

GridLink Interconnector

Ecology Report Volume 2 – Preliminary Ecological Appraisal

GridLink Interconnector Limited

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Quality Information

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Executive Summary

AECOM has been commissioned by GridLink Interconnector Ltd (the Applicant) to prepare an outline planning application and environmental reports including a Preliminary Ecological Appraisal (PEA) of land at Kingsnorth Power Station (the Site) for the construction and operation of a converter station and associated underground electricity cables at Kingsnorth in Kent (hereafter referred to as the 'Proposed Development'). The Proposed Development comprises the converter station building(s), outdoor equipment, internal roads, car parking and associated landscaping, and underground HVDC cable from the converter station to Mean High Water Springs (installed by Horizontal Directional Drilling). The submarine HVDC cable below Mean High Water Springs is subject to a Marine Licence granted by the Marine Management Organisation (MMO), therefore it is not included in the Proposed Development. In addition, the underground HVAC cable that will link the converter station to the National Grid Kingsnorth substation is considered to be permitted development and, therefore, it does not form part of the Proposed Development.

In order to inform the PEA, an extended Phase 1 habitat survey was undertaken by suitably qualified ecologists in 2019 and a desk study undertaken in 2020 to identify any potential constraints regarding protected and/or notable species and habitats associated with the Site.

The desk study identified nine international statutory designations for nature conservation within 10km of the Site, with the nearest (Medway Estuary and Marshes Special Protection Area (SPA) and Ramsar) located immediately south of the Site. There is also one national statutory designation (Medway Estuary and Marshes Site of Special Scientific Interest (SSSI)) located immediately south of the Site. The desk study also identified one non-statutory designation (Nor Marsh and Motney Hill RSPB Reserve) located within 2km of the Site.

Habitats within the Site of the Proposed Development comprise hardstanding, bare ground, semi-improved grassland, scrub, marginal vegetation and standing water, with areas of brownfield land (formerly developed as part of Kingsnorth Power Station), grassland and intertidal mudflats adjacent to the Site.

The Site and adjacent land are potentially suitable to support a range of protected and/or notable species which potentially represent ecological constraints to the Proposed Development. The need for further data was therefore recommended for the following protected and/or notable species: great crested newt, reptiles, wintering birds, breeding birds, bat (activity surveys) and water vole. These surveys have been undertaken in 2018-2020.

1. Introduction

Project Background

- 1.1. AECOM has been commissioned by GridLink Interconnector Ltd (the Applicant) to prepare a Preliminary Ecological Appraisal (PEA) for the construction and operation of a converter station and associated underground electricity cables at Kingsnorth in Kent (hereafter referred to as the 'Proposed Development'). The Proposed Development comprises the converter station building(s), outdoor equipment, internal roads, car parking and associated landscaping, and underground HVDC cable from the converter station to Mean High Water Springs (installed by Horizontal Directional Drilling). The submarine HVDC cable below Mean High Water Springs is subject to a Marine Licence granted by the Marine Management Organisation (MMO), therefore it is not included in the Proposed Development. In addition, the underground HVAC cable that will link the converter station to the National Grid Kingsnorth substation is considered to be permitted development and, therefore, it does not form part of the Proposed Development.
- 1.2. The Site is located immediately north of the Medway Estuary in Kent (grid reference TQ 81711 72312), within the former Kingsnorth coal-fired power station site (now demolished). The landscape comprises industrial developments associated with the former power station, such as the National Grid substation, as well as Kingsnorth industrial estate, London Medway Commercial Park and Damhead Creek gas-fired power station. The wider landscape includes arable land, coastal grassland and intertidal mudflats. The Site lies immediately north of the Medway Estuary and Marshes Special Protection Area (SPA), Ramsar and Site of Special Scientific Interest (SSSI), which is designated for its internationally important bird populations.
- 1.3. The Site covers approximately 6.2ha of brownfield land at the former Kingsnorth Power Station site (as shown in Figure V2.1 in Appendix A), within which the new converter station (4.95ha) and access road (1.25ha) will be constructed. A temporary construction laydown area (1.6ha) will also be located next to the converter site during the construction phase.
- 1.4. The redline boundary for the Site includes the existing road within the former Kingsnorth Power Station site that extends from the Site to the main gate on Eschol Road. This has been included within the application boundary in order to identify the access route to be used during the construction and operation of the Proposed Development.

Scope

- 1.5. This PEA was commissioned to identify whether there are known or potential ecological features (nature conservation designations and protected or notable habitats and species) that may constrain or influence the design and implementation of the Proposed Development. The approach applied when undertaking this PEA accords with the *Guidelines for Preliminary Ecological Appraisal* published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). The PEA addresses relevant wildlife legislation and planning policy and is consistent with the requirements of *British Standard 42020:2013 Biodiversity Code of Practice for Planning and Development*.
- 1.6. In order to inform preparation of the PEA, a desk study and an extended Phase 1 habitat survey were undertaken by appropriately experienced ecologists. The purpose of these was to identify ecological features within the Site and the wider potential zone of influence of the Proposed Development.
- 1.7. The purpose of the PEA is to:
 - identify and categorise all habitats present within the Site and any areas immediately outside of the Site where there may be potential for direct or indirect effects (the 'zone of influence');
 - carry out an appraisal of the potential of the habitats recorded to support protected or notable species of fauna and flora;
 - provide advice on any potential ecological constraints and opportunities in the zone of influence, including the identification (where relevant) of any requirements for follow-up habitat and species surveys and/or requirements for ecological mitigation; and
 - provide a map showing the locations of the identified ecological features of relevance.

2. Relevant Wildlife Legislation, Policy and Guidance

Wildlife Legislation

- 2.1 The following wildlife legislation is potentially relevant to the Proposed Development:
- The Conservation of Habitats & Species Regulations 2017 (as amended) (the Habitats Regulations);
 - The Wildlife and Countryside Act (WCA) 1981 (as amended);
 - The Countryside and Rights of Way (CRoW) Act 2000;
 - The Natural Environment and Rural Communities (NERC) Act 2006;
 - The Invasive Alien Species (Enforcement and Permitting) Order 2019; and
 - The Wild Mammals (Protection) Act 1996.
- 2.2 The above legislation has been considered when planning and undertaking this PEA. Compliance with legislation may require the attainment of relevant protected species licences prior to the implementation of the Proposed Development.
- 2.3 Further information on the requirements of the above legislation is provided in Appendix B.

National Planning Policy

- 2.4 The National Planning Policy Framework (NPPF) was originally published in 2012 and detailed the Government's planning policies for England and how these are expected to be applied. The NPPF was revised on 24th July 2018 and 19th February 2019.
- 2.5 The NPPF states the commitment of the UK Government to minimising impacts and providing net gains in biodiversity, contributing to the Government's commitment to halt the overall decline in biodiversity.
- 2.6 It specifies the obligations that Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.
- 2.7 The NPPF is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution.
- 2.8 It should be noted that the new Environment Bill, which is currently under review by Parliament, includes provisions to mandate net gain in biodiversity. The new Environment Bill will require a 10% increase in biodiversity units after development compared to the baseline level prior to development.

Local Planning Policy and Guidance

- 2.9 The Medway Local Plan 2003 (Medway Council, 2003) sets out Medway Council's vision for future development in Medway. This includes the following policies of relevance to the Proposed Development regarding potential ecological issues (for full wording refer to the source document):
- Policy BNE6: Landscape Design
 - o "Major developments should include a terrestrial landscaping scheme to enhance the character of the locality. Detailed landscaping schemes should be submitted before development commences and should have regard to the following factors:
 - v. Support wildlife by the creation or enhancement of semi-natural habitats and the use of indigenous plant material where appropriate."
 - Policy BNE35: International and National Nature Conservation Sites:

- “International and National Nature Conservation Sites, as defined on the proposals map, will be given long-term protection:
 - i. Classified and potential Special Protection Areas (SPAs);
 - ii. Listed and proposed Ramsar sites;
 - iii. National Nature Reserves;
 - iv. Sites of Special Scientific Interest”
 - States the commitment of Medway Council to ensuring development does not directly or indirectly cause material harm to any such sites.
 - Policy BNE36: Strategic and Local Nature Conservation Sites
 - “Strategic and Local Nature Conservation Sites, as defined on the proposals map, will be given long-term protection:
 - i. Sites of Nature Conservation Interest;
 - ii. Designated and proposed Local Nature Reserves.”
 - States the commitment of Medway Council to ensuring development does not directly or indirectly cause material harm to any such sites.
 - Policy BNE37: Wildlife Habitats
 - “Development that would cause a loss, directly or indirectly, of important wildlife habitats or features not protected by policies BNE35 and BNE36 will not be permitted unless
 - i. There is an overriding need for the development that outweighs the importance of these wildlife resources;
 - ii. no reasonable alternative site is (or is likely to be) available if ancient woodland, inter-tidal habitats and calcareous (chalk) grassland would be lost;
 - iii. the development is designed to minimise the loss involved;
 - iv. appropriate compensatory measures are provided.”
 - Policy BNE38: Wildlife Corridors and Stepping Stones
 - “Development should, where practical, make provision for wildlife habitats, as part of a network of wildlife corridors and stepping stones.”
 - Policy BNE39: Protected Species
 - “Development will not be permitted if statutorily protected species and/or their habitat will be harmed”; and
 - “Conditions will be attached, and/or obligations sought, to ensure that protected species and/or their habitats are safeguarded and maintained”.
 - Policy BNE43: Trees on Development Sites
 - “Development should seek to retain trees, woodlands, hedgerows and other landscape features that provide a valuable contribution to local character”.
 - Policy BNE46: Developed Coast
 - “Development will be permitted in and alongside the developed coast, as defined on the proposals map, when:
 - i. The appearance and environment of the coast is improved.”
- 2.10 Medway Council is currently preparing the new Medway Local Plan (2019 to 2037), which will supersede the 2003 Medway Local Plan.
- 2.11 The 1997 Kent Biodiversity Action Plan (Kent Biodiversity Action Plan Steering Group, 1997) aims to enable the conservation and enhancement of biodiversity in the county. It includes Habitat Action Plans for habitats including woodland and scrub, hedgerows, neutral and marshy grassland, grazing marsh, reedbeds, standing water and intertidal mud and sand. It also includes Species Action Plans for species including water vole (*Arvicola amphibius*), otter (*Lutra lutra*), hazel dormouse (*Muscardinus avellanarius*), serotine bat (*Eptesicus serotinus*), nightingale (*Luscinia megarhynchos*) and great crested newt (*Triturus cristatus*).
- 2.12 The Kent Red Data Book (Waite, 1999) provides information on Kent’s rarest and most threatened flora and fauna. It contains accounts for over 1,300 species, including species of potential relevance to the Proposed Development including numerous plant and invertebrate species, reptiles and amphibians, 62 bird species, all bat species and other mammal species such as water vole, otter and hazel dormouse.

3. Methods

Desk Study

- 3.1 A desk study was undertaken to identify nature conservation designations and protected and notable habitats and species potentially relevant to the Proposed Development.
- 3.2 A stratified approach was taken when defining the desk study area, based on the likely zone of influence of the Proposed Development on different ecological receptors and an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified any international nature conservation designations within 10km of the Site, and other statutory sites, non-statutory sites and records of protected and notable habitats and species within 2km of the Site. All statutory and non-statutory sites can be seen on Figures V2.3 and V2.4 in Appendix A.
- 3.3 The desk study was carried out using the data sources detailed in Table 1. Protected and notable habitats and species include those listed under Schedules 1, 5, and 8 of the Wildlife and Countryside Act 1981 (as amended); Schedules 2 and 5 of the Habitats Regulations; Species and Habitats of Principal Importance for nature conservation in England listed under Section 41 (s41) of the NERC Act 2006; and other species that are Nationally Rare, Nationally Scarce, or listed in national or local Red Data Lists and Biodiversity Action Plans.

Table 1 Desk study data sources

Data source	Accessed	Data obtained
Multi-Agency Information Countryside website	Geographic for the (MAGIC) March 2020	<ul style="list-style-type: none"> International statutory designations within 10km Other statutory designations within 2km Ancient woodlands and notable habitats within 1km Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints
Ordnance Survey Pathfinder maps and aerial photography	1:2500 March 2020	<ul style="list-style-type: none"> Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints
Kent and Medway Biodiversity Records Centre (KMBRC)	February 2020	<ul style="list-style-type: none"> Non-statutory designations within 2km Protected and notable species records within 2km (records for the last 10 years only)

Field Survey

Phase 1 Habitat Survey

- 3.4 A Phase 1 habitat survey was undertaken by AECOM in accordance with the standard survey method (Joint Nature Conservation Committee (JNCC), 2010a). Phase 1 habitat survey involves categorising different habitat types and habitat features within a survey area. The information gained from the survey can be used to determine the likely ecological value of a site, and to direct any more specific survey work which may need to be carried out prior to the submission of a planning application. The survey was “extended” to record target notes on protected, notable and invasive species.
- 3.5 The Phase 1 habitat survey was undertaken on 13th June 2019 by two suitably qualified ecologists who recorded and mapped all habitat types present within the Site, along with any associated important ecological features observed.

- 3.6 The aim of the extended Phase 1 habitat survey was to identify the type, quality and extent of habitats present within and adjacent to the Site. Where important ecological features were present, target notes (TN) were recorded and the position of these shown on the Phase 1 habitat map (Figure V2.2, Appendix A).
- 3.7 Typical and notable plant species were recorded for different habitat types and reflect the conditions at the time of survey. This was not intended to be a detailed inventory of the plant species present, as this is not required for the purposes of Phase 1 habitat survey. Botanical nomenclature used in this report follows Stace (2019).

Appraisal of Potential Suitability of Habitats to Support Protected and/or Notable Species

- 3.8 During the Phase 1 habitat survey an appraisal was made of the potential suitability of the habitats present to support protected and notable species of plants or animals. Field signs, habitat features with potential to support protected species and any sightings or auditory evidence were recorded when encountered. No detailed surveys were carried out for any species.
- 3.9 A note was made of any visible instances of invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) such as Japanese knotweed (*Reynoutria japonica*). Locations of plants or stands of any such invasive non-native plant species found were recorded.

Limitations

- 3.10 The aim of a desk study is to help characterise the baseline context of a Proposed Development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitat or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.
- 3.11 Where habitat boundaries coincide with physical boundaries recorded on OS maps the resolution is as determined by the scale of mapping. Elsewhere, habitat mapping is as estimated in the field and/or recorded by hand-held GPS. Where areas of habitat are given, they are approximate and should be verified by measurement on site where required for design or construction.
- 3.12 Phase 1 habitat survey was undertaken in June 2019, which is the optimal period for vegetation surveys. The level of survey was sufficient to assess the suitability of the Site to support protected and/or notable habitats.
- 3.13 Due to the transient nature of the habitats and species detailed within this report, the survey data are considered to be valid for a period of two years, after which the survey may need to be updated to ensure that current data are available to inform the Proposed Development (CIEEM, 2019). Site visits for the purposes of other ecology surveys have been undertaken in spring 2020 and confirmed that the habitats on Site do not differ from those recorded in June 2019.

Quality Assurance

- 3.14 All AECOM Ecologists involved with the surveys at the Site and producing this report are members, at the appropriate level, of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct when undertaking ecological work.

4. Results

Nature Conservation Designations

Statutory Designations

- 4.1 Table 2 and Table 3 detail the statutory nature conservation designations identified by the desk study.
- 4.2 The desk study identified nine internationally designated sites located within 10km of the Site; notably Medway Estuary and Marshes SPA and Ramsar, located immediately south of the Site.
- 4.3 The desk study identified one nationally designated site within 2km of the Site; Medway Estuary and Marshes Site of Special Scientific Interest (SSSI), located immediately south of the Site. SSSIs are sites of nature conservation value that are of particular interest to science due to the rare species of fauna or flora they contain.

Table 2 Internationally designated sites for nature conservation located within 10km of the Site

Designation	Reason(s) for designation	Closest points to Site
Medway Estuary and Marshes Ramsar	Nationally scarce plant species including sea barley, curved hard-grass and slender hare's-ear. Internationally important assemblage of wintering waterfowl and waders. Internationally important populations of migrating waders including grey plover (<i>Pluvialis squatarola</i>) and redshank (<i>Tringa totanus</i>). Internationally important populations over over-wintering waterfowl and waders including dark-bellied brent goose (<i>Branta bernicla bernicla</i>) and shelduck (<i>Tadorna tadorna</i>).	Immediately south of Site + small part within Site crossed by submarine cable horizontal directional drilling (HDD) 90m north-east of Site
Medway Estuary and Marshes SPA	Internationally important breeding populations of waders and waterfowl including avocet (<i>Recurvirostra avosetta</i>) and little tern (<i>Sternula albifrons</i>). Internationally important over-wintering populations of waders and waterfowl including avocet, dark-bellied brent goose and pintail (<i>Anas acuta</i>). Internationally important over-wintering assemblage of waterfowl and waders.	Immediately south of Site + small part within Site crossed by submarine cable horizontal directional drilling (HDD) 90m north-east of Site
Thames Estuary and Marshes Ramsar	Nationally scarce plant and invertebrate species. Internationally important over-wintering assemblage of waterfowl and waders. Internationally important populations of migrating waders including redshank and ringed plover (<i>Charadrius hiaticula</i>). Internationally important populations of over-wintering populations of waterfowl and waders including dark-bellied brent goose and grey plover.	4km north-east of Site
Thames Estuary and Marshes SPA	Internationally important over-wintering populations of waders, waterfowl and raptors including marsh harrier (<i>Circus aeruginosus</i>), avocet and black-tailed godwit (<i>Limosa limosa</i>). Internationally important over-wintering assemblage of waterfowl and waders.	4km north-east of Site
Queendown Warren SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*Important orchid sites). The site hosts the priority habitat type "orchid rich sites". It contains an important assemblage of rare and scarce species including early spider-orchid (<i>Ophrys sphegodes</i>), burnt orchid (<i>Neotinea ustulata</i>) and man orchid (<i>Orchis anthropophora</i>).	9.2km south of Site
The Swale Ramsar	Nationally scarce plant and invertebrate species. Internationally important over-wintering assemblage of waterfowl and waders. Internationally important populations of migrating waders including redshank and ringed plover. Internationally important populations of over-wintering waterfowl and waders including dark-bellied brent goose and grey plover.	9.3km south-east of Site
The Swale SPA	Internationally important populations of over-wintering waterfowl and waders including dark-bellied brent goose and dunlin (<i>Calidris alpina</i>). Internationally important over-wintering assemblage of waterfowl and waders.	9.3km south-east of Site
Benfleet and Southend	Internationally important populations of over-wintering waterfowl and waders including dark-bellied brent goose and knot (<i>Calidris canutus</i>). Internationally important over-wintering assemblage of waterfowl and waders.	10km north of Site

Designation	Reason(s) for designation	Closest points to Site
Marshes SPA		
Benfleet and Southend Marshes Ramsar	Internationally important over-wintering assemblage of waterfowl and waders. Internationally important populations of migrating waterfowl and waders including dark-bellied brent goose and grey plover.	10km north of Site

Table 3 National statutory designated sites for nature conservation located within 2km of the Site

Designation	Reason(s) for designation	Closest point to Site
Medway Estuary and Marshes SSSI	The Medway Estuary and Marshes SSSI forms the largest area of intertidal habitats which have been identified as of value for nature conservation in Kent. The area holds internationally important populations of wintering and passage birds and is also of importance for its breeding birds. An outstanding assemblage of plant species also occurs within the site.	Immediately south of Site + small part within Site crossed by submarine cable horizontal directional drilling (HDD) 90m north-east of Site

Non-statutory Designations

- 4.4 Table 4 details the non-statutory nature conservation designations identified by the desk study.
- 4.5 The desk study identified one RSPB (Royal Society for the Protection of Birds) Reserve within 2km of the Site. RSPB reserves are non-statutory designations covering areas of particular interest for birds and other wildlife.

Table 4 Non-statutory designated sites for nature conservation located within 2km of the Site

Designation	Reason(s) for designation	Closest point to Site
Nor Marsh and Motney Hill RSPB	A saltmarsh island in the Medway Estuary supporting large numbers of wintering waterbirds including dark-bellied brent goose, shelduck, pintail, goldeneye (<i>Bucephala clangula</i>), avocet and grey plover.	1.8km south-west of Site

- 4.6 All statutory and non-statutory sites can be seen on Figures V2.3 and V2.4 in Appendix A.

Habitats

Phase 1 Habitat Types

- 4.7 The habitats recorded and their distributions within the Site are summarised in Table 5 and shown in Appendix A, Figure V2.2. Photos of these habitats, along with habitats of ecological interest adjacent to the Site, are shown in Plates 1-10. Habitat areas are approximate and only comprise habitats present within the Site. Associated target notes (TN) are provided in Appendix C.
- 4.8 Note that the redline boundary for the Site also includes an existing access road extending westwards from the north-west corner of the Site. This comprises hardstanding and is not to be altered within the Proposed Development application; therefore, it is not considered as part of the assessment, but is shown in Appendix A, Figure V2.2.

Table 5 Habitats present within the Site during the 2019 Phase 1 habitat survey

Habitat	Description	Area (ha)	% of the Site
Hardstanding	Six circular concrete bases, formerly underlying oil storage tanks, covered much of the Site. A tarmac road surrounded the Site perimeter (partially outside the Site boundary). A concrete sea wall was present in the south-west corner.	1.37	22.1

Standing water (G1)

4.16 A small seasonally wet pond was present within the south-west corner of the Site (Plate 6) (TN7). This was encroached onto/bordered by marginal vegetation predominantly comprising common reed (*Phragmites australis*).

Marginal vegetation (F2.1)

4.17 Marginal vegetation surrounded the pond in the south-west corner of the Site (Plate 6) (TN6), containing abundant common reed as well as various sedges (*Carex* sp.) and sea club-rush (*Bolboschoenus maritimus*), and was also present in smaller patches adjacent to hardstanding and bare ground.

Flood defence sea wall (J2.5)

4.18 A concrete sea wall was present in the south of the Site, between the Medway Estuary and the terrestrial habitats. Atop the concrete sea wall was a steel and wire mesh security perimeter fence.

Intertidal shingles/cobbles (H1.2)

4.19 A small area of shingles/cobbles was present south of the sea wall within the Medway Estuary and north of an area of intertidal mud/sand (Plate 10).

Intertidal mud/sand (H1.1)

4.20 The Site extends to the Mean High Water Springs (MHWS) within the Medway Estuary. To the south of the intertidal shingles/cobbles is an area of intertidal mud/sand (Plate 10).



Plate 1 Hardstanding comprising circular concrete bases formerly underlying oil storage tanks. Plate 2 Perimeter road within the south-west corner of the Site.



Plate 3 Bare ground with sparse vegetation towards the centre of the Site.



Plate 4 East-facing semi-improved grassland bank inside the eastern boundary of the Site (adjacent to the perimeter road).



Plate 5 Semi-improved grassland towards the south of the Site.

Plate 6 Marginal vegetation and standing water within the south-west corner of the Site.

Habitats adjacent to the Site

4.21 Adjacent to the Site were wider areas of hardstanding and bare ground, as well as a ditch east of the Site boundary (Plate 7) (TN8), beyond which was a larger expanse of grassland within an enclosed area formerly comprising power station ash lagoons (Plate 8) (TN9). Intertidal mudflats were present approximately 90m north of the Site (within Damhead Creek) (Plate 9) (TN10) and immediately south of the Site (within the Medway Estuary) (Plate 10) (TN11).



Plate 7 Ditch immediately east of the Site boundary.

Plate 8 Large expanse of grassland approximately 40m east of the Site within an enclosed area formerly comprising power station ash lagoons.



Plate 9 Damhead Creek, located to the north of the Site, Plate 10 Intertidal mudflats within the Medway Estuary (forming containing intertidal mudflats (photographed at high tide) part of the Medway Estuary and Marshes SPA and Ramsar) (forming part of the Medway Estuary and Marshes SPA and within the Offshore Cable Route, immediately south of the Site. Ramsar).

Priority Habitats

- 4.22 The Site contains standing water (TN7), which is a habitat of Principal Importance under s41 of the NERC Act 2006 and is subject to a Habitat Action Plan within the Kent BAP (Kent Biodiversity Action Plan Steering Group, 1997). This habitat covers approximately 0.01ha within the Site. This habitat is not a natural water feature; the standing water is produced by rainwater collecting in a depression since the demolition of the former Kingsnorth Power Station and is potentially subject to drying out in periods of dry weather. However, the definition of ‘ponds’ in the BAP is intentionally broad, essentially covering all standing water of ecological value. As such, it is still considered a priority habitat as it meets the criteria under the UK BAP Action Plan Priority Habitat Description for Ponds¹.
- 4.23 The redline boundary of the Site also contains a small area of intertidal mudflats, which is a habitat of Principal Importance under Section 41 of the NERC Act 2006 and is subject to a Habitat Action Plan within the Kent BAP (Kent Biodiversity Action Plan Steering Group, 1997). The habitat is present south of the sea wall within the Medway Estuary and covers approximately 0.07 ha within the Site. This habitat is also part of the Medway Estuary and Marshes SPA, Ramsar and SSSI.
- 4.24 Brownfield habitats within the Site (specifically sparsely vegetated bare ground) were considered in reference to the criteria for identifying the habitat Open Mosaic Habitat on Previously Development Ground (OMH) (JNCC, 2010b); a habitat of Principal Importance under s41 of the NERC Act 2006. Whilst habitat within the Site had certain characteristics of OMH, it lacked sufficient heterogeneity (i.e. smaller scale structural variation) to be considered OMH.
- 4.25 Habitats of Principal Importance under the NERC Act 2006 and habitats subject to Habitat Action Plans within the Kent BAP are also present adjacent to the Site: specifically OMH (to the west of the Site); standing water (TN8, approximately 10m east of the Site); and intertidal mudflats (within Damhead Creek and the Medway Estuary, approximately 90m north of the Site and immediately south of the Site respectively).

Protected and/or Notable Species

Desk Study

- 4.26 Review of MAGIC identified Natural England European Protected Species Mitigation Licences (EPSML) that had previously been granted within 2km of the Site as follows:
- great crested newt licence (2015-2024) for damaging a breeding site and the damaging/destruction of a resting place approximately 600m north-west of the Site;
 - great crested newt licence (2013-2018) for damaging a resting place approximately 700m west of the Site;
 - great crested newt licence (2011-2015) for the destruction of a resting place approximately 1km north of the Site; and
 - great crested newt licence (2015) for the damaging/destruction of a resting place approximately 1.4km northwest of the Site.
- 4.27 Data obtained from Kent and Medway Biodiversity Records Centre (KMBRC, 2020) identified records of protected and/or notable species within 2km of the Site (as listed in □), including:
- three plant species included on s41 of the NERC Act 2006 including Borrer’s saltmarsh grass (*Puccinellia fasciculata*);
 - four invertebrate species included on s41 of the NERC Act 2006 including garden tiger moth (*Artica caia*);

¹ <http://data.jncc.gov.uk/data/dec49c52-a86c-4483-90f2-f43957e560bb/UKBAP-BAPHabitats-42-Ponds.pdf> [Accessed 13 May 2020].

- amphibians and reptiles comprising great crested newt, common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*);
- numerous bird species including species listed on Annex 1 of the EC Birds Directive 2009, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), s41 of the NERC Act 2006, the BOCC Red and Amber lists and the Kent Red Data Book. These included species contributing to the designation of internationally designated sites identified during the desk study (see Section 3), and nightingale (for which a Species Action Plan was devised within the Kent Biodiversity Action Plan 1997);
- at least eight bat species, all of which are fully protected under the Wildlife and Countryside Act 1981 (as amended), and including species listed on s41 of the NERC Act 2006. Records included the following roosts:
 - o a brown long-eared bat (*Plecotus auritus*) hibernation roost at Darnet Fort approximately 1.8km south-west of the Site; and
 - o a maternity roost used by serotine (*Eptesicus serotinus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bats, approximately 5km north-west of the Site.
- other mammals including badger (*Meles meles*) and numerous records of water vole; and
- Japanese knotweed (*Reynoutria japonica*), which is a non-native invasive species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Plants

- 4.28 No protected and/or priority plant species (e.g. species included on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended)) were recorded within the Site or in close proximity to the Site during the Phase 1 habitat survey. The Site was generally unsuitable to support protected and/or priority plant species.

Invertebrates

- 4.29 Habitats within the Site comprising semi-improved grassland, marginal vegetation, bare ground and standing water were generally assessed as lacking sufficient structural diversity to support a diverse invertebrate assemblage or protected and/or priority invertebrate species, instead being suitable for a narrow invertebrate assemblage.

Great Crested Newt

- 4.30 The desk study (see Appendix D) confirmed the recent presence of great crested newts within 2km of the Site.
- 4.31 The Site contains one pond (TN7) which is potentially suitable for use by great crested newt. The Site also contains suitable terrestrial habitat (particularly semi-improved grassland) for use by great crested newt (e.g. for sheltering, foraging, hibernating).
- 4.32 Field survey and review of OS mapping identified two other waterbodies within 250m of the Site as potentially suitable for great crested newt: a ditch (TN8) immediately east of the Site boundary, and pond approximately 250m north of the Site. Whilst the latter is approximately 250m from the Site, Damhead Creek (Plate 9) lies between the Site and this pond. This constitutes a fundamental barrier to the movement of newts, which avoid high salinity conditions. Taking account of terrestrial movement routes around the creek, the Site is therefore separated from this pond by approximately 700m distance of terrestrial habitat; much of this terrestrial habitat between the pond and the Site is suboptimal for great crested newt. This pond can therefore be scoped out from further consideration.
- 4.33 The Site is also suitable for widespread amphibians such as common toad (*Bufo bufo*), which is a species of Principal Importance under s41 of the NERC Act 2006.

Reptiles

- 4.34 The desk study confirmed the recent presence of common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*) within 2km of the Site (see Appendix D). Habitats within and in close proximity to the Site (e.g. semi-improved grassland, scrub, standing water) are suitable for use by widespread reptile species, providing potential habitat for sheltering, foraging, basking and hibernating.

These habitats are connected to larger areas of suitable reptile habitat within the wider area (e.g. grassland to the west and east of the Site).

Birds

- 4.35 The desk study identified records of protected and/or notable bird species, including species listed on Annex 1 of the EC Birds Directive 2009, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), s41 of the NERC Act 2006, the BOCC Red and Amber lists (Eaton *et al.*, 2015) and the Kent Red Data Book. These included species contributing to the designation of internationally designated sites identified during the desk study (see Appendix D).

Wintering Birds

- 4.36 Habitats within the Site are suitable for use by protected and/or notable wintering bird species; notably as potential high tide roosting and foraging habitat for species of relevance to the designation of the Medway Estuary and Marshes SPA and Ramsar, as well as sheltering and foraging by a range of other protected and/or notable species. Considering the extent and quality of habitats present, the Site is unlikely to be used by significant numbers of protected and/or notable wintering birds.
- 4.37 The Site contains 0.08 ha of intertidal habitat within the Medway Estuary and Marshes SPA and Ramsar. The area of intertidal habitat within the site is very small and is not suitable for significant numbers of birds; however, the wider intertidal area outside of the Site is suitable for use by significant wintering bird populations (including populations of species relevant to the designation of the Medway Estuary and Marshes SPA and Ramsar). The Site is also approximately 40m from a wider area of grassland to the east which is potentially suitable for use by larger populations of wintering birds. The sea wall provides a potential high tide roost for waders.

Breeding Birds

- 4.38 Habitats within the Site are suitable for use by breeding birds, including protected and/or notable bird species, and species contributing to the designation of the Medway Estuary and Marshes SPA and Ramsar. Scrub, marginal vegetation and bare ground are particularly suitable for use by breeding waders and passerines (including specially protected species such as little ringed plover (*Charadrius dubius*) and Cetti's warbler (*Cettia cetti*). Habitats in wider area (outside the Site boundary) are suitable for a range of protected and/or notable species including black redstart (*Phoenicurus ochruros*) (around the jetty approximately 600m west of the Site).

Badger

- 4.39 The desk study confirmed the recent presence of badger within 2km of the Site (Appendix D). Grassland and scrub within the Site comprise suitable foraging habitat for badger, and the Site forms part of a wider area of suitable foraging habitat. The area of badger foraging habitat within the Site is relatively small when viewed in the context of the wider landscape. No badger setts or suitable habitat for badger setts within the Site were identified.

Bats

- 4.40 The desk study confirmed the recent presence of at least eight bat species within 2km of the Site (see Appendix D). The Site does not contain any suitable structures or trees for use by roosting bats, and no such structures or trees are present in close proximity to the Site.
- 4.41 Grassland, scrub and standing water within the Site potentially comprise suitable bat foraging and commuting habitat. In view of the size and type of habitat present within the Site, and its connectivity to suitable habitat within the wider area, the Site is deemed to comprise low suitability habitat for commuting and foraging bats (in reference to the categories described by Collins, 2016).

Water Vole

- 4.42 The desk study identified numerous recent records of water vole within 2km of the Site (see □). The Site contains one pond (TN7) which is potentially suitable for use by water vole, and another waterbody 10m east of the Site (TN8) is also potentially suitable. The wider area contains various suitable ditches and ponds, potentially forming a larger area of suitable connected habitat.

Other Protected and/or Notable Species

- 4.43 The Site is potentially suitable for use by hedgehog, which is a species of Principal Importance under s41 of the NERC Act 2006.
- 4.44 The Site is not considered to be suitable for any other legally protected and/or notable species.

Invasive Non-native Species

- 4.45 The desk study identified recent records of Japanese knotweed (listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) within 2km of the Site (see Appendix D).
- 4.46 No invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the Phase 1 habitat survey. The Phase 1 habitat survey was undertaken at an optimal time of year to record non-native plant species.

5. Identification of Ecological Constraints and Recommendations

Approach to the Identification of Ecological Constraints

- 5.1 Relevant ecological receptors that may represent constraints to the Proposed Development, or that provide opportunities to deliver ecological enhancement in accordance with planning policy, are identified in this section. The NPPF and local planning policy (summarised in Section 2 specify requirements for the protection of features of importance for biodiversity. Compliance with planning policy requires that a development proposal considers and engages the following mitigation hierarchy where there is potential for impacts on relevant ecological receptors:
1. Avoid features where possible;
 2. Minimise impact by design, method of working or other measures (mitigation) e.g. by enhancing existing features; and
 3. Compensate for significant residual impacts, e.g. by providing suitable habitats elsewhere.
- 5.2 This hierarchy requires the highest level to be applied where possible. Only where this cannot reasonably be adopted should lower levels be considered.
- 5.3 In accordance with the objective within the NPPF of pursuing opportunities for the implementation of net gains in biodiversity, consideration is given to the scope for enhancement as part of the Proposed Development.
- 5.4 The likelihood of the relevant ecological receptors constraining the Proposed Development has been assessed with reference to the scale described in Table 6. The greater the importance of the ecological receptor for the conservation of biodiversity at national and local scales, the more likely it is to be a material constraint.
- 5.5 There may be scope for ecological enhancement where existing habitat features could be improved or enhanced within the Proposed Development. Ecological enhancement may not be possible where there is little scope to accommodate enhancement within a development proposal (e.g. due to a lack of utilisable space, or where land is required for essential mitigation), whereupon consideration may be given to enhancing biodiversity in the vicinity of the Site.

Table 6 Scale of constraint to development

Likelihood	Definition
High	An actual or potential constraint that is subject to relevant legal protection and is likely to be a material consideration (e.g. statutory nature conservation designations and European/nationally protected species).
Medium	An actual or potential constraint that is covered by national or local planning policy and, depending on the level of the potential impact as a result of the Proposed Development, may be a material consideration.
Low	Unlikely to be a constraint on the Proposed Development or require further survey.

Constraints and Requirement for Further Survey: Designations

Statutory Designations

- 5.6 Nine internationally designated sites are located within 10km of the Site. The Site is immediately north of the Medway Estuary and Marshes SPA and Ramsar. The Site is also within 5km of the Thames Estuary SPA and Ramsar (located approximately 4km north-west of the Site). In addition, one statutory nationally designated site is located within 2km of the Site; Medway Estuary and Marshes SSSI (immediately south of the Site).

- 5.7 Given the proximity of the Site to these designations, recommendations in relation to internationally designated features of ornithological interest (of particular relevance to the Medway Estuary and Marshes SPA and Ramsar) are made in Paragraph 5.21 – 5.23.
- 5.8 In addition, potential impacts on statutory nature conservation designations during the construction of the Proposed Development should be minimised through the implementation of good practice construction methods with appropriate environmental mitigation measures.

Non-statutory Designations

- 5.9 One non-statutory designated site is located within 2km of the Site; Nor Marsh and Motney Hill RSPB Reserve, located approximately 1.8km south-west of the Site.
- 5.10 Considering the geographical scope of potential impacts from the Proposed Development, and the distance between the Site and this non-statutory designation, impacts on Nor Marsh and Motney Hill RSPB Reserve or any other non-statutory designations are considered to be highly unlikely.
- 5.11 Therefore, no further surveys or mitigation is required.

Constraints and Requirement for Further Survey: Habitats

- 5.12 The Phase 1 habitat survey undertaken to inform this PEA is sufficient to record the species present in these habitats, therefore no further survey work is recommended with regards to the habitats present within or directly adjacent to the Site.
- 5.13 The pond (TN7) in the south-west corner of the Site comprises a habitat of Principal Importance under s41 of the NERC Act 2006 and is subject to a Habitat Action Plan within the Kent BAP (Kent Biodiversity Action Plan Steering Group, 1997). This pond should be retained within the Proposed Development if possible.
- 5.14 Other habitats of Principal Importance are present in close proximity to the Site, including a ditch (TN8), intertidal mudflats (within Damhead Creek and the Medway Estuary) and potentially Open Mosaic Habitat on Previously Developed Ground. Therefore, the potential for construction impacts on these habitats should be minimised using good practice construction methods with appropriate mitigation measures.

Constraints and Requirement for Further Survey: Species

Great Crested Newt

- 5.15 Great crested newts and their habitat are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Together, under this legislation it is an offence to kill, injure or disturb an individual. In addition, it is an offence to damage or destroy their habitat, including terrestrial habitats that may be well separated from the breeding pond.
- 5.16 The Site contains suitable aquatic habitat (in the form of the pond (TN7) in the south-west corner of the Site) and terrestrial habitat (particularly semi-improved grassland) for use by great crested newt. Therefore, the pond (TN7) and the ditch (TN8) immediately east of the Site are deemed to need further survey to confirm the presence or likely absence of great crested newt, comprising an assessment of these waterbodies under the Habitat Suitability Index (HSI) methodology (Oldham *et al.*, 2000) to confirm their suitability for great crested newt and water samples taken from the ponds for laboratory analysis using eDNA techniques (this technique allows for presence or likely absence of great crested newts to be confirmed).
- 5.17 Further surveys of these waterbodies for great crested newt have been undertaken by RPS in April 2019.

Reptiles

- 5.18 The four widespread reptile species (slow worm, common lizard, grass snake and adder (*Vipera berus*)) are all protected under the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to intentionally kill or injure these species. All four widespread reptile species are also listed as species of Principal Importance within s41 of the NERC Act 2006.

- 5.19 Habitats within and in close proximity to the Site (e.g. semi-improved grassland, scrub, standing water) are suitable for use by widespread reptile species. Survey data relating to reptile populations in the wider area should therefore be obtained to determine the presence or likely absence of reptiles.
- 5.20 Reptile surveys of the wider area have been undertaken by RPS in spring 2019.

Birds

Wintering Birds

- 5.21 Habitats within and in close proximity to the Site are suitable for use by protected and/or notable wintering bird species (including species relevant to the designation of the Medway Estuary and Marshes SPA and Ramsar). Further surveys should therefore be undertaken of the Site and adjacent habitat (particularly intertidal mudflats within the Medway Estuary and Marshes SPA and Ramsar) to identify the species present, their abundances and distributions; with particular emphasis on whether significant proportions of any SPA designated wintering bird populations are present.
- 5.22 Due to the potential for impacts on internationally designated bird populations, it is deemed necessary that further wintering bird surveys are undertaken during two consecutive winters, with a series of survey visits spread across a range of months (i.e. covering October to March inclusive) and tide times (to assess use of the Site and adjacent land at high tide, when birds are more likely to be roosting within or in close proximity to the Site, and at low tide, when birds are more likely to be foraging in suitable habitat such as intertidal mudflats within the Medway Estuary).
- 5.23 Further surveys of the Site and adjacent land for wintering birds have been undertaken by RSK in winter 2018/19 and AECOM in winter 2019/20.

Breeding Birds

- 5.24 Habitats within and in close proximity to the Site are suitable for use by protected and/or notable breeding bird species (including species relevant to the designation of the Medway Estuary and Marshes SPA and Ramsar, and species afforded additional protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)). Further surveys of the Site and adjacent habitat are therefore deemed necessary to identify the species present, their abundances and distributions, with particular emphasis on the locations of territories of any protected and/or notable species based on the standard territory mapping methodology detailed by Gilbert *et al.* (1998) and Bibby *et al.* (2000).
- 5.25 Due to the potential for impacts on internationally designated bird populations and consultations with Natural England, it is considered breeding bird surveys should be undertaken during two consecutive breeding seasons, with a series of survey visits spread across the peak breeding season (i.e. covering March to July inclusive).
- 5.26 Further surveys of the Site and adjacent land for breeding birds have been undertaken by RPS in 2019 and AECOM in 2020.

Badger

- 5.27 The Site contains suitable badger foraging habitat and could potentially be used by badgers moving between areas of suitable habitat to the west and east. In view of the area and quality of habitat within the Site, the Site is unlikely to be of significant value to badger for breeding and of low value for foraging (particularly when viewed in the context of the wider landscape).
- 5.28 No further surveys for badger are required.

Bats

- 5.29 The Site does not contain any suitable structures or trees for use by roosting bats, and no such structures or trees are present in close proximity to the Site. Therefore, no further surveys are required in relation to roosting bats.
- 5.30 Grassland, scrub and standing water within the Site potentially comprise suitable bat foraging and commuting habitat. However, in view of the size, type and connectivity of habitat within the Site, the Site is deemed to comprise low suitability habitat for commuting and foraging bats. Nonetheless, survey data for

the wider area would be useful to determine the presence of bats in the vicinity of the Proposed Development.

- 5.31 Further surveys of the wider area for commuting and foraging bats have been undertaken by RPS in 2019.

Water Vole

- 5.32 Water voles are fully protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence to deliberately damage, destroy or obstruct access to a place of shelter or protection, or to deliberately kill, damage, take or disturb a water vole.

- 5.33 A pond (TN7) within the Site and a ditch (TN8) adjacent to the Site are potentially suitable for use by water vole. Therefore, these waterbodies should be subject to further survey for water vole in accordance with the methodology described by Strachan *et al.* (2011), with each waterbody searched for signs of water vole activity paying particular attention to burrows, runs, feeding remains, latrines and sightings of water voles themselves. Information relating to habitat suitability (e.g. habitat type, bank substrate/profile and vegetation cover) should also be recorded.

- 5.34 Further surveys of waterbodies within and adjacent to the Site for water vole have been undertaken by RPS in 2019.

Summary of Ecological Constraints

- 5.35 Potential ecological constraints to the Proposed Development are summarised in Table 7 below.

Table 7 Summary appraisal of ecological constraints and recommended further action

Receptor	Scale of constraint	Further requirements (including potential mitigation)	Driver	When is action likely to be required		
				To inform design	Before planning application	Pre-construction onwards
Statutory designations for nature conservation	High	International and national nature conservation designations are in close proximity to the Site; in particular Medway Estuary and Marshes SPA, Ramsar and SSSI (immediately south of the Site). Further wintering and breeding bird surveys are required to inform the potential for impacts on ornithological features for which these designations have been established. Construction impacts should be minimized through implementation of best practice construction methods with appropriate environmental mitigation measures.	Legislation	✓	✓	✓
Non-statutory designations for nature conservation	Low	One non-statutory nature conservation designation is approximately 1.8km from the Site. Due to distance from the Site the proposed development will not impact the non-statutory site. No further surveys or mitigation is required.	Policy	X	X	X
Habitats	Medium	NERC s41 and Kent BAP habitats are present within the Site (standing water) and adjacent to the Site (standing water, intertidal mudflats and potentially Open Mosaic Habitat). Priority habitats to be retained where possible, with replacement habitat required in the event that priority habitat is to be lost. Construction impacts should be minimized through implementation of best practice construction methods with appropriate environmental mitigation measures	Policy	✓	✓	✓
Plants	Low	Site is generally unsuitable to support protected and/or priority plant species. No further botanical surveys or mitigation is required.	Legislation	X	X	X

Receptor	Scale of constraint	Further requirements (including potential mitigation)	Driver	When is action likely to be required		
				To inform design	Before planning application	Pre-construction onwards
Great crested newt	High	Waterbodies within the Site (one pond TN7) and within 250m of the Site (one ditch TN8) are potentially suitable to support great crested newt. Suitable terrestrial habitat (including hibernation habitat) is present within and adjacent to the Site. Further surveys should be undertaken to confirm presence or likely absence of great crested newt (undertaken in 2019 by RPS).	Legislation	✓	✓	✓
Reptiles	Medium	Habitats within and adjacent to the Site (semi-improved grassland, scrub, standing water) are suitable for widespread reptile species. Further surveys should be undertaken to confirm presence or likely absence of reptiles (undertaken in 2019 by RPS).	Legislation	✓	✓	✓
Birds (wintering)	High	Habitats within the Site are of potential value to wintering birds, whilst habitats adjacent to the Site (particularly intertidal mudflats within the Medway Estuary and Marshes SPA and Ramsar) potentially support significant wintering bird populations in relation to international conservation designations. Further surveys should be undertaken to identify the value of the Site and adjacent habitat to wintering birds (particularly whether significant proportions of any internationally designated populations are present) (undertaken in 2018-2019 by RSK and 2019-2020 by AECOM).	Legislation	✓	✓	✓
Birds (breeding)	High	Habitats within and adjacent to the Site are of potential value to breeding birds, including species contributing to adjacent international conservation designations, and species afford special protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Further surveys should be undertaken to map territories and identify the value of the Site and adjacent habitat to breeding birds (particularly whether significant proportions of any internationally designated populations are present, and the locations of any territories of Schedule 1 species) (undertaken in 2019 by RPS and 2020 by AECOM).	Legislation	✓	✓	✓
Badger	Low	Site is of limited foraging and commuting value for badger. No further surveys or mitigation is required.	Legislation	X	X	X
Bats	Medium	No suitable roosting habitat is present within the Site or in close proximity to the Site. Habitats within and adjacent to the Site (e.g. semi-improved grassland, scrub, standing water) are of low suitability for commuting and foraging bats. Further surveys should be undertaken to determine the value of the Site and adjacent habitat to commuting and foraging bats (undertaken in 2019 by RPS).	Legislation	✓	✓	✓
Water vole	High	Waterbodies within the Site (one pond) and within 250m of the Site (one ditch) are potentially suitable to support water vole. Further surveys should be undertaken to confirm presence or likely absence of water vole (undertaken in 2019 by RPS).	Legislation	✓	✓	✓
Invasive non-native species	Low	No invasive non-native species (e.g. species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) recorded within or in close proximity to the Site. No further surveys or mitigation is required	Legislation	X	X	X

Opportunities for Ecological Enhancement

- 5.36 In accordance with the NPPF and local planning policy, the Proposed Development is required to pursue opportunities for the implementation of a net gain in biodiversity.
- 5.37 The opportunities for enhancement are limited due to the efficient use of the Site for the Proposed Development, such that the buildings and structures are of industrial character and there will be only a small amount of spare land available for landscaping and ecological mitigation measures after construction. Nonetheless, a landscaping plan that includes ecological enhancement should be a key component of the design of the Proposed Development.

6. Conclusions

- 6.1 Habitats within the Site of the Proposed Development comprise hardstanding, bare ground, semi-improved grassland, scrub, marginal vegetation and standing water, with wider areas of brownfield land (land of the former Kingsnorth Power Station), grassland and intertidal mudflats adjacent to the Site. Habitats of biodiversity value particularly standing water (a habitat of Principal Importance under s41 of the NERC Act 2006) should be retained where possible within the design of the Proposed Development.
- 6.2 Nine internationally designated sites are located within 10km of the Site. The Site is immediately north of the Medway Estuary and Marshes SPA, Ramsar and SSSI, which potentially represent ecological constraints to the Proposed Development due to internationally designated bird populations (winter and breeding).
- 6.3 The Site and adjacent land are potentially suitable to support a range of protected and/or notable species which potentially represent ecological constraints to the Proposed Development.
- 6.4 Further surveys are therefore recommended for the following protected and/or notable species: great crested newt, reptiles, wintering birds, breeding birds, bat (activity surveys) and water vole.
- 6.5 The recommended surveys have been undertaken between 2018 and 2020, in particular to provide two years of wintering and breeding bird surveys.
- 6.6 The Proposed Development should also seek to incorporate enhancement measures to retain and, if practicable, increase the biodiversity value of the Site after construction.

7. References

- Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000) *Bird Census Techniques: 2nd edition*.
- British Standards (2013) *Biodiversity — Code of practice for planning and development*. BS42020:2013.
- CIEEM. (2017) *Guidelines for preliminary ecological appraisal*. [Available at: <https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-qpea/> - accessed 06/05/20].
- CIEEM. (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 – Updated September 2019. [Available at: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.1.pdf>].
- CIEEM. (2019) *Advice Note on the lifespan of ecological surveys and reports*. [Available at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf> - accessed May 2019].
- Collins, J. (ed). (2016) *Bat Surveys For Professional Ecologists: Good Practice Guidelines (3rd edition)*. Bat Conservation Trust: London.
- The Conservation of Habitats and Species Regulations 2017 (as amended). London: HMSO.
- Council of the European Communities. (2009) *Directive 2009/147/EC of the European Parliament and of the Council of 20 November 2009 on the conservation of wild birds (codified version)*. Official Journal of the European Communities, 20 (2009), 7-25.
- Countryside and Rights of Way Act 2000. London: HMSO.
- Department for Environment, Food and Rural Affairs (DEFRA) *Multi-Agency Geographic Information for the Countryside*. [Available at: <http://magic.defra.gov.uk/MagicMap.aspx> - accessed 21/04/20].
- Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. & Gregory, R. (2015) *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man*. British Birds, 108, 708-746.
- Froglife. (1999) *Reptile survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
- Gelling, M., Moorhouse, T., & Strachan, R. (2011) *Water Vole Conservation Handbook*.
- Gent, A. & Gibson, S. (1998) *Herpetofauna Workers' Manual*. Peterborough, UK. Joint Nature Conservation Committee.
- House of Commons Library. (2019) *Environment Bill 2019-2020*. [Available at: <https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-8712#fullreport>]
- Institution of Lighting Professionals (2018) *Bats and artificial lighting in the UK: Bats and the Built Environment series*. [Available at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/> - accessed 21/04/20].
- Invasive Alien Species (Enforcement and Permitting) Order 2019. London: HMSO. [Available at: <http://www.legislation.gov.uk/ukxi/2019/527/made> - accessed 06/05/20].
- Joint Nature Conservation Committee (2010a) *Handbook for phase 1 habitat survey – a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.
- Joint Nature Conservation Committee. (2010b) *UK Biodiversity Action Plan Priority Habitat Descriptions – Open Mosaic Habitats on Previously Developed Land*. Joint Nature Conservation Committee, Peterborough.
- Kent Biodiversity Action Plan Steering Group. (1997) *The Kent Biodiversity Action Plan: a framework for the future of Kent's Wildlife*. Kent County Council. Maidstone.
- KMBRC. (2020) *Kingsnorth Power Station: 60557465*. Kent and Medway Biological Records Centre.
- Langton, T.E.S., Beckett, C.L., & Foster, J.P. (2001) *Great Crested Newt Conservation Handbook*, Froglife, Halesworth.
- Maddock, A. (2010) *UK Biodiversity Action Plan Priority Habitat Descriptions*. JNCC, Peterborough.
- Medway Council. (2003) *Medway Local Plan 2003*. Adopted 14th May 2003.
- National Planning Policy Framework. (2018) London: HMSO.
- Natural Environment and Rural Communities Act (2006). [Available at: <http://publications.naturalengland.org.uk/publication/4958719460769792>].

Oldham, R.S., Keeble, J., Swan, M.J.S., & Jeffcote, M. (2000) *Evaluating the Suitability of Habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal, Vol. 10, pp. 143-155.

RPS. (2019b) *Kingsnorth Power Station: Ecology Survey Report*. ECO00617. 16th December 2019.

RSK. (2019) *Kingsnorth Power Station: Winter Bird Survey*.

Stace, C. A. (2019) *New Flora of the British Isles – Fourth Edition*. C&M Floristics: Suffolk.

Waite, A. (1999) *Kent Red Data Book*. Kent Wildlife Trust.

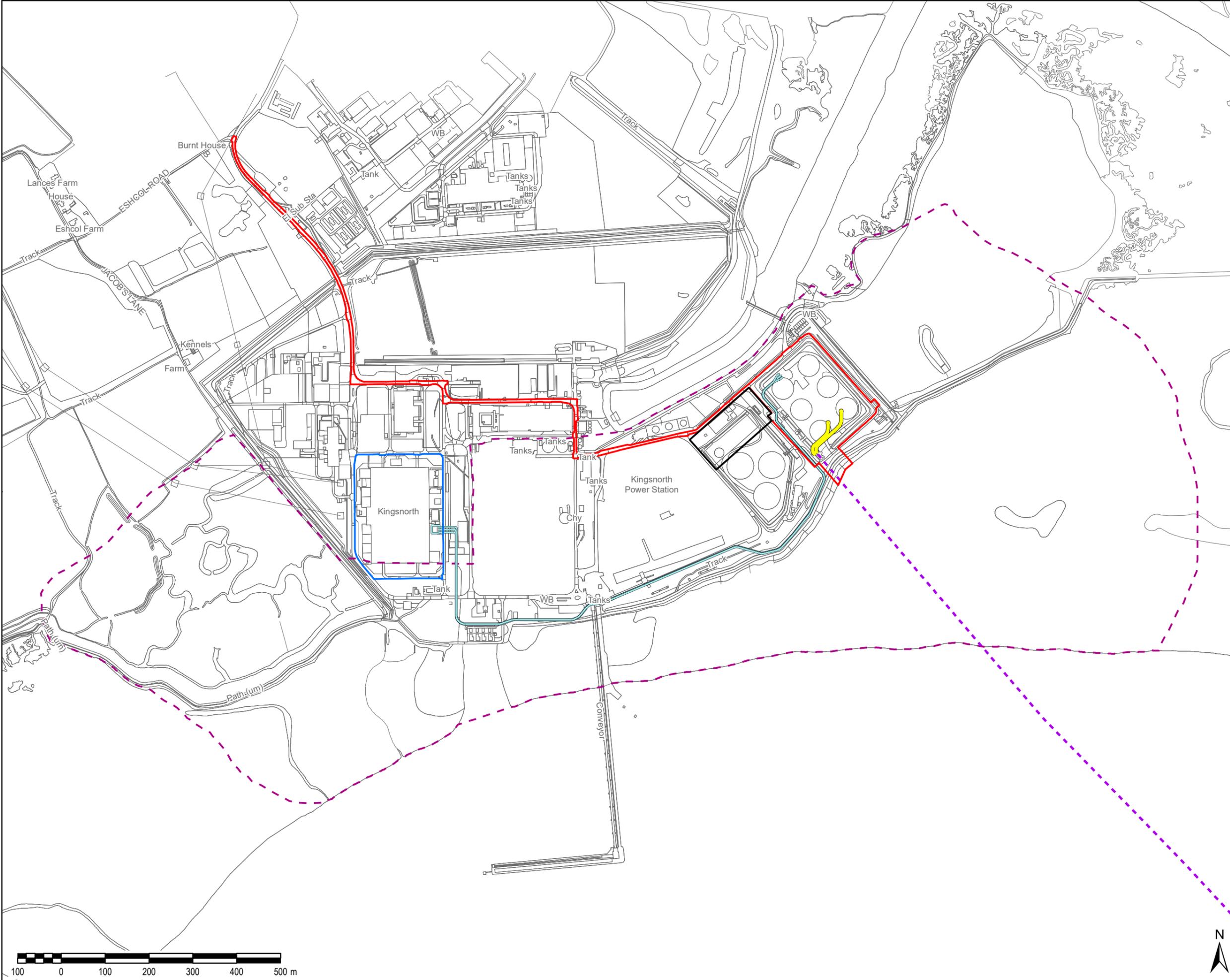
Wild Mammals (Protection) Act 1996. London: HMSO.

Wildlife and Countryside Act 1981 (as amended). London: HMSO.

Appendix A Figures

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- LEGEND**
- Site Boundary
 - Kingsnorth Sub-station
 - Temporary Construction Laydown Area
 - Ecology Survey Area
 - Offshore Cable Route
 - Proposed HVAC Cable Route (Onshore Cable Route)
 - Proposed HVDC Cable Route



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Project Title
GRIDLINK

Drawing Title
SITE LAYOUT

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AECOM Internal Project No. 60557465		Scale @ A3 1:8,000	

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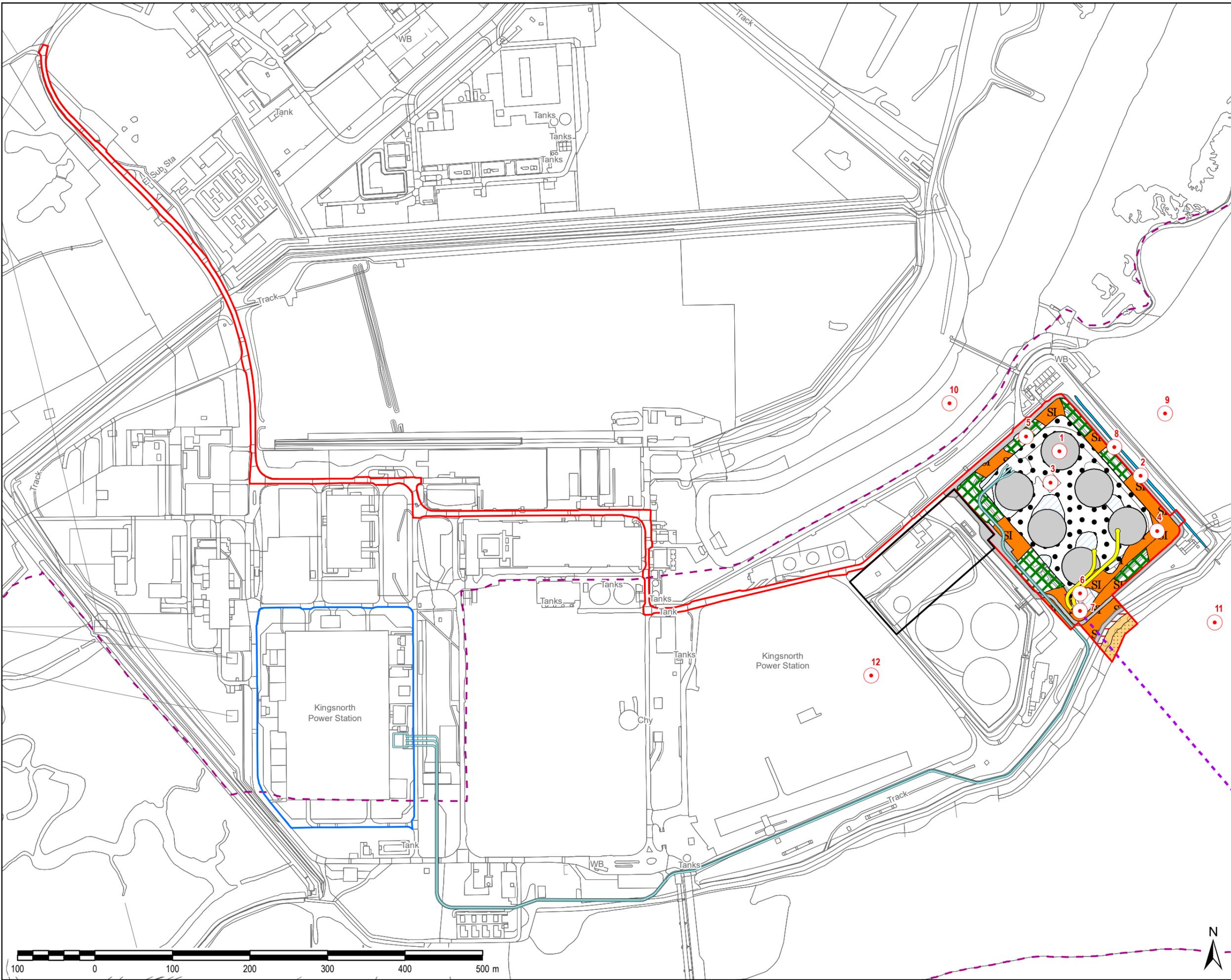
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FIGURE V2.1

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File Name: I:\5004 - Information Systems\60557465_GridLink_Interconnector\02_Maps\Ecology\Volume 2 Phase 1 Habitats\Figure V2.2 - Phase 1 Habitats.mxd



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- LEGEND**
- Site Boundary
 - Kingsnorth Sub-station
 - Temporary Construction Laydown Area
 - Ecology Survey Area
 - Offshore Cable Route
 - Proposed HVAC Cable Route
 - Proposed HVDC Cable Route
 - Target note
 - Bare Ground
 - Hardstanding
 - Intertidal - Mud/Sand
 - Intertidal - Shingles/Cobbles
 - Marginal and Inundation - Inundation Vegetation
 - Neutral Grassland - Semi-improved
 - Scrub - Dense/Continuous
 - Standing Water
 - Wall

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Project Title **GRIDLINK**

Drawing Title **PHASE 1 HABITATS**

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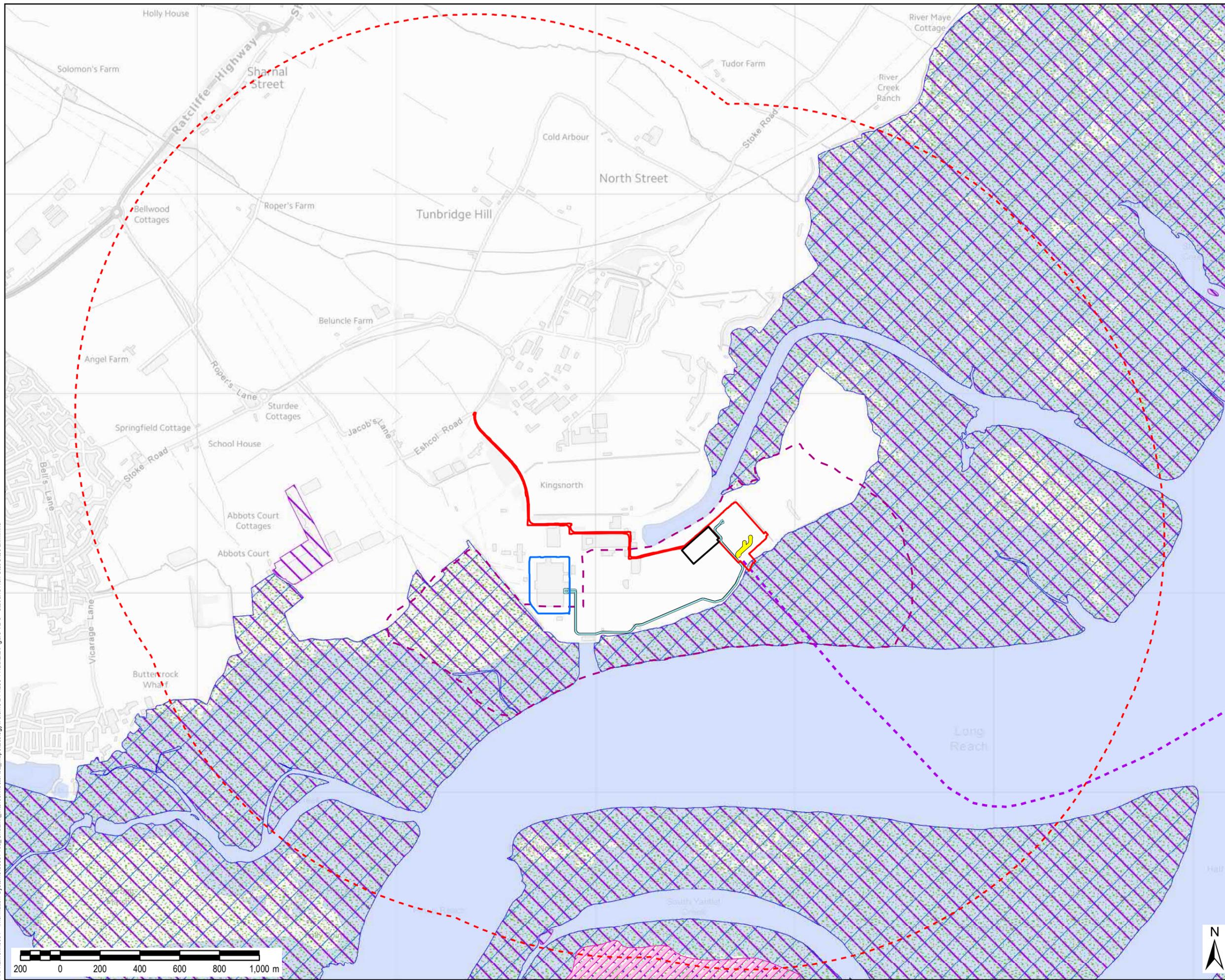
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LEGEND

- Site Boundary
- Site Boundary 2km Buffer
- Kingsnorth Sub-station
- Temporary Construction Laydown Area
- Ecology Survey Area
- Offshore Cable Route
- Proposed HVAC Cable Route (Onshore Cable Route)
- Proposed HVDC Cable Route
- Medway Estuary and Marshes Ramsar
- Medway Estuary and Marshes Site of Special Scientific Interest (SSSI)
- Medway Estuary and Marshes Special Protection Area (SPA)
- Designated Marine Conservation Zone
- Nor Marsh & Motney Hill RSPB Reserve

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STATUTORY AND NON-STATUTORY SITES WITHIN 2KM OF SITE

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AECOM Internal Project No. 60557465		Scale @ A3 1:17,500	

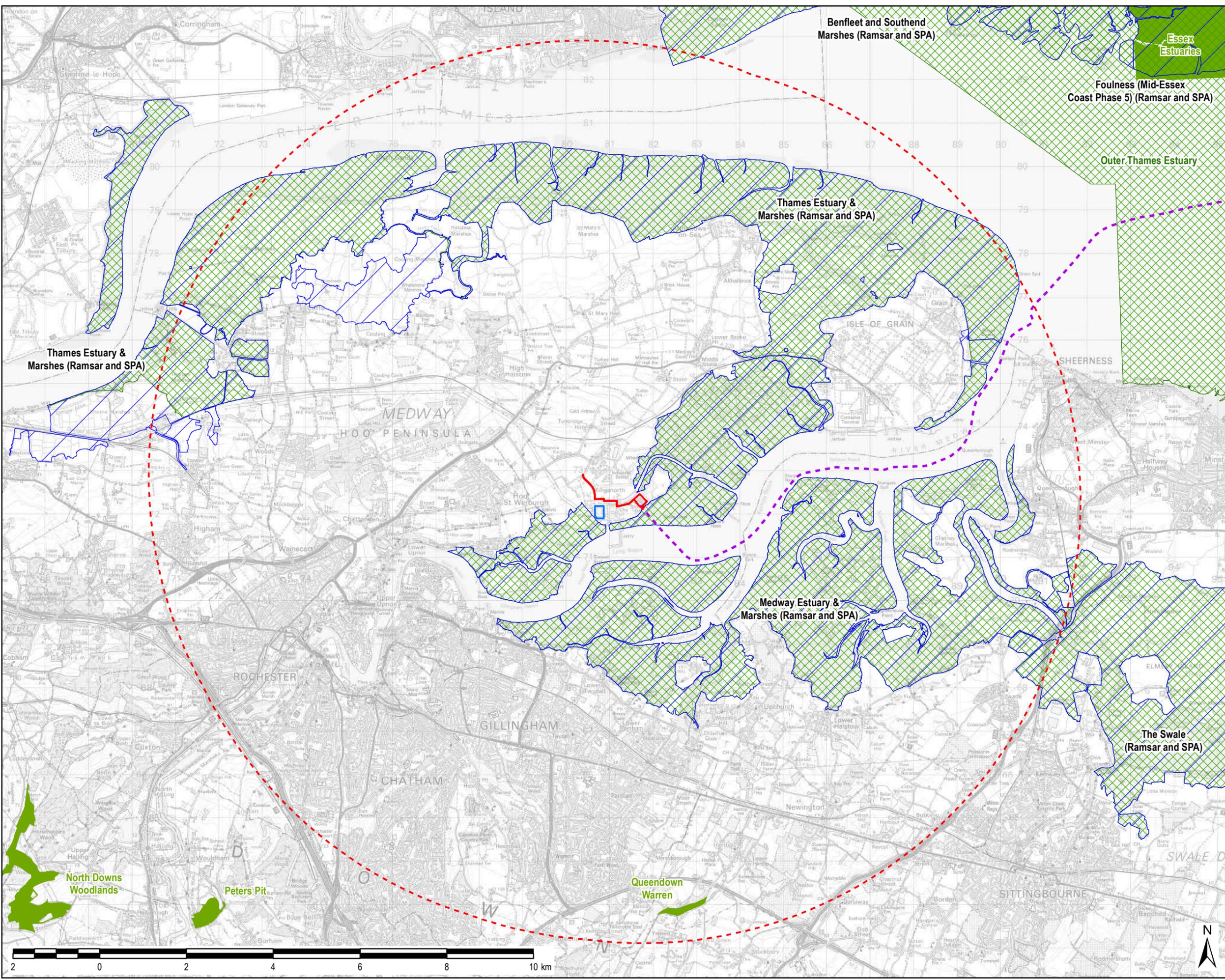
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Drawing Number FIGURE V2.3	Rev 03
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File Name: I:\5004 - Information Systems\60557465_GridLink_Interconnector\Volume 2 Phase 1 Habitats\Figure V2.4 - European Sites 10km.mxd



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LEGEND

- Site Boundary
- Site Boundary 10km Buffer
- Kingsnorth Sub-station
- Temporary Construction Laydown Area
- Ramsar
- Special Areas of Conservation (SAC)
- Special Protection Area (SPA)

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Project Title **GRIDLINK**

Drawing Title **EUROPEAN SITES WITHIN 10KM OF SITE**

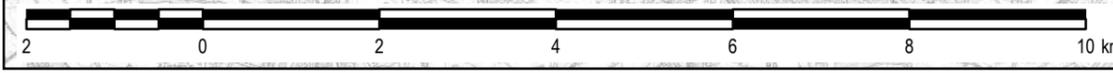
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Appendix B Wildlife Legislation and Planning Policy

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is the major domestic legal instrument for wildlife protection in the UK, and is the primary means by which the following are implemented:

- The Convention on the Conservation of European Wildlife and Natural Habitats ('the Bern Convention'); and
- The Council Directive 79/409/EEC on the Conservation of Wild birds (the 'Bird Directive')

The main relevant provisions of the Act are: allowance for the protection of the most important habitats and species by designating SSSI's, a level of protection to all nesting wild birds and specific bird species under Schedule 1.

Wild Birds

The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird,
- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
- take or destroy an egg of any wild bird.

Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The Act also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

Other Animals

The Act makes it an offence (subject to exceptions) to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Flora, Fungi and Lichens

The Act makes it an offence (subject to exceptions) to intentionally pick, uproot or destroy:

- any wild plant listed in Schedule 8, or
- unless an authorised person, to intentionally uproot any wild plant not included in Schedule 8,
- to sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Non-native Species

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

Countryside and Rights of Way (CRoW) Act 2000

The Countryside and Rights of Way Act 2000 applies to England and Wales only. Part III of the Act deals specifically with wildlife protection and nature conservation.

The Act places a duty on Government Departments and the National Assembly for Wales to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

Schedule 9 of the Act amends the SSSI provisions of the Wildlife and Countryside Act 1981, including increased powers for their protection and management of SSSIs. The provisions extend powers for entering into management agreements; place a duty on public bodies to further the conservation and enhancement of SSSIs; increase penalties on conviction where the provisions are breached; and include an offence whereby third parties can be convicted for damaging SSSIs.

Schedule 12 of the Act amends the species provisions of the Wildlife and Countryside Act 1981, strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable', include an offence of reckless disturbance, confer greater powers to police and wildlife inspectors for entering premises and obtaining wildlife tissue samples for DNA analysis, and enable heavier penalties on conviction of wildlife offences.

Natural Environment and Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act required the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list was drawn up in consultation with Natural England, as required by the Act.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the (now withdrawn) UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and subtidal sands and gravels.

There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the (now withdrawn) UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.

The Conservation of Habitats & Species Regulations 2017 (as amended)

The Habitats Regulations consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30th October 1994. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Under the Regulations, competent authorities i.e. any Minister, Government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.

The Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I and II of the Habitats Directive respectively) to the European Commission. Once the Commission and EU Member States have agreed that the sites submitted are worthy of designation, they are identified as Sites of Community Importance (SCIs). The EU Member States must then designate these sites as Special Areas of Conservation (SACs) within six years. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs) classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites form a network termed Natura 2000.

The Regulations enable the country agencies to enter into management agreements on land within or adjacent to a European site, in order to secure its conservation. If the agency is unable to conclude such an agreement, or if an agreement is breached, it may acquire the interest in the land compulsorily. The agency may also use its powers to make byelaws to protect European sites. The Regulations also provide for the control of potentially damaging operations, whereby consent from the country agency may only be granted once it has been shown through Appropriate Assessment that the proposed operation will not adversely affect the integrity of the site. When considering potentially damaging operations, the country agencies apply the precautionary principle' i.e. consent cannot be given unless it is ascertained that there will be no adverse effect on the integrity of the site.

In instances where damage could occur, the appropriate Minister may, if necessary, make special nature conservation orders, prohibiting any person from carrying out the operation. However, an operation may proceed where it is or forms part of a plan or project with no alternative solutions, which must be carried out for reasons of overriding public interest. In such instances the Secretary of State must secure compensation to ensure the overall integrity of the Natura 2000 system. The country agencies are required to review consents previously granted under the Wildlife and Countryside Act 1981 for land within a European site, and may modify or withdraw those that are incompatible with the conservation objectives of the site.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Regulations make special provisions for the protection of European marine sites, requiring the country agencies to advise other authorities of the conservation objectives for a site, and also of the operations which may affect its integrity. The Regulations also enable the establishment of management schemes and byelaws by the relevant authorities and country agencies respectively, for the management and protection of European marine sites.

The Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended)

The Invasive Alien Species (IAS) (Enforcement and Permitting) Order 2019 (as amended) sets out to address the issues concerned with invasive alien species (IASs) in order to protect native biodiversity and ecosystem services and minimize and mitigate the human health and/or economic impacts that IASs can have. The Order prohibits (under Part 2.3(2)) the release into the wild of any animal which "is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state".

The Wild Mammals (Protection) Act 1996

The Wild Mammals (Protection) Act states it is an offence to intentionally cause all wild mammals unnecessary suffering by certain methods, including crushing and asphyxiation (suffocation). This includes common mammals such as red fox (*Vulpes vulpes*).

National Planning Policy Framework

The National Planning Policy Framework (NPPF) was originally published in 2012 and detailed the Government's planning policies for England and how these are expected to be applied. The NPPF was revised on 24th July 2018 and 19th February 2019.

The NPPF states the commitment of the UK Government to minimising impacts and providing net gains in biodiversity, contributing to the Government's commitment to halt the overall decline in biodiversity.

It specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

The NPPF is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution.

The latest version of the NPPF was published in July 2018 with minor updates in February 2019. Relevant sections are as follows:

Section 15 of the NPPF relates specifically to 'Conserving and Enhancing the Natural Environment'. Paragraph 170 states that 'Planning policies and decision should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; and
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Appendix C Target Notes

Target notes from the Phase 1 habitat survey undertaken by AECOM in June 2019 are provided below. The locations of these target notes are indicated in Figure V2.1, Appendix A.

TN1 Oil storage tank bases

A group of six circular concrete bases formerly underlying oil storage tanks, interspersed with bare ground, small patches of marginal vegetation and (towards the west of the site) semi-improved grassland.

TN2 Perimeter road

Tarmac road along (generally inside of) the Site boundary, bordered by semi-improved grassland.

TN3 Bare ground

Stony ground between the concrete bases, covered by sparse low-lying vegetation (e.g. bristly oxtongue *Helminthotheca echioides*) and encroached onto by marginal vegetation in places.

TN4 Semi-improved grassland bank

Semi-improved grassland covered much of the bank encompassing the Site (enclosed by the perimeter road), with a sward height of approximately 40cm. Grass species included abundant false oat-grass (*Arrhenatherum elatius*), along with Yorkshire fog (*Holcus lanatus*), cock's-foot (*Dactylis glomerata*), perennial rye-grass (*Lolium perenne*) and annual meadow-grass (*Poa annua*). Herbaceous species included frequent Alexanders (*Smyrniolum olusatrum*) and cow parsley (*Anthriscus sylvestris*), occasional bramble (*Rubus fruticosus* agg.), teasel (*Dipsacus fullonum*), broadleaf plantain (*Plantago major*), red clover (*Trifolium repens*), dock (*Rumex* sp.), creeping cinquefoil (*Potentilla reptans*), goat's-rue (*Galega officinalis*) and common hogweed (*Heracleum sphondylium*), and rare cutleaved cranesbill (*Geranium dissectum*), dovesfoot cranesbill (*Geranium molle*), hemlock (*Conium maculatum*), meadow buttercup (*Ranunculus acris*), creeping thistle (*Cirsium arvense*), bristly oxtongue, oxeye daisy (*Leucanthemum vulgare*), common ragwort (*Senecio jacobaea*) and yellow-wort (*Blackstonia perfoliata*). Damper areas (e.g. in the south of the Site) contained greater coverage of marginal species (e.g. soft rush *Juncus effusus*), whilst the bank became overgrown with scrub in places (particularly along the west and east of the Site). Along the east of the Site the bank was exposed in places and had numerous rabbit burrows, potentially providing basking and hibernation habitat for reptiles.

TN5 Scrub within the semi-improved grassland bank

Patches of scrub encroached on grassland along the bank around the edge of the Site, characterised by abundant bramble, along with cow parsley, goat's-rue, teasel, dog-rose (*Rosa canina*), nettle (*Urtica dioica*) and common mallow (*Malva neglecta*).

TN6 Marginal vegetation

Marginal vegetation surrounded the pond in the south-west corner of the Site and was present in small patches around hardstanding and bare ground. This was characterised by abundant common reed (*Phragmites australis*), frequent sedges (*Carex* sp.) and occasional soft rush, sea club-rush (*Bolboschoenus maritimus*) and bulrush (*Typha latifolia*).

TN7 Pond

A pond was present in the south-west corner of the Site. This was encroached onto marginal vegetation including common reed, and the water depth was relatively shallow. Identified as potentially suitable for great crested newt (*Triturus cristatus*) and water vole (*Arvicola amphibius*).

TN8 Ditch

A ditch outside (running parallel to) the eastern boundary of the Site, containing dense vegetation. Identified as potentially suitable for great crested newt and water vole.

TN9 Grassland within the former lagoons

A larger expanse of damp grassland to the east of the Site (beyond TN8) on the site of former power station ash lagoons.

TN10 Damhead Creek

Intertidal mudflats within Damhead Creek to the north of the Site, within the Medway Estuary and Marshes Special Protection Area (SPA) and Ramsar.

TN11 Medway Estuary

Intertidal mudflats within the Medway Estuary to the south of the Site, within the Medway Estuary and Marshes SPA and Ramsar.

TN12 Peregrine

A peregrine (*Falco peregrinus*) was recorded flying over the Onshore Cable Route and subsequently resting on hardstanding approximately 300m west of the Site on 13th June 2019. Peregrine is included on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

Appendix D Desk Study Data

Protected and/or notable species recorded within 2km of the Site during the last ten years, obtained from Kent and Medway Biological Record Centre (KMBRC, 2020). Definitions regarding conservation designations are provided in Section 2 of this report.

Common name	Scientific name	Conservation designation	Most recent record
Plants			
Borrer's saltmarsh-grass	<i>Puccinellia fasciculata</i>	NERCS41, UKBAP	2018
Sea barley	<i>Hordeum marinum</i>	NERCS41, UKBAP	2012
Slender sea-hare	<i>Bupleurum tenuissimum</i>	NERCS41, UKBAP	2012
Invertebrates			
Garden tiger	<i>Arctica caja</i>	NERCS41, UKBAP	2012
Cinnabar	<i>Tyria jacobaea</i>	NERCS41, UKBAP	2012
Brown-banded carder-bee	<i>Bombus humilis</i>	NERCS41, UKBAP	2012
Moss carder-bee	<i>Bombus muscorum</i>	NERCS41, UKBAP	2012
Amphibians and reptiles			
Great crested newt	<i>Triturus cristatus</i>	WCA5, NERCS41, UKBAP	2014
Common lizard	<i>Zootoca vivipara</i>	WCA5 (p), NERCS41, UKBAP	2013
Slow worm	<i>Anguis fragilis</i>	WCA5 (p), NERCS41, UKBAP	2013
Grass snake	<i>Natrix helvetica</i>	WCA5 (p), NERCS41, UKBAP	2012
Birds			
Brent goose	<i>Branta bernicla</i>	BAP; BoCC4:Amber; S41	2016
Greylag goose	<i>Anser anser</i>	BoCC4:Amber	2016
Mute swan	<i>Cygnus olor</i>	BoCC4:Amber	2016
Shelduck	<i>Tadorna tadorna</i>	BoCC4:Amber	2016
Wigeon	<i>Mareca penelope</i>	BoCC4:Amber	2017
Gadwall	<i>Mareca strepera</i>	BoCC4:Amber; KRDB3	2013
Teal	<i>Anas crecca</i>	BoCC4:Amber; KRDB1	2016
Mallard	<i>Anas platyrhynchos</i>	BoCC4:Amber	2016
Pintail	<i>Anas acuta</i>	BoCC4:Amber; KRDB3	2016
Shoveler	<i>Spatula clypeata</i>	BoCC4:Amber	2012
Pochard	<i>Aythya ferina</i>	BoCC4:Red; KRDB3	2015
Long-tailed duck	<i>Clangula hyemalis</i>	BoCC4:Red; WCA1	2012
Common scoter	<i>Melanitta nigra</i>	BAP; BoCC4:Red; S41; WCA1	2010
Velvet scoter	<i>Melanitta fusca</i>	BoCC4:Red; WCA1	2010
Goldeneye	<i>Bucephala clangula</i>	BoCC4:Amber	2016
Great northern diver	<i>Gavia immer</i>	BoCC4:Amber; BirdsDir:A1; WCA1	2012
Slavonian grebe	<i>Podiceps auritus</i>	BoCC4:Red; BirdsDir:A1; WCA1	2011
Cormorant	<i>Phalacrocorax carbo</i>	KRDB3	2016
Little egret	<i>Egretta garzetta</i>	BirdsDir:A1; KRDB3	2016
Grey heron	<i>Ardea cinerea</i>	KRDB3	2016

Common name	Scientific name	Conservation designation	Most recent record
Spoonbill	<i>Platalea leucorodia</i>	BoCC4:Amber; BirdsDir:A1; WCA1	2011
Honey buzzard	<i>Pernis apivorus</i>	BoCC4:Amber; BirdsDir:A1; KRDB1; WCA1	2016
Red kite	<i>Milvus milvus</i>	BirdsDir:A1; WCA1	2016
Marsh harrier	<i>Circus aeruginosus</i>	BoCC4:Amber; BirdsDir:A1; KRDB3; WCA1	2016
Hen harrier	<i>Circus cyaneus</i>	BoCC4:Red; BirdsDir:A1; S41 ; WCA1	2012
Osprey	<i>Pandion haliaetus</i>	BoCC4:Amber; BirdsDir:A1; WCA1	2012
Kestrel	<i>Falco tinnunculus</i>	BoCC4:Amber	2016
Merlin	<i>Falco columbarius</i>	BoCC4:Red; BirdsDir:A1; WCA1	2012
Peregrine	<i>Falco peregrinus</i>	BirdsDir:A1; KRDB1; WCA1	2016
Grey partridge	<i>Perdix perdix</i>	BAP; BoCC4:Red; S41; KRDB2	2010
Water rail	<i>Rallus aquaticus</i>	KRDB3	2012
Oystercatcher	<i>Haematopus ostralegus</i>	BoCC4:Amber	2016
Avocet	<i>Recurvirostra avosetta</i>	BoCC4:Amber; ; BirdsDir:A1; KRDB3; WCA1	2015
Ringed plover	<i>Charadrius hiaticula</i>	BoCC4:Red	2017
Golden plover	<i>Pluvialis apricaria</i>	BirdsDir:A1	2010
Grey plover	<i>Pluvialis squatarola</i>	BoCC4:Amber; KRDB3	2016
Lapwing	<i>Vanellus vanellus</i>	BAP; BoCC4:Red; S41	2016
Knot	<i>Calidris canutus</i>	BoCC4:Amber; KRDB3	2012
Sanderling	<i>Calidris alba</i>	BoCC4:Amber	2010
Dunlin	<i>Calidris alpina</i>	BoCC4:Amber; BirdsDir:A1; KRDB2	2016
Snipe	<i>Gallinago gallinago</i>	BoCC4:Amber; KRDB1	2015
Woodcock	<i>Scolopax rusticola</i>	BoCC4:Red	2010
Black-tailed godwit	<i>Limosa limosa</i>	BAP; BoCC4:Red; S41; KRDB1; WCA1	2014
Bar-tailed godwit	<i>Limosa lapponica</i>	BoCC4:Amber; BirdsDir:A1	2012
Whimbrel	<i>Numenius phaeopus</i>	BoCC4:Red	2012
Curlew	<i>Numenius arquata</i>	BAP; BoCC4:Red; S41	2016
Redshank	<i>Tringa totanus</i>	BoCC4:Amber	2016
Greenshank	<i>Tringa nebularia</i>	BoCC4:Amber; WCA1	2016
Common sandpiper	<i>Actitis hypoleucos</i>	BoCC4:Amber	2012
Turnstone	<i>Arenaria interpres</i>	BoCC4:Amber	2016
Mediterranean gull	<i>Ichthyaeus melanocephalus</i>	BoCC4:Amber; BirdsDir:A1; WCA1	2013
Black-headed gull	<i>Chroicocephalus ridibundus</i>	BoCC4:Amber	2016
Common gull	<i>Larus canus</i>	BoCC4:Amber; KRDB1	2016
Lesser black-backed gull	<i>Larus fuscus</i>	BoCC4:Amber	2016
Herring gull	<i>Larus argentatus</i>	BAP; BoCC4:Red; S41; KRDB2	2016
Great black-backed gull	<i>Larus marinus</i>	BoCC4:Amber	2016
Common tern	<i>Sterna hirundo</i>	BoCC4:Amber; BirdsDir:A1	2011
Stock dove	<i>Columba oenas</i>	BoCC4:Amber;	2014
Barn owl	<i>Tyto alba</i>	WCA1	2017

Common name	Scientific name	Conservation designation	Most recent record
Tawny owl	<i>Strix aluco</i>	BoCC4:Amber	2012
Short-eared owl	<i>Asio flammeus</i>	BoCC4:Amber; BirdsDir:A1	2013
Kingfisher	<i>Alcedo atthis</i>	BoCC4:Amber; BirdsDir:A1; WCA1	2016
Skylark	<i>Alauda arvensis</i>	BAP; BoCC4:Red; S41; KRDB2	2016
House martin	<i>Delichon urbica</i>	BoCC4:Amber	2013
Meadow pipit	<i>Anthus pratensis</i>	BoCC4:Amber	2016
Yellow wagtail	<i>Motacilla flava</i>	BAP; BoCC4:Red; S41; KRDB2	2011
Grey wagtail	<i>Motacilla cinerea</i>	BoCC4:Red	2016
Nightingale	<i>Luscinia megarhynchos</i>	WCA1; BoCC4:Red; KRDB3	2014
Dunnock	<i>Prunella modularis</i>	BAP; BoCC4:Amber; S41	2016
Black redstart	<i>Phoenicurus ochruros</i>	BoCC4:Red; KRDB1; WCA1	2016
Stonechat	<i>Saxicola rubicola</i>	KRDB1	2017
Wheatear	<i>Oenanthe oenanthe</i>	KRDB1	2016
Fieldfare	<i>Turdus pilaris</i>	BoCC4:Red; WCA	2011
Song thrush	<i>Turdus philomelos</i>	BAP; BoCC4:Red; S41; KRDB2	2016
Redwing	<i>Turdus iliacus</i>	BoCC4:Red ; WCA	2016
Mistle thrush	<i>Turdus viscivorus</i>	BoCC4:Red	2012
Cetti's warbler	<i>Cettia cetti</i>	KRDB3; WCA1	2017
Reed warbler	<i>Acrocephalus scirpaceus</i>	KRDB3	2012
Starling	<i>Sturnus vulgaris</i>	BAP; BoCC4:Red; ; S41; KRDB2	2016
House sparrow	<i>Passer domesticus</i>	BAP; BoCC4:Red; S41; KRDB2	2013
Linnet	<i>Linaria cannabina</i>	BAP; BoCC4:Red; S41; KRDB2	2016
Yellowhammer	<i>Emberiza citrinella</i>	BAP; BoCC4:Red; S41; KRDB2	2011
Reed bunting	<i>Emberiza schoeniclus</i>	BAP; BoCC4:Amber; S41	2016
Mammals			
Badger	<i>Meles meles</i>	WCA	2013
Common seal	<i>Phoca vitulina</i>	UKBAP, NERCS41	2013
Water vole	<i>Arvicola amphibius</i>	WCA5	2013
Serotine	<i>Eptesicus serotinus</i>	WCA5; KRDB3	2017
Daubenton's bat	<i>Myotis daubentonii</i>	WCA5	2016
Unidentified myotis	<i>Myotis</i> sp.	WCA5	2018
Leisler's bat	<i>Nyctalus leisleri</i>	WCA5; KRDB1	2017
Noctule	<i>Nyctalus noctula</i>	WCA5; NERCS41; KRDB2	2018
Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>	WCA5	2017
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	WCA5	2018
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	WCA5; NERCS41	2018
Unidentified pipistrelle	<i>Pipistrellus</i> sp.	WCA5	2012
Brown long-eared bat	<i>Plecotus auritus</i>	WCA5; NERCS41; KRDB2	2018
Unidentified long-eared bat	<i>Plecotus</i> sp.	WCA5	2017
Invasive non-native species			

Common name	Scientific name	Conservation designation	Most recent record
Japanese knotweed	<i>Reynoutria japonica</i>	WCA9ii	2014

BirdsDir:A1 = Species listed on Annex 1 of the Birds Directive; S41 = The Natural Environment and Rural Communities (NERC) list of Species of Principal Importance; BAP = UK Biodiversity Action Plan (BAP) priority bird species; BoCC4 = Birds of Conservation Concern; and KRDB3 = Kent Red Data Book notable species.