

Habitats Regulations Assessment



Marine
Management
Organisation

Table 1: Proposed plan or project details

Title of project	Withernsea Long Sea Outfall Replacement
Case reference	MLA/2019/00066
Applicant name	Yorkshire Water Services Ltd, Livingstone House, Chadwick Street, Leeds LS10 1LJ
Type of licensable activity/ies	The works are in accordance with Section 66(7) of the Marine and Coastal Access Act 2009: <i>To construct, alter or improve any works within the UK marine licensing area either—</i> <i>(a) in or over the sea, or</i> <i>(b) on or under the sea bed.</i>
Location of works	Withernsea Long reach Sea Outfall, Withernsea, East Riding of Yorkshire (See Annex 1)
Description of proposed project	Construction of a new long reach sea outfall (LSO) on the Holderness Coast in the East Riding of Yorkshire, to discharge treated wastewater (in compliance with the EA discharge consent) from Withernsea and its surrounding catchment. Works required for the construction of the new LSO will be undertaken during the summer months (1st April to 30th September) due to the requirement to avoid poor weather conditions and are expected to take approximately five months. It is intended that the decommissioning of the existing LSO would also be undertaken within this period, however, due to the requirement for this to occur once the new LSO is fully commissioned, this may occur in winter months.

The LSO will be installed in a single length, using the float and flood method. These aspects will be installed by a dive team. The intertidal section of the LSO is proposed to be constructed using trenchless techniques, by creating a hole for the LSO pipe to be installed through with either a Tunnel Boring Machine (TBM) for micro-tunnelling or a Drilling Rig for HDD construction techniques. The exact method will be confirmed once a contractor has been procured. It is not possible to refine this further until that point, but the worst-case scenario has been assessed.

The tunnel or bore will cover a length of approximately 100m of the foreshore, gradually reducing in depth, until it is approximately 4m beneath the surface, in the mid- to lower foreshore zone. At this point, a temporary cofferdam and reception pit may be required to create a reception pit to allow recovery of the TBM or drill pipe on the foreshore and to connect to the marine section of the LSO.

Programme (activity and approximate duration):

Subtidal works

Offshore trench dredging – 5 weeks

Pipe connection (3 sections) and transportation to site – 1 week

Survey of trench and maintenance where required – 5 days

Pipe installation – 2 days

Diffuser installation – 2 days

Backfill offshore trench – 5 weeks

Diffuser dome installation – 1 day

Scour protection installation – 5 days

Marker buoy installation – 1 day

Decommissioning of existing LSO (removal of diffuser dome, diffuser, scour protection and cap end of LSO) – 2 weeks

The method of dredging preferred by the applicant is backhoe dredging (a backhoe is a hydraulic excavator with a single digging bucket positioned on the end of a two-part articulated arm). However, if the nature of the seabed requires it (i.e. consolidated clays), the applicant proposes the use of a cutter suction dredger. A cutter suction

	<p>dredger is a stationary dredger, equipped with a rotating cutter head. Clay would be extracted by means of dredge pumps, broken into smaller fragments, and discharged either side of the trench.</p> <p>Intertidal works</p> <p>Construct access to beach – 4 weeks</p> <p>Construct cofferdam and reception pit – 5 weeks</p> <p>Tunnel from 100-year erosion line to cofferdam on foreshore – 8 weeks</p> <p>Remove TBM, cofferdam and access – 3 weeks</p> <p>Decommissioning of existing LSO (removal of rock bags and removal of exposed pipeline and chamber on foreshore) – 2 weeks</p>
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Table 2: Need for a Habitats Regulations Assessment (HRA)

2.1 - Is the proposal directly connected with, or necessary to the management of a N2K site for the purpose of conserving the habitats or species for which the site is designated?	No, this project is not necessary for the management of the sites or features. There are potential impacts on the feature from the project.
2.2 - Is it necessary to carry out a HRA?	Yes
For the reasons given in section 2.1 and 2.2, this proposal is considered to require HRA.	

Table 3: Details of N2K site identified

Name of N2K site: Greater Wash Special Protection Area (SPA)
Is a licensable activity taking place within or near a N2K site? Yes (within)

Conservation advice package used: Natural England Conservation Advice for Marine Protected Areas European Site Conservation Objectives for Greater Wash SPA (UK9020329)

<http://publications.naturalengland.org.uk/publication/4597871528116224>

Date conservation advice was last accessed: 5 March 2019

Conservation objective(s): The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and 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 populations of qualifying features
- the distribution of qualifying features within the site

Qualifying features:

A001 *Gavia stellata*; Red-throated diver (Non-breeding)

A065 *Melanitta nigra*; Common scoter (Non-breeding)

A177 *Hydrocoloeus minutus*; Little gull (Non-breeding)

A191 *Sterna sandvicensis*; Sandwich tern (Breeding) (35% of GB breeding population)

A193 *Sterna hirundo*; Common tern (Breeding)

A195 *Sternula albifrons*; Little tern (Breeding) (42% of GB breeding population)

Likely Significant Effect (LSE)

In formulating the LSE alone and, or in-combination assessments, Natural England's/ JNCC's Conservation Advice Package, as outlined in Table 3, have been consulted and the following principles applied:

- The Advice on Operations (AoO) category of marine activity used is Coastal Infrastructure- Outfalls/ Intake pipes (maintenance/construction/usage).
- Where available, the 'Advice on Operations' (AoO) matrix to determine pressures associated with the proposed activity that may potentially harm the qualifying habitat features and/ or species of the site has been used.
- Low risk pressures, unless there is evidence or site specific factors that increase the risk, or uncertainty on the level of pressure on a receptor, this pressure generally does not occur at a level of concern and should not require consideration as part of the assessment.
- Features deemed sensitive to pressures (medium and high risk) for both direct and indirect pathways are taken forward into the LSE assessment.
- The individual pressure/ feature interactions categorised as 'Not Sensitive' at the benchmark are not taken forward into the LSE assessment. The MMO considers that the impacts on these features as a results of the activities will be less than the benchmarks specified for these pressure/ feature interactions.
- For pressure/ feature interactions categorised as 'Not Relevant' these are not taken forward into the LSE assessment. The MMO considers that there is no interaction of concern between the pressures/ feature or the activity and the feature could not interact.
- Features deemed sensitive to pressures (medium and high risk) for both direct and indirect pathways are taken forward into the LSE assessment.
- Pressure/ feature interactions categorised as either 'Insufficient Evidence' or 'Not Assessed' have been taken forward into the LSE assessment in accordance with the precautionary principle.

Part 1 – Alone

Greater Wash SPA			
Qualifying feature or species (include sub-features and supporting habitats)	Pressure	Justification	LSE?
<p>Bird species:</p> <ul style="list-style-type: none"> Red-throated diver (<i>Gavia stellata</i>) 	<p>Visual and noise disturbance</p> <p>Barrier to species movement</p> <p>Physical disturbance</p>	<p>Construction – disturbance from construction noise and the movement of people, plant and vessel movement. Site preparation and construction work have the potential to impact Red-throated divers.</p> <p>Construction - activities within the intertidal and subtidal will include subtidal dredging, intertidal trenching, the installation of a cofferdam by push piling, and the installation of the LSO and associated infrastructure which is likely to produce levels of noise which may disturb Red –throated divers.</p> <p>Operation – based on the information supplied, the replacement LSO will represent no change from the existing LSO in either the quantity or quality of the discharge. Therefore, there is likely to be no significant effects on designated species as a result of the operational phase of the proposed LSO.</p> <p>There is potential for obstructions to species movement caused by prolonged exposure to noise and also the earthworks making the species unable to access feeding and roosting areas.</p> <p>As the works are taking place in and around an area where Red-throated diver may be present they have the potential to have a significant effect on this species.</p> <p>Likely Significant Effect concluded.</p>	Yes

<ul style="list-style-type: none"> • Little gull (<i>Hydrocoloeus minutus</i>) • Sandwich tern (<i>Sterna sandvicensis</i>) • Common tern (<i>Sterna hirundo</i>) • Little tern (<i>Sternula albifrons</i>) • Common scoter (<i>Melanitta nigra</i>) 	<p>Visual and noise disturbance</p> <p>Barrier to species movement</p> <p>Physical disturbance</p>	<p>The inshore and offshore area surrounding the works is not used by sandwich tern, common tern, little gull or common scoter in any season (Natural England and JNCC, 2016), (Evidence of density maps data is attached to Annex 2). In addition, the foraging range of little tern does not extend as far north as Withernsea as it is outside their 6km foraging range (Natural England and JNCC, 2016).</p> <p>Due to these birds species not being present in the area of works likely significant effects are ruled out and these features will not be assessed further.</p> <p>No Likely Significant Effect concluded due to lack of pathway.</p>	<p>No</p>
<p>Supporting habitat: Intertidal Mud / Sand flat</p>	<p>Abrasion/disturbance of the substrate on the surface of the seabed</p> <p>Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion</p> <p>Habitat structure changes - removal</p>	<p>The excavation of a 130m trench within the intertidal zone and dredging for the installation of the pipeline for the LSO as well as the removal of a section of pipeline during decommissioning within the intertidal zone is going to subject the seabed to direct abrasion and disturbance. The construction of a cofferdam approximately 30m long and approximately 6m wide using sheet piles is also going to result in abrasion/penetration of the substratum.</p> <p>Likely Significant Effect concluded.</p>	<p>Yes</p>

	of substratum (extraction)		
Supporting habitat: Intertidal Mud / Sand flat	Physical loss (to land or freshwater habitat)	<p>Construction – temporary loss of intertidal habitat, including the intertidal sand and muddy sand present on the foreshore at Withernsea. The reinstatement of the material after laying the pipes will enable the recovery of the intertidal zone following completion of the works.</p> <p>Operation – habitat loss due to new outfall structure and placement of scour protection. Due to the small scale of habitat affected in the context of the extent of the habitat in the Holderness Inshore MCZ, the effect is predicted to be of minor significance.</p> <p>No Likely Significant Effect concluded</p>	No
	Physical change (to another seabed/sediment type)	<p>There will be no material deposited during this project that would result in a change in sediment type. There will be sediment disturbed when the excavations takes place to create channels and also the dredging and excavation will move material to create the depths necessary for the laying down the pipes. The area of intertidal that will be temporarily smothered by the sidecast material is expected to be the same as the trenched area.</p> <p>No Likely Significant Effect concluded.</p>	No

	<p>Smothering and siltation rate changes</p>	<p>Dredging will create a small sediment plume which could lead to indirect impacts on the designated features. Prolonged changes in turbidity may influence the amount of light reaching the seabed, affecting the primary production and nutrient levels of the habitat's associated species. These changes could cause smothering and siltation.</p> <p>Due to the nature of the material within the scheme footprint (predominately gravel and clay), the proposed use of a cutter suction dredger or a backhoe dredger would not be expected to cause significant turbidity. It is therefore expected that the coarse nature of the sediment will promote rapid resettlement out of suspension, and the short-term nature of the works will be unlikely to result in a significant effect on intertidal habitats.</p> <p>No Likely Significant Effect concluded.</p>	<p>No</p>
	<p>Changes in suspended solids (water clarity)</p>	<p>The dredging and excavation (creation of depressions and channels by moving soil) will cause sediment to become suspended, reducing the water clarity. However, the material will be localised and will either settle quickly or disperse on the currents. It will be diluted by the waterbody, so it is only a short term impact that is localised to the project site. Furthermore, the Holderness Coast is naturally a very turbid region and any sediment suspended as a result of these works is not expected to be significant above background levels.</p> <p>No Likely Significant Effect concluded.</p> <p>Construction – release of sediment during excavation activities could lead to increased suspended sediment concentrations. However, sediment concentrations are not expected to be discernible above natural levels as the Holderness Coast is a naturally highly turbid region and due to the coarse nature of the sediment it will rapidly resettle.</p> <p>Operation - Water quality impacts on features of the Holderness Coast MCZ are not expected during normal operation of the outfall, as no significant contaminants are likely to be discharged from the LSO.</p> <p>No Likely Significant Effect concluded.</p>	<p>No</p>

Part 2 – In-combination.

There is another licence application for construction of new works (South Withernsea Coastal Defences MLA/2019/00069) by East Riding of Yorkshire Council within 2km of the site which could have some in combination effects. However, there are no activities and no licence has been granted for an activity at the same coordinates. Furthermore, as these works are short-lived and due to the distance between the two projects, in-combination impacts are likely to be negligible.

Likely Significant Effect Conclusion

The MMO has determined that the licensable activity will have a likely significant effect on (i) the designated/ classified features of the protected sites listed above and (ii) supporting habitat for species for which a site is classified.

Pressures such as Physical, Visual and Noise disturbance and Barrier to species movement associated with the proposed activities may result in significant effects on the feature bird species: Red-throated diver. In addition, likely significant effects resulting from pressures such as Abrasion/disturbance of the substrate, Penetration and/or disturbance of the substratum and Habitat structure changes (removal of substratum) could not be ruled out for the feature's supporting habitat i.e. Intertidal Mud / Sand flats.

Therefore, the MMO has decided to carry out an appropriate assessment because significant effects alone could not be screened out.

Name of MMO officer: Emmanuel Mulenga

Job Title: Marine Licensing Case Officer

Date: 10 April 2019

Appropriate Assessment

Below is the MMO's assessment of those aspects of the project that it was not possible to rule out the likelihood of significant effects on the designated sites

Name of designated site: Greater Wash SPA				
Qualifying feature or species (include sub-features and supporting habitats)	Pressure	Adverse Effect on Integrity on qualifying feature of species?	Justification	After mitigation, can you conclude no adverse effect on site integrity?
Bird species: Red-throated diver <i>(Gavia stellata)</i>	Visual and noise disturbance Physical disturbance Barrier to species movement	No	<p>Disturbance from construction noise and the movement of people, plant and vessels and site preparation and construction works have the potential to impact Red-throated divers. In addition, the activities within the intertidal and subtidal will include subtidal dredging, intertidal trenching, the installation of a cofferdam by push piling, and the installation of the LSO and associated infrastructure which is likely to produce levels of noise which could disturb birds.</p> <p>There is also potential for obstructions to species movement caused by prolonged exposure to noise and also the earthworks making the species unable to access feeding and roosting areas. However these effects will be temporary in nature and the area affected by these works is small in scale when compared to the wider habitat that is available.</p> <p>Whilst there is a possible pathway for impacts, a wintering bird survey undertaken by the applicant (as</p>	Yes The mitigation measures being implemented by the applicant will mean that impacts can be reduced and adverse effect can be avoided on the interest features of the site.

			<p>per Environmental Statement) found that, although red-throated diver has been recorded using intertidal areas for foraging at high tide, the proposed works will be undertaken at low tide, and therefore red-throated diver is unlikely to be utilising the intertidal area during working periods. Furthermore, the adjacent cliffs are not deemed to be suitable for roosting (NE and JNCC (2016) and Waxwings Ornithology (2018)).</p> <p>Consequently, there is no adverse effect expected on integrity of this feature. However, conditions are going to be secured in the marine licence in order to minimise any residual risks of impact on the feature e.g. no works are to be undertaken between 1st November 2018 and 31st March of any year, and that pre-work bird survey must be performed prior to licensed activity to identify if there are any Red-throated divers within the vicinity of the works.</p> <p>Due to red-throated diver sensitivity to human activities, particularly vessel movements, applicant is proposing the following mitigation measures to minimise any potential impacts on the species:</p> <ul style="list-style-type: none">• The use of a consistent vessel corridor;• Maintaining appropriate vessel transit speeds, and;• Vessel-based toolbox talks to raise awareness of the sensitivity of the species.	
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<p>Habitat: Intertidal Mud / Sand flat (see Annex 3 for location of this feature)</p>	<p>Abrasion/ disturbance of the substrate on the surface of the seabed</p> <p>Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion</p> <p>Habitat structure changes - removal of substratum (extraction)</p>	<p>No</p>	<p>The excavation of a 130m trench within the intertidal zone and dredging for the installation of the pipeline for the LSO as well as the removal of a section of pipeline during decommissioning within the intertidal zone is going to subject the seabed to direct abrasion and disturbance. The construction of a cofferdam approximately 30m long and approximately 6m wide is using sheet piles is also going to result in abrasion/penetration of the substratum.</p> <p>However, details within the Environmental Statement indicate to the MMO that the risk to habitats is low due to the following:</p> <ul style="list-style-type: none"> • While there will be a direct, but short term and temporary impact on the intertidal habitat as a result of trenching works, sidelaying and use of the cofferdam associated with the installation of the new LSO, these will not have an adverse impact on this feature or its conservation objectives as it is not considered to be present within the works area. The reinstatement of the material will enable the recovery of the intertidal zone following completion of the works. • The installation and decommissioning of the new and old structure will not result in any significant sediment changes, and the placement of scour protection will not cover a significantly larger area than the current structures. • Adherence to A Construction Environmental Management Plan (CEMP) to mitigate any impacts. 	<p>Yes</p> <p>The mitigation measures being implemented by the applicant will mean that impacts can be reduced and adverse effect can be avoided on the interest features of the site.</p>
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Appropriate Assessment Conclusion

This is a record of the appropriate assessment required by regulation 63 of The Conservation of Habitats and Species Regulations 2017 and undertaken by the Marine Management Organisation in respect of the proposed project outlined in table 1.

The LSE alone assessment concluded that the proposed project would be likely to have a significant effect on the following N2K site:

- Greater Wash Special Protected Area (SPA)

An alone appropriate assessment has been undertaken of the implications of the proposal in consideration of the applicable conservation objectives.

The MMO has concluded that the proposed project would not have an adverse effect on the integrity of the following site, either alone or in-combination with other plans of projects:

- Greater Wash Special Protected Area (SPA)

This conclusion is dependent on mitigation measures being secured by the following conditions being secured in a marine licence:

- No works are to be undertaken between 1st November 2018 and 31st March of any year
Reason: To avoid disturbance to the Red-throated divers, an interest feature of the Greater Wash, which use the area from November to March inclusively
- Pre-work bird survey must be performed prior to licensed activity to identify if there are any Red-throated divers within the vicinity of the works. If birds are found then works must not be undertaken unless approval is sought from the MMO.
Reason: To avoid disturbance to Red-throated divers

The MMO was able to conclude that the proposed project would not have an adverse effect on the integrity of the following site(s), either alone or in-combination with other plans or projects:

- Greater Wash Special Protected Area (SPA)

Natural England was consulted on the appropriate assessment and to which the MMO has had regard. The conclusions of this appropriate assessment are in accordance with the advice and recommendations of Natural England.

Name of MMO officer: Emmanuel Mulenga

Job Title: Marine Licensing Case Officer

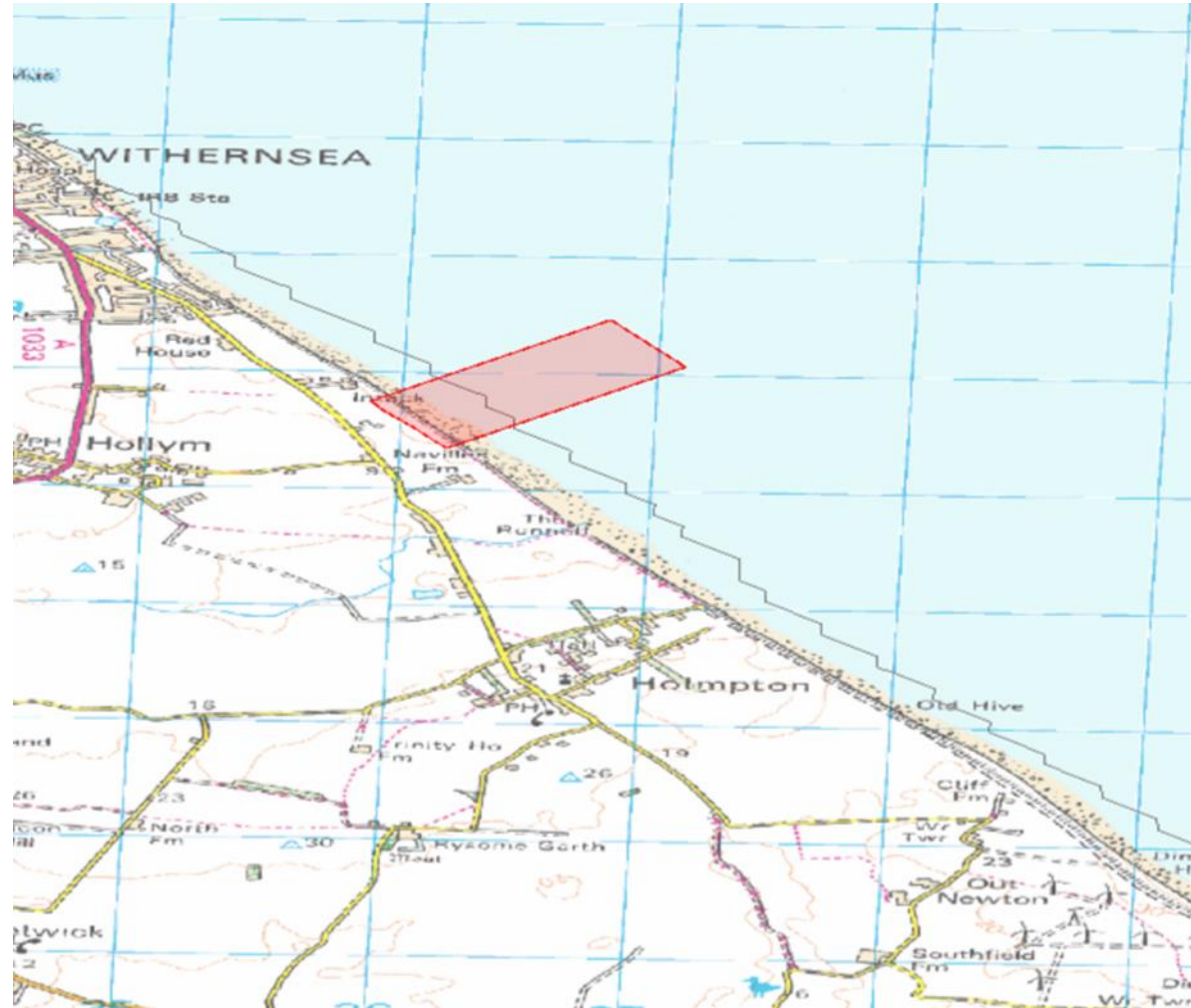
Date: 10 April 2019

References

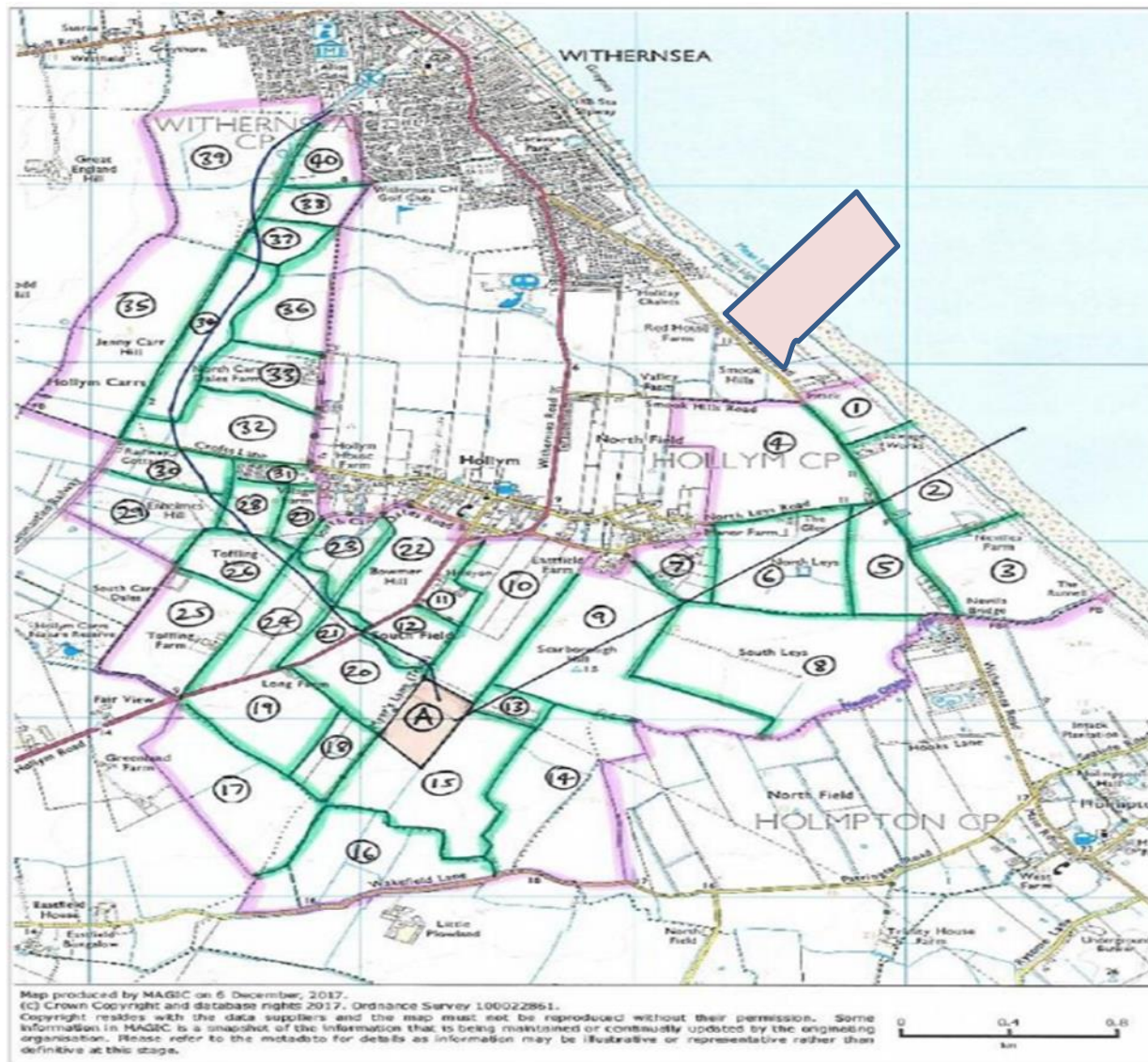
NE and JNCC (2016). Departmental Brief: Greater Wash potential Special Protection Area. Natural England and JNCC. March 2016

Waxwings Ornithology (2018). Ornithological Summary Report: Withernsea Waste Water Treatment Works (Wintering Birds). (October 2017-March 2018)

Annex 1 (Location of Withernsea Long reach Sea Outfall (Withernsea))



Annex 2 Overwintering bird (Red-throated divers) survey locations, reproduced with permission from Waxwings 2018



Annex 3 (Location of Intertidal sand and muddy sand shaded green)

