



PROPOSED AGGREGATE IMPORTATION AND PROCESSING
AND THE PREPARATION AND MANUFACTURE OF VALUE ADDED
PRODUCTS, FISHER'S WHARF, EAST QUAY, NEWHAVEN PORT

Ecological Impact Assessment

September 2017

Bioscan Report: E1879/R1v2



COMMISSIONED BY

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**Proposed aggregate importation and processing and the preparation and
manufacture of value added products, Fisher's Wharf, East Quay, Newhaven Port**

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1 INTRODUCTION

1.1 Background

1.1.1 In August 2016, Bioscan (UK) Ltd was commissioned by Davies Planning on behalf of Brett Aggregates Limited (BAL) to carry out an assessment of potential ecological effects arising from a proposed aggregate importation and processing facility and the preparation and manufacture of value added products at Fisher's Wharf, East Quay, Newhaven Port, which is owned by Newhaven Port Properties Limited (NPP).

1.1.2 This report has been produced in support of the planning application for the proposed development, and in accordance with the guidelines for ecological impact assessment (EcIA) set out by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹ and in compliance (where relevant) with Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

1.1.3 It assesses the potential for significant effects on ecological receptors to arise during both the construction and operational stages of the project by setting out the information sources that have informed the assessment; descriptions of the existing (baseline) ecological conditions on the application site; the methods for identifying the key receptors, and the key receptors identified from application of those methods; identification of potentially significant ecological effects arising in the absence of mitigation and/or compensation; the measures proposed if and where required to avoid, mitigate or compensate for any of these effects that are adjudged as likely to be significant and adverse; and, finally, a description of the predicted residual effects after these measures have been employed and whether these are adjudged to be significant.

1.2 Site Location and Context

1.2.1 The application site (Figure 1) extends to approximately 5.17ha and can be considered as two principle elements: existing development taking the form of long-established port land including a warehouse, extensive hard-standing and private road link in the north together with land that has recently been developed as car-parking connected with the Rampion Offshore Wind Farm development located broadly centrally within the site (i.e the study area, Figure 1); and an area of vegetated shingle beach between this and the mean high water line of Seaford Bay.

1.2.2 Adjoining the application site to the west are operational areas of the Port, including the existing hard-standing areas and bulkheads of East Quay and the head of an existing rail

¹ CIEEM (2016) *Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.



siding. Elements of the overall development site, including a discharge hopper, conveyor and rail siding, will be sited here, although these fall under the terms of the Port's permitted development rights and are not directly relevant to the planning determination process.

- 1.2.3 To the north of the application site is Mill Creek and to the east and south are areas of vegetated shingle and grassland forming part of the Tide Mills Site of Nature Conservation Importance (SNCI). Newhaven East Pier and the foreshore areas lie beyond this to the south.

2 EXTANT INFORMATION SOURCES AND SURVEY METHODOLOGY

2.1 Extant information sources

2.1.1 To obtain information on designated sites and archive data on notable and protected species for the area within and up to 2km from the application site, a desk-based data trawl was conducted in August 2016. Sources consulted included on-line resources such as the Lewes District Council website and the Multi-Agency Geographic Information for the Countryside (MAGIC) website managed by Natural England. A data request was also submitted to the Sussex Biodiversity Records Centre (SxBRC) for notable species records held, as well as for details of statutory and non-statutory designated sites.

2.1.2 The results of these searches are assimilated into the baseline conditions section of this report.

2.2 Existing development

Extended Phase 1 habitat survey

2.2.1 A habitat survey was carried out principally on 13th September 2016 during which the existing developed areas of the port and Rampion Offshore Windfarm operation were subjected to an 'extended' Phase 1 habitat survey. A revisit was also undertaken on 8th August 2017 to map the private link road which was added to the application boundary after the initial site wide habitat survey. The Phase 1 habitat and botanical survey technique was devised by the former Nature Conservancy Council (now Natural England), and is updated periodically by the Joint Nature Conservation Committee². It provides an inventory of the broad habitat types present on the site and targets areas of more interest which are then subject to more detailed examination either at the time or on subsequent visits. Additional habitat and botanical detail was provided in the form of representative lists of vascular plant species compiled for each habitat, and the presence or absence of any Habitats of Principal Importance (HPI) was also assessed with reference to the qualifying attributes in BRIG (2011)³.

2.2.2 In addition to habitat classification and mapping, attention was also focused during the Phase 1 survey on searching for any signs of protected species utilising the area. Given the nature of the existing developed elements of the site, particular attention was paid in this respect to searching for active reptiles, or habitat capable of supporting them, as well as other protected species such as bat roosts in structures, or habitats and structures capable of being used by black redstart.

² JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit*

³ BRIG (ed Ant Maddock) (2008, 2010, 2011) *UK Biodiversity Action Plan – Priority habitat Descriptions*
http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2010.pdf

- 2.2.3 All incidental observations of other species made during the course of the field survey (e.g. birds, invertebrates) were also noted and have been used to inform the assessment.

Reptile survey

- 2.2.4 During the habitat survey, parts of the site were assessed to have scope to support common, but partially protected reptile species. As such, in order to confirm the presence or likely absence of reptiles, a standardised survey was undertaken based on the methodology set out within the 1999 Froglife guidelines⁴. The survey involved placing out 48 pieces of artificial refugia in the form of corrugated bitumen approximately 0.5m² in size, in suitable habitat on 22nd May 2017.
- 2.2.5 The survey included suitable habitat located within the existing developed areas of the site and also the rail siding facility to the west, which is part of the overall development site but located outwith the application boundary itself (see Figure 2 for the location of the refugia).
- 2.2.6 Following a short 'bedding in' period, the site was revisited on seven occasions between 1st and 30th June 2017, so that the refugia and any other existing materials that were potentially suitable, could be checked for reptiles. Any seen during each check were identified to species level and sexed where possible. All the checks were carried out during periods of favourable weather, i.e. warm days with a temperature above 9C and with an absence of heavy or continuous rain.

Black redstart survey

- 2.2.7 In order to assess the presence or likely absence of black redstart, in particular any nesting activity, within the existing developed areas of the site, the site was visited on 22nd May and 1st June 2017. During each visit the whole of this part was walked in order to record any visual or aural observations of black redstart that might have been present at that time.

2.3 *Vegetated shingle beach*

- 2.3.1 In respect of the area of vegetated shingle beach at the southern end of the application site, information relating to the flora and fauna of this part has been gleaned from the

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Froglife (1999) *Reptile survey: an introduction to planning, conducting and interpreting surveys for snakes and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.



supporting documents⁵ of the NPP application for consent (now granted) to redevelop the port of which this area forms a part (planning consent ref: LW/15/0034).

⁵

Royal HaskoningDHV (January 2015) *Newhaven East Quay and Port Expansion Area - Environment Statement*. Chapter 13 and accompanying appendices.

3 BASELINE CONDITIONS

3.1 Extant Designations

3.1.1 The application site is not subject to any statutory nature conservation designation. The nearest such site is the Brighton to Newhaven Cliffs SSSI, the easternmost extremity of which is around 400 metres to the south-west and on the other side of the River Ouse. This extensive site is designated primarily for geological reasons but also with cited biological interest associated with the wave-cut platform below the chalk cliffs. Although the application site is within the 'impact consultation zone' for the SSSI, in the context of existing port operations there is no conceivable impact vector to it, or to the Castle Hill, Newhaven Local Nature reserve (LNR) which overlaps it at around the same distance, from the proposed development and neither of these sites is therefore considered further in this assessment.

3.1.2 In terms of non-statutory sites, the application site overlaps with a small area (around 4.1ha) of the 155ha Tide Mills SNCI, and it also adjoins other parts of this designated area to the east, south and north. The citation for this designation is attached at Appendix 1, and refers to the presence of a number of protected and notable species and habitats, including vegetated shingle, coastal grazing marsh and ponds. Part of the SNCI (c.2.2ha) falling within the application site is existing built development, or has recently been developed by Rampion Offshore Wind as a temporary car-park. Both these areas have consequently lost the grassland and vegetated shingle habitats that were formerly reported there. The beach area contained within the application site (c.1.9ha), which was assessed by Royal HaskoningDHV as part of the NPP application, continued to be undeveloped at the time of Bioscan's visit on 30th June 2017.

3.2 Existing Development - Baseline Conditions

Habitats

3.2.1 The following main habitat types are present within the existing developed parts of the application site boundary, as shown on Figure 1:

- Unvegetated hard-standing and built structures
- Sparse vegetation on loosely consolidated substrate
- Rough grassland and tall ruderal
- Scrub

3.2.2 A description of each habitat follows below, with an account of the dominant or more notable vascular plant species recorded in each.

Unvegetated hard-standing and built structures

- 3.2.3 This is by far the dominant habitat type on the site, with sealed concrete or tarmac surfaces or built structures occupying more than 90% of this part of the site. These offer scant opportunities for vegetation development, and vary from expansive surfaces of recently laid tarmac in the new car-park in the south-east (which are wholly devoid of any vegetation) through to concrete slabs which have a very few colonists in cracks or joins. Amongst the species that have taken up such opportunities and which occur as isolated individuals of taller species, or mat-like clumps, are hoary mustard *Hirschfeldia incana*, bristly ox-tongue *Helminthotheca echioides*, biting stonecrop *Sedum acre*, Canadian fleabane *Conyza canadensis*, vervain *Verbena officinalis*, scarlet pimpernel *Anagallis arvensis* and both procumbent and sea pearlwrorts *Sagina nodosa* and *S. maritima*.

Sparse vegetation on loosely consolidated substrate

- 3.2.4 In peripheral areas that receive somewhat less disturbance, such as around the bases of fences or buildings and at the outer edges of the site, there are rather more opportunities for vegetation colonisation. In addition, substrate scraped up during the construction of the car-park in the southern part of the application site has been stored in an upstanding four-sided and flat-topped mound of loosely consolidated material. A more diverse suite of plant species is found in these areas, typically including hoary mustard, bristly ox-tongue, stinging nettle *Urtica dioica*, great mullein *Verbascum thapsus*, sea beet *Beta vulgaris*, teasel *Dipsacus fullonum*, creeping thistle *Cirsium arvense*, prickly sow-thistle *Sonchus asper*, evening primrose *Oenothera sp.*, prickly lettuce *Lactuca serriola* and groundsel *Senecio vulgaris*. Of rather more interest in these areas are agrimony *Agrimonia eupatoria*, restharrow *Ononis repens*, wild parsnip *Pastinaca sativa*, carline thistle *Carlina vulgaris*, mouse-ear hawkweed *Pilosella officinarum*, vipers bugloss *Echium vulgare* and wild carrot *Daucus carota*.
- 3.2.5 A small area of mounded sand in the southern part of the site (target note 1 on Figure 1) supports a more distinct sparse community of pioneer colonists and some more clearly maritime species, including red goosefoot *Chenopodium rubrum*, sea couch *Elytrigia atherica*, hoary mustard, sea mayweed *Tripleurospermum maritimum*, sea spurrey *Sueda maritima* and, of note, oak-leaved goosefoot *Chenopodium glaucum*.

Rough grassland and tall ruderal

- 3.2.6 The parts of the site that have escaped disturbance for longest, mainly associated with the eastern edge, but also including some internal boundaries, see a transition from colonising ground vegetation similar to that described above, to closed-sward grassland dominated by graminoid species – typically false oat grass *Arrhenatherum elatius* and cocksfoot *Dactylis glomerata* with varying amounts of couch *Elytrigia repens* and sea couch, creeping

bent *Agrostis stolonifera*, Yorkshire fog *Holcus lanatus* and barren brome *Anisantha sterilis* - but also retaining a prominent ruderal component and some developing scrub. A broad array of herb species was noted in these areas, most of them common or ubiquitous, with the more notable including stone parsley *Sison amomum*, common toadflax *Linaria vulgaris*, common centaury *Centaureum erythraea*, fleabane *Pulicaria dysenterica* and soapwort *Saponaria officinalis*. Prominent and locally dominant ruderal species include large bindweed *Calystegia silvatica*, rosebay willowherb *Chamerion angustifolium*, hoary willowherb *Epilobium parviflorum* and hogweed *Heracleum sphondylium*. Scattered scrub of buddleia *Buddleja davidii*, dog rose *Rosa canina* and bramble *Rubus fruticosus agg.* also occurs, indicating a transition to the next habitat category.

Scrub

- 3.2.7 Although scattered bushes or low-growing thickets of bramble, rose and buddleia form a part of the above community, there are a few areas at the site boundary where woody species become dominant to the extent that they cast shade. These include thickets of buddleia, bramble and dog-rose along the eastern boundary behind the warehouse, and bands of scrub along the northern edge and north-eastern fence line, the latter also festooned with traveller's joy *Clematis vitalba* and with a little wayfaring tree *Viburnum lantana*.

Reptile survey

- 3.2.8 The survey conditions for each of the refugia checks are provided in Table 1 below. In summary no reptiles of any species were found within the developed parts of the application boundary itself. A small population of common lizard was however confirmed within the vegetated rail sidings area located within the development boundary but outwith to the west of the application boundary as shown on Figure 2.

Table 1- reptile survey conditions

Date	Time	Temperature (C)	Cloud	Beaufort	Notes
01/06/2017	08:55	16	25%	0	Sunny
06/06/2017	11:15	14.5	90%	Gusty up to 3-4	Heavy rain overnight and before check but dry during survey with sunny intervals. Refugia warm to touch.
13/06/2017	16:30	18	<5%	0-1	Stage 2 area mown shortly before survey. Very warm day, most refugia warm to touch
16/06/2017	09:40	18	25%	1	Sunny
21/06/2017	15:20	32	0%	2	Sunny and very hot
22/06/2017	10:15	17	95%	2	Fog earlier in the day, cleared but still overcast with occasional sunny intervals
29/06/2017	12:15	15	100%	0-1	100% cloud but not overcast
30/06/2017	10:25	18	60%	0-1	Sunny intervals, refugia warm by the end

Black redstart survey

3.2.9 Both surveys were carried out during weather conditions favourable to bird activity. Nevertheless, no black redstart were observed or heard during either of the visits. The paucity of opportunities presented by the warehouse on the site and the relative lack of even sparsely vegetated areas mean that overall the application site is assessed to be of relatively low suitability for black redstart.

Other fauna

3.2.10 A restricted number of bird species were noted to be using the developed parts of the application site or active in the immediate local area during the habitat and other surveys. On the site and possibly present in a breeding capacity were dunnock, pied wagtail, robin, feral pigeon and house sparrow. Using the edges of the site were flocks of up to twenty linnet, as well as greenfinch and small numbers of starling. Herring gulls were also present on the roofs of the warehouse buildings.

3.2.11 Weather conditions on the day of the habitat survey in 2016 were warm and thus conducive to insect activity. Large white, small white and small copper butterflies were all noted to be present on the site, with clouded yellow also observed (possibly a fresh migrant off the sea). Also potentially present as a fresh migrant was silver y moth. Field grasshopper and short-winged conehead were also noted.

3.2.12 Other fauna confirmed from the application site were field vole, rabbit and fox (field sign evidence of the latter only).

3.2.13 The extant warehouse in the north-eastern part of the site was assessed for its potential to support bat roosts. This is a large structure of profiled steel sheets attached to an internal steel frame and with corrugated asbestos-type roofing. There is no internal lining to this structure, and while there are a few sections of very thin board cladding, it was assessed as of negligible potential for bat roosting overall. This part of the site is assessed to have negligible potential for bat foraging.

3.2.14 The existing developed parts of the application site offer no habitat opportunities for any other specially protected species such as great crested newts, badgers, water voles or dormice.

3.3 Vegetated Shingle Beach - Baseline Conditions

3.3.1 The following information has been extracted from the Ecological Impact Assessment (EclA) and supporting technical reports that formed part of the NPP application.

Habitats

3.3.2 The following description of the coastal vegetated shingle is taken from Appendix 12.3⁶ of the EclA. The habitat maps to which this relates are also provided at Appendix 2⁷.

“Coastal vegetated shingle

3.85 *A near continuous band of vegetated shingle was present along the fringing beach at Tide Mills (east and west sections) extending from the outer shingle ridge to immediately north of the footpath/embankment. A smaller area of vegetated shingle was also present at West Beach adjacent to the Western Breakwater. NVC surveys were carried out Tide Mills (west) which extends from the East Pier to Mill Drove (see Appendix 3: NVC/BAP Habitat Map).*

3.86 *A previous survey (The Ecology Consultancy, 2007) had identified a strandline community along the outer ridge of the fringing beach which was dominated by spear-leaved orache *Atriplex prostrata* (see Photograph 7). This vegetation is most closely allied to SD2 *Honkenya peploides-Cakile maritima* strandline community and although constant species were absent, Rodwell (2000a) notes that these species can be much reduced in Southern Britain. The beach profile had altered significantly since 2007 (most likely as a result of a storm event) and this habitat has been lost at the time of the 2011 survey. However, SD2 should be viewed as a perpetually renewed pioneer community that may re-establish itself on the newly profiled outer ridge or beach.*

3.87 *NVC surveys carried out along the more open areas of shingle immediately behind the outer ridge (see Photograph 6) comprised abundant sea kale *Crambe maritima* and cleavers *Galium aparine*. Redshank (moss) *Ceratodon purpureus*, red fescue *Festuca rubra*, yellow horned-poppo *Glaucium flavum*, common toadflax *Linaria vulgaris*, curled dock *Rumex crispus ssp. littoreus*, stonecrops, bittersweet *Solanum dulcamara*, prickly sow-thistle *Sonchus asper* and rough clover *Trifolium scabrum* were frequent (see NVC Parcel 1). This habitat is most closely allied to the SD1a *Rumex crispus-Glaucium flavum* shingle community.*

⁶ The Ecology Consultancy (October 2011) *Land within the ownership of Newhaven Port and Properties Ltd (NPP), East Sussex. Ecological Surveys Report for Royal Haskoning.*

⁷ The following statement was included in the NPP EclA in relation to the habitat maps under section 13.3.3 -

Where possible, these habitats are shown in Figure 13.3 or 13.4. Due to the format in which some of the information was supplied, it was not possible to plot all habitats. Habitats which are not shown on the figure include:

- *Coastal and floodplain grazing marsh;*
- *Maritime cliffs and slope; and*
- *Intertidal Chalk.*

- 3.88 *Moving north along the fringing beach, towards the footpath/embankment, the vegetation structure became more closed and plant diversity increased. This community had developed inland from the strandline where sands and organic matter had accumulated to create a stabilised surface. This had allowed the development of a fairly rich and abundant associated flora of perennial wildflowers with localised clumps of scrub (dominated by bramble). NVC surveys were carried out in areas of closed vegetated shingle approximating to an open coastal turf.*
- 3.89 *Abundant to locally frequent species included red fescue, blue fleabane, stonecrops, redshank (moss), rough clover, rat's-tail fescue, doves-foot cranes-bill, ribwort plantain, false oat-grass, black medick *Medicago lupulina*, bucks-horn plantain *Plantago coronopus*, smooth meadow grass *Poa pratensis*, common birdsfoot trefoil *Lotus corniculatus*, rough stalked feather moss *Brachythecium rutabulum* and viper's-bugloss *Echium vulgare*.*
- 3.90 *The more characteristic species of the SD1 community were generally absent from the data sample (see NVC Parcel 2) and therefore the MAVIS programme did not find a match to vegetated shingle communities. The closest fit was to the semifixed dune community of SD7 *Ammophila arenaria-festuca rubra*, as although marram grass *Ammophila arenaria* was completely absent, all other constants within the community i.e. red fescue, cat's-ear and smooth meadow grass occurred in 60-80% of quadrats.*
- 3.91 *Vegetated shingle communities are poorly represented in NVC methodology. Previous surveys of vegetated shingle at Tide Mills SSSI (Cole et al, 2005), employing alternative survey methodology, identified the following communities from (Sneddon & Randall, 1993: 1994):*
- *SH9 *Crambe maritime* – *Solanum dulcamara* pioneer community (along west section, along fringing beach),*
 - *SH9a *Crambe maritime* – *Solanum dulcamara* pioneer community, *Rumex crispus* sub-community (along west section, north of footpath/embankment),*
 - *SH27 *Triplospermum maritimum* – *Atriplex prostrata* – *Rumex crispus* pioneer community (along east section, north of footpath/embankment), and ;*
 - *SH6 *Silene maritime* – *Crambe maritima* pioneer community (east section along fringing beach)."*

Fauna

- 3.3.3 Based on the information provided within the NPP EclA the following fauna were recorded as present within the vegetated shingle beach area of the application site.

Reptile survey - EclA page 13-35, last para.

- 3.3.4 Common lizard and slowworm were recorded from the vegetated shingle beach. The survey results map is provided at Appendix 3.

"Both common lizard and slowworm were found to be widespread throughout the reptile study area, albeit indicating a low population. Altogether 15 common lizards and 6 slowworms were recorded during the 2011 reptile survey. Three of these sightings were within



the project area. However, the low numbers may have been as a result of interference with survey refugia by members of the public.”

4 EVALUATION OF BASELINE INTEREST AND IDENTIFICATION OF KEY RECEPTORS

4.1 Methodology

- 4.1.1 Key ecological receptors for the purposes of assessing likely significant effects have been identified from the above baseline information. The decision as to which ecological receptors are 'key' in this context is to some extent a value judgement, informed by factors such as national and local conservation status and legal protection. The current guidance for Ecological Impact Assessment issued by the Chartered Institute for Ecology and Environmental Management (CIEEM)^{8,9} recognises that professional judgement and a certain level of subjectivity is unavoidable when apportioning value to individual ecological receptors. However certain parameters and points of reference can be used to help ensure consistency – these are discussed below.
- 4.1.2 Sites already possessing statutory or non-statutory nature conservation designations will have been subjected to some form of evaluation process in the past, and their importance defined at a geographical scale (e.g. international, national, local). For these, evaluation will generally reaffirm their qualifying attributes, or in some cases may identify where designation may no longer be appropriate.
- 4.1.3 Factors such as extent, naturalness, rarity, fragility and diversity are all relevant to the determination of ecological value, and for the evaluation of sites and habitat features outside designated sites, these and other criteria as described by Ratcliffe (1977), may be applied. Ratcliffe's criteria are integral to the procedure for selecting both Sites of Special Scientific Interest and many non-statutory designation systems in the UK, and therefore remain an accepted standard for site evaluation.
- 4.1.4 In applying these criteria, attention may be drawn to the relative scarcity or abundance of features within the survey area and in the wider geographical context. Some criteria are however absolute and not relative to scale. Ancient woodland, for example, is fragile irrespective of whether it is being considered in an international or local context. Similarly, the value of an otherwise poor habitat may be elevated if it is central to the survival of a rare species.
- 4.1.5 Where evaluation is important for the purposes of informing decisions related to land-use planning and development control, the above approach needs to be supplemented by consideration of whether individual species are subject to legal protection¹⁰, or whether habitats or species are present which have been identified as 'priorities' for biodiversity conservation in the UK¹¹. Planning authorities have a statutory duty¹² to have regard to

⁸ CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

⁹ CIEEM (IEEM) (2010) Guidelines for Ecological Impact Assessment in Britain and Ireland: Marine and Coastal. Institute of Ecology and Environmental Management, Winchester.

¹⁰ Principal legislation being the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended) which update the Conservation (Natural Habitats &) Regulations 1994 (as amended) and implement the EC Habitats Directive. Some animals are protected under separate legislation (e.g. the Protection of Badgers Act 1992).

¹¹ As published by the Secretary of State further to their duties under Section 41 of the Natural Environment and Rural Communities Act 2006

¹² Section 40 of the Natural Environment and Rural Communities Act 2006.

protected species and to further biodiversity objectives and the presence of such resources may therefore be material to the determination of development control decisions (ODPM Circular 06/2005).

4.1.6 Finally, attention may be drawn to species not necessarily subject to legal protection or identified by Government as a priority for biodiversity conservation, but which nonetheless have an ‘unfavourable’ conservation status as defined by the Red Data Book system¹³ or the Red and Amber lists for birds¹⁴, or which are otherwise known to be rare or scarce in a local or regional context.

4.1.7 Scales of comparison varying from international to the context of the local area may be used to define the measure of importance (or value) attached to individual features. The definition of geographic terms can vary, but in this evaluation the following geographic frame of reference, as contained within the current CIEEM guidelines, is used. This allocates importance at the following scales:

- International;
- UK;
- National (i.e. England/NI/Scotland/Wales);
- Regional
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish; and
- within zone of influence only (which might be the project site or a larger area)

4.2 Key Receptors

4.2.1 Taking into account the baseline information amassed, the key receptors to consider in respect of the development proposals are considered to be as set out at Table 2 below.

Table 2: Key Receptors

Scale of Value	Name of Receptor and conservation/legal status	Evaluation
International / National	None. The nearest statutory sites are some 400m distant, on the opposite side of the River Ouse and there is no conceivable impact vector to them in the light of existing port uses. They are thus screened out of any further assessment.	N/a

¹³ Following the British Red Data books published by the JNCC/RSNC and the Nationally Notable (Nationally Scarce) categorisations recognised by the JNCC

¹⁴ Eaton, M.A., et al. (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man*. British Birds 108, pp708–746.

Scale of Value	Name of Receptor and conservation/legal status	Evaluation
County	1) Tide Mills SNCI - No statutory protection but afforded local policy protection (e.g. under Core Policy 10 in the adopted Joint Core Strategy)	1) The application site encompasses some c.4.1ha of this designation. c.2.2ha has lost any significant interest either by past development or by the recent construction of a temporary car-park by Rampion Offshore Wind. Consent to develop the vegetated shingle beach (c.1.9ha) has already been granted under planning consent ref: LW/15/0034 but the relevant assessment in the NPP EclA is included below for completeness. The SNCI is also a potential receptor for indirect impacts and assessment purposes given that it adjoins the application site to the south, east and north.
Site/immediate zone of influence	1) Reptiles (e.g. common lizard) - All species with the potential to occur on the site are protected under WCA1981 and are Species of Principal Importance 2) Nesting birds - All nesting birds protected under WCA1981 with black redstart subject to special protection as a Schedule 1 species. Dunnock, starling and house sparrow are Species of Principal Importance	1) No reptiles were confirmed within the developed parts of the application site, but common lizard and slow worm are reported to be present on the vegetated shingle beach. 2) The likely breeding assemblage within the developed parts of the application site is restricted, but probably includes at least one of dunnock, house sparrow and starling. No evidence of black redstart within the developed parts of the application site.

5 IMPACT ASSESSMENT METHODOLOGY

5.1 Terms of reference

5.1.1 The assessment of likely significant ecological effects arising from the project follows the guidelines produced for EclA by the Chartered Institute for Ecology and Environmental Management (CIEEM)¹⁵. The approach taken is set out below:

5.2 Determining the Sensitivity of Key Receptors

5.2.1 In order to determine whether a specific effect on the key ecological receptors identified in the previous section is 'significant', the sensitivity of the affected habitat, site or species must be considered. The sensitivity of an individual receptor is a product of various factors including:

- habitat extent or population size (at a given geographical level)
- habitat or population fragility (including ability to recover)
- the rarity of a species or habitat; and
- susceptibility to environmental change (e.g. from disturbance or pollution).

5.2.2 Applying the above criteria, the sensitivity of individual receptors can be put into 'High', 'Moderate' or 'Low' categories as follows:

Table 3: Sensitivity

Sensitivity	Habitat Example	Species example
High	Habitat is highly susceptible to nutrient enrichment or invasion from competitive species Habitat has highly specialised hydrological or soil/geology requirements (e.g. calcareous fen) Habitat is present as small and isolated fragments vulnerable to edge effects Habitat takes an extended period to develop full suite of components (e.g. ancient woodland)	Species is highly intolerant of disturbance or pollution Species is present in a small and isolated population and/or has low dispersal rates Species has low recruitment rates and population recovery is likely to be very slow

¹⁵

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

Sensitivity	Habitat Example	Species example
Moderate	<p>Habitat can tolerate some elevated levels of pollution or will recover within a short-medium term (e.g. <20 years)</p> <p>Habitat has hydrological or soil/geology requirements that can be recreated or are fairly widely met</p> <p>Habitat may be isolated, but is present at an extent that provides resistance to edge effects and is better able to accommodate damage</p> <p>Habitat develops over a moderate timescale given the right conditions (e.g. unimproved acid grassland)</p>	<p>Species is able to tolerate some levels of disturbance or pollution (e.g. sub-lethal effects).</p> <p>Species population is restricted, but large enough to accommodate some temporary reduction without long term consequences for viability.</p> <p>Species has moderate recruitment rates</p>
Low	<p>Habitat is highly resistant to nutrient enrichment or other forms of pollution and physical disturbance (e.g. improved grassland)</p> <p>Habitat has non-specific requirements that are readily met elsewhere</p> <p>Habitat is extensive and well able to accommodate localised or more extensive damage</p> <p>Habitat is easily recreated over a short timescale (e.g. improved grassland)</p>	<p>Species is highly resistant to disturbance and pollution (e.g. most urban wildlife)</p> <p>Species' population is widespread and recolonisation in the wake of any localised range reduction likely to occur readily</p> <p>Species has high recruitment rates likely to lead to rapid recovery of population levels</p>

5.2.3 As with the identification of key receptors, a certain amount of subjectivity and the application of professional judgment is unavoidable when determining sensitivity, however in addition to firsthand experience of the species/habitat and locality in question, a wealth of scientific literature and/or local conservation status information can often be drawn upon to inform such judgements.

5.3 Identification of impacts and their magnitude

5.3.1 Impacts arising from the proposals that have the potential to be significant are identified from a review of the scheme details, and (where necessary) tandem assessments for other environmental disciplines based on them.

5.3.2 For the purposes of impact assessment, the proposals are set out in detail in Section 4 of the planning statement and in summary are understood to be the landing of unprocessed sand and gravel derived from marine-won sources at East Quay and for the processing of this to produce and utilise construction-grade aggregates, bagging of product and onward distribution by rail and road. New infrastructure proposed to facilitate these operations will include:

- New water holding tanks and silt recovery facility; aggregate processing plant with feed hopper, conveyors, washing, screening, crushing and sand dewatering plant;
- New aggregate storage bays formed from free-standing pre-cast concrete wall segments;
- A series of feed hoppers, cement silos, conveyors, weighing, bagging and palletising equipment mainly proposed to be sited within the existing warehouse building;
- A weighbridge, welfare facilities and site office;
- A 2000 square meter floorspace industrial building together with cement silos, water storage tanks, aggregate batching system, a curing system, a packaging and handling system, external product storage area, administration building.

5.3.3 It is understood that the existing purpose built drainage systems, boundary palisade fencing and established lighting towers will be re-adopted.

5.3.4 Review of these details and parallel technical assessments allows certain conclusions to be made as to the likely **zone of influence** of the proposals in ecological terms. This allows conclusions to be drawn about worst case implications and an associated screening exercise to be applied that reduces the list of key receptors requiring assessment down to only those potentially subject to significant effects.

5.3.5 The following terms are used to quantify the ‘magnitude’ of identified impacts in this assessment:

Table 4: Impact Magnitude

Impact Magnitude	Definition
Very High	An example of a very high magnitude impact would be direct mortality or displacement of a significant proportion of a species’ population or loss of habitat at a level likely to remove its continued representation at the given geographical level being considered.
High	An example of a high magnitude impact would be direct mortality, indirect displacement or habitat loss that would be likely to substantially reduce the population level or degree of representation at the given geographical level being considered.
Moderate	Moderate impacts include those likely to result in a net reduction of population or habitat representation (at least in the absence of effective mitigation or compensation) at the given geographical level being considered

Impact Magnitude	Definition
Minor	Minor impacts include those that may result in loss of a few individuals from a species' population or minor reduction in habitat extent at the given geographical level being considered.
Negligible	Negligible impacts are those that are not likely to give rise to measurable effects on population level or habitat representation at the given geographical scale.

5.4 Significance of Effects

5.4.1 Whether a potential effect is 'significant' or not at the given geographical level that the receptor is valued at, is determined by quantifying the magnitude of effect on each of the receptors identified. Thus for receptors of national or international value and high sensitivity, negative effects measured at high or very high magnitude are likely to represent a significant impact at that geographical level. At the other end of the scale, minor magnitude effects on receptors of low sensitivity and only immediate local value are likely to be below significance thresholds. Substantial effects on high value receptors that are of low sensitivity may fall either side of the significance threshold - in such cases further avoidance or mitigation may be able to be employed to ameliorate effects. A key consideration is whether the 'integrity' of a site or ecosystem (e.g. the coherence of its structure and function) and/or the 'conservation status' of a species or habitat (e.g. the ability of a population/habitat to maintain itself at pre-development levels/quality) will be compromised.

6 IMPACT ASSESSMENT

6.1 Potential effects

6.1.1 Based on the nature of the operations proposed, their likely zone of influence and the timing and phasing of operations as outlined in the planning statement, the project is considered to have the potential to give rise to the following potentially significant direct and indirect effects:

- Loss of existing vegetation on the site
- Risk of direct effects on birds and reptiles in the absence of mitigation, with associated legal connotations
- Indirect effects from noise, on adjoining areas of the Tide Mills SNCI

6.2 Assessment of effects in the absence of mitigation

6.2.1 Table 5 overleaf sets out the likely significant effects on the key ecological receptors identified prior to the application of any additional mitigation measures. It should be noted that where the assessment includes information extracted from the NPP EclA this is shown in italics.

Table 5 – Potential construction and operational effects on key receptors in the absence of additional avoidance or mitigation

Receptor	Value ¹⁶						Potential effects	Magnitude	Significance	Avoidance or Mitigation measures proposed?
	I	N	C	D	P/L	ZoI				
Tide Mills SNCI			*				<p><i>“13.4.2 Approximately 2.3ha of vegetated shingle would be lost during construction of the multipurpose berth, and LDA¹⁷. This represents 0.2% of 1000ha of coastal vegetated shingle across Sussex (Sussex Biodiversity Partnership, undated). The habitat also forms part of the Tide Mills SNCI, and the loss of this habitat would represent 1% of Tide Mills SNCI as a whole and approximately 13% of the coastal vegetated shingle habitat of Tide Mills SNCI”.</i></p> <p>Potential indirect effects on small area of adjoining designation from noise during operational phase</p>	<p><i>“The coastal vegetated shingle is considered to be of county value, and a high proportion of this habitat is represented in Tide Mills SNCI. The impact would be direct, permanent, irreversible and certain, and overall is considered to be medium in magnitude”.</i></p> <p>Section 7 of the noise assessment (WBM report ref: 4598) sets out that the noise level generated by the proposals at a point c200m due east of the site next to Mill Creek (see Appendix 4 of this report) would be 46dB LAeq, 1 hour, free field for daytime, and 38dB LAeq, 15 minutes, free field for night-time.</p>	<p><i>“Under a worst case scenario, in which the nature reserve is not able to compensate for the loss of the habitat, a moderate adverse impact is predicted at the county level”.</i></p> <p>No significant effect anticipated. Section 21 of the NPP application sets out that the background noise levels at CN7 (the closest measured location to the WMB reference point) are <i>“53.8 dB LAeq, 1 hour and 41.3 dB LA90, 1 hour daytime and 40.7 dB LAeq, 15 minutes and 39.0 dB LA90, 15 minutes night time”</i>. Noise levels generated are therefore assessed to around the same or below the baseline.</p>	<p>1) Yes</p> <p>2) None required.</p>
Reptiles						*	<p><i>“13.4.7 The 2011 reptile survey recorded 6 slow-worms and 15 common lizards, three of which were within the project area. The species were widespread around the site and in almost all areas of suitable habitat...Therefore the potential exists for the project to cause death or injury to any reptiles present.”</i></p>	<p><i>“The impact is potentially direct, permanent, irreversible and probable, and overall is considered to be medium in magnitude.”</i></p>	<p><i>“Common lizard and slow-worm are commonly occurring species throughout southern England and are considered to be of local value. Due to the low numbers of these species recorded within the reptile study area, a minor adverse impact is predicted, significant at the site level.”</i></p>	Yes - required for legislative compliance
Nesting birds						*	<p>Potential for direct impacts (killing, injury or destruction of nests) during construction.</p>	<p>Minor in terms of effect on local population within existing developed areas, and operational site likely to offer equivalent or improved conditions compared to existing developed areas.</p>	<p>No significant effects on black redstart or other species in terms of local or wider conservation status. Mitigation required to ensure legal compliance in the context of all species’ statutory protection.</p>	Yes.

¹⁶ I - international, N- national, C - county, D- district, P/L - parish/local, ZoI- site/immediate zone of influence
¹⁷ LDA - reference to the Local Development Area within the NPP application

7 MITIGATION AND ENHANCEMENT

7.1 Mitigation

7.1.1 Vegetation and other areas likely to be affected and capable of being used by nesting birds will be cleared in the non-breeding season, or under supervision to ensure no nests are affected. Whilst not recorded in 2017, a precursor check for black redstart will be carried out if works with the potential to affect the species are programmed, especially if in the breeding season.

7.1.2 Other than the measures to avoid impacts on nesting birds outlined above, which is likely to be relevant to both the existing developed areas of the site and the vegetated shingle beach, the remaining impacts which require specific mitigation relate only to the vegetated shingle beach. As such, the following extracts are taken from Section 13.6 of the NPP EclA in respect of the mitigation proposed for the vegetated shingle habitat itself and any reptiles that might be present.

“13.6.1 Ecological Mitigation and Management Plan (EMMP)

All mitigation measures proposed below would be incorporated and detailed in an overarching EMMP. The EMMP would be a live document that is produced to cover the pre-, during and post-construction stages of the project. The EMMP would take into account any planning obligations and conditions attached to the project should consent be granted. The EMMP would be submitted to and agreed with LDC and other stakeholders, including the East Sussex County Council (ESCC) ecologist, SDNPA, Friends of Tide Mills and Sussex Wildlife Trust. The EMMP would include the principal requirements of mitigation including:

- Any necessary pre-construction ecological surveys;*
- An overall strategy for delivery of any mitigation proposed in this EclA and agreed with regulators as necessary; and*
- Production of a habitat creation and management plan for a new nature reserve to be created in the vicinity of the port.*

13.6.2 Loss of coastal vegetated shingle

The project has been designed to minimise the footprint (See Section 1 Introduction and Section 2) and thus the extent of the impact on the coastal vegetated shingle. However, due to the nature of the development it has not been possible to avoid the habitat altogether. The following mitigation measures are recommended:

- Target plant species shall be translocated from the area to be impacted to other areas of the same habitat nearby. These would be species that are present in the habitat affected but not in the receiving habitat;*



- *Temporary fencing would be used to physically demarcate the working area from the remaining coastal vegetated shingle habitat and prevent access to the area;*
- *All construction activities would take place within the fenced area and no plant or materials shall be stored outside of the area;*
- *An ECoW would oversee the erection and dismantling of temporary fencing to ensure compliance with the measures;*
- *Remaining areas of coastal vegetated shingle within the port area that are currently in unfavourable condition would be brought into active management; and*
- *An area of 3.5ha would be provided to establish a new nature reserve, which would include either the translocation or re-creation of coastal vegetated shingle. The amount to be translocated/re-created shall be determined in consultation with NE, SDNPA, Friends of Tide Mills and the County Ecologist (see Section 13.7). N.B. NE screened out coastal vegetation as a national or international concern during consultation, and was satisfied with local bodies being consulted as regards mitigation for this habitat. However, they did express interest in remaining involved due to the opportunities that may occur with regard to translocation of vegetated shingle not in an international or national nature conservation designation.*

Death or injury to common lizard and slow-worm and loss of habitat

The project has been designed to minimise the footprint and thus the extent of the impact on notable plant species. However, due to the nature of the development direct impacts are predicted to Area 6. The following mitigation measures are recommended:

- *A detailed strategy for the translocation of these species would be incorporated into an EMMP and agreed in consultation with LDC. The strategy would include:*
- *A pre-construction survey to validate the location and extent of areas being used by reptiles as identified in this EclA and any other notable plant species not previously identified; and to identify suitable receptor sites for the translocation of reptiles;*
- *A Precautionary Method of Working (PMoW) drawn up to provide details to the contractor of reptile-sensitive methods to be used during construction;*
- *Details of exclusion fencing around the works area where it falls within or*
- *in close proximity to known reptile habitat to be maintained throughout the construction period and removed post development under ecological supervision;*
- *Details of a reptile translocation that would aim to capture and relocate any reptiles within the works area (likely to require 30-60 days to complete);*
- *Identification of suitable habitat within the surrounding habitats where captured reptiles would be released as informed by the reptile survey results;*
- *Enhancement of the receptor area to be sufficient to receive an increased population;*
- *Enhancements to include the creation of log piles and hibernacula for shelter and alterations to management of grassland areas;*
- *The reptile capture area to be destructively searched by removing the top soil using a 360° excavator under ecological supervision; and*

- *Appropriate timings for translocation of captured animals, identification of receptor site and enhancement measures.*
- *The strategy would be informed by a finalised landscaping scheme for the port prior to being submitted to LDC”.*

7.2 Enhancement

7.2.1 In addition to the measures set out above to mitigate for impacts on identified receptors, Section 13.7 of NPP EclA also set out the following compensation and enhancement measures

“13.7 Compensation and Enhancement

13.7.1 Creation of a new nature reserve

Up to 2.3ha of UK BAP and Sussex BAP habitat would be permanently lost as a result of the project. Species associated with these habitats, including reptiles and invertebrates would also be permanently displaced as a result of the proposals. An area of habitat creation is proposed as part of a new nature reserve in the vicinity of the port. This compensatory measure would be in line with the National Policy Statement for Ports and objectives under the BAPs for lowland calcareous grassland and coastal vegetated shingle.

The proposals shall form part of the EMMP, and would be agreed in consultation with LDC, SDNPA and Sussex Wildlife Trust. The proposals would include:

- *A habitat creation and management plan that would include details of the long term conservation objectives, detailed habitat creation and management prescriptions for an agreed lifetime; management responsibilities and maintenance schedules;*
- *The management plan would be integrated into any landscape management plan proposed where possible;*
- *The management plan would include if practicable the creation of areas of coastal vegetated shingle;*
- *The plan would provide details of proposed planting; planting would use native species of local provenance, grown or collected from local sources;*
- *It would include detailed access and restrictions to people and dogs to provide appropriate undisturbed habitat for re-colonisation and nesting birds; and*

The plan would be discussed and agreed by the management plan group which would be formed specifically to take forward actions relating to mitigating the loss of the vegetated shingle and to creating the nature reserve. The group is likely to be made up of NPP, ESCC”

7.2.2 Other options for the enhancement of the application such as the addition of bat and bird nest boxes would not appear to be applicable in this instance. The designs of the proposed buildings do not lend these to the addition of such features, which are typically designed to be installed on trees or into the fabric of a brick or stone building. Similarly, the addition of a green roof to the existing warehouse would add significant weight to the overall structure and it is unknown if it would therefore be possible.

8 PLANNING POLICY REVIEW

8.1 Introduction

8.1.1 The follow polices, as detailed in section 12 of the planning statement which relate to the natural environment, are discussed here in respect of the proposed development.

8.2 Lewes Core policy 10

8.2.1 Core policy 10 states;

“Core Policy 10 – Natural Environment and Landscape Character

(1) The natural environment of the district, including landscape assets, biodiversity, geodiversity, priority habitats and species and statutory and locally designated sites, will be conserved and enhanced by:

(ii) Ensuring that new development will not harm nature conservation interests, unless the benefits of development at that location clearly outweigh the harm caused. In such cases appropriate mitigation and compensation will be required;

(iii) Maintaining and where possible enhancing local biodiversity resources including through maintaining and improving wildlife corridors, ecological networks and avoiding habitat fragmentation in both rural and urban areas;

(2) The highest priority will be given to the first purpose of the South Downs National Park and the integrity of European designated sites (SACs and SPAs) in and around Lewes District. Within and in the setting of the South Downs National Park, development will be resisted if it fails to conserve and appropriately enhance its rural, urban and historic landscape qualities, and its natural and scenic beauty, as informed by the South Downs Integrated Landscape Character Assessment.”

8.2.2 No part of the proposals is located within the South Downs National Park or a statutory designation such as an SPA or SAC.

8.2.3 Whilst the proposals overlap with a small part of the Tide Mills SNCI, part of this is already developed or has recently been developed as a temporary car-park by Rampion Offshore Wind. Consent to remove the remainder has also already been granted under the NPP application ref: LW/15/0034. As part of this, measures to mitigate impacts on the vegetated shingle habitat were proposed and agreed.

8.2.4 Measures to enhance the application site over and above any direct mitigation required are set out under Section 8 above.

8.3 Waste and Minerals Local Plan Policy WMP 27

8.3.1 This policy states;

“Environment and Environmental Enhancement

(b) Environmental enhancement - biodiversity and habitat creation

To conserve and enhance the local natural environment, the Authorities will maximise opportunities for increasing biodiversity and habitat creation. Permission will not be granted where the development would have a significant adverse impact on sites of national and local importance for nature conservation including:

- Sites of Special Scientific Interest;*
- Local sites, identified for their biodiversity interest, including Sites of Nature Conservation Importance and Local Nature Reserves;*
- Areas of significance for geodiversity and geomorphology, including local sites and Regionally Important Geological and Geomorphological Sites;*
- Ancient woodlands;*
- Land managed under an agri-environment agreement.*

(c) International Designations

These sites and protected species have statutory protection. Any development with a negative assessment of the implications of the proposal would need to demonstrate imperative reasons of overriding public interest”.

8.3.2 No part of the application site has a statutory nature conservation designation such as SSSI and no Europe protected species have been found to be at risk of direct effects from the proposals. Similarly, no part of the site is located within an area of ancient woodland or that is managed under an agri-environment scheme.

8.3.3 As set out at 8.2.3 part of the site does however fall within the Tide Mills SNCI.

9 RESIDUAL EFFECTS AND OVERALL CONCLUSIONS

9.1 Assessment of residual effects

9.1.1 The residual effects anticipated to arise as an overall consequence of the project (i.e. taking into account the mitigation referred to in Table 5) are summarised for each of the key receptors in Table 6 below. Where relevant these are taken from the NPP EclA and shown in italics.

Table 6: Residual Effects

Receptor	Residual effect
Tide Mills SNCI	<i>“The residual impact of the project upon coastal vegetated single is dependent on whether the habitat lost during the works can be fully compensated for within the plans for the new nature reserve. If less than 2.3ha of vegetated shingle is translocated/recreated as part of the new nature reserve then the residual impact of the project is considered to have a minor adverse impact at the county level. If 2.3ha of vegetated shingle is translocated/re-created then the residual impact of the project is considered to have a negligible impact at the county level. If more than 2.3ha of vegetated shingle is translocated/re-created then the residual impact of the project is considered to have a minor beneficial impact at the site and up to county level”.</i>
Reptiles	<i>“Following the implementation of the mitigation measures proposed above the residual impact of the project is considered to have a no impact to minor beneficial impact on reptiles at the site level”.</i>
Nesting birds	With the application of avoidance and precautionary mitigation measures as proposed, no significant effects are anticipated on any bird species.

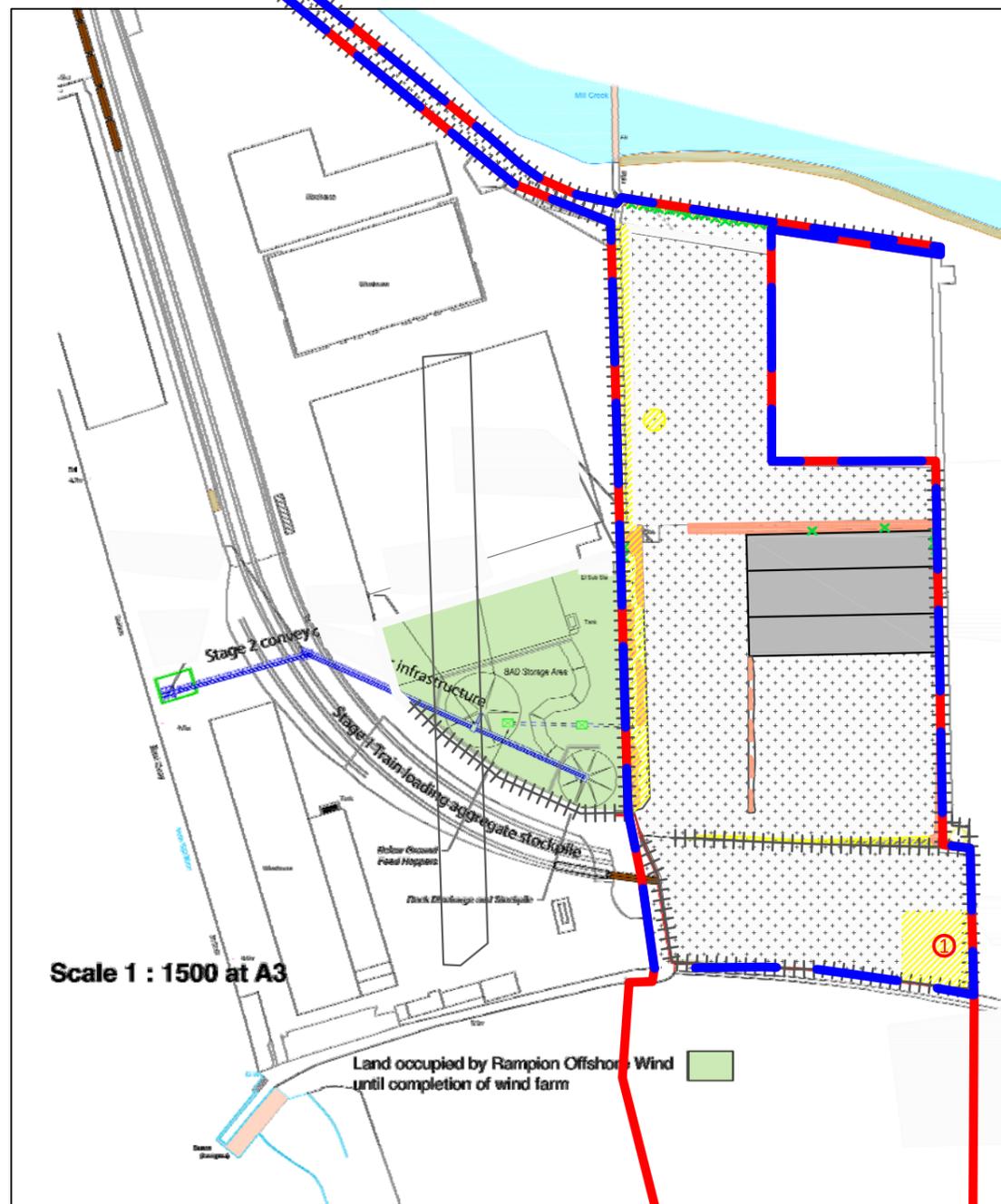
9.2 Overall conclusions

9.2.1 In conclusion, no significant net negative ecological effects from the proposals on those parts of the site that are already developed are predicted. Furthermore, in the operational state, the site is likely to offer a continuation or even possibly an expansion of the types of peripheral habitat opportunities that currently occur on the developed parts of the site. Furthermore, Stages 3 and 4 would not be built without consent having been obtained for



the link road that will serve them. The ecological effects from the link road will, therefore, be assessed as part of a separate application for that development, and the in-combination effects of the two developments on ecology would be assessed at that stage.

- 9.2.2 Standard avoidance and precautionary mitigation measures are nevertheless recommended to ensure legal compliance in relation to reptiles and nesting birds being affected by construction activities. These could readily be secured by condition if felt to be necessary.



Scale 1 : 1500 at A3

Key

-  Application boundary
-  Study area
-  Hardstanding
-  Built form
-  Sparse vegetation on loosely consolidated substrate
-  Rough grassland and tall ruderal
-  Palisade fencing
-  Scrub/bush
-  Target note, with text reference



DO NOT SCALE

Title
Habitat map

Project	Client
East Quay, Newhaven	Brett Aggregates Ltd.

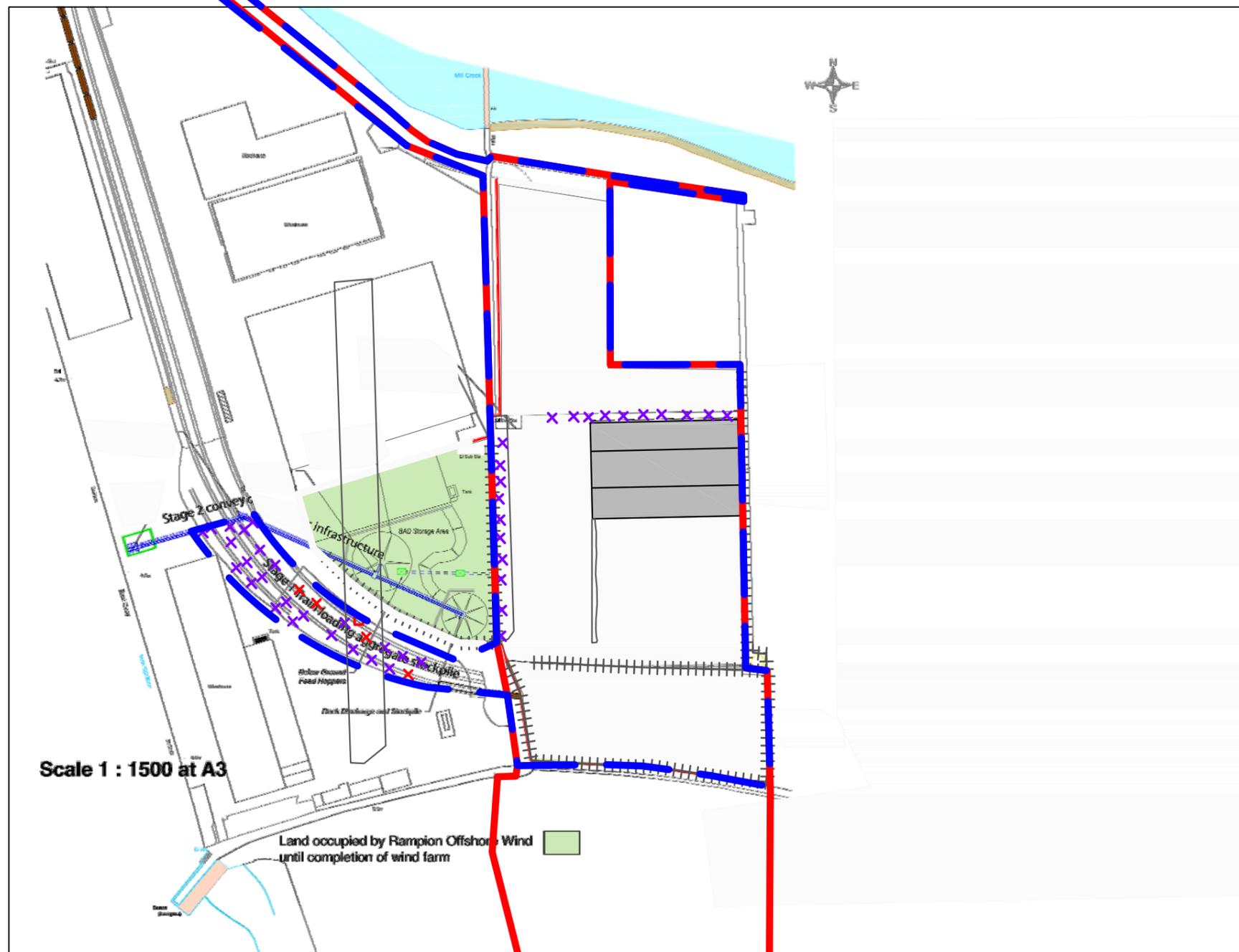
Drawing No.	Revision	Project No.
Figure 1	C	E1879

Drawn	Checked	Date
FM	SW	October 2017

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Key

-  Application boundary
-  Study area
-  Reptile refugia tins
-  Reptile refugia where reptiles were identified
-  Wooden board that reptiles were identified beneath



DO NOT SCALE

Title
Reptile survey results

Project	Client
East Quay, Newhaven	Brett Aggregates Ltd.

Drawing No.	Revision	Project No.
Figure 2	C	E1879

Drawn	Checked	Date
KP	SW	October 2017

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Appendix 1

SITE OF NATURE CONSERVATION IMPORTANCE (SNCI)

East Sussex

Site Name:	Tide Mills
Site Ref:	L60
District:	Lewes
Parish:	Newhaven & Seaford
National Grid Ref:	TQ455005
Size (ha):	155.1
Date:	-
Surveyors:	Report written by Louise Clark & Marion Finch and compiled from various reports on ESCC files.
Further Info:	-

GENERAL DESCRIPTION

Mill Creek is an important feeding ground for a good number of ducks and wading birds. Redshank feed there, Little Grebes winter there, Shelduck use the area for feeding and sheltering their young and in winter, a flock (30-50) of Ringed Plovers can be found there. Additionally; in the water can be found Grey Mullet, Gobies, Shrimps, Prawns and Flounder. In the mud, there are Nereid Worms, Cockles and Peppery Furrow Shells. Amongst the stones on the banks, there are Shore Crabs and Edible Periwinkles.

The shingle beach exhibits a good variety of shingle flora and is the best example of this habitat in Lewes District. Typical plants include Sea-Kale (*Crambe maritima*) and Yellow Horned-poppy (*Glaucium flavum*). This is also home to the spider (*Pardosa agricola forma arenicola*), Ringed Plovers nest here, Skylarks and Meadow Pipits can be found breeding here and occasionally Back Redstarts can be found wintering here.

The Industrial Waste Land area is a depository for rubble, soil, derelict machinery and industrial junk. It has a ruderal plant community of no particular note excepting the presence of Oxford Ragwort (*Senecio squalidus*).

The salt marsh area is partly tidal. On the grassy-edge, Grasshoppers, Common Lizard, Slow-worm and Grass-snake can all be found. In the mud, Nereid worms and the amphipod *Corophium* can be found. On the wet mud surfaces, the snails *Hydrobia* and *Littorina saxatilis*, and the isopod *Sphaeroma* occur. On the dry mud surfaces, notable species include the bug *Saldula* and the spider *Pardosa purbeckensis*.

There is a marshy, meadow area which is mainly very poorly drained grazing land. Species of note found there include Brookweed (*Samolus valerandi*).

Also, there is a chalk embankment where numerous common downland plants can be found, and around the remains of the Tide Mills Sea Clover (*Trifolium squamosum*) occurs.

The majority of the fields behind Mill Creek are cultivated (only a small number remain as species-poor rough pasture). They are generally open and bounded by ditches. During the winter months, in the wetter, flooded areas of the fields, there commonly occurs:-

- Flocks of duck, Wigeon, Teal and Mallard
- Flocks of Snipe (200)
- Dunlin (100)
- Redshank (70)
- Curlew (50)
- Lapwing (3000)

One uncultivated field is particularly important, as the following birds breed there: Redshank, Lapwing, Ringed Plover, Yellow Wagtails, Skylarks and Meadow Pipits. Additionally, short-eared Owls occasionally visit these fields.

There are 2 herb-rich meadows which support a variety of Sedges, Rushes and Wetland Larks. These are good invertebrate habitats and support a notable colony of Orange-tip butterflies.

The ditches in this area are dominated by *Phragmites australis*. Some are dry with only a small number still containing open water. The northern part of the site has ditches supporting a richer plant life. The ditches support good populations of Sedge Warblers, Reed Buntings and Reed Warblers (if water is present!)

There are numerous ponds dotted about the fields. Several are overgrown by *Scirpus maritimus*. Some still have open water which is often dominated by *Potamogeton* and edged by *Scirpus* or *sparganium*. Some have water lilies. Several ponds support Newts and active damsel and dragonfly populations. In others, the 19-spot Ladybird has been found and also the large beetle (*Dytiscus semisulcatus*). In winter, the ponds attract Shelduck, Wigeon, Teal and Mallard, and in summer Yellow Wagtails and Moorhens can be found.

Finally of note, is the 24 species of Butterflies and Moths that have been recorded in this area.

Appendix 2



- Legend:**
- Dredge Footprint
 - NPP Land Development Area
 - Multi-Purpose Berth Area Footprint
 - Breakwater Footprint
 - Proposed Nature Reserve
 - Survey Area
- Phase 1 Habitat**
- B3.1 Calcareous grassland - unimproved
 - B5 Marsh/marshy grassland
 - F1 Swamp
 - G1.6 Open Water - Brackish
 - H8.1 Maritime Hard Cliff
 - J1.1 Arable
 - J2.2.2 Defunct hedge - species-poor
 - Target Note

Client:	Project:
Newhaven Port and Properties Ltd	Newhaven East Quay and Port Expansion Area

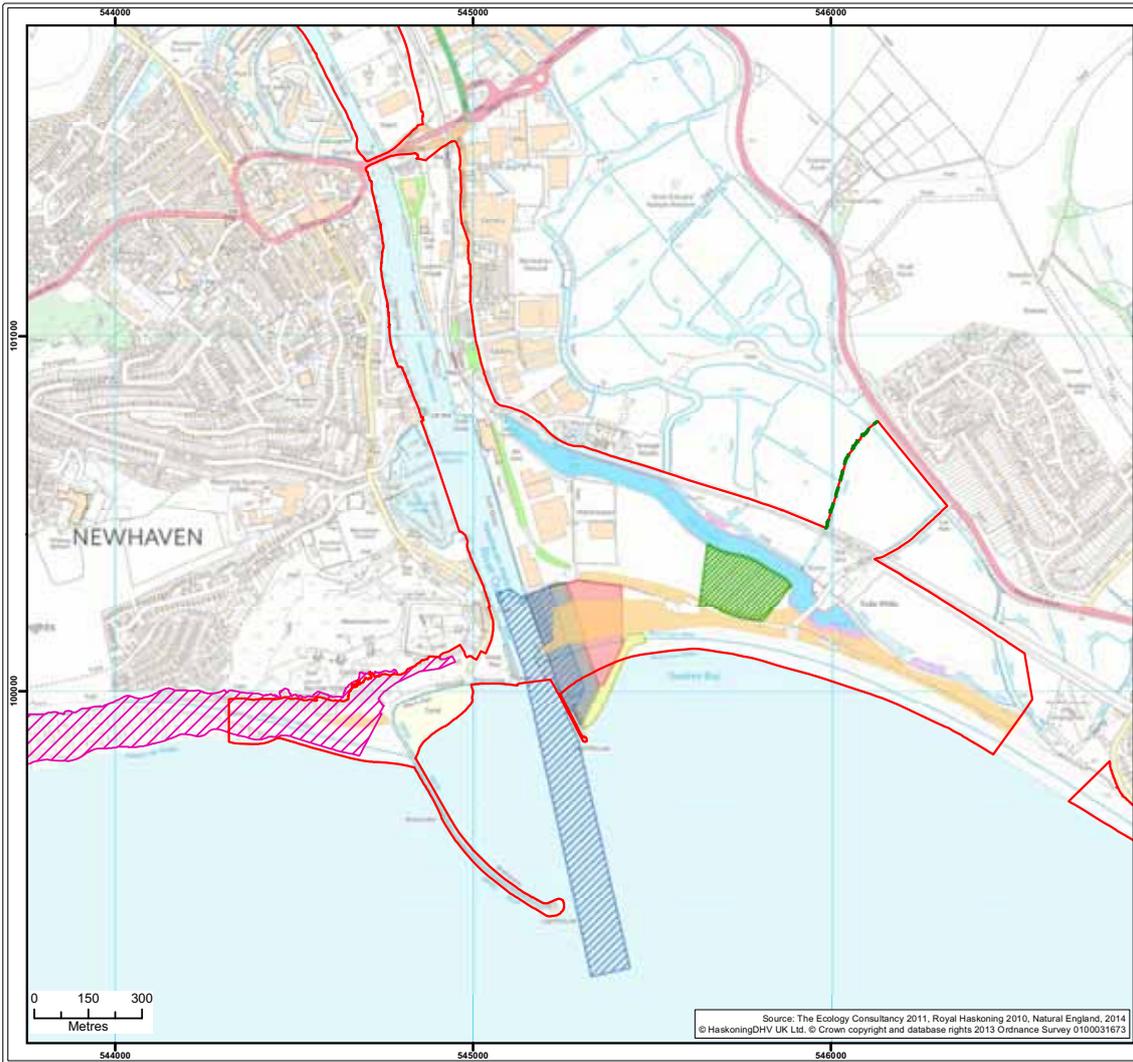
Title: Phase 1 Habitat survey

Figure: 13.3 Drawing No: PB1453/002/003

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
03	12/12/14	LB	HW	A4	1:20,000
02	18/03/14	LB	HW	A4	1:20,000

Co-ordinate system: British National Grid

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- Legend:
- Dredge Footprint
 - NPP Land Development Area
 - Multi-Purpose Berth Area Footprint
 - Breakwater Footprint
 - Proposed Nature Reserve
 - Survey Area
 - Site of Special Scientific Interest (SSSI)
 - Coastal Saltmarsh (UK BAP Priority Habitat)
 - Coastal vegetated shingle (UK BAP Priority Habitat)
 - Mill Creek saline lagoon and intertidal mudflats
 - Open mosaic habitat on previously developed land (UK BAP Priority Habitat)
 - Reedbed
 - Hedgerow

Client: Newhaven Port and Properties Ltd
 Project: Newhaven East Quay and Port Expansion Area

Title: UK BAP Priority Habitats

Figure: 13.4 Drawing No: PB1453/002/004

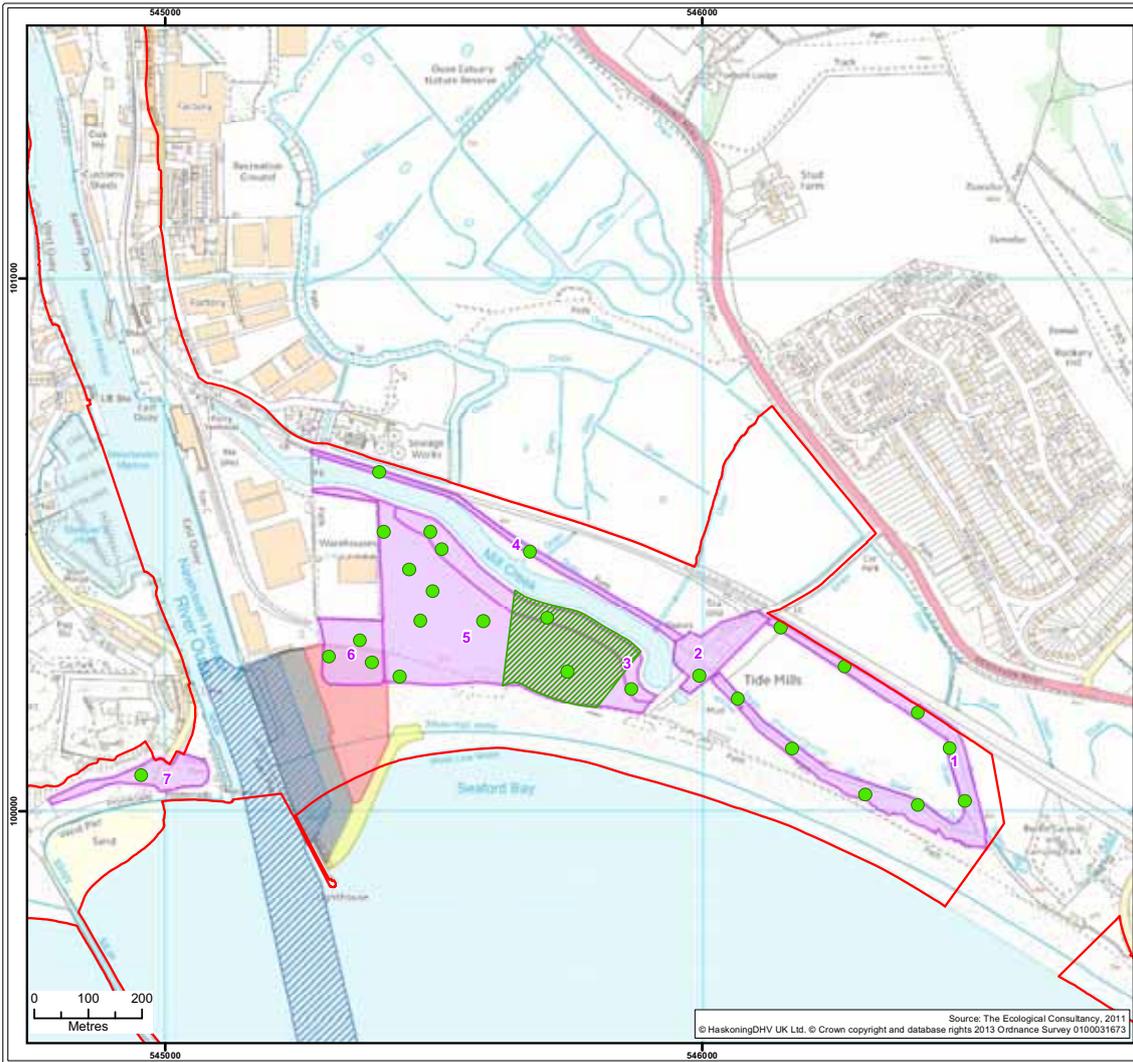
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03	12/12/14	LB	HW	A4	1:10,000

Co-ordinate system: British National Grid

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Source: The Ecology Consultancy 2011, Royal Haskoning 2010, Natural England, 2014
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Appendix 3



Legend:

- Dredge Footprint
- NPP Land Development Area
- Multi-Purpose Berth Area Footprint
- Breakwater Footprint
- Proposed Nature Reserve
- Survey Area
- Reptile Survey Area
- Reptile Sighting

Client:	Project:
Newhaven Port and Properties Ltd	Newhaven East Quay and Port Expansion Area

Title: Reptile survey

Figure: 13.7	Drawing No: PB1453/002/009				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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01	11/03/14	LB	HW	A4	1:10,000

Co-ordinate system: British National Grid

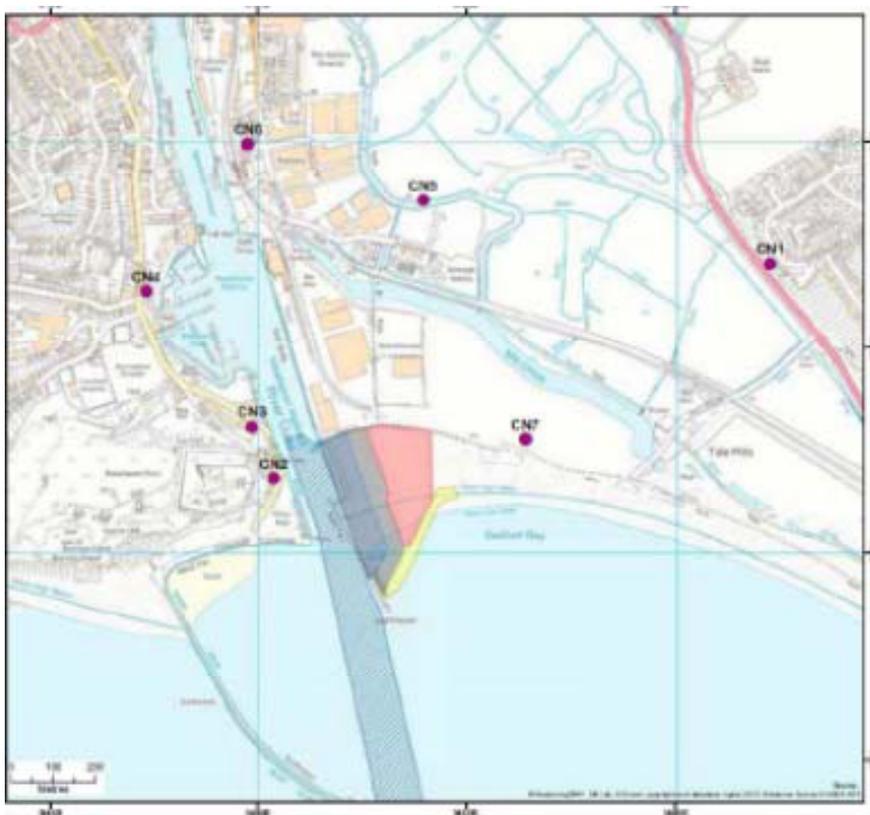
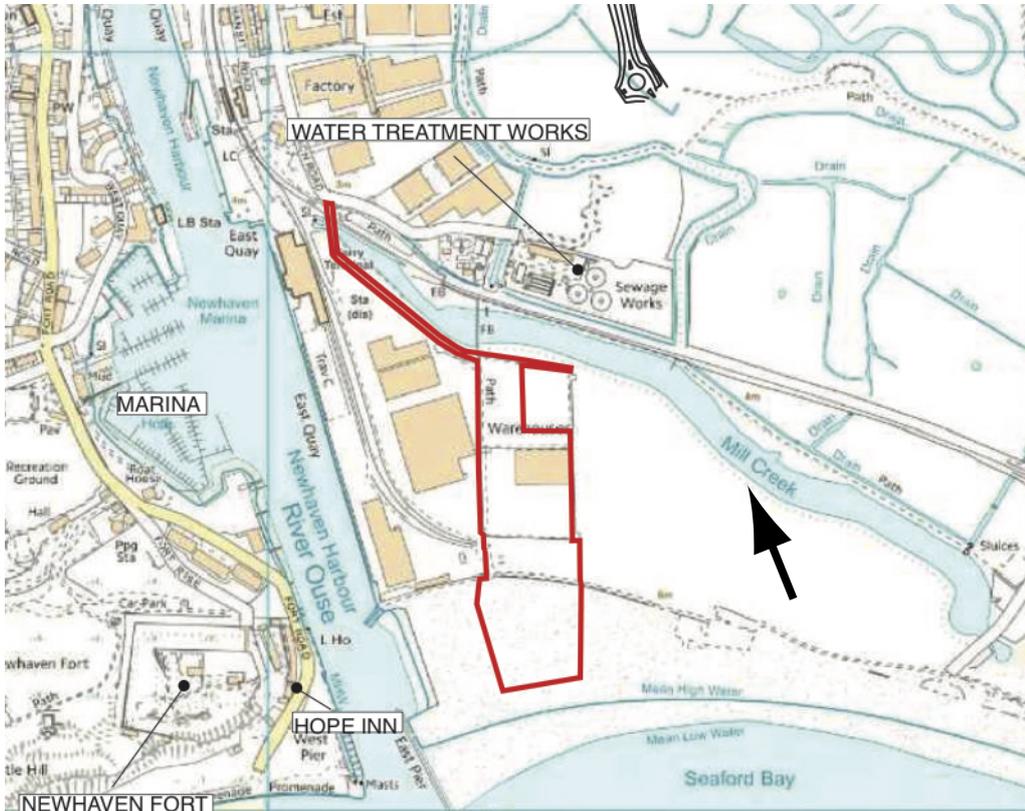
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Appendix 4



Appendix J – Ecological Site and Application Site Boundary





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