated to minimise degradation or disturbance impacts. .	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood	National	*Recreation*	O&CU	Kept as a private woodland to deter access.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harringe Brooks Wood	National	*Predation and disturbance from domestic animals*	O	Buffers are included within the masterplan to this area to address predation and disturbance from domestic animals. Fences will prevent dogs accessing this area. Topography will be used to deter access by dog walkers and water features (SuDS) will deter cats	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Great Priory Wood	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Kiln Wood	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Birches Rough	National	*None identified*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folks Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Folks Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Aldergate / Hillhurst Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					space within the masterplan design												
	Aldergate / Hillhurst Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lympne Park Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Lympne Park Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Perry Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Perry Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
																	Chapter 7: Biodiversity.
	House Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	House Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Round Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Round Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	House Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					space within the masterplan design												
	House Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Butcher Wood	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Butcher Wood	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Unnamed woodland (750m north)	National	*Recreation*	C&O	Placement of open space and integration of footpaths to deter public use of this site. Inclusion of accessible open space within the masterplan design	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Unnamed woodlands and those within 200m of a road scoped	National	*Pollution (air)*	C,O&CU	Inclusion of air quality design measures outlined in ES Chapter 6.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	into the air quality assessment																Chapter 7: Biodiversity.
Notable and protected species	Wintering Birds/ Farmland Birds (Assemblage)	County	*Disturbance (noise, lighting)*	C&O, CU	Construction impacts will be controlled through a CoCP and are not considered significant.	N	Site Wide	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Habitat enhancement off-site	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Wintering Birds/ Farmland Birds (Assemblage)	County	*Loss of foraging habitats*	C, CU	Existing habitats will be retained and new ones created within the GI.	N	Site Wide	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Habitat enhancement off-site	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Wintering Birds/ Farmland Birds (Assemblage)	County	*Increased predation (from domestic animals)*	O&CU	Existing habitats will be retained and safeguarded, and new ones created within the GI.	N	Within the site and a short distance beyond the site (100's of meters).	The duration of the operation phase	This will have a constant impact.	Reversible. The impact on the wider population is unlikely to have long term consequences.	Within the site and a short distance beyond the site (100's of meters)	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Breeding Birds / Farmland Birds (Assemblage)	County	*Direct mortality*	C	Construction impacts will be controlled through a CoCP and are not considered significant.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Breeding Birds / Farmland Birds (Assemblage)	County	*Disturbance (noise, light)*	C&O, CU	Existing habitats will be retained and new ones created within the GI.	N	Site Wide and immediately adjacent to site	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Breeding Birds / Farmland Birds (Assemblage)	County	*Disturbance from recreation*	O, CU	Existing habitats will be retained and safeguarded, and new ones created	N	Site Wide and immediately adjacent to site	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Breeding Birds / Farmland Birds (Assemblage)	County	*Loss of nesting habitats*	C, CU	Existing habitats will be retained and safeguarded, and new ones created	N	Site Wide	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
													importance receptor)				
	Breeding Birds / Farmland Birds (Assemblage)	County	*Loss of foraging habitats*	C, CU	Existing habitats will be retained and safeguarded, and new ones created	N	Site Wide	Permanent	All Times	Reversible	County	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Breeding Birds / Farmland Birds (Assemblage)	County	*Increased predation (from domestic animals)*	O, CU	Existing habitats will be retained and safeguarded, and new ones created	N	Within the site and a short distance beyond the site (100's of meters).	The duration of the operation phase.	This will have a constant impact.	Reversible. The impact on the wider population is unlikely to have long term consequences.	Within the site and a short distance beyond the site (100's of meters).	Bird boxes in built parcels, BAP measures including input from local community.	In the absence of offsetting there is potential for a Moderate Adverse residual effect (Medium Impact upon a county importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Barn Owl	Local	*Direct mortality*	C	Direct mortality will be prevented by checks for nesting barn owls prior to the demolition of any suitable buildings. This will need to be conducted by a suitably licensed ecologist.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Barn Owl	Local	*Disturbance (light and noise)*	C&O, CU	Disturbance during the construction phase will be limited through the prescriptions of a CoCP, which will specify suitable lighting. Lighting disturbance within the operational phase will be minimised through a suitable lighting strategy limiting light spill on sensitive areas.	N	Roosting habitats on site	Permanent	Constant impact	Reversible	Local	Pre demolition surveys, licences if needed, provision of barn owl boxes.	In the absence of offsetting there is potential for a Minor Adverse residual effect (Medium Impact upon a local importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Barn Owl	Local	Loss of foraging habitats	C, CU	Loss of foraging habitats cannot be mitigated for on site. A suitable mitigation strategy, which includes off-site mitigation is outlined within the Breeding Brid technical Appendix off the ES (Technical Appendix 7.15).	N	Site Wide	Permanent	All Times	Reversible	Local	BAP measures including input from local community.	In the absence of offsetting there is potential for a Minor Adverse residual effect (Medium Impact upon a local importance receptor)	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Barn Owl	Local	*Loss of nesting and roosting habitats*	C, CU	Loss of nesting and roosting habitats is not considered likely to impact upon this species, due to the low number of suitable structures within the site. However, it is	N	Site Wide	Permanent	All Times	Reversible	Local	Barn owl box provision. BAP measures including input from local community.	In the absence of offsetting there is potential for a Minor Adverse residual effect (Medium Impact upon a local	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					proposed that a number of breeding boxes are erected in suitable locations across the site, as outlined within the Breeding Brid technical Appendix off the ES (Technical Appendix 7.15).								importance receptor)				
	Barn Owl	County	*Increased road mortality.*	O, CU	Increased road mortality will be limited by minimising the amount of foraging habitat within the vicinity of major roads and positioning new breeding features away from roads. In addition, broad wildlife corridors are to be created through the site.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Kingfisher	County	*Direct mortality*	C	Direct mortality will be avoided through pre-works surveys prior to any works that might impact upon kingfisher nesting habitats. A licence from Natural England may be required to conduct these works.	N	Riparian areas	Permanent	All year	Not reversible	County	Pre surveys and licences may be required	Once the design and additional mitigation is applied, there is not considered to be any residual significant effect in the construction or operational phase	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Kingfisher	County	*Disturbance (light and noise)*	C&O	Construction noise and disturbance will be controlled through the prescriptions of a CoCP. Operation noise and disturbance will be controlled through appropriate buffers around retained and created valuable habitats for this species.	N	Riparian areas	Permanent	All year	Reversible	County	Pre surveys and licences may be required	Once the design and additional mitigation is applied, there is not considered to be any residual significant effect in the construction or operational phase	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Kingfisher	County	*Loss of foraging habitats*	C	There will be minimal loss of foraging habitats as the East Stour River and Folkestone Racecourse lake (where kingfisher were recorded are being retained and buffered). Extensive new foraging habitats, especially within a new area in the north west of the site will provide a net gain in habitat for this species.	N	Riparian areas	Permanent	All year	Reversible	County	Pre surveys and licences may be required	Once the design and additional mitigation is applied, there is not considered to be any residual significant effect in the construction or operational phase	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Kingfisher	County	*Loss of nesting habitats*	C	There will be no loss of nesting habitats as the East Stour River and Folkestone Racecourse lake	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					(where kingfisher nesting was recorded are being retained and buffered). Extensive new breeding habitats will be created, especially within a new area in the north west of the site which will provide a net gain in breeding habitat for this species. Sections of the East Stour will also be modified to increase habitat for this species.												
	Kingfisher	County	*Increased predation (from domestic animals)*	O	It is not considered that there will be significant increased predation from domestic animals due to the significant buffers to the retained habitats as shown within the GI strategy.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Bats	Local to County	*Direct mortality*	C	Retention of trees and key buildings within appropriate buffers.	N	Site wide	Permanent	Throughout construction phase	Not reversible	Local to County	Direct mortality will be avoided through pre-works surveys prior to any works that might impact upon bat	Once the design and additional mitigation is applied, there is not considered to be any residual significant	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
												habitats. Avoidance / translocation may be required. A licence from Natural England may be required to conduct these works. Bat boxes included within the design	effect in the construction or operational phase (i.e. a negligible / neutral impact upon a feature of up to county importance)				
	Bats	Local to County	*Loss or reduction value of foraging habitats*	C&O, CU	Foraging habitat is largely retained and buffered. New areas of quality foraging habitat to be created.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Bats	Local to County	*Loss or reduction value of commuting routes*	C&O, CU	Commuting routes are largely retained and enhanced, including dark corridors. New commuting habitat to be created.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Bats	Local to County	*Disturbance (light and noise)*	C&O (through lighting), CU	Buffering of key habitats and inclusion of screening vegetation. Dark corridors.	N	Site wide	At all times	At all times	Reversible	Local to County	An appropriate lighting strategy which meets best practice for lighting should be compiled for each	Once the design and additional mitigation is applied, there is not considered to be any residual significant	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
												phase / zone of the proposed Development. This should include ensuring that light spill is minimised, dark corridors are not illuminated, and that technologies such as motion sensitive lighting are incorporated where appropriate.	effect in the construction or operational phase. (i.e. a negligible / neutral impact upon a feature of up to county importance)				
	Bats	Local to County	*Loss of roosting habitats*	C, CU	The loss of roosts will be mitigated for through the creation of replacement roost. A total of 13 confirmed / probable roosts and three possible roosts were identified. All but one of these roosts was a small roost of common or soprano pipistrelles, with one roost being a likely maternity roost of brown long eared bats. The exact details of roost provision	N	Site wide	Permanent	Throughout construction phase	Not reversible	Local to County	Loss of roosts will be avoided through pre-works surveys prior to any works that might impact upon bat habitats. Avoidance / translocation may be required. A licence from Natural England may be required to conduct these works.	Once the design and additional mitigation is applied, there is not considered to be any residual significant effect in the construction or operational phase (i.e. a negligible / neutral impact upon a feature of up to county importance)	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					within the proposed Development will need to be confirmed within the required licensing process, however an indicative number of 6 bat houses are proposed across the site.							Bat boxes included within the design					
	Bats	Local to County	*Increased predation (from domestic animals)*	O, CU	The buffering of valuable habitats should reduce the impact of domestic animals on bats/	N/A	NS	NS	NS	NS	NS	N/A	Once the design and additional mitigation is applied, there is not considered to be any residual significant effect in the construction or operational phase. (i.e. a negligible / neutral impact upon a feature of up to county importance)	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Water vole	County A largely small population of water voles was recorded within the site and ZOI of the proposed Development	*Direct mortality*	C	Retention of key habitat locations. Buffers around rivers and ditches. CoCP measures Creation of ne habitats.	N	Around riparian and wetland areas	Throughout construction	At all times	Not reversible	County	Direct mortality will be avoided through pre-works surveys prior to any works that might impact upon water vole habitats. Avoidance /	Negligible	N/A none required	Negligible / neutral impact - no residual effects	N/S	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
												displacement / translocation may be required. A licence from Natural England may be required to conduct these works.					
	Water vole	County A largely small population of water voles was recorded within the site and ZOI of the proposed Development	*Loss and degradation of habitats*	C&O	Existing habitats to be retained, enhanced and buffered. New habitat of value to water voles to be created. GI designed to minimise disturbance.	N/A	NS	NS	NS	NS	NS	N/A	Negligible	N/A none required	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Water vole	County A largely small population of water voles was recorded within the site and ZOI of the proposed Development	*Pollution*	C&O	Pollution impacts during construction will be controlled through a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	Negligible	N/A none required	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Water vole	County A largely small population of water voles was recorded within the site and ZOI of the proposed Development	*Disturbance (light and noise)*	C&O, CU	Construction noise and disturbance will be controlled through the prescriptions of a CoCP. Operation noise and disturbance will be controlled through appropriate buffers around retained	N	Around riparian and wetland areas	Throughout construction	At all times	Not reversible	County	Impacts from disturbance avoided through pre-works surveys prior to any works that might impact upon water vole habitats. Avoidance /	There is considered to be a residual effect from disturbance and predation by domestic animals in the operational phase. This is considered to	N/A none required	There is considered to be a residual effect from disturbance and predation by domestic animals in the operational phase, but this is considered to be a low magnitude impact upon a	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					and created valuable habitats for this species.							displacement / translocation may be required. A licence from Natural England may be required to conduct these works.	be not significant.		feature of county value and is therefore **not significant.**		
	Water vole	County A largely small population of water voles was recorded within the site and ZOI of the proposed Development	*Increased predation (from domestic animals)*	O&CU	Buffers within the GI to reduce impacts from domestic animals.	N	Within the site and a short distance beyond the site (100's of meters).	The duration of the operation phase.	This will have a constant impact in operational phase.	Irreversible if high levels of predation occur.	Within the site and a short distance beyond the site (100's of meters).	N/A	There is considered to be a residual effect from disturbance and predation by domestic animals in the operational phase. This is considered to be not significant.	N/A none required	There is considered to be a residual effect from disturbance and predation by domestic animals in the operational phase, but this is considered to be a low magnitude impact upon a feature of county value and is therefore **not significant.**	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Badger	Local / site	*Direct mortality (through works)*	C	Retention of key badger areas where possible, buffering of known setts, retention of corridors, inclusion of road crossings.	N	Site wide	Throughout construction phase	This will have a constant impact in construction phase.	Not reversible	Local / site	Direct mortality will be avoided through displacement of badgers from setts, as required. A licence from Natural England may be required to conduct these works. Of the 18 Main setts	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
												identified, initial impact assessments indicate that only two of these setts will likely require closure to facilitate the proposed Development. This will need to be re-appraised as the detailed design of each parcel is finalised. If a sett needs to be closed, areas have been identified within the site where replacement setts could be created, connected to existing foraging and commuting areas. Exact locations for any replacement setts will likely need to be informed by bait marking surveys at the appropriate time of the planning process. An area of					

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
												approximated 32ha has been identified where a replacement sett(s) could be positioned in the north-west of the site.					
	Badger	Local / site	*Increased mortality on roads*	C&O, CU	Road mortality will be mitigated against with animal crossings.	N	Within the site and on roads in the vicinity with increased traffic.	The duration of the construction and operation phases.	This is a constant risk.	Reversible. The impact on the wider population is unlikely to have long term consequences.	Local / site	N/A – none appropriate	There is assessed to be a Medium magnitude adverse impact upon a local/site importance receptor from increased road mortality (in the construction and operational phase.	Badger is not a species of nature conservation concern; therefore, no additional mitigation is proposed.	Residual negative impacts from the increased road mortality including in-combination effects (both intra and inter project effects). Considering the limited conservation status of badger this is considered not significant, as this is a medium magnitude impact upon a feature of low importance. No additional mitigation.	Minor Adverse effect (Not Significant)	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Badger	Local / site	*Increased persecution*	O, CU	Buffering of habitat will mitigate against increased persecution. Ongoing monitoring by maintenance team should allow response if required.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Badger	Local / site	*Loss or reduction value of foraging habitats*	C&O	Some foraging habitat will be lost, although this is unlikely to be significant.	N	The extent of the site	The duration of the construction phase.	This will have a constant impact.	Reversible. The impact on the wider population is unlikely to have long term consequences.	Local / site	BAP measures and ongoing monitoring	There is assessed to be a medium magnitude adverse impact upon a local/site importance receptor from loss of foraging habitat, (in the construction and operational phase.	Badger is not a species of nature conservation concern; therefore, no additional mitigation is proposed.	Residual negative impacts from the loss of foraging habitats including in-combination effects (both intra and inter project effects). Considering the limited conservation status of badger this is considered not significant, as this is a medium magnitude impact upon a feature of low importance. no additional mitigation.	Minor Adverse effect (Not Significant)	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Badger	Local / site	*Loss or reduction value of commuting routes*	C&O	Some commuting habitat will be lost, design mitigation includes tunnels, commuting routes green corridors and extensive tree planting is proposed.	N/A	NS	NS	NS	NS	Local / site	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Badger	Local / site	*Disturbance (light and noise)*	C, CU	Construction noise and disturbance will be controlled through the prescriptions of a CoCP. Operation noise and disturbance will be controlled through	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					appropriate buffers around retained and created valuable habitats for this species.												
	Common Reptiles	Local / site	*Direct mortality*	C	Key areas for reptiles retained and buffered where possible. CoCP measures to be employed to safeguard incidental individuals found.	N	In suitable areas	Throughout construction	During vegetation and habitat removal	Not reversible	Local / site	Working methodologies which may include displacement for translocation will safeguard reptiles	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Reptiles	Local / site	*Loss or reduction value of foraging habitats*	C, CU	Existing habitats to be retained, enhanced and buffered. New habitat of value to reptiles to be created. GI designed to minimise disturbance. A holistic approach to assessing the impacts to reptiles resulting from the proposed Development was taken whereby an estimate of the minimum amount of 'reptile habitat' required within the site was estimated. Suitable habitat will be created, which will more than double the	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					availability of habitat for this species group across the site.												
	Common Reptiles	Local / site	*Loss or reduction value of connectivity*	C	Creation of new habitat with potential to be used as commuting routes will off-set the loss of existing commuting routes.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Reptiles	Local / site	*Disturbance (light and noise)*	C&O	Construction noise and disturbance will be controlled through the prescriptions of a CoCP. Operation noise and disturbance will be controlled through appropriate buffers around retained and created valuable habitats for this species.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Reptiles	Local / site	*Loss of hibernation features and places of shelter*	C	As part of habitat creation works, new hibernation features and places of shelter will be created.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Common Reptiles	Local / site	*Increased predation (from domestic animals)*	O	Considering the buffers within the GI strategy and the proposals for complex habitat creation with hibernacula, it is considered that impacts from domestic animals will be controlled.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Great crested newts	Local / site	*Direct mortality*	C	Key areas for GCN retained and buffered where possible. CoCP measures to be employed.	N	In suitable areas	Throughout construction	During vegetation and habitat removal	Not reversible	Local / site	Direct mortality will be addressed through the measures outlined within the GCN mitigation strategy. This may include translocation, specific timings of works etc.	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Great crested newts	Local / site	*Loss of ponds for breeding*	C	Within the proposed Development, only one pond is to be lost. However, a large number of ponds will be created, including ponds within the buffer area of Harringe Brooks Wood, a 'natural wetland' area in the north west of the development, ponds within the	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					riparian corridor and new wildlife ditches south of the A20. This is in addition to the extensive SuDS across the site. Details of the pond creation proposed can be found in Technical Appendix 7.18. In total 215.6ha of area within 500m of a GCN pond will be impacted by the proposed Development. Of this, an estimated 53ha offers terrestrial habitat for GCN (i.e. 25%), with the remaining area being intensively farmed arable and improved grassland. However, extensive areas of existing habitat area retained, and approximately 85ha of GCN habitat will be enhanced within the proposed Development.												
	Great crested newts	Local / site	*Loss or reduction value of foraging habitats*	C&O	Foraging habitats will be provided post construction by the ponds and aquatic features above, and other	N	In suitable areas	Throughout construction phase	At all times	Reversible	Local / Site	Additional habitat creation or contribution to a district	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					valuable habitat creation, including rough grassland. Habitat creation is described in ES Technical Appendix 7.20, the DAS and the GI strategy.							license may be required.					
	Great crested newts	Local / site	*Loss or reduction of connectivity*	C	Connectivity will be enhanced within and to off-site habitats through the 'green grid' proposed for the site, as shown within the DAS. Connectivity for GCN, including tunnels will also be of value for this species.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Great crested newts	Local / site	*Disturbance (light and noise)*	C&O	Disturbance within the construction phase will be controlled through prescriptions of a CoCP and buffers around particularly sensitive features, including ponds. Operation noise and disturbance will be controlled through appropriate buffers around retained and created	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					valuable habitats for this species.												
	Great crested newts	Local / site	*Loss of places of shelter or hibernation*	C&O	Places of shelter will be retained and created for GCN	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Great crested newts	Local / site	*Increased predation (from domestic animals)*	O	Considering the complexity of the proposed habitat creation and defined buffers within the GI, it is considered that impacts from domestic animals will be controlled.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Great crested newts	Local / site	*Increase mortality on roads and in gully pots*	O	Mortality on roads will be controlled through tunnels and well-designed gulley pots.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects.	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Otter	County	*Loss or reduction value of foraging habitats*	C&O	The aquatic habitats which are suitable for usage by otters (Folkestone Racecourse Lake, East Stour River etc.) are all being retained and buffered, as shown in the GI strategy and DAS.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Otter	County	*Loss or reduction value of commuting routes*	C&O	The connectivity of these areas is also being retained, with clear span bridges. Increased buffer areas with vegetation will benefit this species.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Otter	County	*Disturbance (light and noise)*	C&O	Buffer areas will limit light and noise impacts.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hazel dormouse	County	*Loss of habitat*	C&O, CU	Dormice are precautionarily assumed to be present on site. Almost all of the key habitats which this species could utilise are retained and buffered. Extensive areas of new habitat planting is proposed.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hazel dormouse	County	*Direct mortality from vegetation removal*	C	Dormice are precautionarily assumed to be present on site. Almost all of the key habitats which this species could utilise are retained and buffered. Extensive areas of new habitat	N	Within Site	Lifecycle of the project	Throughout vegetation removal	Not reversible	Site wide	Surveys will inform the need for a licence which will prescribe required avoidance and mitigation measures.	None	N/A none required	Negligible / neutral impact - no residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					planting is proposed.												
	Hazel dormouse	County	*Fragmentation*	C, CU	Retention and creation of hedgerows and other suitable commuting habitat should mitigate against habitat fragmentation	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hazel dormouse	County	*Disturbance / impact from domestic animals*	O	Dormice are precautionarily assumed to be present on site. Almost all of the key habitats which this species could utilise are retained and buffered. Extensive areas of new habitat planting is proposed.	N	Within and adjacent to the site	Lifecycle of the project	Throughout operation	Not reversible	Site wide	N/A	Low magnitude impact	N/A none required	Low magnitude impact upon a receptor of county importance	Minor Adverse effect (Not Significant)	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Invertebrates (terrestrial)	Local / site	*Direct mortality*	C	Retention of many valuable areas of the site for invertebrates as outlined in the DAS, Technical Appendix 7.1, GI Strategy and Technical Appendix 7.15.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Invertebrates (terrestrial)	Local / site	*Loss or reduction in value of notable habitats*	C&O	Creation of replacement microhabitats such as earth banks in line with Technical Appendix 7.15.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					Creation of valuable habitats as stated in GI strategy, DAS and Technical Appendix 7.18. Demonstration of Net Gain within Technical Appendix 7.19.												
	Invertebrates (terrestrial)	Local / site	*Reduction in availability of food for pollinators*	C&O	Creation of year-round pollinator feeding resources as outlined in the pollinator section in the GI Strategy	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Fish	Local / site County for eel within the East Stour River	*Loss of habitats*	C	There will be no significant loss of river habitat from the proposed Development. The river habitat will be safeguarded within a buffer. All bridges will be clear-span of the river. Details of works will likely need to be assessed in an updated WFD assessment.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Fish	Local / site County for eel within the East Stour River	*Habitat modification*	C	Clear-span bridges (i.e. no river impacts) will ensure that there is no significant modification of the river corridor in line	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					with the WFD (Appendix 7.22).												
	Fish	Local / site County for eel within the East Stour River	*Direct mortality*	C	Direct mortality of fish is not foreseen during the works. Any works that have the potential to impact upon fish will require a bespoke method statement to safeguard fish.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Fish	Local / site County for eel within the East Stour River	*Reduction in value of notable features (pollution etc).*	C&O, CU	Construction pollution impacts will be controlled through a CoCP. Operational pollution risks will be controlled as documented within the water chapter (ES chapter 15).	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Invertebrates (Aquatic)	Local / site	*Loss of habitats*	C	The aquatic habitats on site, particularly the river corridor, Folkestone Racecourse Lake and ponds are being retained within the proposed Development and buffered appropriately. There will be very minimal loss of these habitats (for road crossings etc.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					Multiple new aquatic features will be created within the site, including SuDS ponds, water features, nature ponds and swales.												
	Invertebrates (Aquatic)	Local / site	*Reduction in value of aquatic features (pollution etc).*	C&O, CU	Control of pollution impacts in line with WFD – Technical Appendix 7.20 and in a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Brown hare	Local Only very low numbers of hare observed. Hares are widespread within Kent, therefore the population is assessed as being of Local value only.	*Loss of foraging and breeding habitats*	C, CU	Off-site mitigation for farmland birds will also benefit this species (as specified within Technical Appendix 7.13).	N	The extent of the site.	The duration of the construction phase of the proposed Development and other developments impacting upon this species.	At all times	Reversible with appropriate mitigation.	The site and the local area	N/A	After design and additional mitigation, prior to the application of offsetting, there is a Medium magnitude of impact on a local importance receptor resulting in a significant Minor Adverse residual effect.	Off-site mitigation as outlined within the ES Chapter.	No significant residual effects following offsetting have been identified	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Brown hare	Local Only very low numbers of hare observed. Hares are widespread within Kent, therefore the	*Increased persecution*	O, CU	Buffer zones around areas of suitable habitat will reduce the likelihood of increased persecution.	N	Areas surrounding the site	Throughout operation	At all times	Reversible	The site and the local area (local)	N/A	A low magnitude impact upon a feature of local importance	N/A	Negligible / neutral impact - no significant residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
		population is assessed as being of Local value only.															
	Brown hare	Local Only very low numbers of hare observed. Hares are widespread within Kent, therefore the population is assessed as being of Local value only.	*Direct mortality*	C&O, CU	N/A	N/A	NS	NS	NS	NS	The site and the local area	N/A	A low magnitude impact upon a feature of local importance	N/A	Negligible / neutral impact – no significant residual effects	NS	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Direct mortality*	C	Common toad are explosive breeders and will recover from any direct mortality resulting from the construction phase of the proposed Development. In addition, this species will benefit for specific enhancements for GCN (stated above) as this species acts as an umbrella species.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Toad	Local / site Toad were recorded across the site, largely in	*Loss of ponds for breeding*	C, CU	Within the proposed Development, only one pond is to be lost. However, a large number of	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
		the vicinity of the Folkestone Racecourse Lake.			ponds will be created, including ponds within the buffer area of Harringe Brooks Wood, a 'natural wetland' are in the north west of the development, ponds within the riparian corridor and new wildlife ditches south of the A20. This is in addition to the extensive SuDs across the site. Details of the pond creation proposed can be found in Technical Appendix 7.18, and ES chapter 15.												
Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Loss or reduction value of foraging habitats*	C&O, CU	Foraging habitats will be provided post construction by the ponds and aquatic features above, and other valuable habitat creation, including rough grassland. Habitat creation is described in ES Technical Appendix 7.20, the DAS and the GI strategy.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Loss or reduction of connectivity*	C&O, CU	Connectivity will be enhanced within and to off-site habits through the 'green grid' proposed for the site, as shown within the DAS. Connectivity for GCN, including tunnels will also be of value for this species.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Disturbance (light and noise)*	C, CU	Disturbance within the construction phase will be controlled through prescriptions of a CoCP and buffers around particularly sensitive features, including ponds.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Loss of places of shelter or hibernation*	C, CU	Creation of places for shelter for GCN will in turn be of benefit for toad.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of	*Increased predation (from domestic animals)*	O, CU, CU	Considering the buffers within the GI, it is considered that impacts from domestic animals will be controlled.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
		the Folkestone Racecourse Lake.															
	Common Toad	Local / site Toad were recorded across the site, largely in the vicinity of the Folkestone Racecourse Lake.	*Increased mortality on roads*	O	Mortality on roads will be reduced through tunnels (primarily for GCN) and well-designed gulley pots.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hedgehog	Local / site	*Direct mortality (during construction)*	C	CoCP will control the risk of direct mortality, which will also include prescriptions for an ECOW. .	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hedgehog	Local / site	*Direct mortality (on roads)*	C&O, CU	Tunnels for badgers will also provide a safe crossing for hedgehogs	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hedgehog	Local / site	*Loss or reduction value of foraging habitats*	C	Foraging habitats will be provided post construction valuable habitat creation, including rough grassland, woodland and scrub. Habitat creation is described in ES Technical Appendix 7.20, the DAS and the GI strategy.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Hedgehog	Local / site	*Loss or reduction of connectivity*	C&O	Connectivity will be maintained through the green grid (shown in the DAS) and badger tunnels	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Hedgehog	Local / site	*Disturbance (light and noise)*	C&O	Disturbance in the construction phase will be mitigated through a CoCP. Operational disturbance will be mitigated through suitable buffers.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harvest Mouse	Local / site	*Direct mortality*	C	Direct mortality is likely to occur, however, in the long term the impact of this mortality (considering the phasing of the proposed Development), is not considered likely to have a significant impact upon the harvest mouse population.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Harvest Mouse	Local / site	*Loss or reduction value of foraging habitats*	C, CU	Habitat creation, particularly areas of long grassland (across the site) SuDs habitats (particularly semi-natural habitats) will ensure a gain in the availability of	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					habitats for this species.												
	Harvest Mouse	Local / site	*Loss or reduction of connectivity*	C	Creation of hedgerows, and the green corridors shown within the within the site will increase connectivity, as shown within the DAAS and GI strategy. .	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
Habitats	Ancient Woodland (off or adjacent to the site)	National	*Disturbance impacts (noise and light)*	C&O, CU	These features are not to be directly impacted by the works. During the construction phase, disturbance impacts will be controlled through buffer areas (of at least 50m from this feature) and through the prescriptions of a CoCP. Buffer areas will screen this woodland feature from disturbance within the proposed Development.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Ancient Woodland (off or adjacent to the site)	National	*Air quality impacts*	C&O, CU	Air quality impacts will not detrimentally impact upon these features, as shown within the Air Quality Chapter	N/A	NS	NS	NS	NS	NS	N/A	NS	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					(Chapter 6) and as assessed within this ES.												
	Ancient Woodland (off or adjacent to the site)	National	*Impacts from recreational pressures*	O, CU	During the operational phase, the design of the buffer features will control human access to the woodland, as shown within the DAS and GI Strategy. Public footpaths will direct foot traffic through a natural corridor around the periphery of the woodland. Increased recreational usage of the woodland will be discouraged and this feature will remain private.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.
	Ancient Woodland (off or adjacent to the site)	National	*Impacts from domestic animals*	O, CU	Impacts from domestic animals will be controlled through a buffer area were required. Potential impacts from domestic animals, especially considering the low density of housing adjacent to the woodland buffer area.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact – no significant residual effects	N/A	Full details within this ES Appendix and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Habitats (General)	County	*Change in habtiat value*	C&O	Retention of habitats of value in line with valuations in - Technical Appendix 7.1. Habitat Creation	P	Site wide	Throughout operation	At all times	N/A	Site wide	N/A	A medium magnitude impact upon a feature of county importance	N/A none required	Residual positive effects	Significant moderate beneficial effect during operation	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	Habitats (General)	County	*Pollution*	C&O	Control of pollution impacts in line with WFD – Technical Appendix 7.20 and as stated in a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Residual positive effects – a low magnitude impact upon a feature of county value – not significant	Not significant beneficial effect during operation	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	Habitats (General)	County	*Impacts from invasive species*	C&O	CoCP measures to ensure there is no spread.	P	Site wide	Throughout operation	At all times	N/A	Site wide	Method statements to eradicate invasive plants form site.	Positive	N/A none required	Residual positive effects – a low magnitude impact upon a feature of county value – not significant	Not significant beneficial effect during operation	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	Habitats (General)	County	*Loss of pollinators*	C&O	Creation of year-round pollinator feeding resources as outlined in the pollinator strategy in the GI Strategy	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Residual positive effects – a low magnitude impact upon a feature of county value – not significant	Not significant beneficial effect during operation	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Lowland mixed deciduous woodland	County	*Loss or reduction value habitat*	C&O	Loss of this habitat was prevented through early identification of these features for retention. Suitable buffer areas of at least 25m around quality woodlands will be maintained to ensure operational	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	No residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					impacts are controlled. As shown within the Landscape Strategy and ES chapter (Chapter 12), DAS and GI strategy, additional areas of woodland are to be planted as a component of the proposed Development, including 'wet woodlands' in the north west of the site.												
	S41 Habitat - Lowland mixed deciduous woodland	County	*Pollution*	C&O	Pollution impacts during the construction phase will be prevented through prescriptions within a CoCP	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	No residual adverse effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Traditional orchard	Local / site	*Loss or reduction value habitat*	C&O	A very small area of orchard is to be lost to the proposed Development (c.0.9ha). However, as shown within the GI strategy and DAS, approximately 0.9ha. However, two areas within the proposed Westenhanger Park (in the north of the site) and one large area (in	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					excess of 10ha) in the south east of the site 'the Lympne resilience zone' are proposed for orchard planting. Therefore, in the long term, there will be a positive impact upon this receptor.												
	S41 Habitat - Traditional orchard	Local / site	*Pollution*	O	As the orchard on site it to be removed within the proposed Development, there are no possible construction pollution effects. Operation pollution risks will be controlled thorough a robust surface water strategy as stated in the ES Chapter 15.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Hedgerows	Local / site	*Loss or reduction value habitat*	C&O	Avoidance retains the majority of the hedgerows within the site. Creation of new hedgerows is as stated in GI strategy, DAS and Technical Appendix 7.18. Demonstration of Net Gain of hedgerows within the GI is presented	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					within Technical Appendix 7.19.												
	S41 Habitat - Hedgerows	Local / site	*Pollution*	C&O	Control of pollution measures within a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Arable field margins Arable fields	Local / site	*Loss or reduction value habitat*	C&O	It is not possible to avoid impacts to arable habitats within the masterplan. These are some of the lowest biodiversity land within the site, therefore development is proposed for these areas. Creation of new valuable habitats mimicking arable field margins (such as pitch buffers is as stated in GI strategy, DAS and Technical Appendix 7.18 will be created. Off-site mitigation is proposed, as outlined within the breeding and wintering bird technical Appendices (Appendix 7.15, 7.16).	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	S41 Habitat - Arable field margins Arable fields	Local / site	*Pollution*	C&O	Control of pollution measures within a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Open mosaic habitats on previously developed land	Local / site	*Loss or reduction value habitat*	C&O	Creation of replacement microhabitats such as earth banks in line with Technical Appendix 7.15. Creation of valuable habitats as stated in GI strategy, DAS and Technical Appendix 7.18. Demonstration of Net Gain within Technical Appendix 7.19.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Open mosaic habitats on previously developed land	Local / site	*Pollution*	C&O	Control of pollution measures within a CoCP.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Ponds	Local / site	*Loss or reduction in value of the habitat*	C&O	Retention of habitats in line with GI strategy and prescriptions of Technical Appendix 7.1. Buffers in line with DAS and GI Strategy	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Ponds	Local / site	*Pollution*	C&O	Buffers in line with DAS and GI Strategy	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					Pollution prevention measures to be defined in a CoCP. WFD assessment outlined impact assessment (no significant impact)												and Chapter 7: Biodiversity.
	S41 Habitat - Ponds	Local / site	*Impacts from invasive species*	C&O	CoCP measures to ensure there is no spread.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat - Ponds	Local / site	*Impacts from the introduction of fish*	O	N/A	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	No significant residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat – Rivers and downstream ‘Chalk Stream’	County	*Loss or reduction in value of the habitat*	C&O	Retention of habitats in line with GI strategy and prescriptions of Technical Appendix 7.1. Clear span bridges through flood plain.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat – Rivers and downstream ‘Chalk Stream’	County	*Pollution*	C&O	Buffers in line with DAS and GI Strategy Nutrient neutrality as demonstrated in Chapter 15.	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	S41 Habitat – Rivers and	County	*Impacts from invasive species*	C&O	Control of non-natives in the CoCP	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	downstream 'Chalk Stream'																and Chapter 7: Biodiversity.
	S41 Habitat – Rivers and downstream 'Chalk Stream'	County	*Impacts from introduction of fish*	O	Not considered a likely significant risk	N/A	NS	NS	NS	NS	NS	N/A	N/A	N/A none required	Negligible / neutral impact - no residual effects	N/A	Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
	Invasive non-native plants	N/A – Negative value at the site level impacting habitats of up to county importance.	*The spread of non-native invasive species within the site and local area*	0	Measures to prevent the spread of invasive non-native species at the construction phase will be specified within a CoCP. Measures to control the spread of non-native invasive species during the operational phase will be specified within the CoCP.	P	The extent of the site and local area	The duration of the construction and operation phases.	There is a low, but constant risk of Invasive species spreading onto the site or spreading from the site into the surrounding area.	Reversible	Site / local area	Ongoing monitoring of success of removal. Non-native invasive species management plan.	A Medium magnitude impact	N/A none required	Residual medium magnitude positive effect upon habitats of up to county value.	Significant moderate beneficial effect during operation.)	Ongoing maintenance will need to ensure that and non-native invasive species which colonise the site are controlled appropriately. Full details within ES appendix 7.5 and Chapter 7: Biodiversity.
Ecosystem Services: Provisioning services (Products obtained from ecosystems, including food, fibre, fuel, genetic resources, biochemicals, natural	**Food:** Food for pollinators	N/A – not possible to quantify under ES methods	*Reduction in availability of resources for pollinators.*	C&O	Pollinators Strategy is defined within the *DAS (Design and Access Strategy)* and GI Strategy to be compiled in relation to the proposed Development). All of the area used for pasture will be lost. There will be an overall net loss of grassland of over 20% the majority of the replacement	P	Positive site wide;	Permanent positive	N/A	N/A	Positive impact at the site scale	N/A	Positive impact at the site scale	N/A	Residual positive impact on pollinators;	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					grassland ecological and recreational. There will be a loss of arable land. Allotments are being provided within the masterplan although they will provide a small amount of food they will be more of a recreational and health benefit. There will be a loss of over 500ha of arable land. Areas of allotments will be included within the masterplan. There is unlikely to be a significant impact on the abundance of fish.												
	Food: Hay crop, Silage, Grazing pasture (cattle, sheep, horses),	N/A – not possible to quantify under ES methods	*Reduced food output (including arable products and silage etc.)*	C	All of the area used for pasture will be lost. There will be an overall net loss of grassland of over 20% the majority of the replacement grassland ecological and recreational. .	N	Negative site wide	Permanent negative	N/A	Not reversible	Negative impact at the site scale	N/A	Negative impact at the site scale	No mitigation is appropriate for the loss of farmland, beyond the provision of the allotments outlined within the GI strategy.	Residual negative impact on crops, hay crops, silage etc.	Negative	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Food: Crops	N/A – not possible to quantify under ES methods	*Reduction in crop output*	C	There will be a loss of arable land. Allotments are being provided	N	Negative site wide	Permanent negative	N/A	Not reversible	Negative impact at the site scale	N/A	Negative impact at the site scale	No mitigation is appropriate for the loss of farmland,	Residual Residual negative impact on crops,	Negative	Full details within ES appendix 7.22

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					within the masterplan although they will provide a small amount of food they will be more of a recreational and health benefit. There will be a loss of over 500ha of arable land. Areas of allotments will be included within the masterplan.									beyond the provision of the allotments outlined within the GI strategy.	hay crops, silage etc. .		and Chapter 7: Biodiversity.
	Food: Fish	N/A – not possible to quantify under ES methods	*Reduction in the abundance of fish.*	C&O	There is unlikely to be a significant impact on the abundance of fish.	Neutral	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Minimal impact on fish populations	Neutral	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Water: • Water provision	N/A – not possible to quantify	*No change foreseen*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	Neutral	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
Regulating services (Benefits obtained from the regulation of ecosystem processes, including air	**Carbon:** • Carbon sequestration	N/A – not possible to quantify	*Minimal change in carbon sequestration*	C&O	There is an increase in woodland over the site of 397% with a reduction in grassland of 29%. Arable land is reduced by 100%. When the habitat within proposed Development parcels is included there may be a small increase in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	Negative short term positive long term	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					carbon sequestration TBC. *Mitigation presented in Chapter 8 of the ES.*												
	Climate: • Climate regulation	N/A – not possible to quantify	*Increase in radiating heat*	C&O	There will an increase in radiating heat due to the build environment. The GI integrated into the proposed Development parcels will provide some mitigation (shade etc.) but there is likely to be an overall increase in radiating heat.	N	Negative site wide	Permanent negative	N/A	Not reversible	Negative impact at the site scale	N/A	Negative impact at the site scale	N/A	Negative residual impact in levels of radiated heat	Negative	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Water flow and flood regulation: • Water flow regulation	N/A – not possible to quantify	*Changes in water flow.*	C&O	SuDS and water drainage design will meet no net change in flow requirements *Mitigation presented within ES Chapter 15.*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	Neutral	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Groundwater recharge: • Groundwater recharge and quality	N/A – not possible to quantify	*Reduction in recharge rates*	C&O	SuDS and water drainage design will meet no net change in flow requirements. Infiltration is included within the drainage design. *Mitigation presented within ES Chapter 15.*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	Neutral	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Water quality regulation: • Water quality	N/A – not possible to quantify	*Reduction in water quality*	C&O	Whilst the Scheme water protection measures are designed to ensure no change in water quality in associated water bodies as detailed within the Water Framework Directive Screening report (ES Appendix 7.22). The water quality of the East Stour river will improve due to a reduction in inputs of agricultural chemicals including fertilisers and pesticides. *Mitigation presented within the WFD (ES Appendix 7.22) and within Chapter 15 of this ES.*	P	Positive site wide and the immediate vicinity downstream	Permanent positive	N/A	Reversible	Positive site wide and the immediate vicinity downstream	N/A	Positive site wide and the immediate vicinity downstream	N/A	Residual positive impact on water quality	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Air quality regulation: • Air quality	N/A – not possible to quantify	*No significant change in air quality.*	C&O	Whilst there would by some local decreases in air quality directly adjacent to the Scheme, there would be no noticeable change to the functioning of the notable receptors including identified within the Air Quality Chapter 6 of the ES.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Negligible / neutral impact - no residual effects	Neutrall	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					Mitigation presented in Chapter 6 of this ES.												
	Human health regulation: • Health and well-being.	N/A – not possible to quantify	*Reduction in sites proviants towards human health.*	O	A beneficial impact upon human health, through the provision of homes within an environment which encourages interaction with green spaces, sports and activity and healthy travel, including cycling and walking. Sports pitches are also being provided across the site. Allotments will provide recreational opportunities that are likely to contribute towards improved health due to activity and locally grown provisions. *Green space design presented within the associated DAS.*	P	Positive site wide and in the local area	Permanent positive	N/A	Irreversible	Positive site wide and in the local area	N/A	Positive site wide and in the local area	N/A	Negligible / neutral impact - no residual effects	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
Ecosystem Services - Cultural services	**Science and education:** • Education	N/A – not possible to quantify	*Improved educational facilities*	O	The provision of new educational resources would represent a net benefit with regard to science and education,	P	Positive site wide and in the local area	Permanent positive	N/A	Irreversible	Positive site wide and in the local area	N/A	Positive site wide and in the local area	N/A	Negligible / neutral impact - no residual effects	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					including the proposed provision of Natural Play areas and increased access to the Otterpool Quarry SSSI. Port Lympne Safari Park is likely to be in greater use for educational purposes by the newly created schools and residential families. *Proposals for natural play areas and access to SSSI presented within the associated DAS.*												
	Tourism and recreation: •	N/A – not possible to quantify	*Increased tourism in the area and Increase in recreation value*	O	The proposed Development proposes to enhance the setting of Westenhanger Castle and it has the potential to become a tourist destination. Remains of a Roman Villa that are likely to be of high regional importance has been discovered during the cultural heritage surveys and may become a future tourist destination. A significant increase in the recreation value of the site is	P	Positive to the wider area	Permanent positive	N/A	Reversible	Positive to the wider area	N/A	Positive site wide and in the local area	N/A	Negligible / neutral impact - no residual effects	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					foreseen. Currently, there is minimal access to the site by the public. There will be a large increase in the availability of accessible greenspace. Sports pitches are also being provided across the site. *Proposals for recreational areas presented within the associated DAS.*												
	Sense of place and history: • Cultural heritage and aesthetic amenity, Historical archaeological sites, Tranquillity	N/A – not possible to quantify	*Improved cultural heritage and aesthetic amenity value, Improved archaeological value, Reduced tranquillity value*	C	The proposed Development proposes to enhance the setting of Westenhanger Castle which has the potential to enhance its heritage value. Remains of a Roman Villa that are likely to be of high regional importance has been discovered during the cultural heritage surveys and may become a future tourist destination. Mitigation presented in Chapter 9 of the ES.	P	Positive site wide and in the local area.	Permanent positive	N/A	Reversible	Positive site wide and in the local area.	N/A	Positive site wide and in the local area.	N/A	Negligible / neutral impact - no residual effects	Positive Positive Negative	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
					Proposals for natural play and recreational areas are presented in the associated DAS.												
	Sense of place and history: Tranquillity	N/A – not possible to quantify	*Reduced tranquillity value*	C&O	Although the tranquil setting was not enjoyed by a large number of people this sense of place and tranquillity will be negatively impacted. Proposals for natural play and recreational areas are presented in the associated DAS.	P	Negative site wide and in the local area.	Permanent negative	N/A	Not Reversible	Negative site wide and in the local area.	N/A	Negative site wide and in the local area.	N/A	Negligible / neutral impact - no residual effects	Positive Positive Negative	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
Supporting services (Services necessary for the production of all other ecosystem services including soil formation, photosynthesis, primary	**Biodiversity:** • Increased diversity of habitats, increased provision of habitats of valuable habitats for notable species.	N/A	*Positive impact on biodiversity*	O	Approximately 20% net gain using the Defra Biodiversity Metrics. Mitigation outlined in this *Chapter, Biodiversity Net gain Report (ES Appendix 7.21) and the BAP (ES Appendix 7.20)*	P	Positive impact site wide	Permanent positive	N/A	Reversible	Positive impact site wide	N/A	Positive impact site wide	N/A	Negligible / neutral impact - no residual effects	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.
	Non-native invasive species: • These will eradicated from site, a dedicated Non-Native	N/A	*Positive impact ecosystem health on site*	C&O	Mitigation involves the removal of non-native invasive species. *Mitigation outlined in the ES*	P	Positive impact site wide	Positive while non-native invasive species are kept off site	N/A	Reversible	Positive impact site wide	N/A	Positive impact site wide	N/A	Negligible / neutral impact - no residual effects	Positive	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

Group	Receptor	Geographical importance of ecological feature	Potential Impact(s)	Phase of impact (Construction (C), Operation (O), Cumulative (CU))	Embedded Design Measures	Impact Characterisation (after application of design mitigation)						Additional Mitigation	Residual Effect (After Mitigation)	Offsetting	Residual effects / magnitude	Residual Effect Significance	Notes
						Positive (P) or negative (N) or NEGLIGIBLE / NEUTRAL IMPACT -	Extent	Duration	Frequency and Timing	Reversibility	Geographical scale of impact						
	Invasive Species Management Plan																
	Soils: • Soil quality	N/A	*Negative impact on soil quality*	C	There will be a loss of agricultural land as a result of the proposed Development. The quality of this land varies between Grade 2 to Grade 3 in the ALC (Agricultural Land Classification). Soils on the site include: • Freely draining slightly acid loamy soils; • Loamy soils with naturally high groundwater; • Freely draining slightly acid but base rich soils and slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils. *Mitigation presented in ES Chapter 5.*	N	Negative site wide impact	Permanent negative	N/A	Not Reversible	Negative site wide	N/A	Negative site wide	N/A	Negligible / neutral impact - no residual effects	Negative	Full details within ES appendix 7.22 and Chapter 7: Biodiversity.

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APPENDIX A: Light Spill Calculations

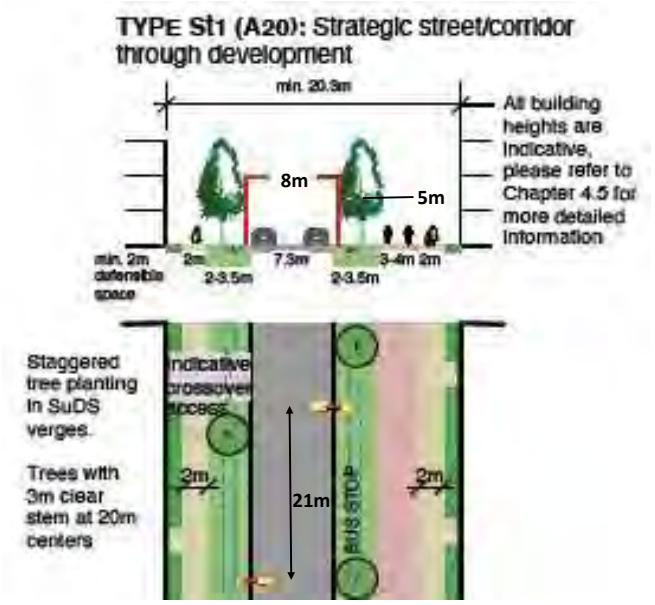
Otterpool: Strategic Street/Corridor Through Development

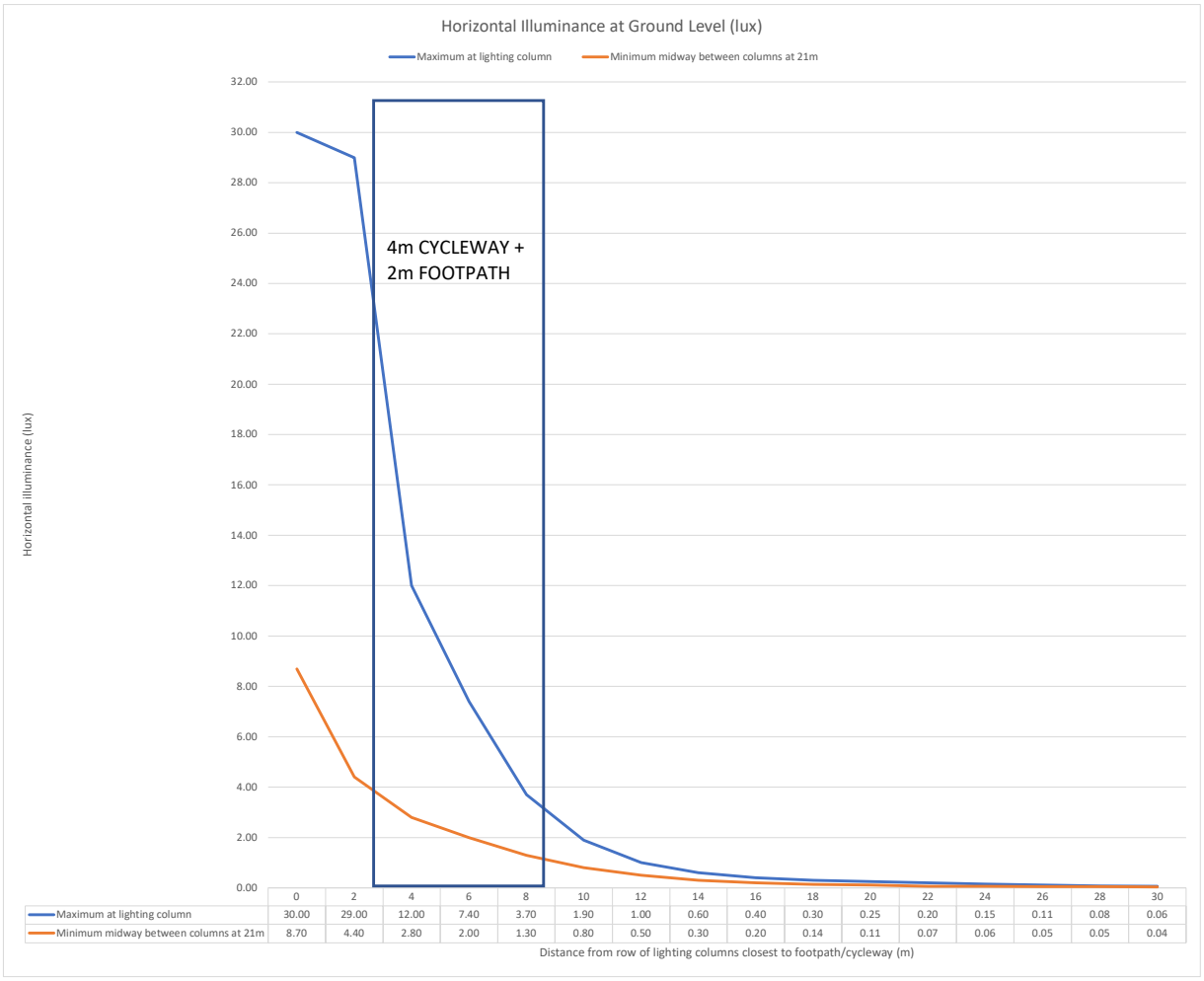
Indicative Spill Light Levels (initial conditions)

Lighting Class to BS EN 13201-2: 2015	Carriageway: M4, Footpath/Cycleway: P5
Column Height	8m with rear facing luminaire to light cycleway at 5m height.
Column Geometry	Staggered, columns set back 1.0m from edge of carriageway
Column Spacing	21m
Luminaires:	CU Phosco P863-32-R3-WW-F0400 41W at 8m lighting carriageway
	CU Phosco P863-16-P4-WW-C0300-17W at 5m lighting cycleway
Colour temperature:	3000K Warm White

	Lux Level	
	Maximum at lighting column	Minimum midway between columns at 21m
Distance behind lighting column (m)		
Footway and Cycleway between 2.5 and 8.5m		
0	30.00	8.70
2	29.00	4.40
4	12.00	2.80
6	7.40	2.00
8	3.70	1.30
10	1.90	0.80
12	1.00	0.50
14	0.60	0.30
16	0.40	0.20
18	0.30	0.14
20	0.25	0.11
22	0.20	0.07
24	0.15	0.06
26	0.11	0.05
28	0.08	0.05
30	0.06	0.04

Spill light given as horizontal illuminance in lux at ground level





DATE:	**25 October 2021**
DESIGNER:	**Peter Trustram**
PROJECT No:	**10048970**
PROJECT NAME:	**Otterpool Development - Strategic Street Spill Light**

LIGHTING REALITY

Spill Lighting Levels (Lux) towards cycleway & footway behind row of lighting columns

Initial Conditions, MF = 1

Outdoor Lighting Report

PREPARED BY:

Arcadis Consulting (UK) Ltd.
The Surrey Research Park
Guildford
Surrey
GU2 7AR
e-mail: peter.trustram@arcadis.com
website: www.arcadis.com

Layout Report

General Data

Dimensions in Metres Angles in Degrees
Grid Origin 0.0m x 0.0m
Area 42.0m x 30.0m
Sample Spacing 2.00m x 1.00m

Luminaires

Luminaire A Data

Supplier	C U Phosco
Type	P863-16-P4-WW-C0300-17W
Lamp(s)	730P WW
Lamp Flux (klm)	1.77
File Name	P863-16-P4-WW-C0300-17W.ies
Maintenance Factor	1.00
Imax70,80,90(cd/klm)	653.9, 172.3, 0.0
No. in Project	4

Luminaire B Data

Supplier	C U Phosco
Type	P863-32-R3-WW-C0400-41W
Lamp(s)	730P WW
Lamp Flux (klm)	4.77
File Name	P863-32-R3-WW-C0400-41W.ies
Maintenance Factor	1.00
Imax70,80,90(cd/klm)	845.6, 23.9, 0.0
No. in Project	7

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	0.00	0.00	5.00	90.00	0.00	0.00	0.40			
2	A	42.00	0.00	5.00	90.00	0.00	0.00	0.40			
3	A	-42.00	0.00	5.00	90.00	0.00	0.00	0.40			
4	A	84.00	0.00	5.00	90.00	0.00	0.00	0.40			
5	B	-42.00	0.00	8.00	270.00	0.00	0.00	0.60			
6	B	0.00	0.00	8.00	270.00	0.00	0.00	0.60			
7	B	42.00	0.00	8.00	270.00	0.00	0.00	0.60			
8	B	84.00	0.00	8.00	270.00	0.00	0.00	0.60			
9	B	21.00	-9.30	8.00	90.00	0.00	0.00	0.60			
10	B	-21.00	-9.30	8.00	90.00	0.00	0.00	0.60			
11	B	63.00	-9.30	8.00	90.00	0.00	0.00	0.60			

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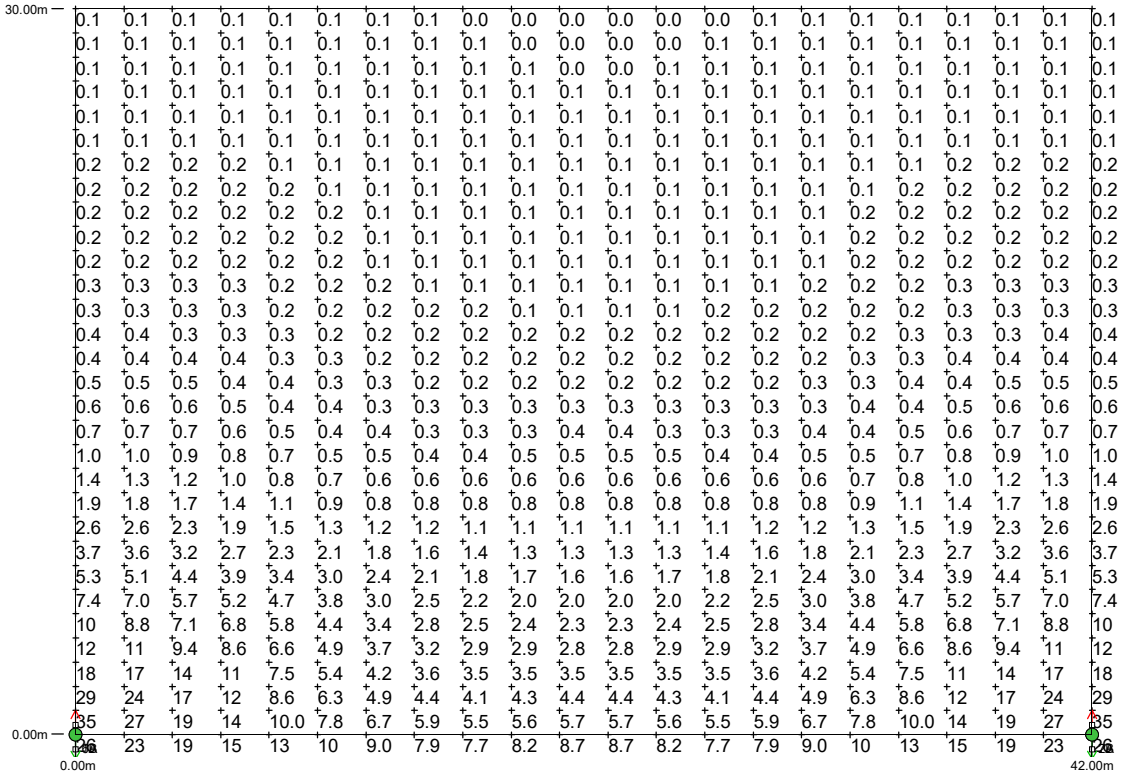
Horizontal Illuminance (lux)

Grid 1



Results

Eav	2.38
Emin	0.04
Emax	34.87
Emin/Emax	0.00
Emin/Eav	0.02

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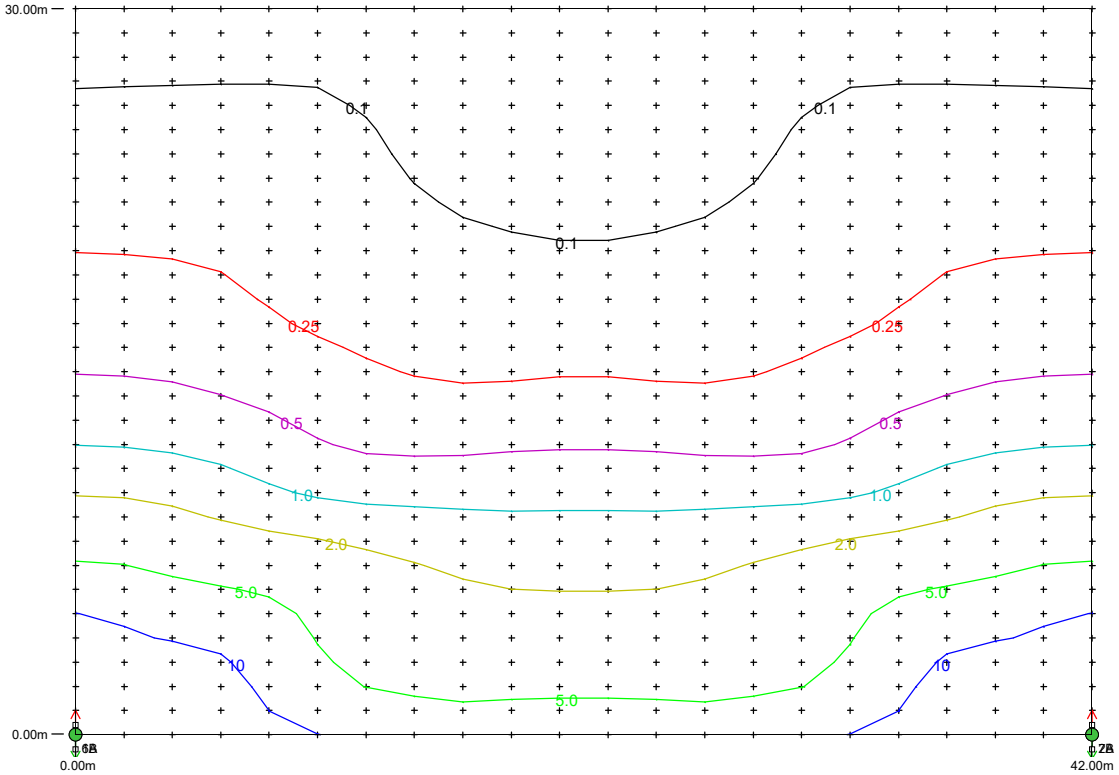
Horizontal Illuminance (lux)

Grid 1



DATE:	**25 October 2021**
DESIGNER:	**Peter Trustram**
PROJECT No:	**10048970**
PROJECT NAME:	**Otterpool Development**

LIGHTING REALITY

Type St1 Strategic Street/Corridor through development.

Carriageway Lighting to Class M4

CU Phosco P863-32-R3-WW-F0400 41W Lanterns

8m columns in staggered arrangement at 21m spacing
plus additional CU Phosco P863-16-P4-WW-C0300-17W Lantern at 5m mounting height facing cycleway/footpath

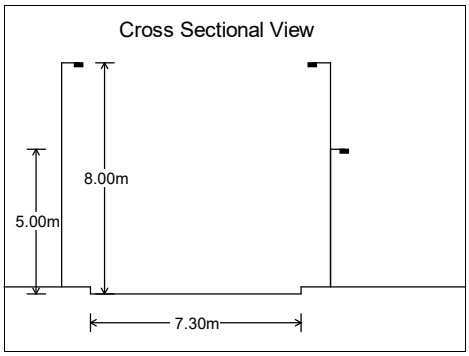
Roadway Lighting Report

PREPARED BY:

Arcadis Consulting (UK) Ltd.
The Surrey Research Park
Guildford
Surrey
GU2 7AR
e-mail: peter.trustram@arcadis.com
website: www.arcadis.com

Roadway Report Summary

Layout



Road Data

Calculation Grid	EN13201 Luminance
Width (m)	7.30
No. of Lanes	2
Road Surface	C2
Q0	0.07
Lane Width (m)	3.65
Rei Width (m)	3.65

Main Lighting

Column Data

Configuration	Staggered
Spacing (m)	21.00
Height (m)	8.00
Tilt (deg)	0.00
Left Setback (m)	1.00
Left Outreach (m)	0.60
Left Overhang (m)	-0.40
Right Setback (m)	1.00
Right Outreach (m)	0.60
Right Overhang (m)	-0.40

Luminaire Data

Supplier	C U Phosco
Type	P863-32-R3-WW-C0400-41W
Lamp(s)	730P WW
Lamp Flux (klm)	4.77
File Name	P863-32-R3-WW-C0400-41W.ies
Maintenance Factor	0.83
Lum. Int. Class	G3

Additional Row Lighting

Column Data

Configuration	Single Sided Left
Spacing (m)	42.00
Height (m)	5.00
Tilt (deg)	0.00
Setback (m)	-8.30
Outreach (m)	0.50
Overhang (m)	8.80
Offset (m)	21.00

Luminaire Data

Supplier	C U Phosco
Type	P863-16-P4-WW-C0300-17W
Lamp(s)	730P WW
Lamp Flux (klm)	1.77
File Name	P863-16-P4-WW-C0300-17W.ies
Maintenance Factor	0.83
Lum. Int. Class	G1

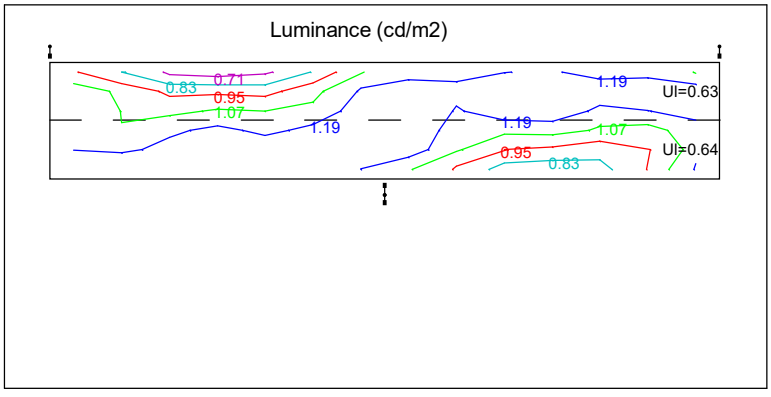
Results

Main

Complies with M4

Lavmin	1.12 (1)
Lmin	0.65 (1)
Lmax	1.49 (2)
U0min	0.58 (1)
Ulmin	0.63 (2)
TI(%)	8.59 (1)
Rei	0.37

Number in brackets is the Observer Lane for Result shown.



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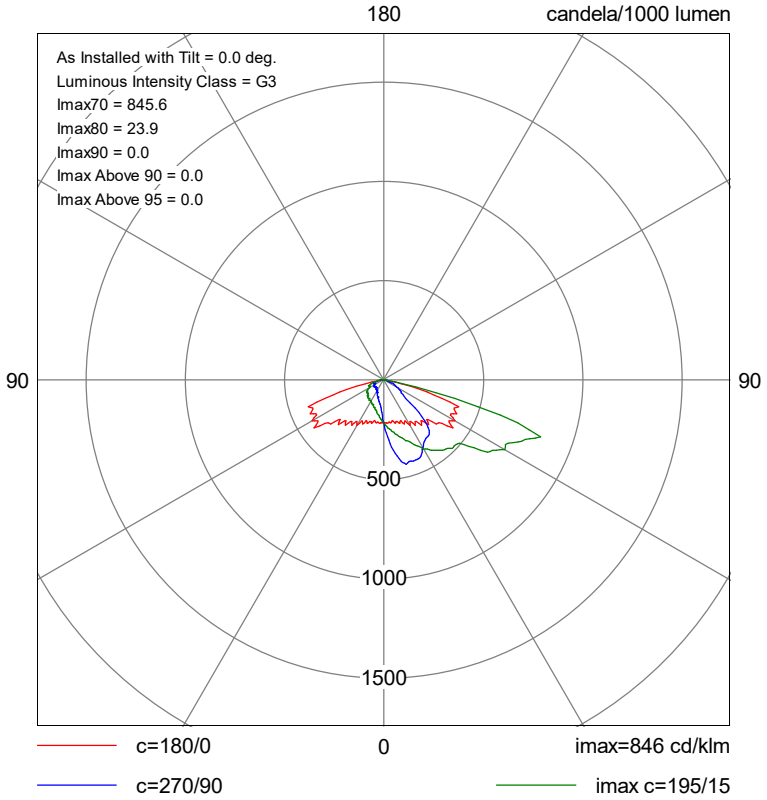
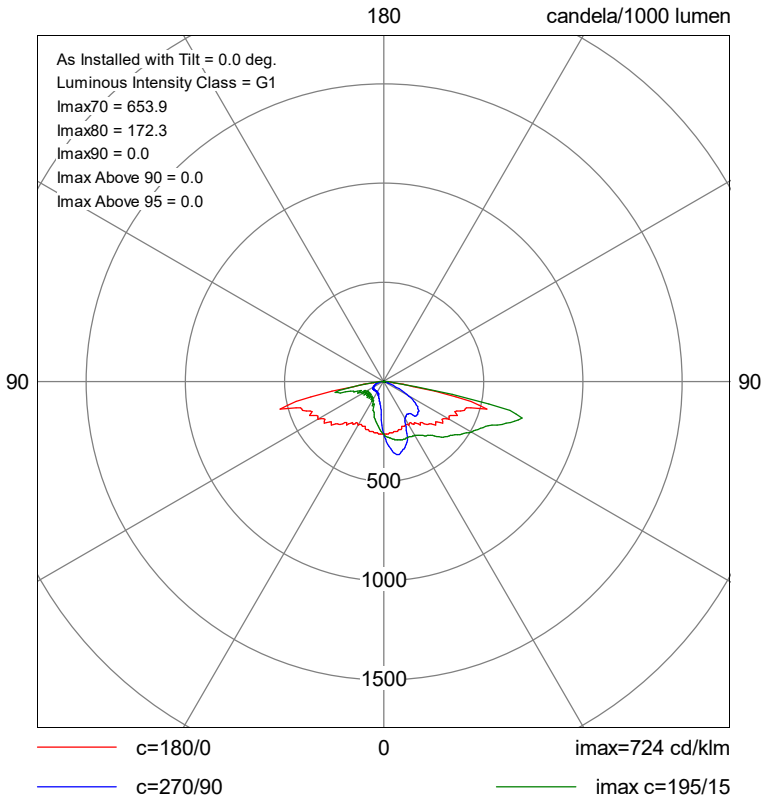
Polar Diagrams

Main Luminaire P863-32-R3-WW-C0400-41W



Additional Luminaire P863-16-P4-WW-C0300-17W



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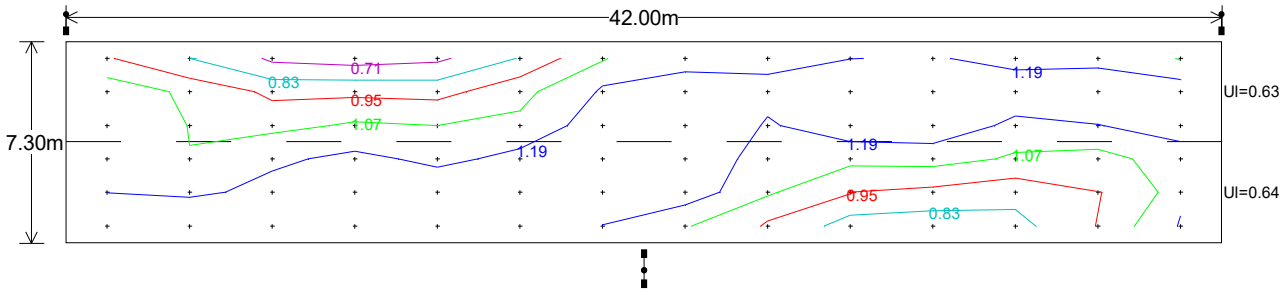
Luminance (cd/m2)

Observer in Lane 1



Main Results

Observers in all Lanes

Lavmin	1.12 (1)
Lmin	0.65 (1)
Lmax	1.49 (2)
U0min	0.58 (1)
Ulmin	0.63 (2)
TImax(%)	8.59 (1)
Rei	0.37

Number in brackets is the
Observer Lane for Result shown.

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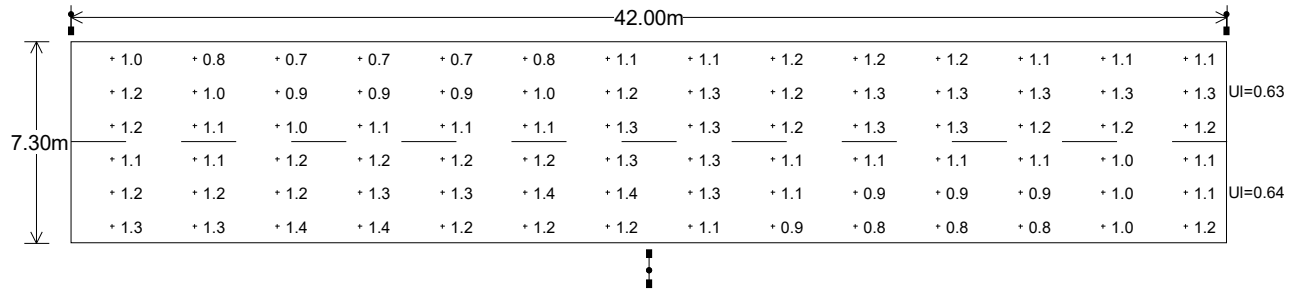
Luminance (cd/m2)

Observer in Lane 1



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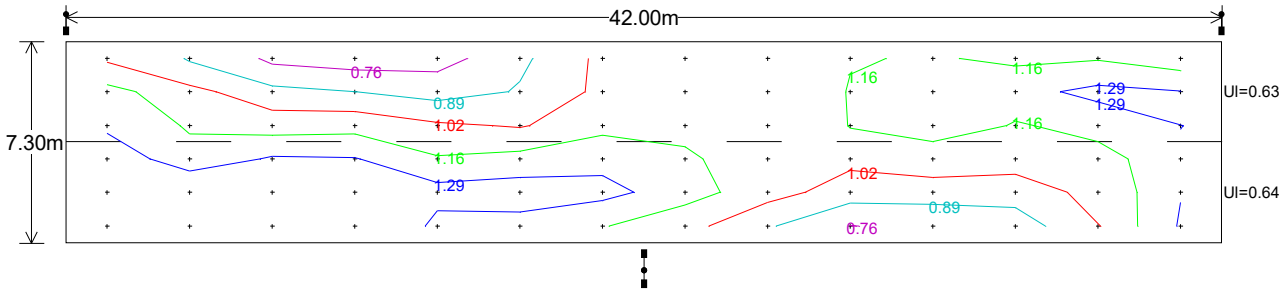
Luminance (cd/m2)

Observer in Lane 2



Main Results

Observer in Lane 2

Lav	1.14
Lmin	0.69
Lmax	1.49
U0	0.61
UI	0.63
TI(%)	7.73

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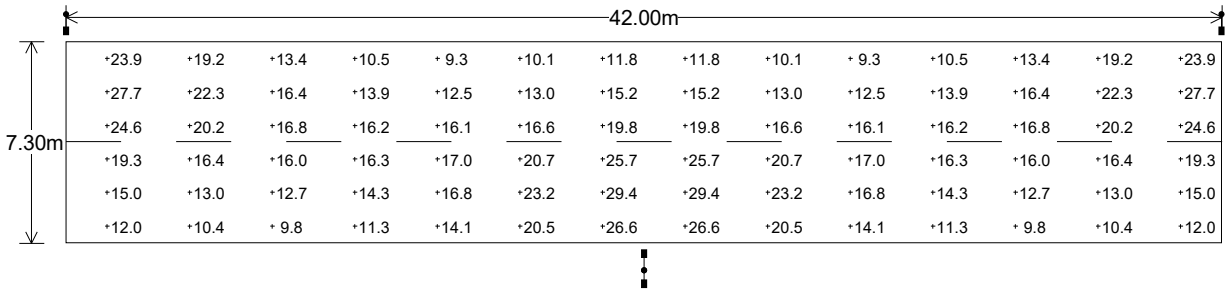
Horizontal Illuminance (lux)



Main Results

Eav	16.90
Emin	9.26
Emax	29.38
Emin/Emax	0.32
Emin/Eav	0.55

8158463434

DATE:	**25 October 2021**
DESIGNER:	**Peter Trustram**
PROJECT No:	**10048970**
PROJECT NAME:	**Otterpool Development**

LIGHTING REALITY

Type St1 Strategic Street/Corridor through development.

6m wide Footpath and Cycleway
Lighting to Class P5

CU Phosco P863-32-R3-WW-F0500 41W Lantern at 8m MH
plus P863-16-P4-WW 17W Lantern at 5m MH.

8m columns in staggered arrangement at 21m spacing with rear facing lantern at 5m mounting height

Roadway Lighting Report

PREPARED BY:

Arcadis Consulting (UK) Ltd.
The Surrey Research Park
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GU2 7AR
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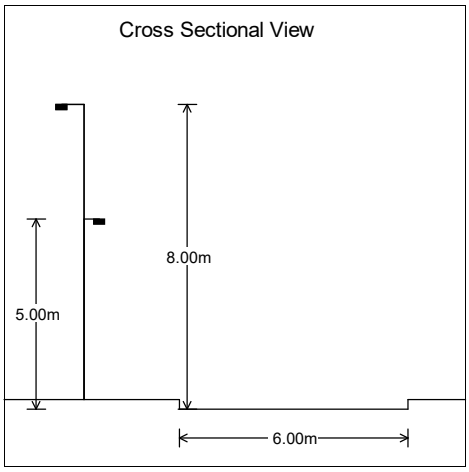
website: www.arcadis.com

Roadway Report Summary

Layout



Road Data

Calculation Grid	2015:EN13201 Illuminance
Width (m)	6.00
No. of Lanes	3
Road Surface	C2
Q0	0.07
Left Footpath(m)	0.00
Right Footpath(m)	0.00

Main Lighting

Column Data

Configuration	Single Sided Right
Spacing (m)	42.00
Height (m)	8.00
Tilt (deg)	0.00
Setback (m)	-8.50
Outreach (m)	0.60
Overhang (m)	9.10

Luminaire Data

Supplier	C U Phosco
Type	P863-32-R3-WW-C0400-41W
Lamp(s)	730P WW
Lamp Flux (klm)	4.77
File Name	P863-32-R3-WW-C0400-41W.ies
Maintenance Factor	0.83
Lum. Int. Class	G3

Additional Row Lighting

Column Data

Configuration	Single Sided Left
Spacing (m)	42.00
Height (m)	5.00
Tilt (deg)	0.00
Setback (m)	2.50
Outreach (m)	0.40
Overhang (m)	-2.10
Offset (m)	0.00

Luminaire Data

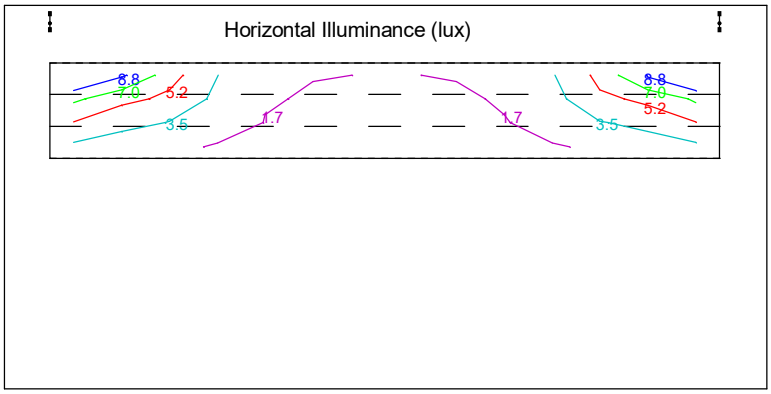
Supplier	C U Phosco
Type	P863-16-P4-WW-C0300-17W
Lamp(s)	730P WW
Lamp Flux (klm)	1.77
File Name	P863-16-P4-WW-C0300-17W.ies
Maintenance Factor	0.83
Lum. Int. Class	G1

Results

Main

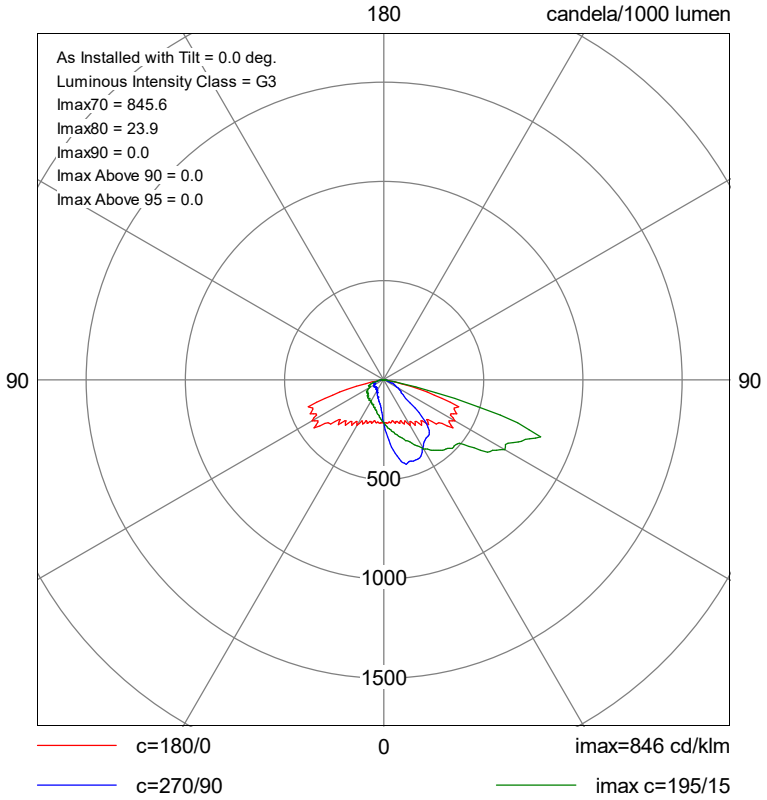
Complies with P5

Eav	3.28
Emin	0.82
Emax	11.40
Emin/Emax	0.07
Emin/Eav	0.25

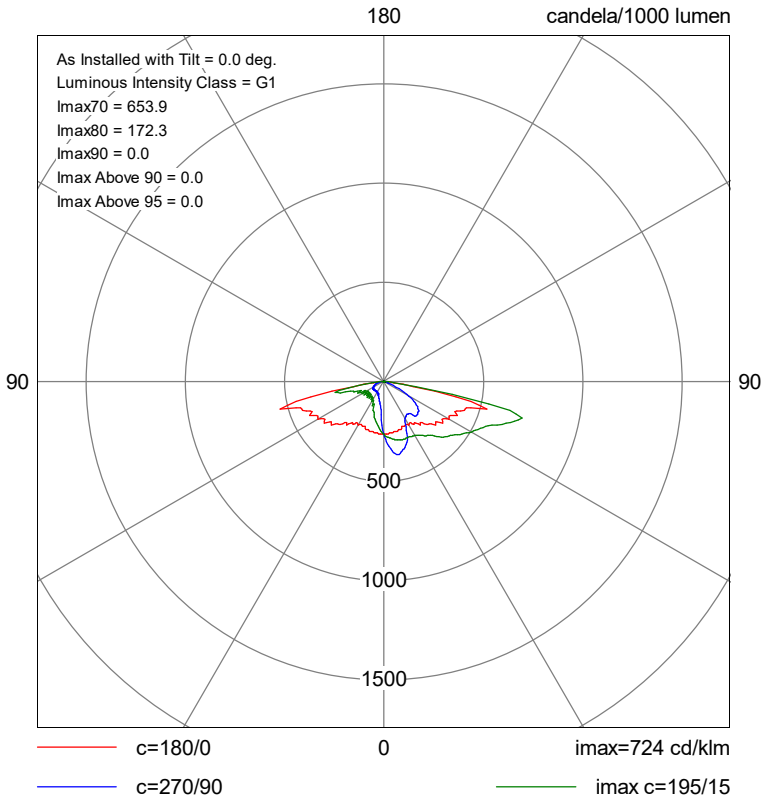


Polar Diagrams

Main Luminaire P863-32-R3-WW-C0400-41W



Additional Luminaire P863-16-P4-WW-C0300-17W



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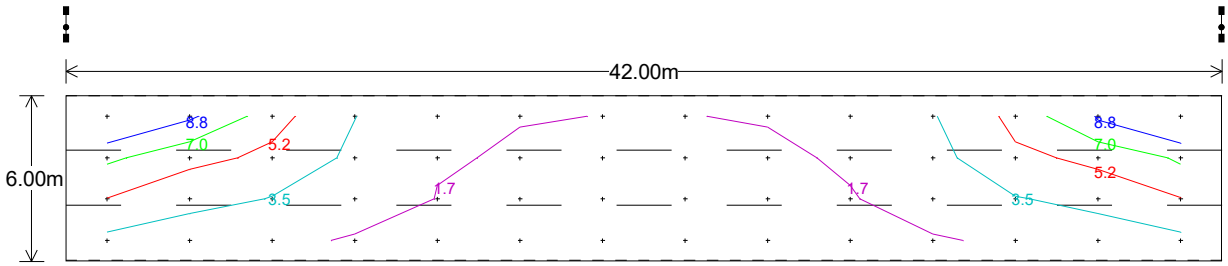
Horizontal Illuminance (lux)

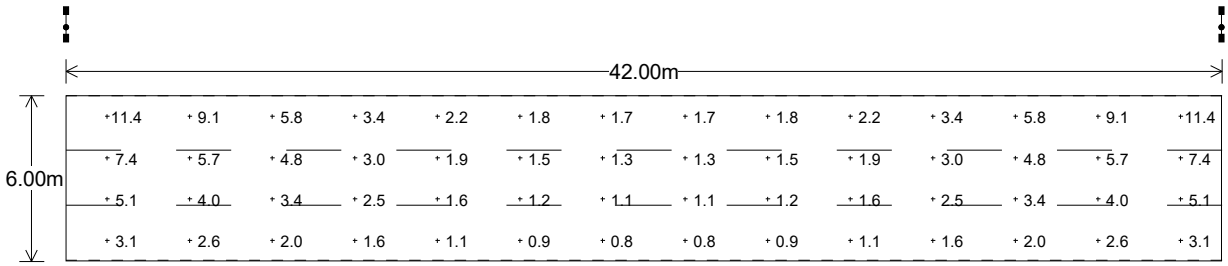


Main Results

Eav	3.28
Emin	0.82
Emax	11.40
Emin/Emax	0.07
Emin/Eav	0.25

8158463434

Horizontal Illuminance (lux)



8158463434

DATE: **25 October 2021**

DESIGNER: **Peter Trustram**

PROJECT No: **10048970**

PROJECT NAME: **Otterpool Development**

LIGHTING REALITY

Type St1 Strategic Street/Corridor through development.

2m Wide Footpath
Lighting to Class P6

CU Phosco P863-32-R3-WW-F0400 41W Lanterns

8m columns in staggered arrangement at 21m spacing

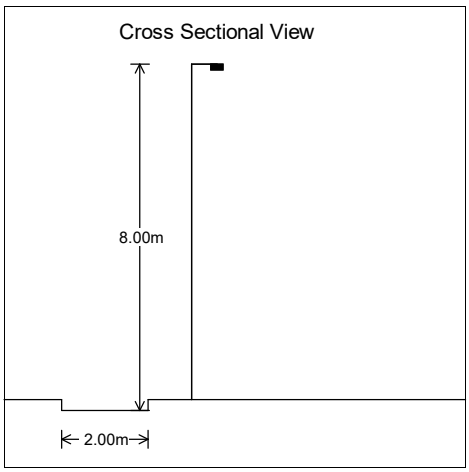
Roadway Lighting Report

PREPARED BY:

Arcadis Consulting (UK) Ltd.
The Surrey Research Park
Guildford
Surrey
GU2 7AR
e-mail: peter.trustram@arcadis.com
website: www.arcadis.com

Roadway Report Summary

Layout



Road Data

Calculation Grid	2015:EN13201 Illuminance
Width (m)	2.00
No. of Lanes	1
Road Surface	C2
Q0	0.07
Left Footpath(m)	0.00
Right Footpath(m)	0.00

Main Lighting

Column Data

Configuration	Single Sided Left
Spacing (m)	42.00
Height (m)	8.00
Tilt (deg)	0.00
Setback (m)	-3.00
Outreach (m)	0.60
Overhang (m)	3.60

Luminaire Data

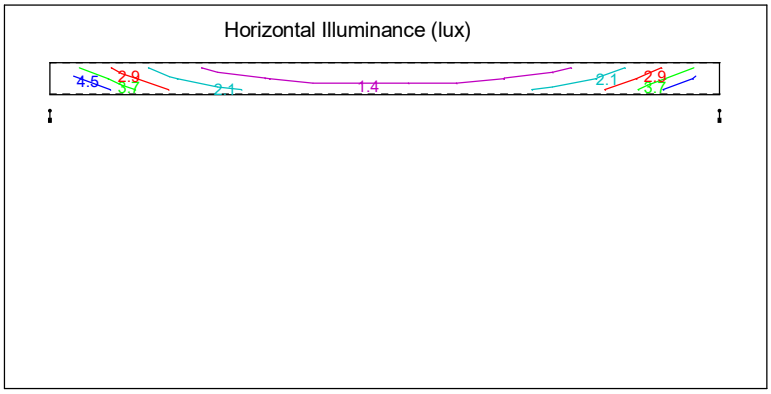
Supplier	C U Phosco
Type	P863-32-R3-WW-C0400-41W
Lamp(s)	730P WW
Lamp Flux (klm)	4.77
File Name	P863-32-R3-WW-C0400-41W.ies
Maintenance Factor	0.83
Lum. Int. Class	G3

Results

Main

Complies with P6

Eav	2.27
Emin	0.97
Emax	5.65
Emin/Emax	0.17
Emin/Eav	0.43



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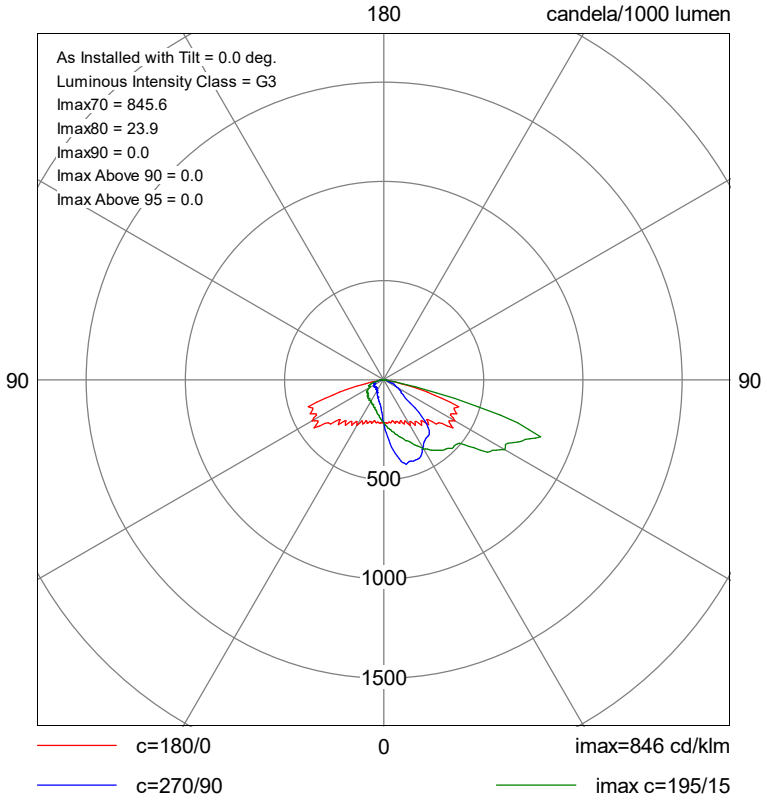
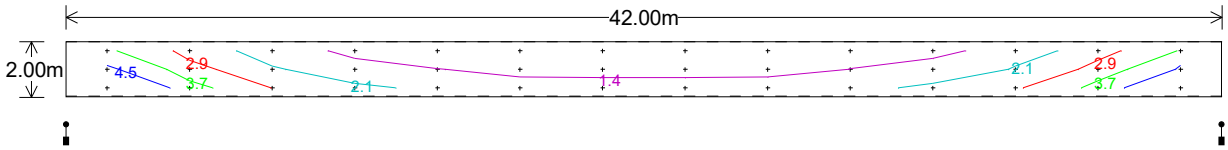
Polar Diagram

Main Luminaire P863-32-R3-WW-C0400-41W



Horizontal Illuminance (lux)



Main Results

Eav	2.27
Emin	0.97
Emax	5.65
Emin/Emax	0.17
Emin/Eav	0.43

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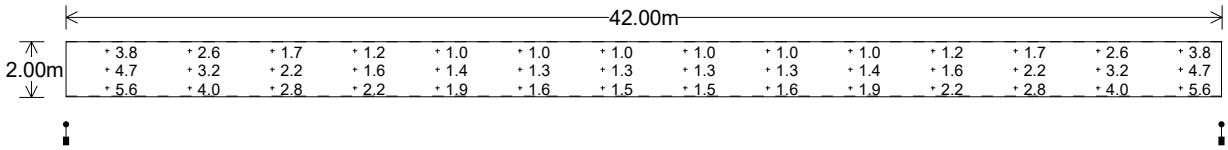
Horizontal Illuminance (lux)



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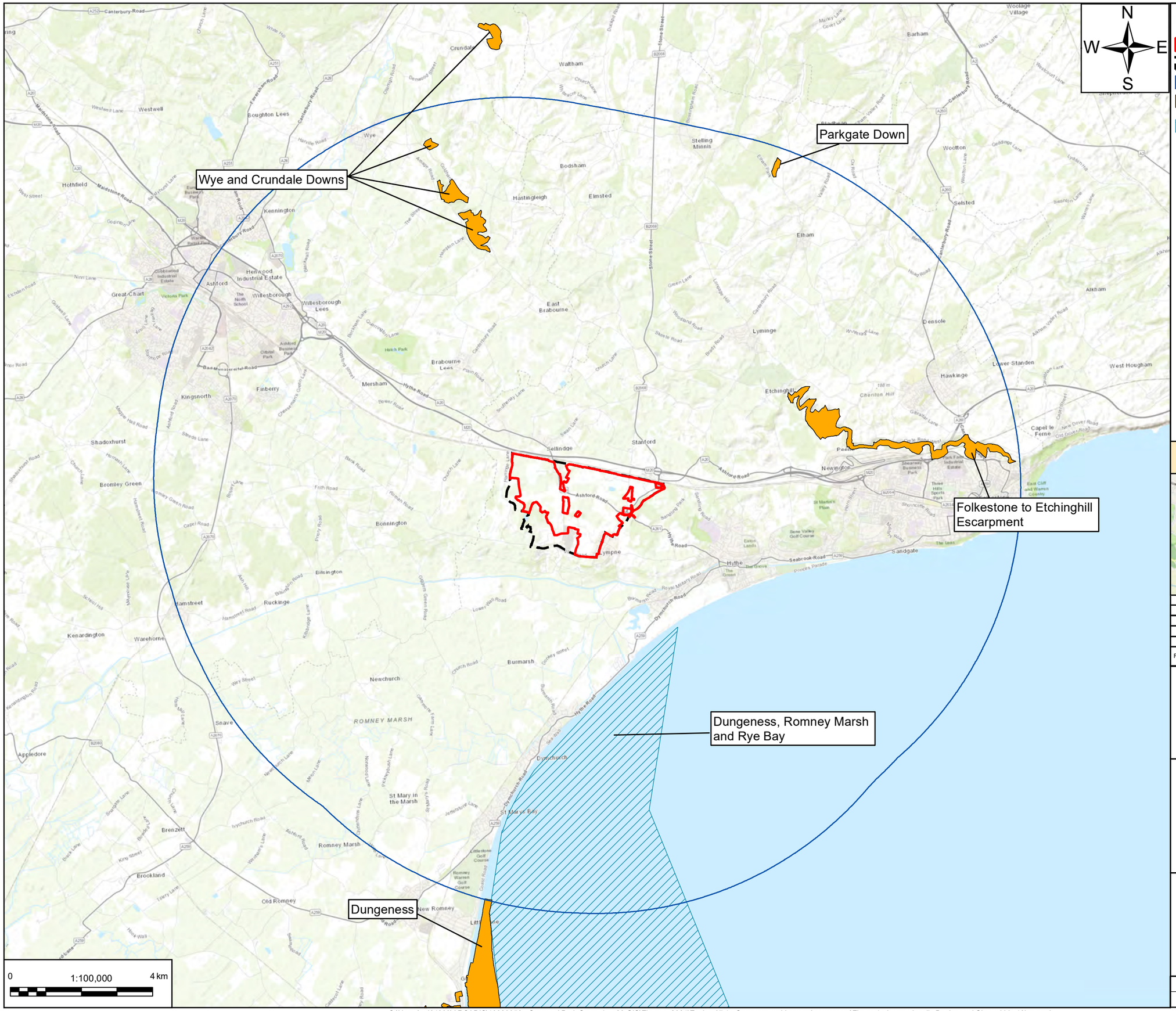
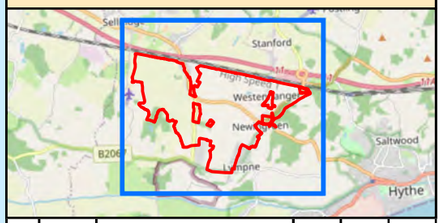
APPENDIX B: Chapter 7: Biodiversity Figures

Figure 7.1: SPA, Ramsar and SAC designated sites within 10km of the site boundary



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- 10km buffer from OPA
- Special Area of Conservation
- Special Protection Area (Marine Component GB)



REV	Date	Description	Drawn	Check	Approv
01	09/12/21	FOR INFORMATION	RM	BM	MG

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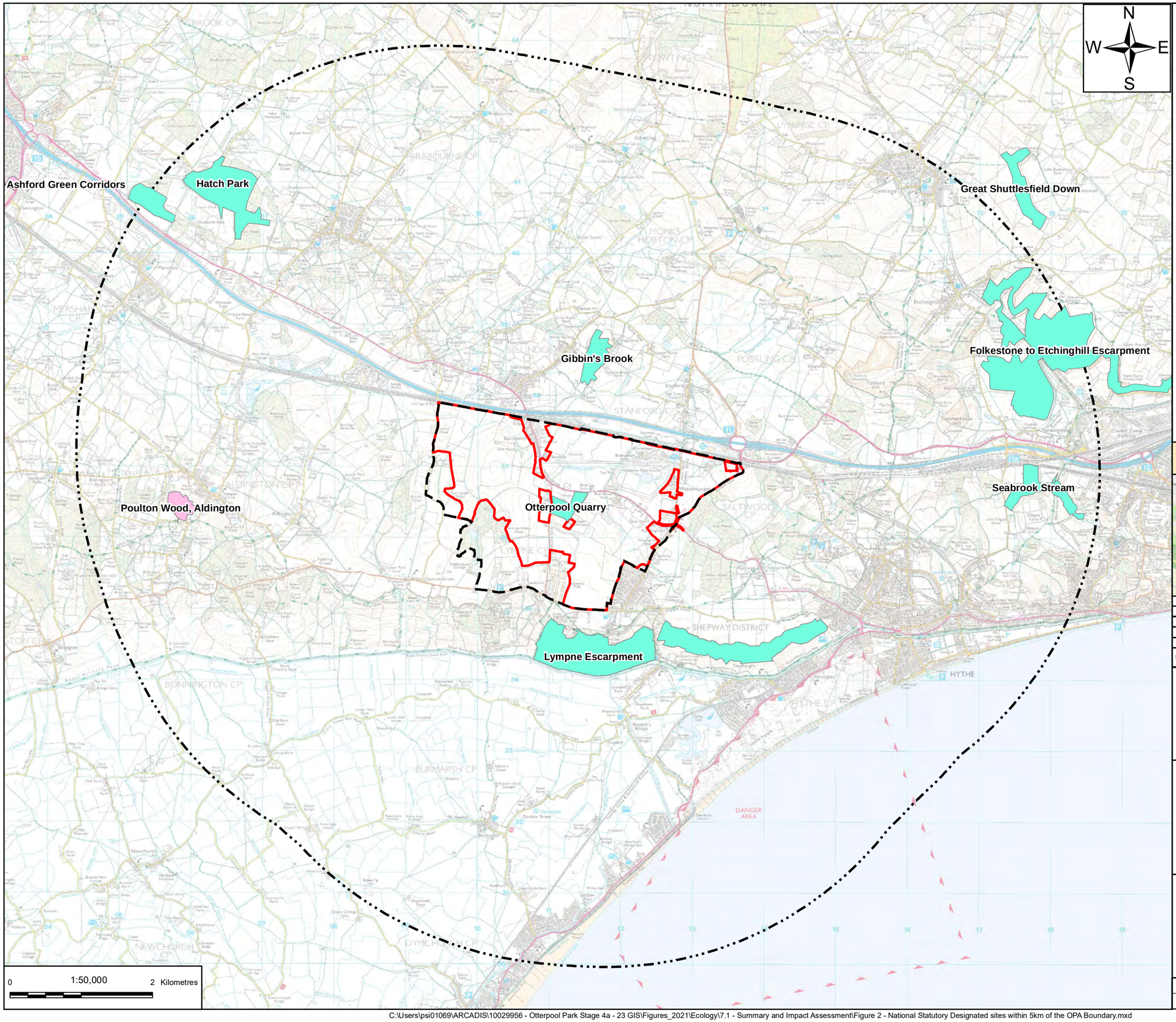
Figure 7.1
International Statutory Sites within 10km of the Study Area

scale	original size	datum	grid
1:100,000	A3	Sx	OSGB

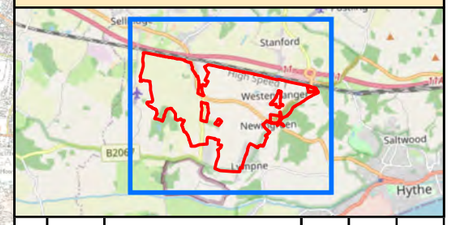
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 1 - Internationally Designated Sites within 10km.mxd

Figure 7.2: SSSI and LNR designated sites within 5km of the site boundary



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- 5km Buffer
- Local Nature Reserves (LNR)
- Sites of Special Scientific Interest (SSSI)



REV	Date	Description	Drawn	Check	Approv
02	03-03-2022	FOR INFORMATION	PS	BM	MG
01	23-11-2018	FOR INFORMATION	PN	BM	MG

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Figure 7.2
National Statutory Designated sites within 5km of the OPA Boundary

scale	original size	datum	grid
1: 50,000	A3	Sx	BNG

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 2 - National Statutory Designated sites within 5km of the OPA Boundary.mxd

Figure 7.3: Local wildlife sites within 2km of the site boundary

Horton Wood Stowting

Postling Down

Tolsford and Summerhouse Hills

Postling Wents Woods

Harringe Brooks Wood, Sellindge

Chesterfield Wood, Sandling Park

Folks Wood, Pedlinge

Brockhill Country Park, Saltwood

Pasture and Woods Below Court-At-Street, Lympne

Royal Military Canal

Hythe Ranges

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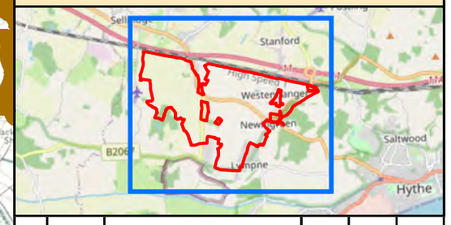
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- 2 km buffer
- Road side nature reserves
- Local wildlife sites

1:30,000
0 1.1 Kilometres



REV	Date	Description	Drawn	Check	Approv
02	03-03-2022	FOR INFORMATION	PS	BM	MG
01	23-11-2018	FOR INFORMATION	PN	BM	MG

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Figure 7.3
Non-Statutory Designated Sites Within 2km of the Study Area

scale	original size	datum	grid
1:30,000	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 3 - Non-Statutory Designated Sites within 2km of the Study Area.mxd

Figure 7.4: Woodlands listed on the AWI within 2km of the site

N
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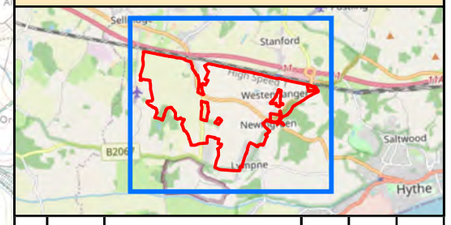
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- 2km Buffer
- Ancient Woodland



REV	Date	Description	Drawn	Check	Approv
02	03-03-2022	FOR INFORMATION	PS	BM	MG
01	23-11-2018	FOR INFORMATION	PN	BM	MG

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Figure 7.4
Ancient Woodland Within 2km of the Study Area

scale	original size	datum	grid
1: 30,000	A3	Sx	BNG

0 1:30,000 1.1 Kilometres

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 4 - Ancient Woodland Within 2km of the Study Area.mxd

Figure 7.5: Habitats overview map and target notes

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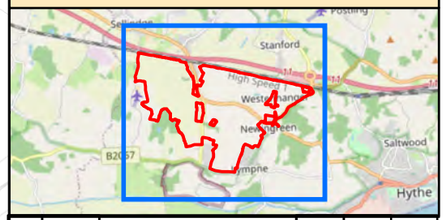
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Target notes
- No Access Area (2020 & 2021)
- Scattered scrub
- Scattered trees
- Earth Bank
- Hedge with Trees Species-poor (confier)
- Intact Hedge Native Species-rich
- Intact Hedge Species-poor
- Defunct Hedge Species-poor
- Hedge with Trees Native Species rich
- Hedge with Trees Species-poor
- Fence
- Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
- Broad-leaved parkland scattered trees
- Mixed plantation woodland
- Plantation woodland
- Dense/continuous scrub
- Ephemeral / short-perennial
- Introduced shrub
- Tall ruderal
- A Amenity grassland
- A Arable
- SI Semi-improved neutral grassland
- SI Species poor semi-improved grassland
- I Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
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01	24-09-2021	FOR INFORMATION	NG	BM	MG

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Figure 7.5
Phase 1 Habitat Survey Overview

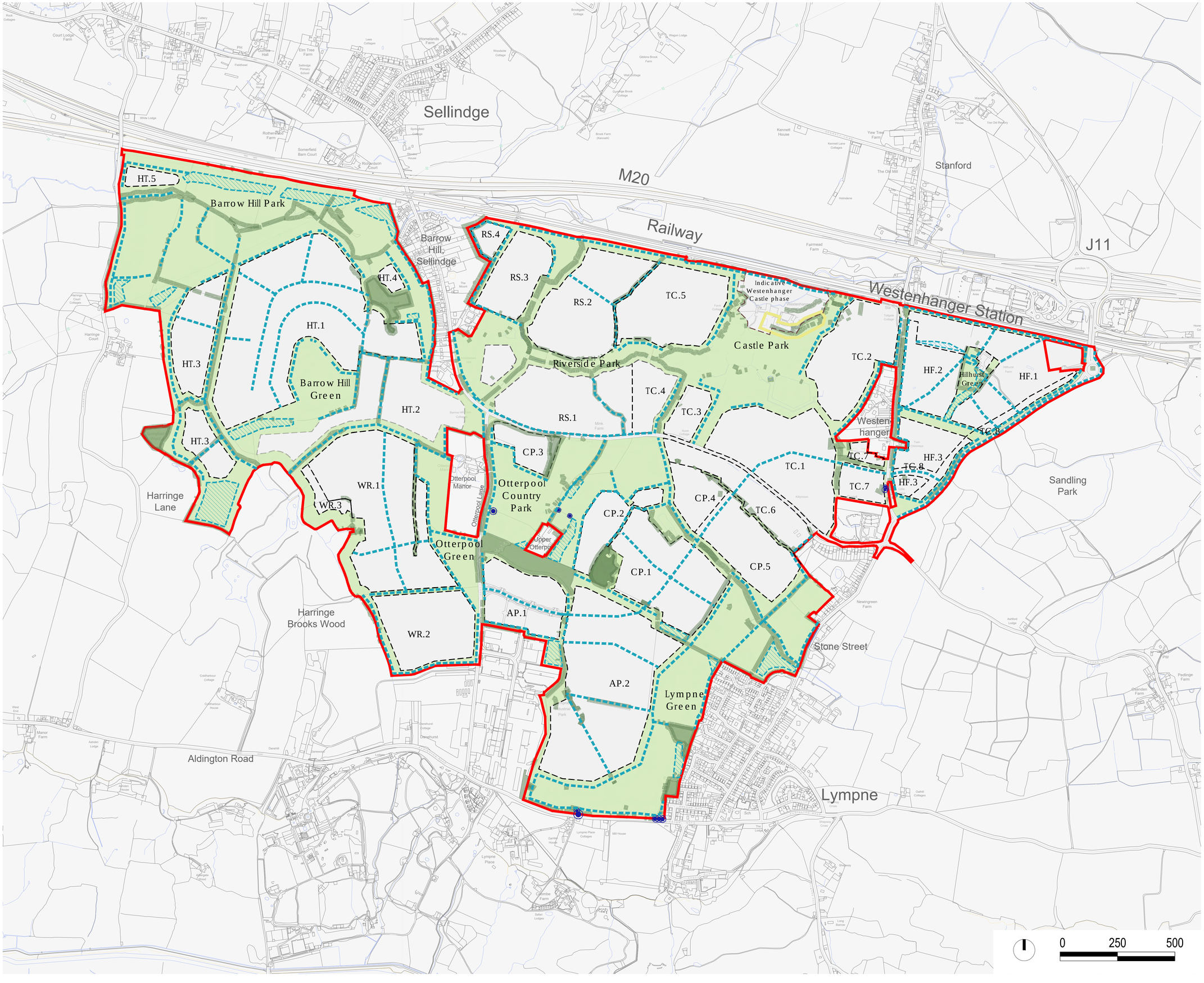
0 1:15,000 0.5 km

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1: 15,000	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 5 - Habitat Survey Overview.mxd

Figure 7.6: OPMP 4002 Open Space and Vegetation



Existing

Existing woodlands, trees, treebelts and hedgerows retained.
This Parameter Plan shows where vegetation is proposed to be retained. Breaks in this retained vegetation may however be required to facilitate the proposed development. This will be confirmed at the Tier 2 and Tier 3 stages once detailed tree and vegetation surveys have been conducted and the design has been further progressed.

Area in front of Westenhanger Castle with vegetation to be removed subject to further survey and Conservation Management Plan

Existing trees with TPO retained

Proposed

Proposed development areas

n.n Numbered key to reflect development areas in illustrative phasing plan

Proposed indicative Westenhanger Castle phase

The indicative Westenhanger Castle phase relates to an area of development will be the subject of future consideration/approval

Proposed areas of structural planting

Proposed rows of structural planting

Structural planting must be provided in the general location indicated on this Parameter Plan. The precise location and type of structural planting is to be defined at Tier 2. To inform the Tier 2 structural planting proposals see the Green Infrastructure Strategy for details regarding planting type, location and the necessary advance planting required.

Proposed open space

Application Red Line Boundary

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Client:
Otterpool Park LLP

Masterplanner:
FARRELLS

Project:
Otterpool Park

Drawing:
Open Space & Vegetation

Scale:
1:7,500 @ A1, 1:15,000 @A3

Status:
For Approval

Drawing No. OPM(P)4002_rev YY

Figure 7.7: Green infrastructure strategy

N
W E
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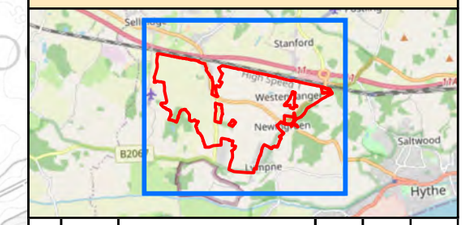
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Existing Roads
- Proposed Roads
- Proposed Development Areas
- Proposed Business
- Existing Woodland
- Proposed Woodland Burial
- Proposed Footpaths
- Wildlife Area North-West
- Existing Water
- Existing Water Buffer
- Waterbodies
- Existing Vegetation to be Retained (Trees and Scrub)
- Proposed SuDs
- Proposed Suds Water Management
- Proposed Allotments
- Hedge Buffer
- Green Open Space
- Proposed Woodland Block
- Proposed Woodland Buffer
- Proposed Amenity Grassland (Parks)
- Proposed Sports Pitches
- Lympne Resilience Area Grassland
- SSSI Grassland
- Proposed School Area
- Otterpool Margins



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01	23-11-2018	FOR INFORMATION	PN	BM	MG

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Figure 7.7
Overview of GI Strategy

scale	original size	datum	grid
1:15,000	A3	Sx	BNG

0 1:15,000 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.1 - Summary and Impact Assessment\Figure 7 - Overview of GI Strategy.mxd

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