

AECOM

PROJECT
NET ZERO TEESIDE PROJECT

APPLICANTS
NZN POWER LTD. AND NZNS STORAGE LTD.

KEY

- Site Boundary
- Power, Capture and Compressor Site
- 2km Search Area
- Local Nature Reserve
- Local Wildlife Site

TITLE
FIGURE 12C-2
STATUTORY AND NON-STATUTORY NATURE
CONSERVATION DESIGNATIONS
LNR, LWS

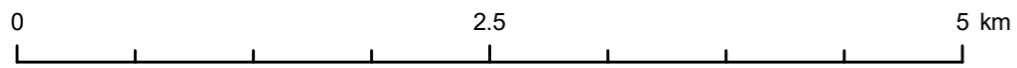
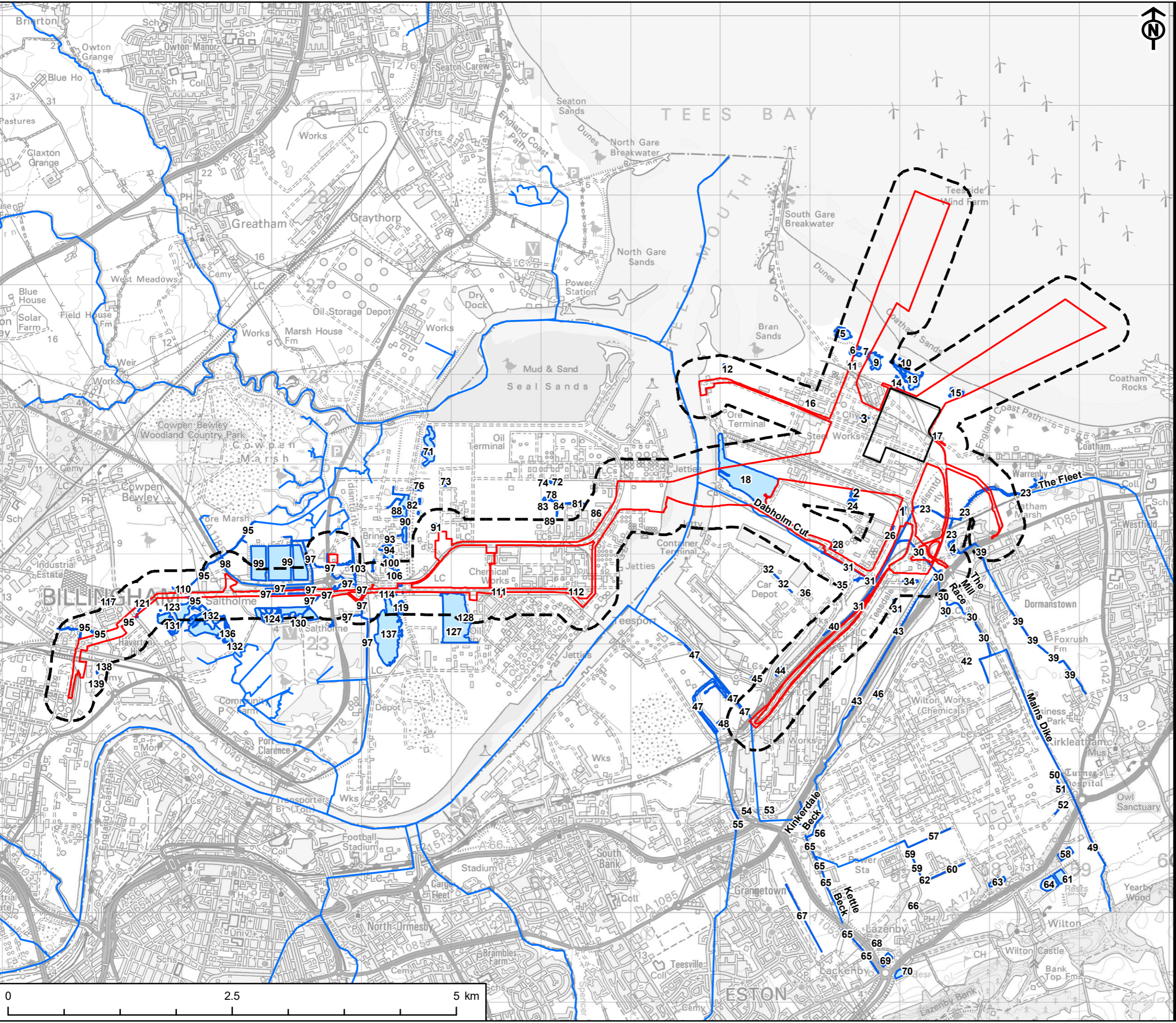
REFERENCE
NZN_210507_PEA_12C-2_v8

SHEET NUMBER
4 of 4

DATE
07/05/21

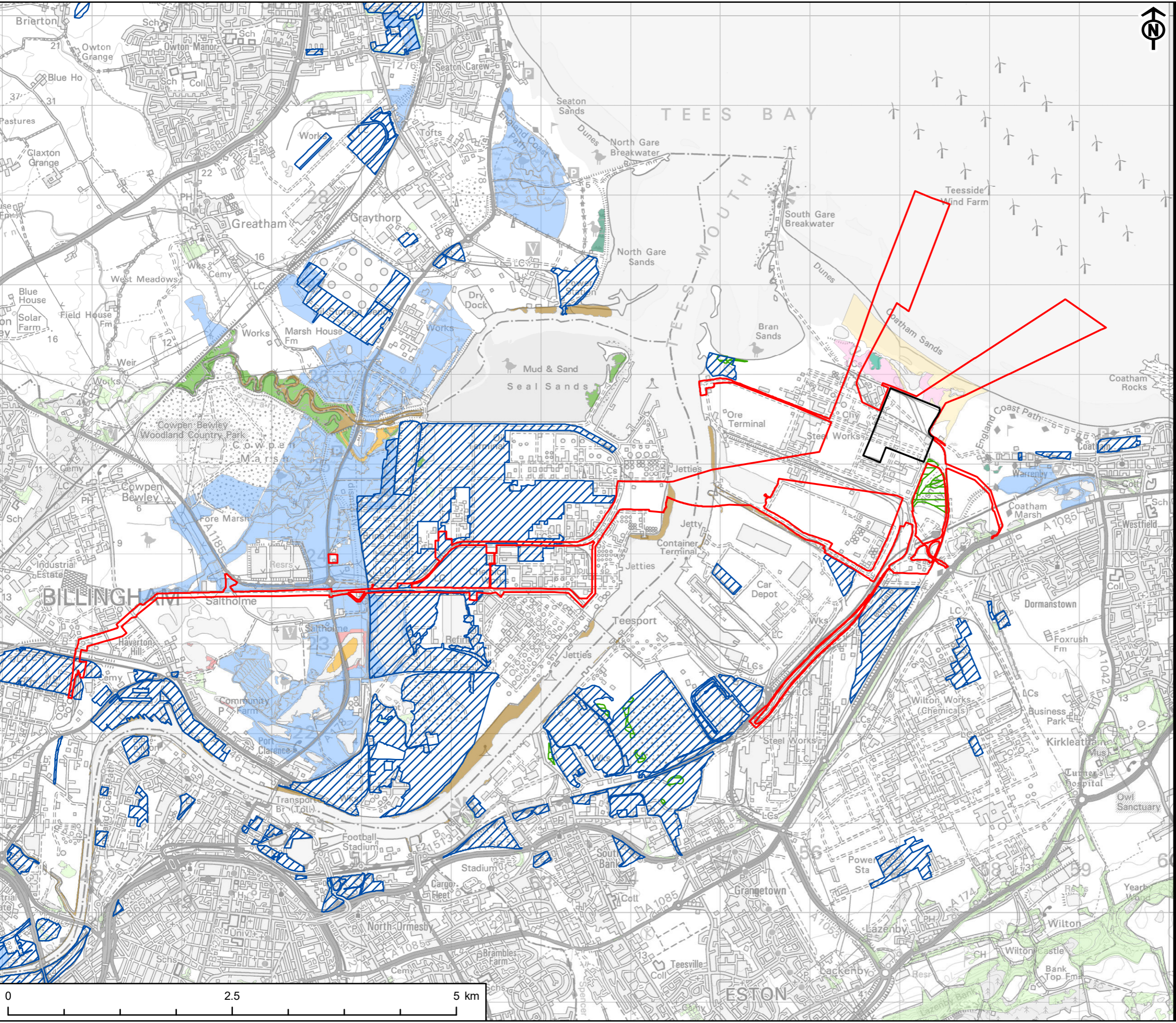
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Figure 12C-3 Locations of Waterbodies within 250m of Proposed Development



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Figure 12C-4 Priority Habitats



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KEY

- Site Boundary
- Power, Capture and Compressor Site
- STDC Data - Open Mosaic Habitats on Previously Developed Land
- AECOM Survey - Priority Habitat
- Open Mosaic Habitat on Previously Developed Land
- Reedbed
- Sand dune

Natural England - Priority Habitat Inventory

- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Deciduous woodland
- Lowland fens
- Mudflats
- Reedbeds
- Saline lagoons
- Open Mosaic Habitat (Draft)

TITLE
FIGURE 12C-4
PRIORITY HABITATS

REFERENCE
NZN_210507_PEA_12C-4_v7

SHEET NUMBER
1 of 1

DATE
07/05/21

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Annex A Target Notes

The target notes listed below are those linked to habitats located within and immediately adjacent to the Proposed Development Site, as shown on Figure 12C.1. The original baseline habitat surveys covered a much larger area of land and consequently some of the target notes were collected from land located at distance from the Proposed Development Site and are therefore no longer relevant. To assist review of relevant information, these irrelevant target notes have been removed but no attempt has been made to re-sequence the retained target notes.

For purposes of clarity, the target notes that are no longer relevant and which have been removed are: TN9, 13-15, 17, 19, 20, 25, 30, 35-36, 43-50, 52-55, 59, 63-64, 66-67, 79-92 and 94.

In addition to the target notes collected during the PEA, an additional series of target notes were collected during more detailed botanical surveys at Coatham Sands. These are shown on Figure 12C.1 (as CS01 to CS27) but are not listed below. Instead, the target notes for Coatham Sands are provided in Appendix 12H Supplementary Habitat Information Report for Coatham Sands (ES Volume III).

Target Notes

TN1 Area of rough grassland, likely seeded at some point, with patches of stony bare earth, and short perennial vegetation with mounds of rubble, some of which have become vegetated. Rubble piles offer potential reptile refuges.

TN2 Heavily disturbed area of bare earth and waste materials and tipped slag from steel processing. Some areas have become very sparsely vegetated with scrub composed of sea buckthorn (*Hippophae rhamnoides*), brambles (*Rubus fruticosus* agg.) and butterfly-bush (*Buddleja davidii*), some patches of rough grasses e.g. cocks-foot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*) and red fescue (*Festuca rubra*) and short perennial/ ephemeral species.

TN3 Large industrial sheds of metal construction. Land to the south east of building short open turf over a free draining stony substrate. Red fescue dominant, kidney vetch (*Anthyllis vulneraria*), common bird's-foot-trefoil (*Lotus corniculatus*), cock's-foot, buck's-horn plantain (*Plantago coronopus*), common mouse-ear hawkweed (*Pilosella officinarum*), field woodrush (*Luzula campestris*).

TN4 An area of grassland set amongst the steel works buildings and infrastructure. Seeded in past (but no more recent than 1980's), one third grass dominated and the remainder with a good contribution from herbs. Site staff report recording bee orchid (*Ophrys apifera*) here.

TN5 Previously seeded grassland, on stony soil substrate but with a sward taller than the other seeded areas. Larger community of tall herbs than the other SSI Plots, including cow parsley (*Anthriscus sylvestris*), common knapweed (*Centaurea nigra* agg.), teasel (*Dipacus fullonum*) and mugwort (*Artemisia vulgaris*). Common bird's-foot-trefoil is frequently found. Also, with areas of scrub composed of hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), brambles and sea buckthorn, primarily on mounds of earth. Scrub also includes Schedule 9 invasive species Japanese Rose (*Rosa rugosa*) and giant hogweed (*Heracleum mantegazzianum*).

TN6 Fleet River. This section of river was dredged and vegetation on banks cut back in order to speed flow, however the river is still slow flowing here. Mostly free from vegetation within the channel the banks are dominated by rough semi-improved grassland and thistle and bramble scrub. Common bulrush (*Typha latifolia*) is present in areas where dredging has not taken place.

TN7 An area of abandoned hard standing, previously car parking which has developed into an area of short perennial / ephemeral vegetation dominated by biting stonecrop (*Sedum acre*) with birds-foot trefoil. About half the plot is taken by rough grassland with tall and ruderal herbs, common ragwort (*Jacobaea vulgaris*), rosebay willowherb (*Chamaenerion angustifolium*), smooth meadow-grass (*Poa pratensis*), red fescue and sheep's fescue (*Festuca ovina*), cock's-foot, ribwort plantain (*Plantago lanceolata*) and occasional common toadflax (*Linaria vulgaris*). Grassland areas also include scattered sea buckthorn and hawthorn scrub.

TN8 Dominated by rough grassland with scattered scrub. The plot includes substantial earthworks related to previous steelworks processes, these have been undisturbed for some time and have become well vegetated. Grassland areas of cocks-foot, red fescue, couch grass (*Elymus repens*), smooth meadow grass include common knapweed, wild carrot (*Daucus carota*), ribwort plantain and hogweed (*Heracleum sphondylium*). Scattered scrub is composed of hawthorn, dog rose (*Rosa canina*), bramble, elder (*Sambucus nigra*) and goat willow (*Salix caprea*),

TN10 Steel House. Built in the late 1970s the location includes a brick built hexagonal, flat-roofed office building, associated car parking and landscaped grounds which include a large pond formed from the unnamed watercourse which runs into the site close-by and then empties into The Fleet. The building has been boarded up securely and has only negligible potential for bats. Amenity shrub and tree planting includes non-native field maple (*Acer campestre* var. *leiocarpum*), Italian alder (*Alnus cordata*), hawthorn and large-sepal hawthorn (*Crataegus rhipidophylla*), sea-buckthorn, osier (*Salix viminalis*), crack willow (*Salix x fragilis*) and Swedish whitebeam (*Sorbus intermedia*).

TN11 Coatham Marsh Nature Reserve, includes areas of saltmarsh and reedbed, often dominated by sea club-rush (*Bolboschoenus maritimus*). The reserve includes areas not directly affected by industry as well as earth mounds and lakes created by the extraction of soil for during industrial activity. The Fleet is broad and slow as it runs through the reserve.

TN12 The Fleet and Mill Race meet here. Both are located within deep channels. Both had been recently dredged and held few aquatic or emergent plant species. Bank side habitats display nutrient enrichment and were species poor, being dominated by rank grasses and herbs.

TN16 The Fleet in Coatham Marsh (photograph 35), this section is broad and slow flowing and supports large stands of floating pennywort (*Hydrocotyle ranunculoides*) and water crowfoot (*Ranunculus aquatilis* agg.).

TN18 Pond 1, created as a wildlife pond. There was no open water visible during the Phase 1 survey, the pond area being dominated by bulrush, common reed (*Phragmites australis*), sea club-rush and yellow iris (*Iris pseudacorus*). Much of the banks of the pond are dominated by bramble.

TN21 A large area of coal ash and spoil mounds. Site appears to be worked and constantly disturbed so supports no vegetation.

- TN22** Flood water attenuation pond, banks are dominated by rough grassland and bramble scrub and the pool supports good stands of lesser bulrush (*Typha angustifolia*).
- TN23** Pond 2 an oblong waterbody that supports sea club rush, spike rush (*Eleocharis palustris*), water-crowfoot, bittersweet (*Solanum dulcamara*) and bulrush.
- TN24** Matrix of relatively species-poor rank grassland is association with more floristically diverse ephemeral vegetation on previously developed land. Considered to represent OMH, and is mapped as such in the MAGIC website.
- TN26** Areas of birch (*Betula* spp.) scrub and developing woodland, set amongst rank semi-improved grassland.
- TN27** Pond 3, an ornamental wildlife/ fish pond which supports stands of common reed and lesser bulrush as well as sea club-rush, reed sweet-grass (*Glyceria maxima*) and yellow iris within the water.
- TN28** Dabholm Gut, carrying the Fleet River to the Tees. Tidal section of river that includes areas of exposed mudflat during low tides.
- TN29** Pond 4 a constructed online pond located within landscaped grounds Banks have grassland and plantation woodland. The pond supports yellow iris and marsh marigold (*Caltha palustris*) at the margins. Within the water was Nuttall's waterweed (*Elodea nutallii*), a species listed on Schedule 9 of the Wildlife and Countryside Act as an invasive non-native species.
- TN31** Dense scrub on north side of raised railway embankment. Dominated by bramble with some occasional small willow and silver birch (*Betula pendula*) trees scattered. Unable to see beyond railway embankment.
- TN32** Field of rough grassland adjacent to gas pipe network heading north-east. Ungrazed with a tall sward and low species diversity. Cock's-foot and false oat-grass (*Arrhenatherum elatius*) dominant with creeping thistle (*Cirsium arvense*), dandelion (*Taraxacum* agg.), soft brome (*Bromus hordeaceus*), ribwort plantain and cow parsley also present and occasional.
- TN33** Gas pipe network and hard standing ground north of railway lines. Gas pipes rise to bridge over railway heading south.
- TN34** Dense scrub composed of bramble and willows running adjacent and directly north of the gas pipe network. Unable to view beyond scrub.
- TN37** Large field of grazed, improved grassland. Cattle present in field. Species diversity is low with perennial rye-grass (*Lolium perenne*) dominant and rough meadow-grass (*Poa trivialis*) abundant and creeping thistle and common nettle (*Urtica dioica*) frequent. The same habitat is also present in fields north and south of pipelines on the other side of Cowpen Bewley Road which are also grazed by cattle.
- TN38** Ditch of standing water running through fields on both sides of Cowpen Bewley Road. Pond and ditch edges densely vegetated by a pond-sedge (*Carex riparia/acutiformis*). Ditch expands into pond on east side of road.
- TN39** Small patch of marsh grassland adjacent to ditch and gas pipelines in field west of Cowpen Bewley Road. Area dominated by soft rush (*Juncus effusus*). There is also a small pond present in this field adjacent to the pipelines.

TN40 Improved grassland north of gas pipelines. Dominated by perennial rye-grass with creeping thistle and stinging nettle frequent. Sward short but not currently grazed.

TN41 Dense bramble scrub running along both sides of railway track.

TN42 Electricity substation. There is an area of scattered scrub mixed with neutral semi-improved grassland to the west of the substation. This mosaic of habitats looks suitable for reptiles.

TN51 Large field of unmown improved grassland. This field has a very low species diversity and a tall sward with perennial rye-grass dominant.

TN56 Fenced-off section of species-poor grassland with low, coppiced stems of an unknown shrub/tree. Cock's-foot abundant in field and margins abundant with field horsetail (*Equisetum arvense*).

TN57 Roundabout grassland sown with an ornamental wildflower mix. Cornflower (*Centaurea cyanus*), oxeye daisy (*Leucanthemum vulgare*), common poppy (*Papaver rhoeas*) and corn marigold (*Glebionis segetum*) present and in flower.

TN58 Clearing in broad-leaved woodland belt for gas pipe system network with hard ground underneath.

TN60 Patches of common reed and scattered scrub in association with grassland.

TN61 Screen of broad-leaved woodland adjacent to road. Trees are approximately 10m tall and dominated by sycamore (*Acer pseudoplatanus*) with frequent hybrid poplar (*Populus* sp.) and occasional hornbeam (*Carpinus betulus*) and elder.

TN62 Roadside verge that is likely managed but not mown recently. Red fescue and annual meadow grass (*Poa annua*) dominant with frequent common bird's-foot-trefoil, daisy (*Bellis perennis*), dandelion, cock's-foot, ribwort plantain, black medick (*Medicago lupulina*), perennial rye-grass, white clover (*Trifolium repens*) and smooth meadow grass. Also present was occasional colt's-foot, creeping cinquefoil (*Potentilla reptans*), meadow buttercup (*Ranunculus acris*), mouse-ear hawkweed, oxeye daisy, yarrow (*Achillea millefolium*), field horsetail and red clover.

TN65 Large artificial reservoir that is fenced off and managed by SembCorp Utilities. Used by waterfowl such as moorhen (*Gallinula chloropus*).

TN68 Intertidal sand beach with lagoons present at low tide. Oystercatcher (*Haematopus ostralegus*), black-headed gull (*Chroicocephalus ridibundus*), redshank (*Tringa totanus*), knot (*Calidris canutus*), ringed plover (*Charadrius hiaticula*) and common tern (*Sterna hirundo*) were observed feeding along the coast during the survey.

TN69 Small stand of Schedule 9 Japanese rose growing on beach amongst rubble.

TN70 Small section of neutral semi-improved grassland growing adjacent to beach and dune grassland (TN71). False oat-grass and cock's-foot dominant with abundant common restharrow (*Ononis repens*), frequent common ragwort, rosebay willowherb, kidney vetch, ribwort plantain and wild carrot, tansy (*Tanacetum vulgare*), viper's-bugloss (*Echium vulgare*), wormwood (*Artemisia absinthium*) and pyramidal orchid (*Anacamptis pyramidalis*) were also present and rare in this area.

TN71 Strip of tall dune grassland. The grassland is dominated by coastal grass species such as couch grass, Lyme grass and frequent marram grass. The

grassland is quite species rich with frequent colt's-foot and perennial sow-thistle, occasional common restharrow, carline thistle, and common toadflax. Also present was rare narrow-leaved ragwort (*Senecio inaequidens*), biting stonecrop, soft brome, soapwort (*Saponaria officinalis*) and pyramidal orchid. This high-quality grassland looks unmanaged and was frequented by abundant butterflies and bees during the survey. High potential for reptiles.

TN72 Mapped as calcareous grassland but is in fact a mosaic of secondary calcareous grassland (30% of area), dense and scattered bramble scrub (15%), tall ruderal (25%), short ephemeral (15%) and bare ground (15%) between the sandy shore to the north and private industrial land to the south. Common bird's-foot trefoil, common ragwort, common restharrow, soft brome and annual meadow-grass all abundant in the grassland. Also present was frequent carline thistle (*Carlina vulgaris*), mouse-ear hawkweed, hare's-foot clover (*Trifolium arvense*), wild strawberry (*Fragaria vesca*), buck's-horn plantain, common centaury (*Centaurea erythraea*) and occasional yellow-wort (*Blackstonia perfoliata*), lesser hawkbit (*Leontodon saxatilis*), common vetch (*Vicia sativa*) and red clover. The grassland had a short open sward with few grass species present. The areas of tall ruderal were dominated by rosebay willowherb and creeping thistle and the ephemeral areas likewise by biting stonecrop. The entire area is characterised by uneven ground with spoil mounds and ridges, hollows and bunds. The mounds and ridges were predominantly covered by couch and marram grass (*Ammophila arenaria*). The area as a whole is highly diverse in terms of both botanical richness and topographical variation, the key habitat feature being a diverse grassland that shows virtually no obvious signs of improvement. During the survey a significant amount of invertebrate activity was observed, including dragonflies, grasshoppers, crickets, butterflies and bees. There is a very high potential for reptiles in this area due to the mosaic nature of the habitats and the presence of scrub, bare ground and bits of scrap metal and wood. The nesting bird potential is also high. Target notes 73 – 78 describe the key individual elements of the habitat mosaic.

TN73 Large stand of Japanese rose.

TN74 an example of the tall ruderal habitat that occurs within the wider habitat mosaic. Dominated by rosebay willowherb and with abundant common ragwort and frequent spear thistle (*Cirsium vulgare*).

TN75 Large patch of dense bramble scrub growing next to earth mound.

TN76 an example of the short ephemeral habitat that occurs within the wider mosaic. Biting stonecrop dominant and wild strawberry abundant.

TN77 Large pond dominated by common reed. There are a few scrubby islands in the pond. The pond edge is dominated by ribbed melilot (*Melilotus latissimus*).

TN78 An open area of the pond (TN77) that is clear of reeds. This area had multiple dragonflies.

Area of unvegetated bare ground previously used to store coal stockpiles for the former Redcar Steel Works.

TN93 Private land beyond railway line made up of large spoil heaps which are being colonised by neutral semi-improved grassland, short ephemeral and scattered scrub. The area looks unmanaged and the industrial buildings in the area look abandoned. The spoil heaps have early coloniser plant species with large patches of bare

ground. The entire area has good potential for reptiles due to the mosaic of habitats and railway lines.

Annex B Photographs

The photographs below are those linked to habitats located within and immediately adjacent to the Proposed Development Site, as shown on Figure 12C.1. The original baseline habitat surveys covered a much larger area of land and consequently some of the photographs taken were of land located at distance from the Proposed Development Site and are therefore no longer relevant. To assist review of relevant information, these irrelevant photographs have been removed but no attempt has been made to re-sequence the retained photographs.

For purposes the clarity, the photographs that are no longer relevant and which have been removed are: 32-34, 46, 48, 57-61.



Photograph 1. Open semi-improved grassland habitat over thin soils in PCC



Photograph 2. View of grassland from southern edge of PCC



Photograph 3. Northern area of PCC



Photograph 4. View north from PCC towards Coatham Sands



Photograph 5. Pond 3, located near PCC



Photograph 6. View over ephemeral / short perennial, rough grassland and scattered scrub, looking towards Steel House



Photograph 7. View from over rough grassland with some ephemeral and road embankment, in proximity to PCC



Photograph 8. Rough grassland in vicinity of PCC



Photograph 9. The Fleet



Photograph 10. The Fleet River with a stand of floating pennywort



Photograph 11. View over The Fleet towards the PCC Site



Photograph 12. Pond 4 at Steel House



Photograph 13. Watercourse leaving Pond 4 and feeding into The Fleet



Photograph 14. View east over Coatham Sands from Gare Road



Photograph 15. Looking along Gare Road over Coatham Sands



Photograph 16. View over Coatham Sands southeast towards PCC



Photograph 17. Rough grassland around Saltholme Substation



Photograph 18. Inundation area in pasture at Saltholme Substation