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Natural England			
NE1	Additional Information required	Having reviewed the information submitted in support of this application, Natural England recommends that significant additional information is provided to allow a robust assessment of the potential implications of this application for statutory designated sites and the England Coast Path. Such an assessment will need to be based upon detailed survey information following good practice guidance.	Responses are provided below with regards to each item raised by Natural England. The Applicant is keen to work with Natural England and other relevant stakeholders to further build appropriate mitigation into the detailed design (to be applied for via Reserved Matters Applications) which may further reduce potential effects and recognise additional opportunities. For example, this may form specific on-site detailed landscaping measures or off-site financial contributions to aid management/maintenance of the SSSI.
NE2	Swanscombe Peninsula Site of Special Scientific Interest	The application site borders the Swanscombe Peninsula Site of Special Scientific Interest (SSSI). The site is notified for its geological, vascular plant, breeding bird and invertebrate interest. Unfortunately limited information is provided as to the potential impacts to the SSSI from this proposal and we recommend that a much greater level of evidence based information is provided at this stage to ensure that impacts can be avoided or fully mitigated.	The Applicant considers that sufficient information has been provided within the Environmental Statement (ES) with regards to the assessment of potential direct and indirect effects upon the Swanscombe Peninsula SSSI. Throughout the design development process, the EIA team (including the project ecologists) worked closely alongside the design team to ensure that '<i>mitigation by design</i>' principles were incorporated into the evolving scheme. Ecological constraints and opportunities were a key consideration throughout the evolution of the design, whereby the planning application has committed to significant mitigation to reduce the potential for adverse effects upon the SSSI and other sensitive ecological receptors. These measures have been captured as part of the design of the Proposed Development or by the planning application in a number of ways, such as being secured via the Design Code submitted alongside the planning application, whereby the detailed design of the Proposed Development will be required to adhere with the ecological design principles set by this document, or by the requirement for a Biodiversity Enhancement and Management Plan (BEMP), to be secured via condition. ES Volume 1, Chapter 14: Ecology and Biodiversity, paragraphs 14.79 – 14.83 set out the embedded mitigation of the Proposed Development. Furthermore, an Outline Construction Environmental Management Plan (CEMP) submitted with the planning application (see ES Volume 3, Appendix: Demolition and Construction – Annex 1) sets out a framework of construction-related mitigation, whereby future detailed CEMPs will be required to adhere to the principals set by this Outline CEMP. This includes a number of measures (such as those set out in paragraph 14.125 of ES Volume 1, Chapter 14: Ecology and Biodiversity) to reduce the potential of construction works resulting in adverse direct and indirect effects upon the SSSI. It should be noted that the south-eastern corner of the SSSI closest to the Proposed Development site supports dense and scattered scrub and relict grassland that has been impacted by scrub encroachment. This area would benefit from management to restore the relict grassland, and the current scrub buffer, separating the site from the SSSI important habitats. A new buffer zone along the boundary of the Proposed Development will be

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			introduced, to provide separation between the SSSI and proposed residential dwellings. It should also be noted that the Proposed Development will not result in buildings being located closer to the SSSI than is the current baseline. The mitigation built into the scheme during the design evolution process, as set out above, was developed in tandem with the desk and field surveys undertaken as well as the ecological impact assessment. This holistic process adopted a mitigation hierarchy approach, ensuring that where possible and relevant the evolving design was able to effectively consider potential adverse ecological effects (particularly in relation to the SSSI), informed by detailed assessment work, and in turn respond with embedding mitigation and commitments to manage constraints. The Applicant considers that the result of this thorough process is both a robust ecological impact assessment and a development that holds ecological constraints and opportunities as key design considerations, whereby the avoidance or mitigation of effects upon the SSSI has been duly considered.
NE3		The following information is required to understand the potential implications for the SSSI during the site preparation, construction and operational phases of the development and the scope for avoiding or fully mitigating the impacts: 1. A detailed assessment of the potential direct and indirect impacts to the breeding bird assemblage within the Swanscombe Peninsula SSSI. Unfortunately the bird survey (Annex 3: Bird Survey Report to Chapter 14 Ecology and Biodiversity of the environmental statement does not appear to have been provided in the consultation documents. Without this it is not clear whether the breeding bird survey area included the Swanscombe Peninsula SSSI. Given the proximity of the development to the SSSI,	The ecological impact assessment has duly considered the potential direct and indirect impacts to the breeding bird assemblage within the Swanscombe Peninsula SSSI. It is noted that the ES was informed by breeding bird and wintering bird surveys along Robin's Creek, although not within the SSSI (see ES Volume 3, Appendix: Ecology and Biodiversity – Annex 3). However, the bird surveys undertaken for the London Resort Scheme in 2019 and 2020 were reviewed and also informed the assessment of the potential impacts of the Proposed Development upon the SSSI and the development of mitigation associated with the Proposed Development. The mechanisms for potential negative impact on breeding birds include habitat loss (functional habitat), increase in disturbance from recreational pressure, cat predation, disturbance from noise and light. The site does not currently support any ecologically linked habitat to the SSSI, and therefore habitat loss (functional habitat) is not anticipated, whereby the Proposed Development could offer opportunities to form functional links across the Proposed Development site which currently offers very limited ecological and biodiversity value given that it comprises an active industrial estate and associated works. Currently there is no baseline threshold for recreational pressure disturbing the breeding birds within the SSSI, however the SSSI is not designed to manage visitors (which can freely access the area). As noted in ES Volume 1, Chapter 14: Ecology and Biodiversity, embedded mitigation within the design of the Proposed Development includes; • The provision of minimum on-site open space for operational amenity; • Controlled pedestrian access and signposting displaying the sensitivity of Swanscombe Peninsula SSSI to human disturbance; • No footpaths will be created between the site and the SSSI; • The provision of an information centre/cafe within the Power Park, next to the play areas, to encourage walks around the site as opposed to within the SSSI; and • To provide information regarding notable species and habitats including relevant protection measures within the local area and the SSSI in particular.

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		Natural England would expect a breeding bird survey to have been undertaken to inform the assessment of any direct and indirect impacts to the breeding bird assemblage associated with the SSSI. For some species, such as nightingale, targeted surveys may also be required. In addition to these concerns, the information provided within the environmental statement suggests that the breeding bird survey was undertaken towards the end of the breeding bird season and as such may not be sufficient to understand the potential direct and indirect impacts to breeding birds associated with the designated site; as such Natural England recommends further information is provided by the applicant on both the species present and the likely impacts of this proposal. This may require additional surveys.	The inclusion of these mitigation measures will ensure recreational pressure on the SSSI is minimised. Furthermore, a technical audit of the SSSI and impacts from visitors (such as the distance visitors are travelling to use the site) is suggested to be conditioned to help design and mitigate future phases of the Proposed Development. Impacts from noise and lighting would be managed through sensitive design and location of new lighting to minimise impacts on wildlife; a full lighting assessment will be undertaken at Reserved Matters Stage, when further information on lighting/building design is known. ES Volume 1, Chapter 9: Noise and Vibration identified that noise within the SSSI would not be higher than 70dB, and only temporarily at a very small section of the south-eastern portion of the SSSI during the construction period. The IECS report (Cutts et al., 2009) gives an illustrative overview of the effects of disturbance to waterbirds from different activities that may arise as a result of a construction project where equal to or below 70dB would not result in the movement of birds but could result in alarm calling or lifting of heads. Much of the noise impact within the SSSI is less than 50dB (resulting in no impact) as detailed in the IECS report. Singing nightingale was recorded in the SSSI approximately 300m from the nearest point to the Proposed Development site but no nests were recorded by the London Resort surveys in 2020. Given the large suitable swathes of habitat within the SSSI, the distance the calling bird was recorded and the negligible effects from noise (dB under 60 beyond) did not trigger the requirement for additional surveys. Timings of Breeding Bird Surveys The timings of the breeding bird surveys were deemed to be suitable due to breeding species records also being taken during the Preliminary Ecological Appraisal in May 2022. During this survey one of the three Schedule 1 species which the site or neighbouring habitats has the potential to support whilst nesting was seen (little ringer-plover, black redstart, and Cetti's warbler). During the July 2022 survey little ringed plover was seen with chicks so confirmed to be breeding, and no further surveys are required. A black redstart male was heard calling and therefore a precautionary approach was taken due to the suitability of the habitat and this species was assumed to be present breeding on-site due to the calling heard still within the breeding window. Further black redstart surveys were recommended as a result covering the whole of the breeding season (May to August) prior to construction once full access is granted to the site. It should be noted that access to the full Proposed Development site has been recognised as a constraint, whereby this has limited potential surveys and therefore required the adoption of worst-case and precautionary principle assessment scenarios to ensure a robust assessment has been undertaken (as set out within the ES). The Applicant recognises the requirement for these further surveys once access to the full site is possible in order to verify the assessment. For non-Schedule 1 species, nesting bird inspections were recommended prior to any vegetation clearance or demolition works. A summary of the winter bird surveys is provided on pages 12 and 13 of this response document.
		2. A detailed assessment (based on robust survey information) of any potential	The London Resort application did not identify notable or scarce plant species along any borders or in close proximity to the Proposed Development site. Brackish Water-Crowfoot was recorded near to the London Resort

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		direct and indirect impacts to vascular plants associated with the SSSI.	application site, but given impacts are not anticipated beyond the site boundary (due to measures secured by the Design Code and the CEMP) no further assessment was undertaken. The site survey did not identify any protected / notable plant species within the Proposed Development site and did not support any notable habitats. The mitigation included for the Proposed Development reduces any indirect effects on vascular plants to a level that is not significant. A CEMP will be conditioned which will reduce the potential for any pollution impacts (including dust) occurring beyond the site boundary, which could negatively affect vascular plants within the SSSI.
		3. A detailed assessment (based upon robust survey information) of the potential direct and indirect impacts to invertebrate assemblage associated with the SSSI.	The Proposed Development site does not support suitable habitat for notable terrestrial or macroinvertebrate populations and would benefit from enhancements to create new habitats. Bird surveys were undertaken focusing on the mudflat habitat adjacent to the site. The surveys concluded no extensive bird foraging activity was taking place which would imply low to negligible populations of invertebrates are using the mudflat habitat. The assemblages of invertebrates within the SSSI are associated with bare sand and chalk, open short swards, open water on disturbed mineral sediments and saltmarsh and transitional brackish marsh. The mitigation measures taken to reduce impacts on the SSSI considered the potential impacts on the invertebrate population within the SSSI. The ES concluded that impacts would not be significant on invertebrate species during demolition, construction and operational phases of the Proposed Development due to the mitigation measures required to reduce impacts on the SSSI. The inclusion of mitigation measures within the ES such as a detailed CEMP to reduce impacts beyond the application boundary and to create further habitats through brown and green roofs to replicate open mosaic habitat within the SSSI further reduce impacts on invertebrate assemblages within the SSSI. Measures within the CEMP include: • Details on the location of appropriate fencing, agreed in conjunction with the suitably qualified ecologist to protect off-site habitats (such as the adjacent Priority Habitat) where appropriate to prevent effects associated with the encroachment of construction vehicles and plant; • Pollution prevention measures including procedures for oils, chemicals and other potentially contaminative construction material storage designed to prevent the release of any accidental spillages and effects associated with contaminated surface run-off; • Supervision of delivery of fuel and oils with pipelines and fuelling points protected from vandalism and unauthorised interference; • Use of drip trays when filling smaller containers from tanks or drums to avoid drips and spills from entering the ground or drainage systems and watercourses to prevent effects associated with contaminated surface run-off;

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			- Controlling works with concrete and washing out ready-mix concrete wagons in 'safe areas' away from waterbodies and retained habitats to prevent effects associated with contaminated surface run-off; - Procedures for emergency environmental incidents such as pollution events; and - Measures to minimise vibration and dust arisings, including, when necessary, regular damping down of the site by spraying with water and covering stockpiled material within a contained area, where required, to enable run-off to be treated. There is considered to be no potential mechanism for direct or indirect effects upon invertebrate species associated with the SSSI as a result of the Proposed Development therefore, targeted invertebrate species surveys are not considered required.
		4. Further clarity on areas of the SSSI that will be subject to overshadowing, the duration and impacts that this will have for notified features and the habitats that support them (the existing information does not provide detailed quantification of these nor the mitigation measures that will be implemented). A detailed plan showing these impacts would be helpful (the plans provided seem to be limited to the application site itself rather than the surrounding land).	The ES concluded that overshadowing effects on Swanscombe Peninsula SSSI, the River Thames and Robin's Creek were minor adverse but not significant. A Transient Overshadowing Assessment was undertaken within ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Intrusion. Transient Overshadowing is assessed using professional judgement at three times of the year: 21st March (equinox), 21st June, (summer solstice) and 21st December (winter solstice). <i>21st March (Equinox)</i> The results of the overshadowing assessment note on 21st March from 8am a strip of shadow from the Proposed Development would be cast over a small part of the Swanscombe Peninsula SSSI. The Proposed Development shadow traverses across Swanscombe Peninsula throughout the morning and the remainder of the afternoon until sunset. However, the shadows reduce in size so that only the portions of Swanscombe Peninsula in the immediate vicinity of the Proposed Development would be overshadowed. The majority of Swanscombe Peninsula would be unaffected throughout the day. <i>21st June (Summer Solstice)</i> The Proposed Development shadow traverses across Swanscombe Peninsula throughout the morning and the remainder of the afternoon until sunset. However, the shadows reduce in size so that only the portions of Swanscombe Peninsula in the immediate vicinity of the Proposed Development would be overshadowed. The majority of Swanscombe Peninsula would be unaffected throughout the day. <i>21st December (Winter Solstice)</i> The Proposed Development shadow traverses across Swanscombe Peninsula throughout the morning and the remainder of the afternoon until sunset. Most of Swanscombe Peninsula would be unaffected throughout the day.

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			Whilst Botany Marshes would see periods of overshadowing from the Proposed Development throughout the year, the Proposed Development would not overshadow the same portions of this area for long periods of time. Furthermore, the overshadowing is localised, and restricted to the southern corner of the SSSI next to Lower Road which supports dense scrub habitats, which are subject to noise disturbance from Lower Road, and unlikely to be sensitive to overshadowing effects. Light intrusion was assessed as having a negligible impact on the SSSI as detailed in ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Intrusion. It should be noted that due to the outline nature of the application, this has been assessed qualitatively. A full light intrusion assessment will be undertaken at the detailed design stage, but it should be noted that mitigation measures will be implemented to limit light intrusion and avoid adverse effects, such as: • Ensuring that any external lighting, such as the stadium, does not directly illuminate the sky; • Ensuring that any external lighting visible from any sensitive receptor is of low intensity; • Avoiding external lighting which directly illuminates the SSSI and the Riverfront docks in particular; • Provision of blinds for commercial offices; • Lighting strategies that reduce the output of luminaires closer to the façades; and • Light fittings to be controlled through the use of sensors which switch the light on and off according to office occupancy. The details of any mitigation and its efficacy will be guided by ILP Guidance notes (2021) and presented and reported upon where relevant at reserved matters stage.
		5. Further clarity on the changes to the microclimate within the SSSI resulting from this development with an evidence-based consideration of impacts to habitats and species associated with the designated site.	A wind microclimate was undertaken for the Proposed Development, with the results detailed in ES Volume1, Chapter 11: Wind Microclimate. As part of the assessment, Swanscombe Marshes was included as a sensitive receptor. It is noted that there were five identified locations within Swanscombe Marshes that show a risk of strong winds (exceeding 15m/s of 0.022% of the year). However, this risk was present in the baseline conditions and not as a result of the Proposed Development. Therefore, the overall effect on the Swanscombe Marshes was deemed to be negligible and not significant. Given the outline nature of the Proposed Development, further wind testing will be undertaken at the detailed design stage to ensure that the wind microclimate effects upon surrounding sensitive receptors as a result of the detailed design proposals are appropriately considered. Therefore, given that the Proposed Development has been established to have a negligible effect upon the wind microclimate within the SSSI, there is considered to be no potential impact to habitats and species within the designated site with regards to wind.
		6. Clarity on whether any species associated with the Swanscombe Peninsula SSSI are present within the	The habitats within the site are largely associated with urban realm, with hardstanding and industrial buildings forming the majority of the application boundary as detailed in the Preliminary Ecological Appraisal (PEA). These habitats are unlikely to support important invertebrate assemblages as there is no suitable larval food sources. The habitats are also not suitable for a range of birds that the SSSI is designated for. There is minimal

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		application site itself and the mitigation (where required) that will be implemented to ensure that the resilience of the SSSI is not impacted.	vegetation and high disturbance reducing nesting and foraging potential. During the site survey no species associated with the SSSI designation were recorded on the site. The main concern was the presence of Japanese knotweed which could negatively impact the SSSI if it spreads into the SSSI. A management plan, prepared by a suitably qualified ecologist, is required to define the areas of land likely to be contaminated by Japanese knotweed rhizomes, exclusion zones and a methodology for on-site treatment or appropriate removal of contaminated land should be incorporated into the CEMP. In advance of site works, invasive plant species surveys will be updated and measures implemented through the construction works to safeguard against the spread of any invasive non-native species. The main contractor will ensure that all materials imported or exported from the site are not contaminated and monitoring will take place post-construction to ensure that invasive species do not colonise the site. This allows the potential to enhance wildlife corridors by introducing green spaces, as well as providing complementary habitat for notable species within the SSSI (such as brown roofs for invertebrates and birds). This aims to enhance the resilience of the SSSI.
		7. A detailed air quality assessment (both dust and transport generated along the affected road network) for the Swanscombe Peninsula SSSI (and any other designated sites along the affected road network).	ES Volume 1, Chapter 8: Air Quality provided an assessment on potential dust and traffic impacts to local ecological receptors, including the SSSI. As noted within this ES chapter, the SSSI has a 'medium' sensitivity to construction works and the Ebbsfleet Marshes Local Wildlife Site (LWS) a 'low' sensitivity site. The following mitigation will be implemented, should the development receive planning permission: • Implementation of a Dust Management Plan (DMP); • Daily on-site and off-site inspections to monitor and record dust from construction, (this should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary); and • Erection of solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site and fully enclose site or specific operations where there is a high potential for dust production. These measures will ensure demolition and construction effects on ecological receptors are not significant. This mitigation was captured as part of the Outline CEMP (see ES Volume 3, Appendix: Demolition and Construction – Annex 1) whereby future detailed CEMPs will be required to adhere to the principals set by this Outline CEMP.
		8. A detailed assessment of the potential for water quality and quantity impacts from the development to habitats within the Swanscombe Peninsula SSSI.	Ecological receptors (the River Thames, Robins Creek and Ebbsfleet) were assessed in ES Volume 1, Chapter 15: Water Resources, Flood Risk, Drainage and Ground Conditions. Within the chapter it is noted these receptors have a high sensitivity, noting "<i>The site is located within the 'Lower Medway Operational Catchment' which is made up of a total of three waterbodies, two of the waterbodies have an ecological objective of 'good' and one of 'moderate' and all three waterbodies have an objective of 'good' for their chemical status</i>". Following the implementation of the mitigation measures, such as storage of chemicals and hazardous materials within bunded areas, with adequate capacity, prevention of spills and leaks and no polluted water to be discharged from the site (as noted within the Outline CEMP), it is considered that there are no significant adverse effects resulting from the Proposed Development on ground conditions, including water quality.
		9. A detailed assessment of the potential urbanisation effects	The potential urbanisation effects upon the SSSI have been duly considered.

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		(including noise, lighting, disturbance, cat predation for birds, for example) that may result from the application to the species and habitats associated with the designated site.	As the uses and lighting strategy of the Proposed Development are not yet known, a technical assessment cannot be undertaken, however the detailed lighting strategy would follow the BS 5489: Good Practice in Lighting Design and as such adverse effects on the SSSI (and associated species) are not anticipated. At reserved matters stage, should the detailed design for the outline components be likely to comprise any significant effects, technical assessments will be undertaken. It should be noted the details of any mitigation and its efficacy will be guided by ILP Guidance notes and presented and reported upon where relevant at the Reserved Matters Stage. The current cat population within the area is unknown, as is the predation rates of the breeding birds within the SSSI. The Proposed Development is largely apartment-led which, if the residents' owned cats, would likely not stray outside given they have limited outdoor space (aside from balconies). In relation to the cat predation, given the low numbers of residential houses being introduced (compared to high-rise apartments), it is considered that cat predation would not increase significantly. However, mitigation measures such as cat-proof fencing will be considered in areas where there is potential connectivity to the SSSI. There are currently no studies on the current predation rates on species within the SSSI. Further measures have been discussed in the ES to reduce recreational impacts on the SSSI such as boardwalks and fencing areas to safeguard them from visitors / dogs. An audit has also been recommended to understand potential thresholds for negative effects within the SSSI, which could include analysis of predation rates. Furthermore, the influence of increased numbers of domestic cats is considered only likely to affect birds which are vulnerable or in poor health¹. The installation of bird boxes mounted on trees or new buildings, such as house sparrow boxes on buildings, will create safe nest sites from cats and mitigate for loss of existing nesting sites. Impacts from noise and lighting would be managed through sensitive design and location of new lighting to minimise impacts on wildlife. ES Volume 1, Chapter 9: Noise and Vibration identified that noise within the SSSI would not be higher than 70dB during demolition and construction, and only at a very small portion of the south-eastern corner of the SSSI that borders the development site temporarily. The building services plant strategy and the operation of the commercial premises would need to be developed to ensure that the limits are achieved. This will be secured by an appropriately worded planning condition. The building services plant would be expected to be designed to achieve the recommended limits shown (in accordance with BS 4142), it is expected that the magnitude of impact will be negligible, and the effect will be negligible (not significant). The site currently operates with a football stadium and the Proposed Development also includes a football stadium. An assessment has been completed to evaluate the likely change in ambient noise levels experienced at the nearby receptors during a football match.

¹ <http://www.rspb.org.uk/makeahomeforwildlife/advice/gardening/unwantedvisitors/cats/birddeclines.aspx>

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			The assessment indicates that the additional capacity and change in position of the football stadium would not increase ambient noise levels at the closest existing High sensitivity receptors and therefore there this results in a negligible (not significant) effect. This is due to the change in the design which is more enclosed than the current stadium (as per the Design Code). In addition, the screening from the buildings surrounding the stadium increases the noise reduction. In order for there to be no increase in ambient noise levels from the baseline measured it will be necessary to design the public address and voice alarm (PAVA) system appropriately, along with maintaining the current design intent of the stadium, i.e., enclosed except above the pitch. Noise emissions from the football stadium are to be assessed in connection with the detailed design subject to the Reserved Matters Application for this Plot and designs implemented to control noise breakout to ensure significant effects are avoided. The assessment of the footfall pedestrian noise emissions indicates that with full capacity attendance, the short-term ambient noise levels may increase by up to 5 dBA, as a worst-case from the existing baseline noise level measured during a football match. The IECS report (Cutts et al., 2009) gives an illustrative overview of the effects of disturbance to waterbirds from different activities that may arise as a result of a construction project where equal to or below 70dB would not result in the movement of birds but could result in alarm calling or lifting of heads. Much of the noise impact within the SSSI is less than 50dB (resulting in no impact) as detailed in the IECS report. Singing nightingale was recorded in the SSSI approximately 300m from the nearest point to the Proposed Development site but no nests were recorded by the London Resort surveys in 2020, given the large suitable swathes of habitat within the SSSI, the distance the calling bird was recorded and the negligible effects from noise (dB under 60 beyond) did not trigger the requirement for additional surveys.
		10. A detailed assessment of the potential impacts to the SSSI from increased recreational disturbance impacts from residents.	As noted in ES Volume 1, Chapter 14: Ecology and Biodiversity, paragraph 14.138, it is proposed that the Applicant commits to undertaking an audit to monitor the recreational usage from the Proposed Development on the SSSI, which will be secured via planning condition. This will identify the effect threshold or the point at which wildlife begins to be disturbed by such recreational activities to provide informed recommendations to key stakeholders regarding infrastructure construction and visitor management. This will inform future phases of this Proposed Development on the most appropriate and proportionate mitigation requirements to reduce impacts on the SSSI if a threshold is reached. It is considered with the implementation of the embedded mitigation measures such as high-quality greenspaces and green / brown roofs, and the additional measures of an audit, the residual effect of increased footfall / recreational pressure on the Swanscombe Peninsula SSSI would be Negligible (Not Significant). Adverse effects of recreational use on wildlife identified by the audit will be mitigated for in future phases of the Proposed Development (such as visitor management and management regimes) to ensure effects remain negligible. Once the detailed design of the Proposed Development is started, Kent Wildlife Trust and NE will be consulted to discuss potential further mitigation measures (if required and relevant) to be incorporated into the detailed design of the Proposed Development.
		11. A detailed and comprehensive consideration	Cumulative impacts have been assessed within ES Volume 1, Chapter 14: Ecology and Biodiversity. Due to the potential London Resort development, the cumulative impact assessment took into account the impacts

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		of the above impacts cumulatively with other developments.	that the Proposed Development and London Resort scheme would have upon the SSSI and its features. Whilst it is considered that the Proposed Development on its own would have no significant adverse effects due to the mitigation and enhancement measures (outlined in ES Volume 1, Chapter 14: Ecology and Biodiversity and noted throughout this response), the cumulative assessment concludes there would be a significant effect on the SSSI, arising from recreational pressure, which would need to be mitigated through detailed design and consultation with key stakeholders. Furthermore, the proposed mitigation and enhancement measures are in line with legislation and planning policy. Recently accepted schemes should aim to achieve at least 10% biodiversity net gain therefore helping to improve local habitats and their biodiversity value. The proposed development is likely to achieve significant biodiversity net gain (currently assessed as a 352% increase in habitats and an increase in hedgerow of 75%). For one of the cumulative schemes "<i>Land North of Hive Lane Northfleet Embankment West the Shore Northfleet Gravesend Kent DA11 9AN – Application Reference: EDC/21/0081</i>" an ecology mitigation and enhancement strategy was prepared which involved timing works for vegetation clearance due to the presence of reptiles and to avoid impacting nesting birds. This also detailed that there are no anticipated impacts on the designated sites during the site clearance and construction phases of the development. No strategy for mitigation was provided in terms of the SSSI or other statutory designated sites.
		12. A comprehensive, evidence-based avoidance and mitigation strategy for the above where impacts are likely to result to ensure that the SSSI is not adversely impacted by the proposal.	Due to the London Resort forming part of the cumulative impact assessment (as noted in ES Volume 1, Chapter 2: EIA Methodology), it is considered that if that project went ahead there would be significant adverse effects on the SSSI, in relation to recreational pressure, which would need to be mitigated through detailed design and consultation with key stakeholders. However, it is considered that the Proposed Development and other developments (excluding London Resort) would not result in significant adverse effects due to their mitigation plans. Cumulative impacts are dependent on other applications receiving planning permission. In the event that other schemes come forward, mitigation and compensation will be considered during the detailed application phase. However, the London Resort cumulative scheme would be required to follow policy requirements relating to mitigation measures for pollution control, habitat degradation and recreational pressures. Kent Wildlife Trust and NE will be consulted to discuss any potential further mitigation measures (as required and relevant) to be incorporated into the detailed design of the Proposed Development to mitigate adverse impacts upon the SSSI arising from recreational pressures. This may form specific on-site detailed landscaping measures or off-site financial contributions to aid management/maintenance of the SSSI, however this will be discussed and agreed. Therefore, if these measures are adhered to and approved, in coordination with the relevant statutory bodies (Kent County Council and Natural England), the cumulative effects could be reduced to Not Significant.
NE4	Swanscombe Marine Conservation Zone	Given the proximity of the application site to the Swanscombe Peninsula Marine Conservation Zone, there is the potential for impacts to result. As such, Natural England recommends that further clarity	Swanscombe Marine Conservation Zone is over 1.2km to the north-east of the site, separated by the Swanscombe Peninsula SSSI. ES Volume 1, Chapter 14: Ecology and Biodiversity details mitigation for the River Thames which would result in reducing impacts on the MCZ to a level that is not-significant. As discussed in ES Volume 1, Chapter 4: The Proposed Development and captured within the Design Code, Sustainable Drainage Systems (SuDS) will be implemented within the Proposed Development in order to appropriately manage run-off quality and quantity into the River Thames and subsequent impacts on the MCZ.

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		is provided in relation to the potential for any impacts and details of any avoidance and mitigation measures that may be required.	Furthermore, a Biodiversity Enhancement and Management Plan (BEMP) and a Landscape and Ecological Management Plan (LEMP) will be created to manage indirect impacts to the River Thames to a level that is non-significant. Relevant ecological measures will be defined within a detailed Construction Environmental Management Plan (CEMP), to be secured via condition, to minimise the potential for any adverse indirect ecological effects upon the River Thames and MCZ. The Proposed Development will not encroach on any mudflat habitat and no works or discharges are proposed beyond the sea wall.
NE5	Thames Estuary and Marshes Special Protection Area and Ramsar site	Surveys undertaken for the London Resort Nationally Significant Infrastructure Project indicated that the Swanscombe Peninsula and the surrounding intertidal habitat was used by birds associated with the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar site. The environmental statement for the London Resort indicated that, given numbers of birds associated with the SPA and Ramsar site, the area was functionally linked to the SPA and Ramsar site and as such mitigation measures were required.	The intertidal habitats adjacent to Robins Creek were surveyed during the breeding and winter seasons. The Proposed Development site widely differs from the London Resort site in relation to the habitats present. The Proposed Development site is an active industrial site with no habitats within the red-line boundary that could form functional links to the SPA / Ramsar site. There is potential for indirect impacts arising from impacts to the SSSI and mudflats however, mitigation proposed is deemed appropriate to mitigate the impacts. During the breeding season a little ringed plover pair (with juveniles) were recorded within the intertidal mudflats, and Cetti's warbler (male holding territory) in Robin's Creek, whilst the nest locations were not identified, it can be concluded that little ringed plover and Cetti's warbler are nesting near to the site in adjacent habitats. The mudflats are currently highly disturbed from shipping traffic, reducing the suitability for Schedule 1 birds associated with the SPA / Ramsar sites. Measures have been established to mitigate impacts on the mudflats due to the potential for them to support invertebrates (in low number) and birds. Relevant ecological measures defined within a detailed Construction Environmental Management Plan (CEMP), to be secured via condition, will minimise the potential for any adverse indirect ecological effects on functionally linked habitat to the SPA and Ramsar site. These include: • Details on the location of appropriate fencing, agreed in conjunction with a suitably qualified ecologist, to protect off-site habitats (such as the adjacent Priority Habitat) where appropriate to prevent effects associated with the encroachment of construction vehicles and plant; • Pollution prevention measures including procedures for oils, chemicals and other potentially contaminative construction material storage designed to prevent the release of any accidental spillages and effects associated with contaminated surface run-off; • Supervision of delivery of fuel and oils with pipelines and fueling points protected from vandalism and unauthorised interference; • Use of drip trays when filling smaller containers from tanks or drums to avoid drips and spills from entering the ground or drainage systems and watercourses to prevent effects associated with contaminated surface run-off;

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			- Controlling works with concrete and washing out ready-mix concrete wagons in 'safe areas' away from waterbodies and retained habitats to prevent effects associated with contaminated surface run-off; - Procedures for emergency environmental incidents such as pollution events; and - Measures to minimise vibration and dust arisings, including, when necessary, regular damping down of the site by spraying with water and covering stockpiled material within a contained area, where required, to enable run-off to be treated.
NE6		Whilst no assessment of the potential impacts to wintering birds has been provided, Natural England acknowledge that wintering bird surveys are proposed for to be undertaken during the winter of 2022/23. It should be noted that two years of surveys are generally recommended to understand whether impacts are likely to result.	Summary of the winter bird surveys. Whilst no overwintering habitat is present on the site due to the urban nature, potential overwintering habitat is present on neighbouring land in the form of foraging habitat on the mudflats and foraging and roosting habitat in Robins Creek. These habitats are linked by the Thames to the Swanscombe Marshes SSSI and the Thames Estuary and Marshes SPA. Therefore, in order to establish if these habitats are functionally linked to either the SPA or SSSI winter bird surveys were undertaken in the winter of 2022-2023. To establish usage by waterfowl and waders on the mudflats and Robins Creek surveys were undertaken based on the BTO's Wetland Bird Surveys (WeBS) methodology. Core counts of wetland birds were taken, and two intertidal (low tide) surveys were undertaken in December 2022 and January 2023. These surveys were extended to include the noting of potential disturbance events and any reactions shown by the birds in order to establish a basic baseline of what disturbance levels the birds on the mudflats may already be habituated to due to the gravel works which they currently neighbour. During the surveys no Annex 1 species that use the Thames Estuary and Marshes SPA in internationally important populations were found to be using the mudflats or Robin's Creek. One of the species the Thames Estuary and Marshes SPA supports in internationally important numbers of regularly occurring migratory species was found to be using the site: redshank (<i>Tringa tetanus</i>) and one nationally important migratory species the SPA supports: teal (<i>Anas crecca</i>). One other species which contribute to the internationally important waterfowl assemblage within the Thames Estuary and Marshes SPA was found on site: shoveler (<i>Anas clypeata</i>). Whilst these species were identified, these were all in low numbers with a singular redshank foraging on the mudflats on both surveys. Peak counts of 3no. teal using Robin's Creek on the first survey and 14no. using the mudflats briefly whilst travelling from east to west up the Thames on the second survey and 6no. in Robin's Creek. Peak counts of shoveler were 2no. seen on the mudflats on the second survey. Peak counts of other wading and waterfowl species (gulls excluded) were on the first survey in Robin's Creek 2no. mallards and on the mudflats 2no. oystercatchers. On the second survey peak counts of other birds were in Robin's Creek 3no. coots and on the mudflats 2no. mallards. Higher counts of other waterfowl were noted flying up from east to west up the Thames without stopping at the site. The overall number and species counted during the survey do not make up numbers of national or international importance and when compared to the 5-year peak mean population of species at the Thames Estuary Marshes

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			(e.g. 3,521 Redshank would need to be counted). This suggests that the relative importance of this area of mudflats and Robin's Creek is of limited importance to overwintering bird species. Additionally, it should be noted that this mudflat is already subject to disturbance from the gravel pit works. During the first survey a crane was being used to load a boat with gravel for the whole of the survey time including with workers walking back and forth. No disturbance behaviours were noted of the waterfowl using the mudflats during this time and the waterfowl appeared to forage as normal. Due to the low numbers of overwintering waterfowl using the habitats next to the Proposed Development it is thought that neighbouring habitats do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value. Therefore, it is thought that any disturbance generated by the construction will not be significant on overall overwintering populations so will not have an effect on the favourable conservation status of Interest features of the SPA. Whilst the habitats next to the Proposed Development are already subject to disturbance from the gravel works, best practice guidelines will be followed during the demolition and construction of the Proposed Development to the limited populations of waterfowl using the foraging and roosting habitats of the mudflats and Robin's Creek. These will be fully detailed in the CEMP but will include methods such as visual and noise barriers between the site and these habitats and specific methodologies to noisy works such as slow starts for piling to limit disturbance. Further surveys should be undertaken during Reserved Matters Applications (RMAs) to ensure the baseline data is up to date but the current assessment (alongside data from London Resort) is that the mudflats and Robin's Creek habitats next to the Proposed Development do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value so there will not be an effect on the favourable conservation status of Interest features of the SPA and it is considered proportionate. The Wintering Bird Survey Report has been appended to this response document.
NE7		If the results of the wintering bird survey show that species associated with the SPA and Ramsar site are present and likely to be impacted, then the environmental statement will need to be updated. This should include the nature and scale of the impact and detail the mitigation measures proposed. It should also provide sufficient information for the Council to undertake a Habitats Regulations Assessment.	As noted above, it is anticipated that any disturbance generated by the construction will not be significant on overall overwintering populations so will not have an effect on the favourable conservation status of Interest features of the SPA and Ramsar. Given the site is located within the 6km identified by the Bird Wise North Kent Mitigation Strategy for The Thames Estuary and Marshes SPA and Ramsar (which includes the North Kent Marshes), a Shadow Habitats Regulations Assessment (HRA) has been undertaken. It should be noted that as the Competent Authority, Gravesham Borough Council (the Local Planning Authority (LPA)) must determine whether the Proposed Development will have a significant effect on a European Site (whether alone or in combination with other Plans or Projects), in view of that Site's conservation objectives. This requirement is set down in Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations').

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			The Shadow HRA is intended to provide the information necessary for Gravesham Borough Council to make their assessment of the Proposed Development as the Competent Authority. It should be noted that the responsibility of undertaking an Appropriate Assessment (AA), if required, lies with Gravesham Borough Council – the Competent Authority – who is responsible for granting consent for the scheme. However, it is the Applicant's obligation to provide information to the Competent Authority to enable them to undertake the assessment. The screening exercise within the Shadow HRA concludes likely significant effects could occur through recreational pressure and disturbance before mitigation. Therefore, an Appropriate Assessment has been undertaken to address this. The conclusions of the Shadow HRA note that with the appropriate mitigation in place, in the form of a financial contribution, the residual effects will be not significant. The Shadow HRA has been appended to this response document.
NE8		In addition to the potential for impacts to birds associated with the SPA and Ramsar site, the planning application relates to proposals for new dwellings within the zone of influence (6 kilometres) of the Thames Estuary and Marshes, Medway Estuary and Marshes, and The Swale Special Protection Areas (SPAs) and Wetlands of International Importance under the Ramsar Convention (Ramsar Sites). It is the Council's responsibility to ensure that the proposals fully adhere to the agreed approach within the Thames, Medway and Swale Estuaries Strategic Access Management and Monitoring Strategy (SAMMS) to mitigate for additional recreational impacts on the designated sites and to ensure that adequate means are in place to secure the mitigation before first occupation.	A shadow HRA has been undertaken to assess impacts on Thames Estuary Marshes SPA, as noted above, but the Medway Estuary and Marshes is located 16km from the site and the Swale is 29km from the site which is beyond the ZoL for both those sites. Therefore, no HRA will be undertaken for these sites.
NE9	England Coast Path	Based upon the information provided, it appears that the	As shown in the Figure below, the current routing of the England Coastal Path (as shown in blue on the Figure) routes along Stonebridge Road and Lower Road. As shown in the submitted parameter plans, Design Code

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		current alignment of the England Coast Path in this area will need to be moved. The applicant should discuss any required route alteration of the National Trail with the Public Rights of Way department at Kent County Council and Natural England to agree an approach. The principle for the Coast Path is to keep the trail as close to the coast and estuary as possible and this should be followed with any realignment. In addition, details of how the trail will be kept open as a continuous route during the development phase should be provided.	and Design and Access Statement submitted with the planning application, there are no changes to Stonebridge Road as part of the Proposed Development. Therefore, the routing of the Coastal Path will remain unaffected by the Proposed Development. The Proposed Development will allow greater access and circulation opportunities through the site, and therefore offer benefits to pedestrian movement and users of the England Coastal Path within the area. 
RSPB			
RSPB1		The RSPB has serious concerns about the current design of the development, given the likely impact on the adjacent Swanscombe Marshes SSSI, its habitats and its breeding birds, as well as impacts on Schedule 1 breeding birds around the	The proposed design has taken consideration to build on developed land, reducing additional impacts from operational noise and disturbance. The design also removes the amount of Lower Road (a road used by heavy good vehicles) immediately adjacent to the SSSI and replaces commercial buildings and a lorry park with greenspace. This buffer zone took into account the levels of current disturbance from the commercial setting as well as reviewing where birds had been recorded within the SSSI. The mechanisms for potential negative impact on breeding birds include habitat loss (functional habitat), increase in disturbance from recreational pressure, cat predation, disturbance from noise and light. The Proposed Development site does not currently support any ecologically linked habitat to the SSSI therefore habitat loss (functional habitat) is not anticipated and the Proposed Development provides the opportunity to form functional links across the site.

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		development. Overall, the proposed development as currently designed is too close to the SSSI and lacks adequate buffer areas. In particular, Plots 17, 18 and 19 are too close to the SSSI boundary to avoid direct impacts through disturbance and impact of pets, amongst others, and the mitigation suggested does not appear sufficient to avoid harm to the designated site given the size and design of the development. Therefore, we object to the current proposals, although if the development design is later revisited and changed to take account of our concerns it may be possible for us to remove our objection to development at this location. In summary, adequate ecological buffers will be needed, and a rethink of the size, location and arrangement of the development's component parts is necessary to effectively safeguard the breeding bird assemblages of Swanscombe Marshes SSSI from impacts of all phases of the proposals, and to avoid recurring problems ongoing once the operational phase is established.	It should be noted that the south-eastern corner of the SSSI closest to the Proposed Development site supports dense and scattered scrub and relict grassland that has been impacted by scrub encroachment. This area would benefit from management to restore the relict grassland, and the current scrub buffer, separating the site from the SSSI important habitats. A new buffer zone along the boundary of the Proposed Development will be introduced, to provide separation between the SSSI and proposed residential dwellings. It should also be noted that the Proposed Development will not result in buildings being located closer to the SSSI than is the current baseline. Currently there is no baseline threshold for recreational pressure disturbing the breeding birds within the SSSI, however the SSSI is not designed to manage visitors (which can freely access the area). As noted in ES Volume 1, Chapter 14: Ecology and Biodiversity, embedded mitigation within the design of the Proposed Development includes: • The provision of minimum on-site open space for operational amenity; • Controlled pedestrian access and signposting displaying the sensitivity of Swanscombe Peninsula SSSI to human disturbance; • No footpaths will be created between the site and the SSSI; • The provision of an information centre/cafe within the Power Park, next to the play areas, to encourage walks around the site as opposed to within the SSSI; and • To provide information regarding notable species and habitats including relevant protection measures within the local area and the SSSI in particular. The inclusion of these mitigation measures will ensure recreational pressure on the SSSI is minimised. Impacts from noise and lighting would be managed through sensitive design and location of new lighting to minimise impacts on wildlife. ES Volume 1, Chapter 9: Noise and Vibration identified that noise within the SSSI would not be higher than 70dB, and only at a very small portion of the SSSI. The IECS report (Cutts et al., 2009) gives an illustrative overview of the effects of disturbance to waterbirds from different activities that may arise as a result of a construction project where equal to or below 70dB would not result in the movement of birds but could result in alarm calling or lifting of heads. Much of the noise impact within the SSSI is less than 50dB (resulting in no impact) as detailed in the IECS report. Singing nightingale was recorded in the SSSI approximately 300m from the nearest point to the Proposed Development site but no nests were recorded by the London Resort surveys in 2020, given the large suitable swathes of habitat within the SSSI, the distance the calling bird was recorded and the negligible effects from noise (dB under 60 beyond) did not trigger the requirement for additional surveys. London Resort's application undertook detailed surveys within the SSSI. The SSSI area closest to the application boundary was found to support singing birds (no pairs) of largely green list bird species. Song thrush (a red list bird) was recorded singing within 150m of the application boundary, but no active nests were found and the habitats within the Proposed Development are less suitable for nesting song thrush than the SSSI. The

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			enhancements and embedded mitigation will provide more foraging and nesting opportunities for a wide range of passerine birds (including song thrush) given the effort to increase greening in a heavily commercial area. As noted in ES Volume 1, Chapter 14: Ecology and Biodiversity, paragraph 14.138, it is proposed that the Applicant commits to undertaking an audit to monitor the recreational usage from the Proposed Development on the SSSI, which will be secured via planning condition. This will identify the effect threshold or the point at which wildlife begins to be disturbed by such recreational activities to provide informed recommendations to key stakeholders regarding infrastructure construction and visitor management. This will inform future phases of this Proposed Development on the most appropriate and proportionate mitigation requirements to reduce impacts on the SSSI if a threshold is reached. It is considered with the implementation of the embedded mitigation measures such as high-quality greenspaces and green / brown roofs, and the additional measures of an audit, the residual effect of increased footfall / recreational pressure on the Swanscombe Peninsula SSSI would be Negligible (Not Significant). Adverse effects of recreational use on wildlife identified by the audit will be mitigated for in future phases of the Proposed Development (such as visitor management and management regimes) to ensure effects remain negligible. Once detailed design is available for the Proposed Development, Kent Wildlife Trust and NE will be consulted to discuss potential further mitigation measures (if required and relevant) to be incorporated into the detailed design of the Proposed Development. The potential urbanisation effects upon the SSSI have been duly considered. As the uses and lighting strategy of the Proposed Development are not yet known, a technical assessment cannot be undertaken, however the detailed lighting strategy would follow the BS 5489: Good Practice in Lighting Design and as such adverse effects on the SSSI (and associated species) are not anticipated. At reserved matters stage, should the detailed design for the outline components be likely to comprise any significant effects, technical assessments will be undertaken. It should be noted the details of any mitigation and its efficacy will be guided by ILP Guidance notes and presented and reported upon where relevant at the Reserved Matters Stage. The current cat population within the area is unknown, as is the predation rates of the breeding birds within the SSSI. The Proposed Development is largely apartment-led which, if the residents' owned cats, would likely not stray outside given they have limited outdoor space (aside from balconies). The proposed 28 houses, which are located to the south of the SSSI, could incorporate cat proof fencing, however with such low numbers of houses compared to high-rise apartments, the increase of cats to the area is unlikely to be high impact and would need to be studied further and conditioned by the planning application. The installation of bird boxes mounted on trees or new buildings, such as house sparrow boxes on buildings, will create safe nest sites from cats and mitigate for loss of existing nesting sites. If predation rates were found to be increasing due to the Proposed Development, then further measures will be incorporated. Due to there being no baseline information on the current predation rates from other non-domestic

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			mammals (such as rats / foxes) there is no mechanism to aid understanding whether cat predation would be significant. ES Volume 1, Chapter 14: Ecology and Biodiversity suggests an audit of the SSSI to understand potential impact thresholds once planning is secured. Impacts from noise and lighting would be managed through sensitive design and location of new lighting to minimise impacts on wildlife. ES Volume 1, Chapter 9: Noise and Vibration identified that noise within the SSSI would not be higher than 70dB during demolition and construction, and only at a very small portion of the south-eastern corner of the SSSI that borders the Proposed Development temporarily. The building services plant strategy and the operation of the commercial premises would need to be developed to ensure that the limits are achieved. This will be secured by an appropriately worded planning condition. The building services plant would be expected to be designed to achieve the recommended limits shown (in accordance with BS 4142), it is expected that the magnitude of impact will be negligible, and the effect will be negligible (not significant). The site currently operates with a football stadium and the Proposed Development also includes a football stadium. An assessment has been completed to evaluate the likely change in ambient noise levels experienced at the nearby receptors during a football match. The assessment indicates that the additional capacity and change in position of the football stadium would not increase ambient noise levels at the closest existing High sensitivity receptors and therefore there this results in a negligible (not significant) effect. This is due to the change in the design which is more enclosed than the current stadium (as per the Design Code). In addition, the screening from the buildings surrounding the stadium increases the noise reduction. In order for there to be no increase in ambient noise levels from the baseline measured it will be necessary to design the public address and voice alarm (PAVA) system appropriately, along with maintaining the current design intent of the stadium, i.e. enclosed except above the pitch. Noise emissions from the football stadium are to be assessed in connection with the detailed design subject to the Reserved Matters Application for this Plot and designs implemented to control noise breakout so significant effects are avoided. The assessment of the footfall pedestrian noise emissions indicates that with full capacity attendance, the short-term ambient noise levels may increase by up to 5 dBA, as a worst-case from the existing baseline noise level measured during a football match. The IECS report (Cutts et al., 2009) gives an illustrative overview of the effects of disturbance to waterbirds from different activities that may arise as a result of a construction project where equal to or below 70dB would not result in the movement of birds but could result in alarm calling or lifting of heads. Much of the noise impact within the SSSI is less than 50dB (resulting in no impact) as detailed in the IECS report.

KCC Biodiversity			
KCCB1		Require additional information prior to determination: • Phase 1 map of the site – the map in the Environmental Statement document is difficult to review. • Illustrative plan of the proposed development - the map in the Biodiversity Net Gain Assessment is difficult to review. • BNG excel metric to assess if we agree with the conclusion the proposal will result in a 352% BNG habitats and 75% BNG of hedgerows. • Detailed assessment of the impact the proposal will have on the adjacent SSSI and LWS • Clarification on why the application are satisfied the breeding bird surveys are accurate. • Results of the current wintering bird surveys	The additional information requested which includes a detailed version of the Phase 1 Map, an Illustrative Plan of the Proposed Development and the BNG excel metric, and the Wintering Bird Report are appended to this response for ease. Impacts on the SSSI / LWS The Applicant considers that sufficient information has been provided within the Environmental Statement (ES) with regards to the assessment of potential direct and indirect effects upon the Swanscombe Peninsula SSSI which incorporates Botany Marshes LWS. Throughout the design development process, the EIA team (including the project ecologists) worked closely alongside the design team to ensure that '<i>mitigation by design</i>' principles were incorporated into the evolving scheme. Ecological constraints and opportunities were a key consideration throughout the evolution of the design, whereby the planning application has committed to significant mitigation to reduce the potential for adverse effects upon the SSSI / LWS and other sensitive ecological receptors. These measures have been captured as part of the design of the Proposed Development or by the planning application in a number of ways, such as being secured via the Design Code submitted alongside the planning application, whereby the detailed design of the Proposed Development will be required to adhere with the ecological design principles set by this document, or by the requirement for a Biodiversity Enhancement and Management Plan (BEMP), to be secured via condition. ES Volume 1, Chapter 14: Ecology and Biodiversity, paragraphs 14.79 – 14.83 set out the embedded mitigation of the Proposed Development. Furthermore, an Outline Construction Environmental Management Plan (CEMP) submitted with the planning application (see ES Volume 3, Appendix: Demolition and Construction – Annex 1) sets out a framework of construction-related mitigation, whereby future detailed CEMPs will be required to adhere to the principals set by this Outline CEMP. This includes a number of measures (such as those set out in paragraph 14.125 of ES Volume 1, Chapter 14: Ecology and Biodiversity) to reduce the potential of construction works resulting in adverse direct and indirect effects upon the SSSI. The mitigation built into the scheme during the design evolution process, as set out above, was developed in tandem with the desk and field surveys undertaken as well as the ecological impact assessment. This holistic process ensured that where possible and relevant the evolving design was able to effectively consider potential

			adverse ecological effects (particularly in relation to the SSSI and LWS), informed by detailed assessment work, and in turn respond with embedding mitigation and commitments to manage constraints. The Applicant considers that the result of this thorough process is both a robust ecological impact assessment and a development that holds ecological constraints and opportunities as key design considerations, whereby the avoidance or mitigation of effects upon the SSSI / LWS has been duly considered. The breeding bird surveys were undertaken at the correct time of year, in line with correct guidance / legislation. Access was fairly limited to the mudflats therefore alternative locations which provides a viewpoint to the mudflats had to be used. The results detailed below provide the information of why the surveys were suitable. The ecological impact assessment has duly considered the potential direct and indirect impacts to the breeding bird assemblage within the Swanscombe Peninsula SSSI. It is noted that the ES was informed by breeding bird and wintering bird surveys along Robins Creek but not within the SSSI (see ES Volume 3, Appendix: Ecology and Biodiversity – Annex 3). However, review of the bird surveys undertaken within the SSSI to inform the London Resort application informed the mitigation associated with the Proposed Development. These measures have included a park bounding a large section of the SSSI rather than residential properties to form a buffer zone. The mechanisms for potential negative impact on breeding birds include habitat loss (functional habitat), increase in disturbance from recreational pressure, cat predation, disturbance from noise and light. The site does not currently support any ecologically linked habitat to the SSSI therefore habitat loss (functional habitat) is not anticipated and could be a great opportunity to form functional links across the area. Currently there is no baseline threshold for recreational pressure disturbing the breeding birds within the SSSI, however the SSSI is not designed to manage visitors (which can freely access the area. Furthermore, a technical audit of the SSSI and impacts from visitors (such as the distance visitors are travelling to use the site) should be conditioned to help design and mitigate future phases of the project. Summary of the winter bird surveys Whilst no overwintering habitat is present on the site due to the urban nature potential overwintering habitat is present on habitat neighbouring the site in the form of foraging habitat on the mudflats and foraging and roosting habitat in Robin's Creek. These habitats are linked by the Thames to the Swanscombe Marshes SSSI and the Thames Estuary and Marshes SPA. Therefore, in order to establish if these habitats are functionally linked to either the SPA or SSSI winter bird surveys were undertaken in the winter of 2022-2023. To establish usage by waterfowl and waders on the mudflats and Robins Creek surveys were undertaken based on the BTO's Wetland Bird Surveys (WeBS) methodology. Core counts of wetland birds were taken, and two intertidal (low tide) surveys were undertaken on 13th December 2022 and 24th January 2023. These surveys were extended to include the noting of potential disturbance events and any reactions shown by the birds in order to establish a basic baseline of what disturbance levels the birds on the mudflats may already be habituated to due to the gravel works which they currently neighbour. During the surveys no Annex 1 species that use the Thames Estuary and Marshes SPA in internationally important populations were found to be using the mudflats or Robin's Creek.
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		One of the species the Thames Estuary and Marshes SPA supports in internationally important numbers of regularly occurring migratory species was found to be using the site: redshank (<i>Tringa tetanus</i>) and one nationally important migratory species the SPA supports: teal (<i>Anas crecca</i>). One other species which contribute to the internationally important waterfowl assemblage within the Thames Estuary and Marshes SPA was found on site shoveler (<i>Anas clypeata</i>). Whilst these species were found on site these were all in low numbers with a singular Redshank foraging on the mudflats on both surveys. Peak counts of 3no. teal using Robins Creek on the first survey and 14no. using the mudflats briefly whilst travelling from east to west up the Thames on the second survey and 6no. in Robins Creek. Peak counts of shoveler were 2no. seen on the mudflats on the second survey. Peak counts of other wading and waterfowl species (gulls excluded) were on the first survey in Robins Creek 2no. mallards and on the mudflats 2no. oystercatchers. On the second survey peak counts of other birds were in Robins Creek 3no. coots and on the mudflats 2no. mallards. Higher counts of other waterfowl were noted flying up from east to west up the Thames without stopping at the site. The overall number and species counted during the survey do not make up numbers of national or international importance and when compared to the 5-year peak mean population of species at the Thames Estuary Marshes for example for Redshank this is 3251 birds this suggests that the relative importance of this area of mudflats and Robins Creek is of limited importance to overwintering bird species. Additionally, it should be noted that this mudflat is already subject to disturbance from the gravel pit works. During the first survey a crane was being used to load a boat with gravel for the whole of the survey time including with workers walking back and forth. No disturbance behaviours were noted of the waterfowl using the mudflats during this time and the waterfowl appeared to forage as normal. Due to the low numbers of overwintering waterfowl using the habitats next to the proposed developments it is thought that neighbouring habitats do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value. Therefore, it is thought that any disturbance generated by the construction will not be significant on overall overwintering populations so will not have an effect on the favourable conservation status of Interest features of the SPA. Whilst the habitats next to the proposed development are already subject to disturbance from the gravel works best practice guidelines will followed during the development to the limited populations of waterfowl using the foraging and roosting habitats of the mudflats and Robins Creek. These will be fully detailed in the CEMP but will include methods such as visual and noise barriers between the site and these habitats and specific methodologies to noisy works such as slow starts for piling to limit disturbance. Further surveys should be undertaken during the reserved matters application stage to ensure the baseline data is up to date but the current assessment (alongside data from London Resort) is that the mudflats and Robin's Creek habitats next to the Proposed Development do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value so there will not be an effect on the favourable conservation status of Interest features of the SPA and it is considered proportionate. The Wintering Bird Survey Report has been appended to this response document.
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Bugslife			
BL1		Objects due to the impacts on the adjacent SSSI and LWS.	A full response on the impacts on the adjacent SSSI and LWS are provided above in response KCCB1.
Avison Young Review			
Comment		Response	
The breeding birds survey should be carried out in seasons, in the months of April, May and/or June. It is possible that a larger number of birds utilise the site than that recorded in the breeding birds survey undertaking, noting that it was prior to the optimal season.		Please refer to response NE3 above for further details on timings of the breeding birds surveys.	
The results of the wintering birds survey must be submitted as soon as possible. Natural England note that the ES for London Resort indicated that, given the number of birds associated with the SPA and Ramsar site, the area was functionally linked to the SPA and Ramsar site – and mitigation was required and have stated that two years of wintering birds surveys are required . If the wintering birds survey shows species associated with the SPA and Ramsar - the ES will need to be updated & provide nature and scale of impact, mitigation measures, and sufficient information for the Council to undertake a Habitats Regulations Assessment.		Please refer to response NE6 regarding wintering bird surveys. The Wintering Bird Survey Report has been appended to this response document.	
Further information is required on the assessment of mudflats and habitats.		As noted throughout the response to the consultee comments table above, access to the mudflats is limited, and therefore alternative locations which provides a viewpoint to the mudflats had to be used.	
Chapter 10 of the ES identifies negligible to minor adverse impacts to Swanscombe Peninsula SSSI in terms of light intrusion providing that mitigation is built into the design. However, little detail on the mitigation is provided within the submission documentation. The approach to artificial light near the SSSI will likely need further consideration prior to determination, to ensure that the ecological impacts of the development have been		Please refer to response NE3 above for further details on light intrusion on the SSSI.	

accurately assessed. As a minimum, it would be beneficial for principles of design to be agreed as part of the design code.	
New dwellings are proposed within the zone of influence of the Thames Estuary and Marshes, Medway Estuary and Marshes and the Swale Special Protection Areas (SPAs) and Wetlands of International Importance under the Ramsar Convention. The Council may wish to seek further evidence that the proposals will adhere to the agreed approach within the Estuaries Strategic Access Management and Monitoring Strategy to mitigate for additional recreational impacts on the designated sites and to ensure that adequate means are in place to secure the mitigation first before occupation. As noted by RSPB, the paths on site are designed to lead directly onto the SSSI and the subsequent recreational pressures must be considered.	Please refer to the response NE5 above.
England Coast Path – the principle of the Coast path is to keep the train as close to the coast and estuary as possible, and this should be followed with any realignment. Details of how the trail will be kept open as a continuous route during the development phase should be provided.	Please refer to the response NE9 for further details.
Chapter 10 of the ES identifies some minor adverse impacts to Swanscombe SSSI, River Thames and Robins Creek in terms of transient overshadowing. Chapter 14 of the ES concludes that the harm would not be significant in any of these instances. However, noting the quality of the ecological receptors and the habitats they are likely to contain, further investigation should be undertaken to ascertain habitats that exist in affected areas and the impacts that could arise. This should seek to quantify the harm to biodiversity and ecology arising from the development.	Please refer to response NE3 above for further details regarding overshadowing. .
As required by part a of paragraph 180 of the NPPF, consideration must be given to alternative layouts/sites. If further investigation reveals that there would be harm to ecology and biodiversity, consideration should first be placed on amending the parameter plans to mitigate the harm.	As noted in ES Volume 1, Chapter 14: Ecology and Biodiversity , no significant effects are anticipated, when relevant mitigation is in place. Therefore, the Parameter Plans do not need to be amended to mitigate the harm.
Chapter 14 of the ES goes on to conclude that the cumulative effects are considered to be moderate adverse on ecological and biodiversity receptors, and that following the implementation of mitigation and monitoring measures, no likely significant effects would arise as a result of the proposed development. The Design Code provides insufficient detail on the mitigation measures to substantiate the conclusions and there is little consideration of the types of habitats lost and re-provision for these.	Paragraphs 14.122 - 14.149 of ES Volume 1, Chapter 14: Ecology and Biodiversity outline the mitigation for the Proposed Development. However, as noted in paragraphs 14.157 and 14.161 of ES Volume 1, Chapter 14: Ecology and Biodiversity the schemes assessed within the cumulative scenario would be required to follow policy requirements relating to mitigation measures for pollution control, habitat degradation and recreational pressures. Kent Wildlife Trust and NE will be consulted to discuss any potential further mitigation measures (as required and relevant) to be incorporated into the detailed design of the Proposed Development to mitigate adverse impacts upon the SSSI arising from recreational pressures.

WINTERING BIRDS SURVEY REPORT

Northfleet Central 1 Ltd

Ecological Services

Wintering Bird Survey Report

Northfleet, Gravesham



Reference No.: TRI053

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Executive Summary

Purpose	The surveys were undertaken to determine the presence and/or absence of Schedule 1 and non-Schedule 1 bird species in and around the site a Northfleet, Gravesham, and to understand how they are using the site in both winter and summer. Summer surveys have been undertaken and are reported in a separate report (Schofield Lothian 2022). This report focuses on the winter results and assesses any avoidance, mitigation, compensation, and enhancement measures needed to avoid the Proposed Development causing an offence.
Introduction	A habitat survey was undertaken in May 2022, to support the planning application, which was submitted in September 2022, and remains valid. Whilst no overwintering habitat is present on the site due to the urban nature, the offsite habitats were assessed as they support suitable overwintering habitat. The suitable habitats identified included mudflats for foraging and foraging and roosting habitat in Robin's Creek. These habitats are connected by the River Thames to the Swanscombe Marshes SSSI and the Thames Estuary and Marshes SPA. Therefore, in order to establish if these habitats are functionally linked to either the SPA or SSSI, winter bird surveys were undertaken in the winter of 2022-2023. These were undertaken on 13th December 2022 and 23rd January 2023. In order to establish usage by wetland birds which would overwinter on the mudflat habitats and Robin's Creek identified adjacent to the application site (including Annex 1 and Schedule 1 species) were undertaken based on the British Trust for Ornithology's (BTO's) Wetland Bird Surveys (WeBS) methodology. Core counts of wetland birds were taken, and two intertidal (low tide) surveys were undertaken in December 2022 and January 2023. These surveys were extended to include the noting of potential disturbance events and any reactions shown by the birds in order to establish a basic baseline of what disturbance levels the birds on the mudflats may already be habituated to due to the sand and gravel works and Seacon Terminals which they currently neighbour.

Key Findings	During the surveys no Annex 1 species that use the Thames Estuary and Marshes SPA in internationally important populations were found to be using the mudflats or Robin's Creek. One of the species the Thames Estuary and Marshes SPA supports in internationally important numbers of regularly occurring migratory species was found to be using the site: redshank (<i>Tringa tetanus</i>) and one nationally important migratory species the SPA supports: teal (<i>Anas crecca</i>). One other species which contributes to the internationally important waterfowl assemblage within the Thames Estuary and Marshes SPA was found on site: shoveler (<i>Anas clypeata</i>). Whilst these species were found on site these were all in low numbers with a singular redshank foraging on the mudflats on both surveys. Peak counts of 3no. teal using Robin's Creek on the first survey on (13th December 2022) and 14no. using the mudflats briefly whilst travelling from east to west up the Thames on the second survey (23rd January 2023) and 6no. in Robin's Creek. Peak counts of 2no. shoveler were seen on the mudflats on the second survey. Peak counts of other wading and waterfowl species (gulls excluded) were on the first survey (13th December 2022) in Robin's Creek: 2no. mallard (<i>Anas platyrhynchos</i>) and on the mudflats 2no. oystercatcher (<i>Haematopus ostralegus</i>). On the second survey on 23rd January 2023 peak counts of other birds were in Robin's Creek 3no. coot (<i>Fulica atra</i>) and on the mudflats 2no. mallard. Higher counts of other waterfowl were noted flying up from east to west up the Thames without stopping at the site on the survey on 23rd January 2023. The overall number and species counted during the surveys do not make up numbers of national or international importance and when compared to the 5-year peak mean population of species at the Thames Estuary Marshes for example for redshank this is 3,251 birds. This suggests that the relative importance of this area of mudflats and Robin's Creek is of limited importance to overwintering birds' species. Additionally, it should be noted that this mudflat is already subject to disturbance from the sand and gravel works and other industrial uses, such as the Seacon Terminals. During the first survey a crane was being used to load a boat with gravel for the whole of the survey time including with workers walking back and forth. No disturbance behaviours were noted of the waterfowl using the mudflats during this time and the waterfowl appeared to forage as normal. Due to the low numbers of overwintering waterfowl using the habitats next to the Proposed Development it is thought that neighbouring habitats do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value. Therefore, it is thought that any disturbance generated by the construction will not be significant on overall overwintering populations so will not have an effect on the favourable conservation status of Interest features of the SPA.
Recommendations	Whilst the habitats next to the Proposed Development are already subject to disturbance from the sand and gravel works and other surrounding industrial uses, best practice guidelines will be followed during the demolition and construction of the Proposed Development to ensure no adverse effects to the limited populations of waterfowl using the foraging and roosting habitats of the mudflats and Robin's Creek. These will be fully detailed in the CEMP but will include methods such as visual and noise barriers between the site and these habitats and specific methodologies to noisy works such as slow starts for piling to limit disturbance. Further surveys should be undertaken during RMA to ensure the baseline data is up to date, but the current assessment (alongside data from London Resort) is that the mudflats and Robin's Creek habitats next to the Proposed Development do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value so there will not be an effect on the favourable conservation status of Interest features of the SPA and it is considered proportionate.

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1 Introduction

- 1.1.1 Schofield Lothian, which as of January 2023 will be trading as Assystem Energy & Infrastructure Ltd, was commissioned by Northfleet Central 1 Ltd to undertake bird surveys in the summer of 2022 and the winter of 2022-2023. Summer survey results can be found in the Bird Survey report (Schofield, 2022), which can be found in **ES Volume 3, Appendix: Ecology and Biodiversity, Annex 3**. This report will cover the wintering bird surveys only.
- 1.1.2 The initial Phase one habitat survey (Schofield, 2022), which can be found in **ES Volume 3, Appendix: Ecology and Biodiversity, Annex 1** found the Proposed Development supported foraging and roosting habitat for overwintering birds on land neighbouring the red line boundary of the site. Foraging habitat is present in mudflats and roosting with a small amount of foraging is present in Robin's Creek.
- 1.1.3 The Proposed Development is connected by the Thames to SSSI site of Swanscombe Marshes around 600m along the Thames notified under Section 28 of the Wildlife and Countryside Act 1981. The SSSI is known to support notable species of bird such shelduck (*Tadorna tadorna*) and little egret (*Egretta garzetta*) in both its saltmarsh habitats and intertidal mudflats and Schedule 1 species such as little ringed plover (*Charadrius dubius*). Whilst the SSSI is only designated for breeding birds it is likely that the habitats support assemblages of overwintering birds. The neighbouring habitats (Robin's Creek and the mudflats) to the Proposed Development could also hold the potential of being a stoppage point on a journey of overwintering birds from the Thame Estuary and Marshes SPA, which supports significant number of internationally important wild birds to the Swanscombe Marshes.
- 1.1.4 The Thames Estuary and Marshes SPA qualifies as a SPA under 4.1 and 4.2 of the EU Birds Directive by supporting three kinds of internationally important population: of regularly occurring Annex 1 species, regularly occurring migratory species and assemblage of waterfowl.
- 1.1.5 The species listed on Annex 1 that use the Thames Estuary and Marshes in internationally important populations are avocet (*Recurvirostra avosetta*) and hen harrier (*Circus cyaneus*). Other non-qualifying, Annex 1 species that regularly occur on the European marine site include common tern (*Sterna hirundo*), Bewick's swan (*Cygnus columbianus bewickii*), golden plover (*Pluvialis apricaria*), and ruff (*Philomachus pugnax*).
- 1.1.6 The Thames Estuary supports internationally important numbers of regularly occurring migratory ringed plover (*Charadrius hiaticula*), grey plover (*Pluvialis squatarola*), dunlin (*Calidris alpina*), knot (*Canutus islandica*), black-tailed godwit (*Limosa limosa*) and redshank (*Tringa tetanus*). Nationally important populations include shelduck (*Tadorna tadorna*), teal (*Anas crecca*) and pintail (*Anus acuta*).
- 1.1.7 Other species which contribute to the internationally important waterfowl assemblage within the Thames Estuary and Marshes SPA which rely less on mudflats and more on the surrounding grazing marsh habitats include gadwall (*Anas strepera*), shoveler (*Anas clypeata*), tufted duck (*Aythya fuligula*) and pochard (*Aythya farina*).
- 1.1.8 As mudflats are a rich source of invertebrates, they have the potential to provide feeding grounds for wintering species including the avocet, dunlin, knot and black- tailed godwit. These surveys will identify if the mudflats are being used by any of the species for which the SPA is designated in significant numbers to assess whether the Proposed Development could have an effect on the favourable conservation status of Interest features of the SPA.

- 1.1.9 By undertaking an investigation of the habitats and species present in both summer and winter, this report, along with a review of the London Resort Application surveys, will provide a greater understanding of the ecological value of the area and immediate surrounding areas for birds. It identifies any potential risks, obligations and restrictions that may be necessary to guarantee compliance with wildlife legislation.
- 1.1.10 Surveys were led by Joanna Meredith an ecologist with over five years' experience with a wide range of ornithology experience, with the most relevant experience being two years of conducting disturbance surveys on a SSSI designated for a significant overwintering wildfowl accumulations, supported by Molly Richardson and ecologist with 4 years' experience including ornithology experience and Mirza Rashid and ecologist with two years' experience.

1.2 Site Description

- 1.2.1 Due to the scale of the site, it was split into three areas referred to as:
- RLB South;
 - RLB North-East; and
 - RLB North-West.
- 1.2.2 Only areas deemed to have the potential to support Schedule 1 nesting birds in the PEA were assessed during the bird surveys. All of these are in the RLB North-East area of the site.
- 1.2.3 The habitat assessed to have potential to support Schedule 1 bird species both on and next to the site are as follows:
- Sand and Gravel Works (onsite);
 - Mudflats (offsite); and
 - Robin's Creek (otherwise known as Northfleet Harbour) (offsite).
- 1.2.4 These habitats are detailed in the Phase 1 habitat map in Appendix A. The Target Note numbers within the extended Phase 1 habitat map in Appendix A correspond to the following points of ecological interest within the site.
- TN1 – Intertidal mudflats;
 - TN2 – Shingle beach above high tide mark; and
 - TN3 – Robin's Creek.

Mudflats

- 1.2.5 Intertidal mudflats are present on the north-east boundary of the site at low tide, Target Note 1 in the map on Appendix A, which extend for at least 50m into the Thames. These are gently sloping mudflats which turn into a shingle beached area which is above the tide line on the edge of the flood wall of the Thames. Some commercial piers/loading docks are present in this area providing further habitat for food for waterbirds. This habitat is connected by the Thames to SSSI site of Swanscombe Marshes around 600 m along the Thames.
- 1.2.6 During the PEA a range of waterbirds were seen foraging on the mudflats next to the site including shelduck along with herring gulls, black headed gulls, female shoveler with young and mallards. Bird surveys are needed to understand the use of the mudflats for foraging by waterbirds which may be coming from the SSSI both in summer and winter months to cover both breeding and overwintering species.

- 1.2.7 The gravel beach area, Target Note 2 on the map in Appendix A, is suitable for little ringed plover to use for nesting (a Schedule 1 species) and are known to be in the area.

Robin's Creek

- 1.2.8 Robin's Creek, Target Note 3 in the habitat map in Appendix A, provides suitable nesting, foraging and overwintering habitat to a range of birds and waterfowl including Schedule 1 birds which have additional protections from disturbance whilst nesting. Cetti's Warbler was seen and heard during the PEA in the Creek area adjacent to south boundary of the RLB North-East area of the site within suitable breeding habitat. Whilst it is more likely that the Swanscombe Peninsula would be more favourable, the reedbeds at the Robin's Creek may also provide suitable nesting habitat for marsh harrier (*Circus aeruginosus*).

1.3 Scope of Works

- 1.3.1 The survey objectives were to:
- Carry out an assessment of the habitat identified with the potential to support Schedule 1 wintering birds to confirm presence of wintering on site and in the immediate surrounding areas; and
 - Carry out an assessment of the habitat identified as having the potential to support assemblages of wildfowl in summer and winter to understand the importance of the habitat as a foraging area for birds from the Swanscombe Marshes SSSI.

1.4 Quality Assurance

- 1.4.1 All lead AEIL ecologists are members of (at the appropriate level) the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct when undertaking ecological work.

2 Methodology

2.1 Bird survey

- 2.1.1 In order to establish usage by wetland birds which would overwinter on the mudflat habitats and Robin's Creek identified adjacent to the application site (including Annex 1 and Schedule 1 species) and a rough baseline of disturbance, intertidal (low tide) surveys were undertaken twice within the winter season of 2022/2023 these were a mixture of disturbance and to establish the baseline.
- 2.1.2 The visual bird disturbance survey method was a modified version of the Wetland Bird Survey (WeBS) core count 'Look-See' method (Bibby et al., 2000) which allowed both species counts to be undertaken and disturbance behaviour of the birds to be recorded.
- 2.1.3 Different vantage points (VP) were selected to provide the best visual coverage of the survey area. The selection of the vantage points was limited due to access.
- 2.1.4 Two hours were spent on the vantage point overlooking the mudflats and one hour was spent on the Robin's Creek. This time was considered proportionate as the survey area was walked at a slow and methodical pace and was appropriate in relation to the habitat and species recorded during the survey.

- 2.1.5 For the first five minutes spent at each VP, weather conditions were recorded, and surveyors counted individually all nationally important species e.g. shoveler, tufted duck and pochard and a total count of other wildfowl and water bird species present. Any evidence of breeding behaviour was noted.
- 2.1.6 Potential disturbance events were also noted to understand a baseline of what the birds react to. Disturbance behaviour of waterfowl is defined as any behaviour shown by the birds that constituted a diversion from normal behaviour. These behaviours were noted on the map by the surveyor doing the waterfowl count.
- 2.1.7 Surveys were conducted at dawn to get the highest level of bird activity. Surveys were timed for when low tide coincided with dawn in order to see the full extent of the mudflats and use of this habitat by birds.

3 Limitations

- 3.1.1 There was no access to the sand and gravel pits on-site however the mudflats and Robin's Creek were viewed from the Thames pathway which is currently diverted to a route that runs to the southeast of Robin's Creek to the Thames barrier. A high specification spotting scope was used to view the site mudflats and Robin's Creek from vantage points selected on the Thames pathway, so the surveys were able to correctly identify all species on the mudflats and the shingle beach from the viewpoints. Limited areas where blocked from view from the pier however this was not thought to be a significant limitation due to the length of time these areas were observed and the use of identification of bird calls. No areas within the red line boundary of the site were deemed as suitable habitat for overwintering birds due to the developed nature of the site meaning lack of suitable habitat. Therefore, the lack of access is not deemed to have limited the surveys.

4 Results

4.1 Wintering Bird Surveys

- 4.1.1 Table 4-1 details the weather conditions at the time of the surveys.

Table 4-1: Weather conditions during survey

Parameter	Survey 1	Survey 2
Date(s)	13/12/2022	23/01/2023
Start time and finish time	07:30 to 09:30	07:00 to 10:00
Temperature (°C)	0	2
Cloud Cover (%)	0	0
Wind (Beaufort Scale)	0	1
Precipitation	None (snow forecast)	None

- 4.1.2 Table 4-2 details the bird species recorded from Vantage Point 1 during the surveys and Table 4-3 details the bird species recorded from Vantage Point 2 during the surveys. The locations are detailed in Appendix B.

Table 4-2: Bird species recorded from Vantage Point 1 - Mudflats

Species Name	Number	Notes	Schedule 1
Survey 1			
Redshank (<i>Tringa tetanus</i>)	1	Foraging on mudflats	-
Oystercatcher (<i>Haematopus ostralegus</i>)	2	Foraging on mudflats	-
Herring Gull (<i>Larus argentatus</i>)	8	Seen foraging on mudflats north of the gravel loading pier.	-
Blackheaded Gull (<i>Chroicocephalus ridibundus</i>)	1	Observed flying north over the site up the Thames.	-
Survey 2			
Redshank (<i>Tringa tetanus</i>)	1	Foraging on mudflats	-
Teal (<i>Anas crecca</i>)	14	Observed travelling from the west and landing on the water in front of the gravel works area. 7 minutes later 8no. teals then flew north-east up the Thames. The remaining birds remained on the water for the rest of the survey.	-
Shoveler (<i>Anas clypeata</i>)	2	Observed briefly on mudflats and flew into the river.	-
Mallard (<i>Anas platyrhynchos</i>)	12	Seen flying north and south along the Thames past the site.	-
Canada Goose (<i>Branta canadensis</i>)	3	Seen flying north along the Thames past the site.	-

Table 4-3: Bird species recorded from Vantage Point 2 – Robin's Creek

Species Name	Number	Notes	Schedule 1
Survey 1			
Teal (<i>Anas crecca</i>)	3	Observed resting in Robin's Creek	-
Mallard (<i>Anas platyrhynchos</i>)	2	Observed resting in Robin's Creek	-
Survey 2			
Teal (<i>Anas crecca</i>)	6	Observed resting in Robin's Creek	-
Coot (<i>Fulica atra</i>)	3	Observed resting in Robin's Creek	-

5 Assessment

- 5.1.1 During the surveys no Annex 1 species that use the Thames Estuary and Marshes SPA in internationally important populations were found to be using the mudflats or Robin's Creek.
- 5.1.2 One of the species the Thames Estuary and Marshes SPA supports in internationally important numbers of regularly occurring migratory species was found to be using the site: redshank (*Tringa tetanus*) and one nationally important migratory species the SPA supports: teal (*Anas crecca*). One other species which contribute to the internationally important waterfowl assemblage within the Thames Estuary and Marshes SPA was found on site shoveler (*Anas clypeata*). Whilst these species were found on site these

were all in low numbers with a singular redshank foraging on the mudflats on both surveys. Peak counts of 3no. teal using Robin's Creek on the first survey and 14no. using the mudflats briefly whilst travelling from west to east up the Thames on the second survey and 6no. in Robin's Creek. Peak counts of shoveler were 2no. seen on the mudflats on the second survey. Peak counts of other wading and waterfowl species (gulls excluded) were seen on the first survey in Robin's Creek 2no. mallards and on the mudflats 2no. oystercatchers. On the second survey peak counts of other birds were in Robin's Creek 3no. coots and on the mudflats 2no. mallards. Higher counts of other waterfowl were noted flying up from east to west up the Thames without stopping at the site.

- 5.1.3 The overall number and species counted during the survey do not make up numbers of national or international importance and when compared to the 5-year peak mean population of species at the Thames Estuary Marshes for example for Redshank this is 3,251 birds this suggests that the relative importance of this area of mudflats and Robin's Creek is of limited importance to overwintering bird species.
- 5.1.4 The mudflat is already subject to disturbance from the sand and gravel works. During the first survey a crane was being used to load a boat with gravel for the whole of the survey time including with workers walking back and forth. No disturbance behaviours were noted of the waterfowl using the mudflats during this time and the waterfowl appeared to forage as normal.
- 5.1.5 Due to the low numbers of overwintering waterfowl using the habitats next to the Proposed Development it is thought that neighbouring habitats do not provide functionally linked overwintering habitats to the SSSI or SPA of any significant value. Therefore, it is thought that any disturbance generated by the demolition and construction phases of the Proposed Development will not be significant on overall overwintering populations so will not have an effect on the favourable conservation status of Interest features of the SPA.
- 5.1.6 There will be no loss of direct loss of overwintering habitat from the demolition and construction phases of the Proposed Development.
- 5.1.7 Overshadowing has been measured and the only area of overshadowing was concentrated on terrestrial land and not on Robin's Creek or the mudflats. If designs should alter the overshadowing should be re-measured to see if this is expected to have any effect on the invertebrate populations within the mudflats or Robin's Creek leading to long term loss of habitat. If any overshadowing is expected the mudflats are not of foraging significance.

Internationally important populations of regularly occurring Annex 1 species.

Species	Population (5 yr peak mean 1993/94 - 1997/98)*
Avocet (<i>Recurvirostra avosetta</i>)	283 birds 28.3 % Great Britain

Internationally important populations of regularly occurring migratory bird species.⁶

Species	Population (5 yr peak mean 1993/94 - 1997/98)*
Ringed Plover (<i>Charadrius hiaticula</i>)	1,324 birds 2.6% Europe /North Africa
Grey Plover (<i>Pluvialis squatarola</i>)	2,593 birds 1.7% Eastern Atlantic
Dunlin (<i>Calidris alpina alpina</i>)	29,646 birds 2.1% Northern Siberia/Europe/West Africa
Knot (<i>Calidris canutus islandica</i>)	4,848 birds 1.4% North West Europe
Black-tailed Godwit (<i>Limosa limosa</i>)	1,699 birds 2.4% Iceland
Redshank (<i>Tringa totanus totanus</i>)	3,251 birds 2.2% Eastern Atlantic

An internationally important assemblage of waterfowl.

Importance	Population (5 yr peak mean 1993/94 - 1997/98)*
Thames Estuary supports large populations of wintering waterfowl.	75,019 individual birds _

6 Recommendations & Enhancements

- 6.1.1 No further surveys are recommended.
- 6.1.2 The impacts of displacement on overwinter birds are anticipated overall to be at worst minor adverse which is non-significant (if demolition and construction is undertaken in the winter), given the low concentrations of birds recorded during the wintering bird surveys. As a precautionary approach, works bounding Robin's Creek and the River Thames could be undertaken April to August inclusive, reducing impacts to negligible.

6.2 Design

- 6.2.1 Specific black redstart mitigation is included in the landscaping design with brown roofs with features to encourage insects such as puddle pools and stone and log piles, foraging habitat and ledges and nest boxes to be installed on site in inaccessible areas.
- 6.2.2 A tree line will be used to limit visual disturbance from public on the Robin's Creek.
- 6.2.3 Guided walks and pathways will be designed to encourage the public to walk around the site area rather than onto sensitive areas for birds such as the SSSI.

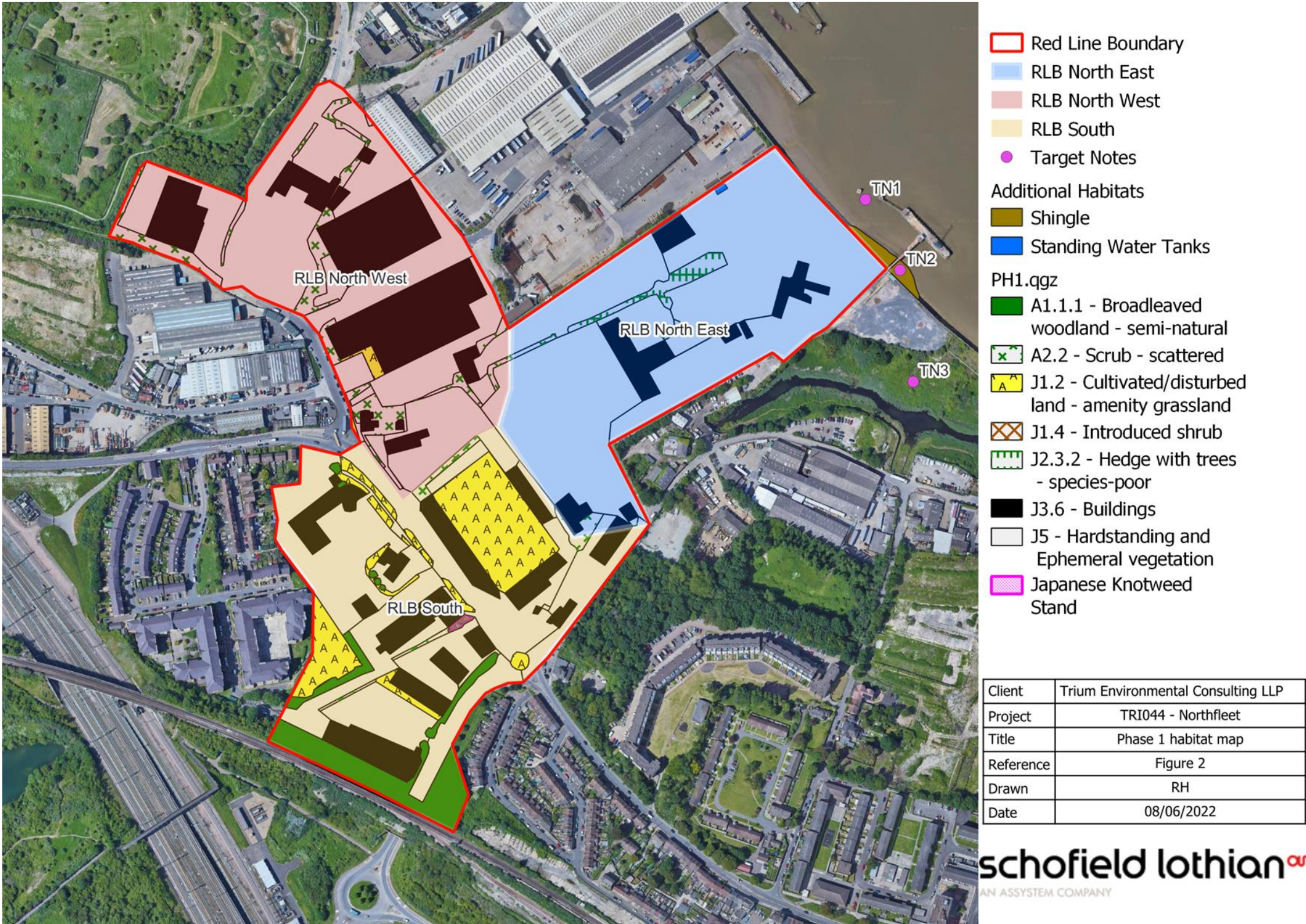
6.3 Enhancement Measures

- 6.3.1 The National Planning Policy Framework (NPPF) outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed overusing land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that

developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

- 6.3.2 Taking the requirements of NPPF into account, North Kent Marshes are over 10km away so should not be affected by the Northfleet works however there is a North Kent Catchment Improvement Plan. The project could carry out some of the actions on the improvement plan through volunteering in order to improve North Kent Marshes which would improve the wider area for bird species found at the Northfleet site. These actions include practical action days to improve habitat such as litter picks and management of bankside vegetation.
- 6.3.3 A range of bird boxes and insect boxes could be added to the planting and retained trees to increase the local bird population. Suitable wildlife boxes can be bought from a number of retailers and further advice, if necessary, can be provided by Assystem on construction and siting arrangements.

Appendix A Phase 1 Habitat Map



Appendix B Wintering Bird Survey Map 1



Key:

-  Vantage Point 1
-  Vantage Point 2



Client	Trium Environmental Consulting LLP
Project	TRI053
Title	Winter Bird Survey 1 Map
Reference	Appendix B
Drawn	JM
Date	16/02/2023

Appendix C Wintering Bird Survey Map 2



Key:

- ⊗ Vantage Point 1
- ⊗ Vantage Point 2



Client	Trium Environmental Consulting LLP
Project	TRI053
Title	Winter Bird Survey 2 Map
Reference	Appendix C
Drawn	JM
Date	16/02/2023

Appendix D Relevant Legislation

D.1 NPPF

- D.1.1 The NPPF outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed over using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments

D.2 The Conservation of Habitats and Species Regulations 2017

- D.2.1 The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. 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.
- D.2.2 Under the Regulations, competent authorities i.e. government departments and public bodies, have a general duty to have regard to the EC Habitats Directive and Wild Birds 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. 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. 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 precautionary principle applies i.e. consent cannot be given unless it is ascertained that there will be no adverse effect on the integrity of the site.
- D.2.3 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 few 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.

D.3 The Wildlife and Countryside Act (WCA) 1981 (as amended)

- D.3.1 The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitat Regulations 2010

(as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

- D.3.2 Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species. All relevant species-specific legislation is detailed later in this Appendix.
- D.3.3 Schedule 1 – Part 1 relates to birds and their young, for which it is an offence to intentionally or recklessly disturb at, on or near an ‘active’ nest. Schedule 1 – Part 2 relates to birds afforded special protection during the close season which is 1 February to 31 August (21 February to 31 August below high-water mark), but which may be killed or taken outside this period.

D.4 The Countryside and Rights of Way (CROW) Act 2000

- D.4.1 The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife.
- D.4.2 Legislation detailed in the WCA places a duty on government departments and the National Assembly for Wales to have regard for biodiversity and provides increased powers for the protection and maintenance of SSSIs. The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

D.5 The Natural Environment and Rural Communities (NERC) Act 2006

- D.5.1 Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists superseded Section 74 of the CROW Act 2000.

D.6 UK Biodiversity Action Plan

- D.6.1 The United Kingdom Biodiversity Action Plan (UK BAP), first published in 1994 and updated in 2007, was a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UK BAP contained a list of priority habitats and species of conservation concern in the UK and outlined biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats were also included. The priority habitats and species correlated with those listed on Section 41 and 42 of the NERC Act.
- D.6.2 The UK BAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These were complementary to the UK BAP, however, were targeted towards species of conservation concern characteristic of each area. In addition, several local authorities and large organisations have produced their own BAPs.

D.7 Species and Habitats of Material Consideration for Planning in England

- D.7.1 In 2011, the government published the ‘Biodiversity 2020: A strategy for England’s wildlife and ecosystem services’ to replace the previous England Biodiversity Strategy. In 2012 the UK BAP was replaced by the UK Post-2010 Biodiversity Framework.

D.7.2 Previous planning policy (and some supporting guidance which is still current, e.g. ODPM Circular 06/2005, now under revision), refers to UK BAP habitats and species as being a material consideration in the planning process. Equally many local plans refer to BAP priority habitats and species. Both remain as material considerations in the planning process, but such habitats and species are now described as Species and Habitats of Principal Importance for Conservation in England, or simply priority habitats and priority species under the UK Post-2010 Biodiversity Framework. The list of habitats and species remains unchanged and is still derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006. As was previously the case when it was a BAP priority species hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

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SHADOW HABITATS REGULATIONS ASSESSMENT

Northfleet Central 1 Ltd

Ecological Services

Shadow Habitat Regulations Assessment

Northfleet, Gravesham.



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Executive Summary

Designated Sites	Qualifying Features	Pathways of Impact Screened	Impacts requiring Appropriate Assessment
Thames Estuary and Marshes SPA and Ramsar site (5.7 km east of the Proposed Development Site): a wetland of European importance comprising a mosaic of intertidal habitats, saltmarsh, coastal grazing marshes, saline lagoons and chalk pits.	Wintering populations of the Annex 1 species: - Avocet, - Hen harrier, Wintering populations of non-annex 1 species: - Black-tailed godwit, - Dunlin, - Grey plover, - Knot, - Redshank, - Common ringed plover. - Waterbird assemblage (>20,000 birds). - Supports endangered and nationally scarce plants of wetland habitats and 20+ British Red Data Book invertebrates. - Supports the endangered least lettuce (<i>Lactuca saligna</i>), at least 14 nationally scarce plants of wetland habitats, and more than 20 British Red Data Book invertebrates. - Supports internationally important numbers of ringed plover, black-tailed godwit, grey plover, knot, dunlin and redshank.	- Recreational pressure and disturbance, - Reduced air quality, - Reduced water quality, - Air pollution, - Loss of supporting habitat.	Recreational Pressure and Disturbance.

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1 Introduction

1.1 Background Information

- 1.1.1 Assystem was appointed by Northfleet Central 1 Ltd (the client) to carry out ecological assessment for a Proposed Development on land at Northfleet, Kent. Part of this ecological assessment includes a shadow Habitat Regulations Assessment (HRA) in relation to potential adverse effects on European designated sites within the zone of influence of the Proposed Development. The Proposed Development is within the 6 km zone of influence of the Thames Estuary and Marshes SPA and Ramsar only.
- 1.1.2 This Shadow HRA is intended to provide the information necessary for Gravesham Borough Council to make their assessment of the Proposed Development as the Competent Authority. It should be noted that the responsibility of undertaking an Appropriate Assessment (AA), if required, lies with Gravesham Borough Council – the Competent Authority - who is responsible for granting consent for the scheme. However, it is the Applicant's obligation to provide information to the Competent Authority to enable them to undertake the assessment.

1.2 Legislative Context

- 1.2.1 The need for an assessment of impacts on European sites is set out within the Conservation of Habitats and Species Regulations 2017 (as amended)¹. The Regulations apply the precautionary principle to European Sites, in line with the findings of a legal judgement in the European Court of Justice (Waddenzee case C-127/02) and where any uncertainty or doubt over an impact or effect an adverse impact should be assumed.
- 1.2.2 Consent should only be granted for plans and projects once the relevant competent authority has ascertained that there will either be no likelihood of significant effects, or no adverse effect on the integrity of the European Site(s) in question. Where an Appropriate Assessment has been carried out and results in a negative impact, or if uncertainty remains over the significant effect, consent will only be granted if there are no alternative solutions and there are Imperative Reasons of Over-riding Public Interest (IROPI) for the development and compensatory measures have been secured. To ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question. The competent authority is entitled to request the applicant to produce such information as the competent authority may reasonably require for the purposes of the assessment, or to enable it to determine whether an appropriate assessment is required.
- 1.2.3 Over the years, 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Habitats Regulations, from screening through to identification of IROPI. This has arisen in order to distinguish the overall process from the individual stage of "Appropriate Assessment". Throughout this Report the term HRA is used for the overall process and restricts the use of Appropriate Assessment to the specific stage of that name.
- 1.2.4 It should be noted that as the Competent Authority, the Gravesham Borough Council (the Local Planning Authority (LPA)) must determine whether the Proposed Development will have a significant effect on a European Site (whether alone or in combination with other Plans or Projects), in view of that Site's conservation objectives. This requirement is set down in Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations').

¹ The Conservation of Habitats and Species Regulations 2017 (as amended). His Majesty's Stationary Office (HMSO).

1.3 Site Description

1.3.1 The site is located adjacent to the River Thames in Northfleet, in the borough of Gravesham in Kent. Swanscombe Peninsula Site of Special Scientific Interest (SSSI) is adjacent to the north-west of the site and Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar site, is located 5.7 km to the east of the site.

1.3.2 Due to the scale of the site the was split into three areas referred to as:

- RLB South;
- RLB North-East; and
- RLB North-West.

1.3.3 The extent of this has been illustrated in Figure 1-1.

RLB South

1.3.4 The RLB South area of the site is approximately 6 hectares (ha) and is currently mainly occupied by industrial and commercial activities with Ebbsfleet FC stadium taking up a large amount of the area.

RLB North-East

1.3.5 The RLB North-East area of the site is approximately 6 hectares (ha) and is currently mainly occupied by industrial and commercial activities with a large active sand and gravel works and other industrial buildings such as car and truck mechanic's buildings.

RLB North-West

1.3.6 The RLB North-West area of the site is approximately 6.3 hectares (ha) and is dominated by industrial units, hardstanding mixed with ephemeral vegetation. Also on site are scattered trees, ornamental planting as well as sparse species-poor hedgerow with trees. Directly adjacent north of the site is Swanscombe Peninsula SSSI, which directly includes a dense treeline adjacent to the site boundary.

Figure 1-1: Red-Line Boundary (Maps data: Google 2022)

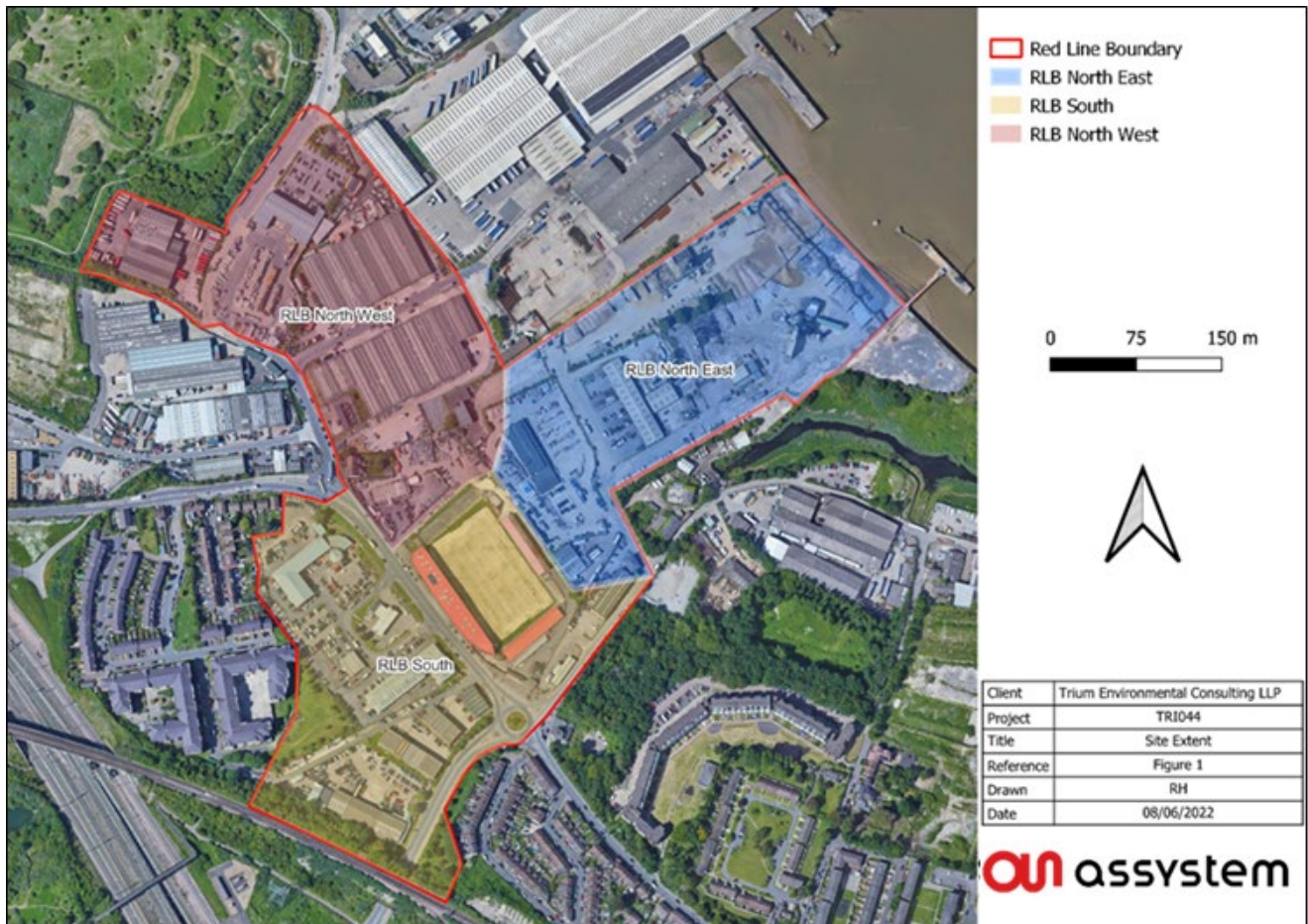
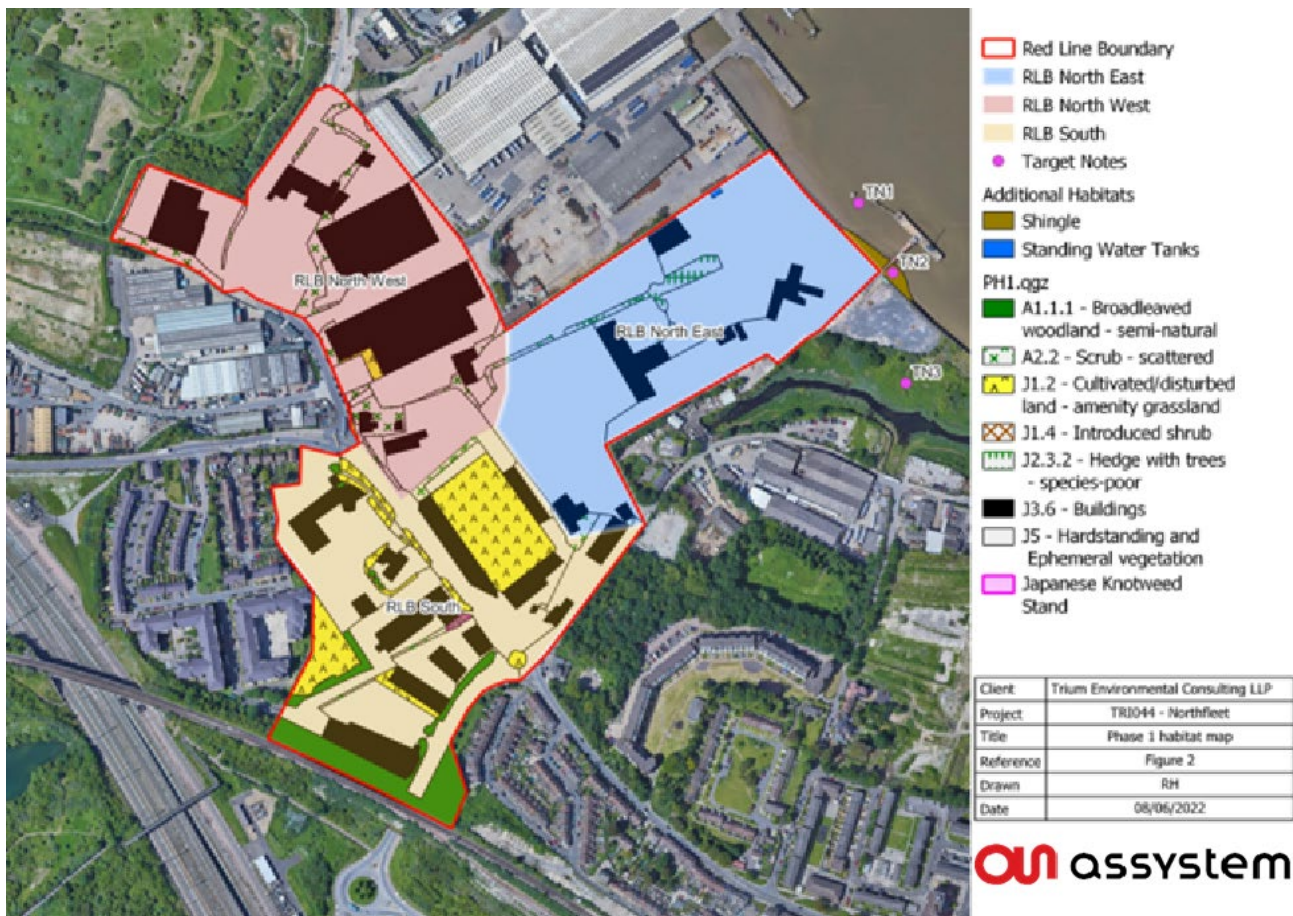


Figure 1-2: Phase 1 Habitat Survey Map (Maps data: Google 2022)



1.4 Proposed Works

- 1.4.1 The Applicant is seeking outline planning consent for a mixed-use development comprising the redevelopment of the EUFC stadium, along with 180,000 sqft of office employment space, a maximum of 3,000 new residential units and extensive public realm and landscaping improvements. Given the Applicant is seeking outline permission, should the application be granted, Reserved Matters Applications will be submitted in due course, which will provide more detail.

1.5 Quality Assurance

- 1.5.1 All lead Assystem ecologists are members of (at the appropriate level) the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct when undertaking ecological work.
- 1.5.2 All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2015, 14001:2015 and 45001:2018.
- 1.5.3 Assystem are a CIEEM Registered Practice, and as such champion high professional standards whilst delivering the best outcomes for biodiversity and supporting a thriving economy.

2 Methodology

2.1 The Habitat Regulations Assessment Process

- 2.1.1 The Conservation of Habitats and Species Regulations 2017 (as amended) transpose the European Union Birds Directive 1979/2009 and Habitats Directive 1992 into UK law. Under these regulations, competent authorities are required to consider whether plans or projects will have a likely significant effect on the integrity of a European protected site, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). In addition to these, national planning policy² places an expectation for additional sites to be considered through the HRA process, comprising those sites under consideration, i.e., potential SPAs (pSPAs) and candidate SACs (cSACs), Ramsar sites and areas identified to provide compensatory sites.
- 2.1.2 The HRA process enables the competent authority to establish if the integrity of protected European sites is likely to be significantly impacted by a proposed plan or project by following a four-stage process as follows:
- **Stage 1: Screening.** Applicable if the proposals qualify as a ‘plan’ or ‘project’ within the scope of the Habitats Directive 1992, where the project or plan is not directly connected with or necessary to the management of the European site, and the plan or project is of a type that could possibly have an effect on a European site;
 - **Stage 2: Appropriate Assessment and the Integrity Test.** Applicable when it is confirmed by Stage 1 Screening that the plan or project is likely to have a significant effect on a European site either on its own or in combination with other plans or projects;
 - **Stage 3: Alternative Solutions.** If likely significant effects are unavoidable, Stage 3 considers if alternative solutions to the proposed plan are available, which would be of lesser impact on the European sites; and
 - **Stage 4: Imperative reasons of overriding public interest and compensatory measures.** If no alternative solutions are available, it must be determined if there are imperative reasons of overriding public interest which would enable the plan or project to proceed on the basis that compensation measures are secured with regard to the likely significant effects.

2.2 Purpose

- 2.2.1 The objective of this report is to provide information for Stage 1 Screening in order to ascertain whether Stage 2 Appropriate Assessment is required in relation to potential impacts of the proposed project on relevant European designated sites, and then to apply Stage 2 Appropriate Assessment if necessary.

² Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework.

2.3 The Assessment Methodology

- 2.3.1 Stage 1 Screening aims to ascertain what factors should ‘trigger’ Stage 2 Appropriate Assessment. In order to determine if the proposed plan or project may have a ‘likely significant effect’ (LSE) on the integrity of each relevant designated site, each qualifying feature (or group of qualifying features, where appropriate) is compared against each potential significant effect from the plan or project. Only those effects which are likely to be significant are then advised for progression through to Stage 2 Appropriate Assessment.
- 2.3.2 Case law provides important direction in defining and determining the meaning of the words ‘likely’ and ‘significant’ in the context of HRA (Boggis v Natural England [2009] EWCA Civ 1061, 20th October 2009, paras 36 & 37; Advocate-General Sharpston’s opinion in Sweetman v An Bord Pleanála [2011] CJEU C-258/11, 11th April 2013, para 48), as well as providing key information that confirms that mitigation measures must not be included in the Stage 1 Screening Assessment (People Over Wind & Sweetman v Coillte [2018] CJEU C-323/17, 12th April 2018).
- 2.3.3 For those effects that are unlikely to be significant with the plan or project considered in isolation, these are then considered as part of a cumulative assessment in relation to other plans or projects which may impose the same or interlinked effects on the same designated sites. If such effects are likely to be considered significant in respect of in-combination impacts, these are then recommended for further consideration at Stage 2 Appropriate Assessment.
- 2.3.4 Where it is considered not possible to ‘screen out’ likely significant effects without detailed appraisal, or where mitigation is required that would not be implemented were it not for the need to protect the designated site, it is necessary to progress to the later ‘Appropriate Assessment’ stage to explore the adverse effects and devise mitigation. This stage may in some instances involve detailed data collection and analysis, and development of mitigation approaches, however, in other cases, where mitigation is already available, it may simply be a case of identifying the need to implement such mitigation. In short, the assessment detail should be ‘appropriate’ to the situation at hand.

3 Screening Assessment

3.1 Project Determination

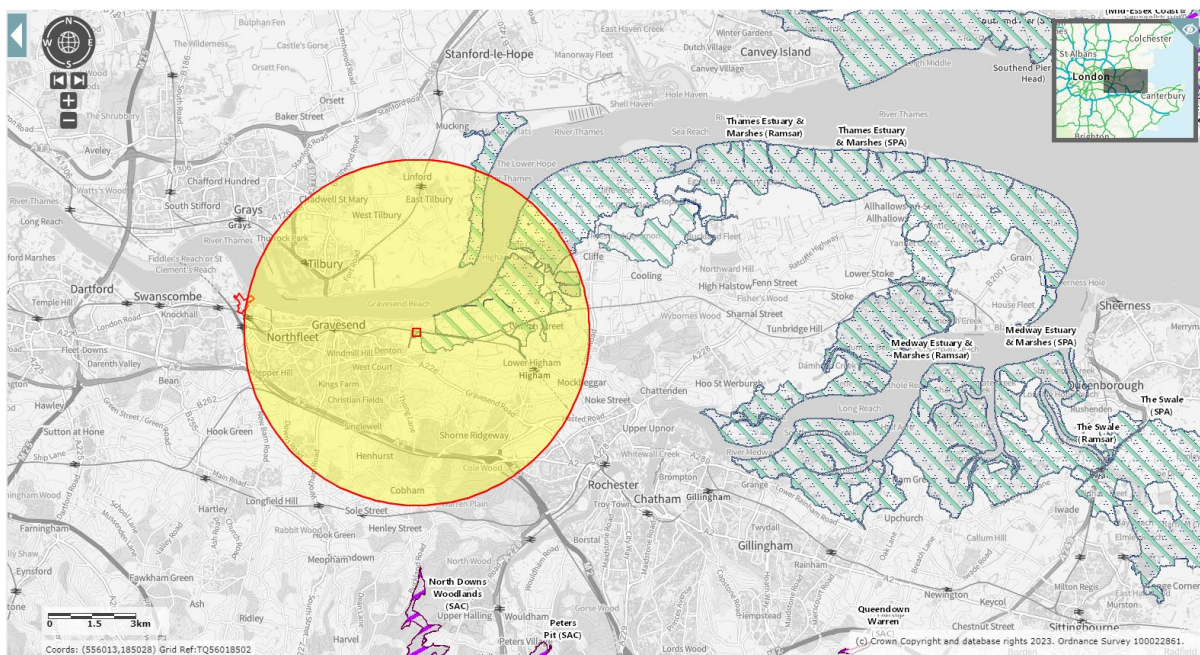
- 3.1.1 As neither the Habitats Directive or the Conservation of Habitats and Species Regulations 2017 (as amended) provide a definition of what constitutes a project, consideration has been given to European Commission guidance³. This identifies that a project should be considered as *‘the execution of construction works or of other installations of schemes – other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources’*.
- 3.1.2 The guidance also identifies that for a project or plan to be *‘directly connected with or necessary to the management of the site’*, the *‘management’* aspect requires measures to be for conservation purposes and the *‘directly’* aspect requires measures to be solely formulated for the conservation management of a site and not the direct or indirect consequence of another activity.
- 3.1.3 As a result, the development of land at Northfleet, Kent is considered to comprise a project and is not directly connected with or necessary to the management of a European Site.

³ European Commission (2000) Managing Natura 2000 Sites. The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC.

3.2 Determination of Sites for Consideration

- 3.2.1 Adverse effects resulting from development proposals will often extend beyond a project boundary, and as a result the consideration of sites potentially impacted by the development has been extended to include the Zone of Influence⁴ (Zoi) of the Thames Estuary and Marshes SPA and Ramsar site (6 km). As identified in Figure 3-1, consideration is given to Thames Estuary and Marshes SPA and Ramsar site which is c. 5.7 km east of the site.

Figure 3-1: Thames Estuary and Marshes SPA and Ramsar Site Zone of Influence (Maps data: DEFRA, 2023)



- 3.2.2 The Thames Estuary and Marshes is located in the outer Thames Estuary on the south-east coast of England which separates Kent and Essex and is a wetland of European importance comprising a mosaic of intertidal habitats, saltmarsh, coastal grazing marshes, saline lagoons and chalk pits. The majority of the site is located on the south bank of the estuary, which stretches from the western side of Cliffe Pools to Grain Tower. The site also covers a small part of the northern bank of the outer estuary between Coalhouse Point in East Tilbury, to the most western part of the reclaimed land at Mucking Flats (Essex).
- 3.2.3 The site is predominantly characterised by extensive intertidal mudflats that are visible at low tide. There is saltmarsh, complex channel systems, and a series of disused quarry pits have been transformed to create an extensive series of ponds and lakes at Cliffe Pools. The intertidal areas are mostly bound by levees and seawalls, occasionally featuring small beaches. Important habitats lie above the highest tide, such as the grazing marsh and flooded mineral works. Additionally, habitat creation schemes as part of the London Gateway port development are providing new habitat.
- 3.2.4 The SPA has a variety of habitat types, which provide wintering and breeding habitats for internationally important assemblages of waterbirds, as well as supporting migratory birds on passage. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates.
- 3.2.5 The site qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of the Annex I species avocet (*Recurvirostra avosetta*) and hen harrier (*Circus*

⁴ Bird Wise (2018) Bird Wise North Kent Mitigation Strategy.

cyaneus), in any season. The site also qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations, in any season, of the regularly occurring migratory species listed in Table 3-1.

Table 3-1: Thames Estuary SPA Bird Populations

Common Name	Scientific Name	Breeding/Wintering	Numbers
Annex 1 Species			
Avocet	<i>Recurvirostra avosetta</i>	Wintering	283 individuals (28.3% of GB population)
Hen harrier	<i>Circus cyaneus</i>	Wintering	7 individuals (1% of GB population)
Non-Annex 1 Species			
Common ringed plover	<i>Charadrius hiaticula</i>	Concentration/Passage	1,324 peak mean (2.6% Europe/Northern Africa population)
Grey plover	<i>Pluvialis squatarola</i>	Wintering	2,593 peak mean (1.7% Eastern Atlantic population)
Dunlin	<i>Calidris alpina</i>	Wintering	29,646 peak mean (2.1% North Siberia/Europe/ W Africa population)
Knot	<i>Calidris canutus islandica</i>	Wintering	4,848 peak mean (1.4% NE Can/Grl/Iceland/NW Europe population)
Black-tailed godwit	<i>Limosa limosa islandica</i>	Wintering	1,699 peak mean (2.4% Iceland (breeding) population)
Redshank	<i>Tringa totanus totanus</i>	Wintering	3,251 peak mean (2.2% Eastern Atlantic (wintering) population)

3.2.6 The site also qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterfowl in any season.

3.2.7 Other Annex 1 species which regularly occur on the site in non-qualifying numbers are breeding common tern (*Sterna hirundo*), and passage and wintering Bewick's swan (*Cygnus columbianus bewickii*), golden plover (*Pluvialis apricaria*), ruff (*Philomachus pugnax*), short-eared owl (*Asio flammeus*) and kingfisher (*Alcedo atthis*). Although not included in the qualifying features of the site, the site also supports nationally important populations of shelduck (*Tadorna tadorna*), teal (*Anas crecca*), pintail (*Anas acuta*), gadwall (*Anas strepera*), shoveler (*Anas clypeata*), tufted duck (*Aythya fuligula*) and pochard (*Aythya farina*).

3.2.8 The European Site Conservation Objectives⁵ for Thames Estuary and Marshes Special Protection Area are to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

3.2.9 The Gravesham Local Plan Core Strategy⁶ was adopted in 2014 and is the main planning document that sets out the long-term vision, spatial strategy and core policies that are used for shaping future development in the Borough up to March 2028.

⁵ Natural England (2019) European Site Conservation Objectives for Thames Estuary and Marshes Special Protection Area Site Code: UK9012021.

⁶ Gravesham Borough Council (2014) Gravesham Local Plan Core Strategy.

- 3.2.10 The Strategy includes a specific policy SO16 intended to safeguard and enhance the biodiversity of the Borough.
- 3.2.11 The Thames, Medway and Swale Estuaries Strategic Access Management and Monitoring Strategy⁷ sets out a strategy to resolve disturbance issues to wintering birds on the North Kent Marshes, focussing on the European Protected Sites (Thames Estuary and Marshes SPA/Ramsar Site, Medway Estuary and Marshes SPA/Ramsar Site, and The Swale SPA/Ramsar Site) and their internationally important bird interest features. The Strategy has been produced by the North Kent Strategic Access Management and Monitoring Scheme (SAMMS) Board, a partnership of the following organisations: Kent Wildlife Trust, The Kent Developers Group, Natural England, Royal Society for the Protection of Birds (RSPB), Canterbury City Council, Ebbsfleet Development Corporation, Kent County Council, Gravesham Borough Council, Medway Council and Swale Borough Council.
- 3.2.12 The Proposed Development is only within the zone of influence of the Thames Estuary and Marshes SPA/Ramsar Site, therefore the Medway Estuary and Marshes SPA/Ramsar Site, and the Swale SPA/Ramsar Site are not considered within this assessment but are mentioned here as they form the wider SAMMS.

3.3 Impact Pathways Considered

- 3.3.1 There are numerous pathways of impact that may connect a plan or project to potential likely adverse effects on a European protected site. Table 3-2 details current threats and pressures to Blackwater Estuary.

Table 3-2: Summary of Thames Estuary and Marshes Estuary SPA/Ramsar and Features

Designated Site	Proximity	Size of SPA	Qualifying Features ^{8,9}	Conservation Objectives ^{10,11}	Current Pressures/Threats ^{12,9} to the SPA
Thames Estuary and Marshes SPA	5.7 km east	4,838.94 ha	Wintering populations of: - Avocet, - Black-tailed godwit, - Dunlin, - Grey plover, - Hen harrier, - Knot, - Redshank, - Ringed plover. Waterbird assemblage.	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: - The extent and distribution of the habitats of the qualifying features; - The structure and function of the habitats of the qualifying features; - The supporting processes on which the habitats of the qualifying features rely;	1. Coastal squeeze, 2. Public access/Disturbance, 3. Invasive species, 4. Changes in species distributions, 5. Fisheries: Commercial marine and estuarine, 6. Vehicles: illicit, 7. Air Pollution: risk of atmospheric nitrogen deposition.

⁷ Liley, D. & Underhill-Day, J. (2013). Thames, Medway and Swale Estuaries – Strategic Access Management and Monitoring Strategy. Unpublished report by Footprint Ecology.

⁸ JNCC, DEFRA (2015). Natura 2000 Standard Data Form, Site UK9012021 Thames Estuary and Marshes.

⁹ JNCC, DEFRA (2008). Ramsar Information Sheet: UK11069.

¹⁰ Natural England (2019) European Site Conservation Objectives for Thames Estuary and Marshes Special Protection Area Site Code: UK9012021

¹¹ Port of London Authority. Thames Estuary and Marshes Conservation Objectives.

¹² Natural England (2015). Site Improvement Plan Greater Thames Complex.

				-The population of each of the qualifying features; and - The distribution of the qualifying features within the site.	
Thames Estuary and Marshes Ramsar site	5.7 km east	5,588.59 ha	- Criterion 2: site supports the endangered least lettuce (<i>Lactuca saligna</i>) and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates. - Criterion 5: supports internationally important assemblages (>20,000 birds) of waterfowl. - Criterion 6: for internationally important numbers of ringed plover, black-tailed godwit, grey plover, knot, dunlin and redshank.	Subject to natural change, maintain in favourable condition the habitats for the internationally important population of the regularly occurring Annex 1 bird species, under the Birds Directive, in particular: • Saltmarsh; • Intertidal Mudflats; and • Intertidal shingle. Subject to natural change, maintain in favourable condition the habitats for the internationally important assemblage of waterfowl, under the Birds Directive, in particular: • Saltmarsh; • Intertidal Mudflats; and • Intertidal shingle.	1. Erosion of intertidal habitat, 2. Dredging, 3. Public access/Disturbance, 4. Eutrophication.

- 3.3.2 Table 3-2 shows details of the Thames Estuary and Marshes SPA/Ramsar, and potential pathways of impact. Threats currently known to be impacting the SPA have been determined via its Natura 2000 form⁷ and are cited as being:
- Invasive non-native species,
 - Outdoor sports and leisure activities, recreational activities,
 - Changes in abiotic conditions,
 - Changes in biotic conditions.
- 3.3.3 Natural England's Site Improvement Plan includes priority issues, identified in Table 3-2, that are being addressed.
- 3.3.4 At the outline planning stage, plots 10, 11, 12 and 13 of the Proposed Development are within the 6 km ZOI for the Thames Estuary and Marshes SPA/Ramsar site. The Proposed Development is adjacent to the River Thames, providing connectivity with the SPA. Potential pathways of impact that require consideration in relation to the Proposed Development of the site are:
- Recreational pressure causing disturbance of birds on the SPA,
 - Atmospheric nitrogen deposition,
 - Reduced water quality,
 - Air pollution,
 - Loss of supporting habitat.

3.4 HRA Screening

Recreational Pressure and Disturbance

- 3.4.1 The Proposed Development will be located c. 5.7 km west of the Thames Estuary and Marshes SPA/Ramsar site which is within the 6 km Zone of Influence identified by the Bird Wise North Kent Mitigation Strategy to represent the distance over which impacts to the SPA is likely without mitigation. Recreational activities can result in significant effects on protected sites because of erosion, trampling and disturbance, plus associated impacts such as fire and vandalism.
- 3.4.2 There is growing concern about the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfil conservation objectives while also providing recreational opportunity.
- 3.4.3 Evidence in the literature suggests that the magnitude of disturbance clearly differs between different types of recreational activities. For example, dog walking leads to a significantly higher reduction in bird diversity and abundance than hiking¹³. Scientific evidence also suggests that key disturbance parameters, such as areas of influence and flush distance, are significantly greater for dog walkers than hikers¹⁴. Data from visitor surveys suggest that important spatial (e.g., the area of a site potentially influenced) and temporal (e.g., how often or long an activity is carried out) parameters differ between recreational activities, suggesting that these are factors that should ideally be considered in ecological assessments. In addition, displacement of birds from one feeding site to others can increase the feeding pressure on available resources, which have to sustain greater numbers of birds¹⁵. Recreation disturbance in winter can be more adverse because birds are more vulnerable at this time of year due to food shortages. Disturbance can also represent a much more direct threat to survival, such as in the case of predation by dogs and cats. Dogs are often exercised off-lead and roam out of sight of their owners and have been documented to kill ground-nesting birds.

¹³ Banks P.B., Bryant J.Y. 2007. Four-legged friend or foe? Dog walking displaces native birds from natural areas. *Biology Letters* 3: 14pp

¹⁴ Miller S.G., Knight R.L., Miller C.K. 2001. Wildlife responses to pedestrians and dogs. 29: 124-132

¹⁵ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72.

- 3.4.4 The Kent coast habitats are already subject to recreational pressure, however the increase in population resulting from the Proposed Development will likely lead to an increase in visitor numbers to the SPA. Unless adequately managed, this creates a potential for conflict between recreational activities and the conservation of internationally important assemblages of birds and habitats.
- 3.4.5 Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities (e.g., boating, water sports, walking, bait-digging, fishing and wildfowling). The types, levels and locations of potentially disturbing activities are constantly changing.
- 3.4.6 A bird disturbance study¹⁶ was undertaken in 2012 to assess the impacts of recreational activities on the North Kent SPA and Ramsar sites. The key findings are:
- There have been marked declines in the numbers of birds using the SPAs, in particular on the Medway at locations with the highest levels of access.
 - Disturbance is a potential cause of the declines; the busiest locations have seen the most marked bird declines and support particularly low numbers of birds.
 - Access levels are linked to local housing, with much of the access involving frequent use by local residents. It is not possible to rule out any likely significant effects on the integrity of the European sites as a result of increased housing. A suite of mitigation measures is therefore necessary to avoid potential adverse effects caused by future development.
 - The current main cause of disturbance is dog walking, and when dogs are walked off the lead. Other activities that cause disturbance include cycling, jogging and those that involve people on the mudflats or the water.
 - Development within 6 km of access points to the SPAs is particularly likely to lead to increase in recreational use of the SPAs. Local greenspace use such as dog walking, cycling, jogging, walking, and to some extent family outings, will originate from people living within this radius.
 - Beyond 6 km from access points onto the SPA, large developments, such as the Northfleet Proposed Development, or large-scale changes to housing levels will also result in increased recreational use. Visitors to the North Kent coast mostly originate from a zone north of the M2/A2 between Gravesend and Herne. People living within this

¹⁶ Liley, D., Lake, S. & Fearnley, H. (2012). Phase I – Bird Disturbance Report. Footprint Ecology/GGKM/NE.

broad coastal strip (i.e., beyond 6 km from SPA access points and north of the M2/A2) are likely to visit for more coastal specific activities.

- Development beyond 6 km, with the exception of large development schemes, could be screened out of assessments as it is assumed they are unlikely to have a significant effect on the protected sites.
- Mitigation measures such as awareness raising, on-site wardening, provision of signage and access infrastructure, provision/enhancement of green space away from the SPAs and direct contact with users are suggested.
- Areas currently undisturbed, and in particular the main roost sites should, in particular, be protected from additional recreational pressure.

3.4.7 The effects of increased recreational disturbance on a range of species include:

- A reduction in the time spent feeding, due to repeated flushing and increased vigilance.
- Increased energetic costs.
- Avoidance of areas of otherwise suitable habitat, potentially with birds feeding at poorer quality locations.
- Increased stress.
- Depending on the nature, frequency and level of the disturbance, some birds may take flight temporarily, but return after the disturbance ends. Other birds may modify their feeding habits, whilst more sensitive species may suffer reduced breeding success or, ultimately, desert the site.

3.4.8 In summary, birds are expending energy avoiding visitors to the SPA, which is time that is not spent feeding¹⁷. Overall, disturbance is likely to increase energetic output while reducing energetic input, which can adversely affect the 'condition' and ultimately survival of the birds. Birds may be forced in to fewer, larger colonies which increases the rate of predation by mammals such as red fox (*Vulpes vulpes*) who prey upon eggs and chicks.

3.4.9 Where disturbance causes a bird to leave a particular site, the availability of suitable alternative sites is critical for the bird's survival. The site in which it settles may already be populated or may be of lower quality resulting in lower rates of energy intake. This is especially critical in cases of major flight, when a bird flies further than 500 meters, as the energy spent in flight can be catastrophic for the bird⁴.

3.4.10 Recreational disturbance can affect breeding success. Breeding birds are subject to the stress of defending a territory, laying eggs and rearing chicks. Recreational disturbance can result in nest desertion, trampling of eggs and an increase in predation rates¹⁸.

3.4.11 The SPA and Ramsar site are separated from the Proposed Development by Gravesend, however, the Thames provides good connectivity between the site and the designated areas. Whilst there is no evidence that the terrestrial elements of the Proposed Development support significant numbers of roosting or wintering birds, recorded in the desk study (TRIO44 Northfleet Preliminary Ecological Appraisal) are numerous species for which the SPA is designated:

¹⁷ Riddington, R. et al. 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. Bird Study 43:269-279

¹⁸ LILEY, D. and SUTHERLAND, W.J. (2007). Predicting the population consequences of human disturbance for Ringed Plovers *Charadrius hiaticula*: a game theory approach. *Ibis*, 149, pp.82–94. doi:<https://doi.org/10.1111/j.1474-919x.2007.00664.x>.

- 20 records of avocet,
- Two records of hen harriers,
- 60 records of ringed plover,
- 43 records of grey plover,
- 120 records of dunlin,
- Three records of knots,
- 73 records of black-tailed godwit.

3.4.12 The Proposed Development will lead to an increase in population; therefore, it is not possible to screen out the pathway of recreational pressure and disturbance as without mitigation, the Proposed Development will add to a known pressure on the SPA and Ramsar site.

Atmospheric Nitrogen Deposition

- 3.4.13 The Proposed Development has the potential to generate pollutant emissions through construction related combustion, which may indirectly impact upon Thames Estuary and Marshes SPA and Ramsar site. Climate change is predicted to increase winter rainfall, which may cause higher levels of nitrogen deposition.
- 3.4.14 Nitrogen deposition exceeds site-relevant critical loads and hence there is a risk of harmful effects. However, declines in the numbers of breeding birds in the Essex Estuaries appear to be due to loss of habitat and disturbance rather than over-vegetation of breeding areas caused by nitrogen deposition¹⁹, it is likely that the same is true for the Thames Estuary and Marshes SPA.
- 3.4.15 Intertidal habitats are considered to be among the most productive natural ecosystems due to regular flushing with nutrient rich waters. Nitrogen deposition is likely to be of low importance for these systems as the inputs are probably significantly below the large nutrient loadings from river and tidal inputs. The closed upper marsh communities may be more susceptible to nitrogen deposition²⁰.
- 3.4.16 The pollution from the construction phase of the Proposed Development would be temporary and the routing of construction vehicles will be controlled through a Construction Environmental Management Plan (to be secured via an appropriately worded planning condition) to protect the SPA and Ramsar site.
- 3.4.17 In terms of vehicle traffic, nitrogen oxides (NO_x, i.e., NO and NO₂) are considered to be the key pollutants. Deposition of nitrogen compounds may lead to both soil and freshwater acidification, and NO_x can cause eutrophication of soils and water. The Highways Agency²¹ state that the contribution of vehicle emissions from the roadside to local pollution levels is not significant beyond 200 metres from a road. The Proposed Development main car parking area is more than 400 m from the River Thames (drawing NFH-UNS-MAST-DR-1006), and the Proposed Development is c. 5.7 km from the SPA.
- 3.4.18 It has been assumed that only those roads forming part of the primary road network (motorways and 'A' roads) are likely to experience any significant increases in vehicle traffic as a result of the development. Although the SPA is adjacent to Lower Highham Road, it is c. 460 m from the A226/Rochester Road. Resultingly, no significant effect from traffic-related air pollution is considered likely.
- 3.4.19 It is therefore concluded that no likely significant effects will occur as a result of the Proposed Development, either alone or in combination with other plans and projects, on the Thames Estuary and Marshes SPA and Ramsar site due to nitrogen deposition.

¹⁹ Natural England (2015). Site Improvement Plan Essex Estuaries.

²⁰ Air Pollution Information System (2016) Nitrogen Deposition: Coastal Saltmarsh.

²¹ Highways Agency ((2007) Design Manual for Roads and Bridges, HA 207/07, Vol. 11, Section 3, Part 1 Air Quality.

Reduced Water Quality

- 3.4.20 The River Thames is adjacent to the site on the north-eastern boundary and links the site to the SPA. There is the potential for pollution to enter the watercourse during the construction phase and run-off to enter the watercourse during the operational phase, which could indirectly impact the SPA.
- 3.4.21 The pollution from the construction phase of the Proposed Development would be temporary and the proposals include pocket parks and other greenspaces, rain gardens, meadow planting, green roofs and woodland which will help to filter and slow down run-off.
- 3.4.22 London's Victorian sewage system discharges storm-sewage pollution into the river when capacity is reached²²; the biodiversity supported by the Thames is generally well adapted to changes in conditions due to this and the tidal nature of the estuary.
- 3.4.23 The construction phase of the Proposed Development has the potential to generate air-borne dust through dispersal during material movement, wind-blown particles from stored material and mud on roads disturbed by traffic movement, especially during periods of dry and windy weather. This will be controlled through a Construction Environmental Management Plan (to be secured via an appropriately worded planning condition) to protect the SPA and Ramsar site. Mitigation measures include, but are not limited to:
- Ensuring stockpiles are stored away from the site boundary, in particular the north-eastern boundary adjacent to the Thames;
 - Speed limits put in place for all vehicles on site;
 - Use of dust suppression and wheel-wash facilities as required; ensure any run-off water from dust suppression activities is disposed of in accordance with legal requirements;
 - Vehicles delivering loose soil are covered or sheeted.
- 3.4.24 It is therefore concluded that no likely significant effects will occur as a result of the Proposed Development, either alone or in combination with other plans and projects, on the Thames Estuary and Marshes SPA and Ramsar site due to water quality.

Air Pollution

- 3.4.25 Emissions from road and construction traffic has the potential to disperse towards the SPA, however the prevailing wind is from the south-west²³, i.e., away from the SPA.
- 3.4.26 It is therefore considered that the distance separating the Proposed Development and the SPA, in combination with the south-westerly prevailing wind, is sufficient to conclude that no likely significant effects will occur as a result of the Proposed Development, either alone or in combination with other plans and projects on the SPA.

Loss of Supporting Habitat

- 3.4.27 The habitats on-site comprise buildings, hardstanding, ephemeral vegetation, amenity grassland (football pitch), introduced shrub, species-poor hedge, seawall, standing water in two troughs, and scattered trees. The River Thames is adjacent to the site, however, these habitats are unlikely to support the bird species for which the SPA is designated (as confirmed by wintering and breeding bird surveys, Schofield Lothian 2022).
- 3.4.28 It is therefore concluded that no likely significant effects will occur as a result of the Proposed Development, either alone or in combination with other plans and projects, on the Thames Estuary and Marshes SPA and Ramsar site due to loss of supporting habitat.

²² Thames 21. Water quality Results.

²³ Met Office (2016) Southern England: climate.

3.5 Summary of Screening

- 3.5.1 The screening exercise undertaken to inform this HRA has concluded that likely significant effects remain as a result of the development in combination with other plans and projects through:
- Recreational pressure and disturbance due to the presence of residential properties within the 6 km Zol for the SPA/Ramsar site.
- 3.5.2 Therefore, further Appropriate Assessment is required, and this is considered in Section 4.
- 3.5.3 The screening exercise undertaken to inform this HRA has concluded that no likely significant effects will occur as a result of the development alone or in combination with other plans and projects through:
- Atmospheric nitrogen deposition,
 - Reduced water quality,
 - Air pollution,
 - Loss of supporting habitats.

4 Appropriate Assessment

4.1 Recreational Pressure and Disturbance

- 4.1.1 In the absence of appropriate avoidance/mitigation, a likely significant effect on Thames Estuary and Marshes SPA and Ramsar site could occur during the operational phase of the Proposed Development due to increased recreational pressure from new residents in combination with new residents associated with other schemes within the Zol. Although this has not been quantified through a detailed in combination assessment, employing the precautionary principle it is assumed as a reasonable worst-case scenario.
- 4.1.2 The potential for recreational pressure and disturbance to occur on the Thames Estuary and Marshes SPA and Ramsar site as a result of the Proposed Development requires mitigation.
- 4.1.3 The North Kent Strategic Access Management and Monitoring Scheme²⁴ provides guidance on suitable mitigation measures. There are currently two main mechanisms that provide funding for measures to avoid, and mitigate for, impacts on European sites: the Community Infrastructure Levy (CIL), or an individual planning obligation referred to as a Section 106. Large developments may be able to provide mitigation measures as part of the development, such as dedicated areas for dog walking.
- 4.1.4 The CIL places a levy on new development that then provides funding to meet local infrastructure requirements, enabling growth to proceed with adequate and maintained infrastructure in place. Section 106 agreements can be bespoke and specific to individual proposals.
- 4.1.5 Bird Wise, the recipients of the tariff, is a partnership of local authorities, developers and environmental organisations, and is the brand name for SAMMS. The Bird Wise Mitigation Strategy identifies mitigation measures that the Section 106 agreement payment will support, with the aim of reducing the adverse effects of the SPA/Ramsar from the Northfleet project to a level that is non-significant.
- 4.1.6 Gravesham Borough Council²⁵ state that *“Developers are requested to pay the full tariff of £314.05 for every new dwelling or non-C3 residential use, provided within 6 km of the Ramsar site and SPA and for*

²⁴ Liley, D. & Underhill-Day, J. (2013). Thames, Medway and Swale Estuaries – Strategic Access Management and Monitoring Strategy. Unpublished report by Footprint Ecology.

²⁵ Gravesham Borough Council. SAMMS tariffs.

larger housing developments beyond 6 km from them.” The fee is subject to inflation and will increase annually.

4.1.7 The Proposed Development will include the provision of significant planting and landscaping on-site to encourage residents to use on-site greenspaces and reduce pressure on the SPA/Ramsar site. As detailed in ES Volume 1, Chapter 14: Ecology and Biodiversity, in order to help manage operational footfall, and therefore reduce impacts on, nearby designated sites the following mitigation measures have been embedded within the design:

- The provision of adequate minimum on-site open space for operational amenity.
- The provision of an information centre/cafe within the Power Park, next to the play areas, to encourage walks around the site as opposed to within designated sites, and to provide information regarding notable species and habitats including relevant protection measures within the local area.

4.1.8 The following mitigation measures will be provided as part of the Proposed Development:

- Mixed woodland,
- Modified grassland,
- Pocket parks,
- Pedestrian priority public realm.

4.2 Calculating SAMM

4.2.1 The cost of implementing the mitigation measures will increase with inflation; the per dwelling tariffs will be updated each year. The cost per dwelling currently stands at £314.05. The final cost will need to be calculated at Reserved Matters stage as it is currently unknown how many properties would be within the 6 km Zone of Influence.

4.2.2 The Bird Wise Mitigation Strategy states *“Mitigation in relation to student accommodation, Houses in Multiple Occupation (HMOs), residential care homes, residential nursing homes, hotels, boarding and guest houses, hostels, holiday parks and all other residential institutions, will be considered on a case-by-case basis. Factors to consider will be proximity to the coastal areas, size of development and the likelihood of residents using the SPA for recreational activities. This is in keeping with advice received from Natural England in 2015.”*

4.2.3 With contributions to SAMMS provided in line with the above tariffs it would be possible to conclude that the Proposed Development will not lead to Likely Significant Effects on the Thames Estuary and Marshes SPA and Ramsar site.

4.2.4 The scheme will need to provide detailed dwelling numbers during Reserved Matters Application during the detailed design process and base payments off the specific number of dwellings.

5 Conclusion

5.1.1 The Proposed Development comprises a mixed-use development c. 5.7 km west of the Thames Estuary and Marshes SPA and Ramsar site. This increase in population is likely to cause an increase in recreational pressure on the SPA.

5.1.2 Plots 10, 11, 12 and 13 of the Proposed Development are within the 6 km ZoI for the Thames Estuary and Marshes SPA and Ramsar site. A financial contribution for the dwellings in these plots will be required.

5.1.3 This report to inform a shadow HRA has been able to determine that as a result of the Proposed Development of the land adjacent to the River Thames in Northfleet, in the borough of Gravesham in Kent, in relation to recreational pressure and disturbance, atmospheric nitrogen deposition, reduced

water quality, air pollution, and loss of supporting habitat there will be no likely significant effect on the Thames Estuary and Marshes SPA and Ramsar site, either as a result of the project alone, or in combination with any other plans or projects.

- 5.1.4 This conclusion is reached based on the payment of a financial contribution to Bird Wise and the inclusion of accessible greenspace within the Proposed Development to mitigate for the likely significant effect of recreational pressure and disturbance to the SPA that would otherwise result from the Proposed Development.

Appendix A Relevant Legislation

A.1 The Conservation of Habitats and Species Regulations 2017 (as amended)

- A.1.1 The Conservation of Habitats and Species Regulations 2017 (as amended) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. 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.
- A.1.2 Under the Regulations, competent authorities, *i.e.* government departments and public bodies, have a general duty to have regard to the EC Habitats Directive and Wild Birds 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. 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. 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 precautionary principle applies, *i.e.* consent cannot be given unless it is ascertained that there will be no adverse effect on the integrity of the site.
- A.1.3 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 few 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.

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