

RESPONSE TO NATURAL ENGLAND (Letter 18/08/2011)

The letter from Natural England refers to a scoping response dated 1st April 2011; this letter has not been received by the applicant. Rather a scoping letter dated 2nd February 2011 has been received and referred to as part of the ES preparation.

The information provided in the Environmental Statement provides the relevant information to allow for the screening assessment to be undertaken; this has concluded that there will be no significant environmental effects on the SPA or RAMSAR.

Notwithstanding this information has been used to provide the following clarification in relation to potential impacts on the Mersey Estuary Special Protection Area (SPA) and Ramsar Site.

Water Quality

Two culverted watercourses drain the site northwards into Ditton Brook which itself discharges into the Mersey Estuary.

Ditton Brook is monitored for chemical quality at a number of locations along its length and the sampling location closest to the site is "Warrington/L'Pool Rly To Fwl". The water quality has been consistently poor since 1994 but has shown improvement in 2008 and 2009 with a change from Grade E (poor) in 2007 to Grade D (fair) in 2008 and 2009 for dissolved oxygen. The failures have been on the basis of ammonia and dissolved oxygen levels suggesting a regular organic discharge into Ditton Brook.

Analysis of the nitrates within Ditton Brook shows that there are very high levels of nitrate, scoring between 5 (very high) and 6 (excessively high) consistently. Thus neither nitrate nor phosphate would be limiting algal and plant growth in these watercourses. It seems likely that agricultural runoff and possibly treated wastewater are responsible for these high levels. Nitrate is usually low enough in the sea to be limiting to plant growth, and thus additions of nitrate may cause excessive plant/algal growths to occur, in contrast to the norm in freshwater, where phosphate is usually the limiting factor for plant/algal growth. There is no evidence that there is additional plant growth in the Estuary around the mouths of Ditton Brook and the Estuary is not classed as 'hypertrophic', which would denote an elevated level of nutrients from either natural or anthropogenic sources.

Water quality data provided by the Environment Agency shows that the phosphate content of Ditton Brook averaged 2 mg/l over the period 2006-2009. The average is much higher than would be expected naturally, suggesting perhaps agricultural or wastewater discharges. These levels may encourage nuisance growths of algae in the freshwater regions. Grading allocated to Ditton Brook indicates that there has been no improvement in phosphate content over time. These water quality data demonstrate that the nutrient levels are high in the watercourses in the immediate vicinity of the site, and provide an indication that perhaps agriculture, discharges, industrial discharges or from wastewater treatment works are having an effect on the water quality of Ditton Brook upstream of the proposed development site.

Estuarine water quality within the Mersey is assessed under the Environment's General Quality Assessment scheme on a five yearly basis. The stretch of the Mersey from Runcorn to Weaver Sluices was assessed as Grade B (Fair) in 2005.

The Mersey Estuary has been classified as mixed macro extensive intertidal under the Water Framework Directive and assigned an ecological potential target, based on the maximum ecological status that could meet given the morphological status of the estuary. Monitoring to date has demonstrated that it is achieving moderate potential ecological status, and no improvement in ecological status is predicted by 2015.

The site is underlain by Marine and Estuarine Alluvium overlying Wilmslow Sandstone Formation of the Sherwood Sandstone Group which consists of red, fine-grained sandstones. Site investigation boreholes suggested that there was approximately a 13m depth of boulder clay above the sandstone aquifer.

The Environment Agency aquifer designation maps shows that the northern and western parts of the site are situated on a Minor Aquifer (alluvium) and the southern and south-western areas of the site are situated on a Major Aquifer (Sherwood Sandstone). The Minor Aquifer is classified as Secondary Undifferentiated suggesting the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type. The Major Aquifer is classified as a Principal Aquifer consisting of layers of sandstone which have high intergranular permeability meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

The site lies within Zone 3 (Total Catchment Zone) of a groundwater Source Protection Zone (SPZ) associated with boreholes to the north west of the site which are used for public water supply.

The Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifer has a Current Quantitative Quality and Chemical quality of poor with no improvement to 2015. The Mersey Estuary has been assigned a chemical potential target, based on the maximum chemical status that could be met given the morphological status of the estuary. Monitoring to date has demonstrated that it is achieving a fail status, with no improvement in status predicted by 2015.

Land drainage flows from the Project Tiger site have drained via a variety of ditches, drains and culverted watercourses for at least 150 years. The two culverts from the site have been proved to exist from the site right through to Ditton Brook. The condition of the majority of the length is reasonable, but recommendations are made for improvements.

The western culvert extends south beyond the WCML, following original field boundaries until it stops to the north of a group of terraced properties, Havelock Cottages and Smithy House next door. These properties are served by two septic tanks. The overflow from these septic tanks flows northwards until it meets with the western culvert, at a manhole that will be destroyed by construction of the A5300 Road Link, which has already received planning permission. The presence of septic tank effluent poses a threat of pollution on the culverted watercourse.

Dealing with this drainage is a commitment by HBC to Prologis, so that no pollution will reach the development site, either by pipe or in groundwater.

The original extent of the eastern culvert is from a tidal flap at Ditton Brook to the open head of the culvert immediately south of the WCML and existing sidings.

It is proposed that the runoff from the development is discharged to these culverts via a balancing pond. Pond A, already constructed, will take approximately 50% of the site runoff, before discharging to the Eastern Culvert. Pond B will take the remaining site discharge, and also run-off from the new Highway Access. As noted above Pond A has already been constructed, and Pond B will be constructed as part of the new development. Flow control devices (either orifice plates or hydrobrakes) will be fitted to the outlets on both ponds to ensure that the discharge does not exceed the current Greenfield run-off from the site, however the determining factor in terms of controlling run off will be the adequacy of the on-site drainage network to store storm water run-off when the outfalls (Eastern and Western culverts) to Ditton Brook are submerged during tidal/fluvial flooding.

In accordance with Environment Agency Pollution Prevention Guideline document PPG3 "Use and design of Oil Separators in Surface Water Drainage Systems", all surface water drainage from the lorry parking and manoeuvring areas will pass through a Class 1 Full Retention Separator, with alarm. Car parking areas shall drain through a Class 1 by-pass separator with alarm. The separators will comply with BS EN 858 part 1 and 2 in full.

Roof drainage shall not pass through a separator, but will discharge directly to either balancing pond A or B.

Construction Water Quality

Contaminated runoff could result from unstable exposed soils, excavated materials, stored aggregates and contaminated road surfaces. Washout facilities (washing of tools, plant and equipment), storage and use of various liquids and soluble solids, and fuel storage and handling all have the potential to result in noxious pollution of watercourses.

During construction, there is an elevated risk of potential leakages or accidental spillage of potential pollutants used on site migrating to nearby surface watercourses. For the most part it is only when large quantities of potential pollutants (such as fuels or oils) are spilled that a significant risk of acute toxicity will arise in the receiving water due to the high dilution available. This can present a risk to certain bottom-dwelling invertebrates and other aquatic species. Runoff containing elevated suspended and bedload sediment levels is a possible risk associated with the construction of the proposed development, causing increased sediment loads in the nearby surface watercourses. This may result from land clearance, movement and storage of materials to and from the site, and from other construction activities. High sediment input can have direct adverse effects on adjacent surface watercourses by increasing turbidity and reducing DO, and indirect effects caused by suspended sediments that have associated inorganic and organic compounds (such as heavy metals and pesticides). Indirect effects include reducing light penetration and reducing plant growth, smothering vegetation and bed substrates, impacts on invertebrate and fish communities, and destruction of feeding areas, refuges and breeding/ spawning areas. With good site management and appropriate mitigation, however, these effects can be prevented.

Throughout the construction of the proposed development, there will be a number of vehicles using the site carrying potentially polluting materials. There will be some associated risk of spillage, with a consequent risk of pollution. If these materials are in liquid form, or come into contact with water, there is potential for polluted runoff to enter nearby watercourses, or to percolate into the substrate and run into the river via groundwater flow.

Disposal of foul drainage and waste materials associated with the construction phase of the development has the potential to enter surface watercourses.

There is the potential for leakage or accidental spillage of potential pollutants used during construction, which may migrate to underlying groundwater. The site is underlain by boulder clay to a depth of approximately 13m before reaching the sandstone aquifer, thus should a pollution incident occur the migration of pollutants would be slow, allowing for attenuation of contaminants.

Specific mitigation measures will include spillage prevention, bunding in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations and restrictions near to drains. The Contractors will be required to prepare a Construction Environmental Management Plan (CEMP), which will include mitigation measures to protect the water environment, in accordance with the pollution prevention guidelines published by the Environment Agency, particularly PPG 5 Works In, Near or Liable to Affect Watercourses and PPG 6: Working at Construction and Demolition Sites, and other good construction practice guidance.

The good construction practice measures will assist in avoiding, reducing or minimising the potential for contaminants migrating to surface and ground waters, reduce localised flood risk, and thus protect water quality and the ecosystems they support. Any foul drainage created by the construction staff will be stored and removed from site for appropriate treatment.

To eliminate the risk of accidental spillage of potential pollutants into Ditton Brook and the Mersey Estuary best construction practices and maintenance regimes will be followed to ensure that the risk of spillage is minimised. Temporary mitigation measures to catch or prevent spillages will be installed as soon as possible during the construction process.

Operational Water Quality

As detailed above, a detailed drainage design will be prepared, and the system will be designed to incorporate all necessary mitigation measures to ensure no contaminants enter any of the surrounding watercourses. Should any runoff be discharged to the watercourses, it will be treated so that it will not contain any significant levels of hydrocarbons, silt or other polluting matter. Therefore no change to the water quality in Ditton Brook or the Mersey Estuary is predicted and no effect on the ability of the river to meet its RQO of RE 2.

Runoff from the hard-standing areas and the buildings will be collected in the surface drainage and discharged to on-site lagoons. The lagoons will be designed to settle out any dust (following interception by grit chambers to remove larger solids), with the water in the lagoons re-used for dust suppression where possible. Only when the lagoons are full during very high rainfall will water be discharged to the culverted watercourses and then into Ditton Brook (with solids having settled in the lagoon, any overflow is expected to be free from solids).

During operation, there is a risk of potential leakages or accidental spillage of potential pollutants used on site migrating to nearby surface watercourses and entering Ditton Brook. Only when large quantities of potential pollutants (e.g. fuels or oils) are spilled is there a significant risk of acute toxicity, due to the high dilution available, although localised effects may be seen around the outfall which can present a risk to certain bottom-dwelling invertebrates, and other aquatic invertebrates and fish and other receptors. With appropriate mitigation, however, the risk of this occurring can be minimised and the effect prevented.

Surface water runoff from the railway, access roads and car parking areas can contain various contaminants, including hydrocarbons, heavy metals and suspended solids.

Pollution caused by spillage or leak of potential pollutants present on site may leach into the groundwater. This will be minimised by the provision of appropriate waste management on site and the provision of suitable bunding and drainage in areas where potential pollutants (e.g. fuels or oils) are stored and used.

The migration of contaminants in runoff from roads and car parks to underlying groundwater is not considered to be a significant issue as surface water from roads and car parks will be treated to the required standard before being discharged to the watercourses.

In order to minimise the potential for leakage of the surface water or sewerage systems, routine inspection and maintenance will be undertaken. This will involve the removal of any standing water and sediment from the site to ensure that hydrocarbons or other contaminants do not bypass the drainage system and migrate off site.

It is unlikely that any significant quantities of potential pollutants will be stored on site during its operation considering its use. However, if potential pollutants are stored on site they will be stored within appropriately contained areas, and procedures will be developed for their handling, storage and transfer to minimise the potential for accidental spillage or leakage. If oil is stored on site, it will be stored in appropriately bunded areas in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. In addition, emergency response procedures will be developed for the site to be followed in the event of an accidental spill or leakage.

It is not anticipated that there is any connectivity between surface water infiltration and the underlying aquifer at the site. The potential risk to the groundwater/sub-surface flow during the operation of the development is due to pollution from potential pollutants (which may reach the surrounding surface watercourses). Best environmental practices will be followed to ensure that no polluting materials will reach the groundwater, including appropriate storage of potential pollutants.

Noise Disturbance

The closest point of the SPA to the proposed development is approximately 1.2km to the south-east. The noise assessment (contained within the ES) has considered the potential impact at the closest residential properties to the proposed development site so it is therefore considered that predicted impacts will be significantly less at the SPA than those predicted in the ES. All impacts have been assessed as minor except for noise from the new access road. Noise generated during changes of shift in the late evening and early morning periods has the potential to cause disturbance at the closest residential properties. However, the impact on birds in the SPA is not considered significant due to the attenuation in noise level that would occur over a distance of 1.2km.

Site Contamination

Contrary to the statement that the site "...had a long industrial usage and that consequently there are polluted soils, surface waters and groundwater on the site", the desk study and investigation has confirmed the site to be Greenfield with limited land use associated with agriculture. The site investigation and subsequent assessment has confirmed that the site does not contain elevated concentrations of contaminants which pose a risk to the relevant receptors

identified. With regards to the impact on the designated site, the site soil will pose a negligible impact on ecological receptors owing to the fact that no significant soil contamination has been observed, the site is over 1.2 km away and no active pathway has been identified i.e. no potential pollutant linkage. The risk posed to designated sensitive receptors has been discussed in detail in the report and relevant excerpts are included below:

Site Land Use (Paragraph 7.6.5.)

"A review of historical land use plans for the site in this report has confirmed that there has been limited potential contaminative land uses since the earliest historical plan, which have been exclusively associated with agricultural (arable) practices. The review has confirmed that there has been no further development with the bounds of the site other than ten residential dwellings situated along Halebank Road (pre-1928) and out buildings in the south associated with Linner Farm and the former agricultural land use of the site."

Site Soil (Paragraph 7.6.51)

"Analysis results for the soil samples collected during the intrusive investigation confirm that the site soil generally contains low concentrations of contaminants which are typical for the topsoil and Glacial Till encountered over most of the site. These support the initial conclusions made in the desk study report which concluded that there is a low likelihood for a contaminant source to be present on the site based on the historical land use."

Soil Leachate (P.7.6.51)

"The outcome of the GQRA confirmed that some slight leachable contaminant sources exceeded the adopted Level 1 screening criteria and thereby providing supporting evidence that plausible pollutant linkages may be active. However, the site is considered to pose a low risk to Controlled Waters as Made Ground (source of leachable contaminants) will be either removed and disposed off site or placed under hardstanding impermeable surfaces during the planned land raise (severing the potential pollutant linkages) and the low permeability clay beneath the site forms an aquitard restricting downward migration of leachable contaminants."

Risk to Ecological Receptors (Paragraphs 7.8.17 and 18) and see above

"However, despite the low sensitivity of Ditton Brook, this surface water is a tributary of the estuarine environment of the River Mersey and would be a plausible pathway for contaminants to migrate downstream to the River Mersey."

The likelihood for contaminants to leach from the site soil during the construction phase to migrate into the groundwater within the underlying superficial deposits and migrate towards Ditton Brook and subsequently the River Mersey is considered to be very low. However, in consideration of the distance to these receptors, attenuation and dilution

processes may reduce the concentrations of potential contaminants and therefore the magnitude is evaluated as very low. Therefore, the significance of impact is assessed as negligible to minor.

(Paragraph 7.9.11)

"Sensitive ecological receptors are considered to be of high value and sensitivity. However, as a result of no sensitive ecological receptors being identified within a 500 m radius of the site¹¹ and due to the contaminant status of the site soil being very low, and that no unacceptable risks associated with land contamination would remain post construction (as good environmental practice and pollution control practices would be implemented in accordance with an environmental management plan during operation), the magnitude and significance of the impact would be assessed as very low and minor adverse at worst case."

With regards to the potential risk from contaminated groundwater, the risk to Ditton Brook and the Mersey have been discussed but the groundwater addendum report which will detail this is currently being prepared.

Ecology

Relevant historical supporting documentation has been supplied in support of this application.

We provide the following information in relation to the Mersey Estuary SPA and Ramsar Site.

Interrogation of the website magic.defra.gov.uk, operated by Natural England, revealed there to be one statutory designated sites within 10km of the application site. The Mersey Estuary lies approximately 1.2km from the centre of the proposed development site and is designated as a Ramsar Site, A Special Protection Area (SPA) and a Site of Special Scientific Interest (SSSI).

The Mersey Estuary is designated as a Ramsar Site as the intertidal flats and saltmarshes provide feeding and roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.

The Estuary is further designated as a SPA due to the presence of:

- Overwintering populations of Golden Plover;
- Populations of European Importance of the following migratory species, on passage:
 - Redshank;
 - Ringed Plover.
- Overwintering populations of European Importance of the following migratory species:

- Dunlin;
 - Pintail;
 - Redshank;
 - Shelduck;
 - Teal.
- As a wetland of international importance as it regularly supports at least 20,000 waterfowl.

The Mersey Estuary is located on the Irish Sea coast of north-west England. It is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mud-flats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment.

The habitats present provide feeding and roosting sites for large populations of waterfowl.. Some parts of the northern shoreline are formed of boulder clay cliffs below which there are, in some parts, transitional areas with *Phragmites australis*.

Site Context

At its closest point, the Mersey Estuary lies approximately 1.2km distance from the centre of the proposed development site. At this point, the nearshore habitats comprise the low water, river channel and associated intertidal mud and sand flats east of this feature.

The nearest saltmarsh habitat is located approximately 1.6km to the south of the proposed development site at Hale Bank/Hales Gate Marsh.

Conservation Objectives

The integrity of the site is dependent on the following conservation objectives:

- To maintain, in favourable condition, the habitats for the populations of *Annex 1* species of European importance and for the populations of migratory and over-wintering birds with particular reference to:
 - Intertidal mudflat communities; and
 - Saltmarsh communities.
- Not to disturb or compromise the regular use of the above habitats by the >20,000 waterfowl per annum.

Direct Impacts to Habitats and Species

The ecological assessment has utilised historical information collected from the site as well as updated field surveys undertaken in 2010 and 2011. The main habitats on-site are reseeded arable land now comprising species-poor grassland dominated by agricultural grass species. Other habitats present include broadleaved plantation woodlands, hedgerows and seeded wildflower grassland planted and sown during the landscape works undertaken in 2008 to construct the bunds and Hale Bank Park. Other habitats comprise dense scrub, species-poor semi-natural grassland, tall ruderals and hedgerows. A number of open water bodies are present on the site including a fishing pond, a newly created storage/balancing lagoon and three small areas of standing water that have developed in shallow depressions within the open grassland

Consultation data received from RECORD did not indicate the presence of any species for which the SPA/Ramsar site has been designated from within 500m of the site.

None of the species for which the SPA/Ramsar site has been designated were recorded from the site.

Although the bird surveys were undertaken outside of the passage and wintering periods, the habitats are considered unsuitable for golden plover or migratory wildfowl i.e. intertidal mudflats or salt marshes are not present on the site.

As there is no interaction between the proposed development site and species/features associated with the SPA/Ramsar site, in terms of bird movements etc, and no such species/features are present, the construction and operation of the proposed development is considered to be of negligible impact on the designated site.

Henry, Glen - Environment & Economy

From: Ben Holmes [ben@oxalisplanning.co.uk]
Sent: 25 August 2011 10:25
To: Henry, Glen - Environment & Economy
Subject: FW: HBC Field potential impacts on Mersey Estuary
Attachments: RESPONSE TO NATURAL ENGLAND 24-08-11.doc

Glen, response to Natural England as discussed.

Ben

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From: Whitfield, Andrew [mailto:Andrew.Whitfield@amec.com]
Sent: 25 August 2011 09:18
To: Ben Holmes
Subject: FW: HBC Field potential impacts on Mersey Estuary

FYI – email sent yesterday.

Andy

From: Whitfield, Andrew
Sent: 24 August 2011 11:13
To: 'claire.storey@naturalengland.org.uk'
Cc: 'ryan.bavin@naturalengland.org.uk'
Subject: HBC Field potential impacts on Mersey Estuary

Claire/Ryan

Further to recent discussion with Ryan, I enclose a response to your letter of 18/8/11. This document collates information relevant to potential impacts on the Mersey Estuary SPA/Ramsar site.

I would be grateful if you could review the document and either give me a call or respond via email.

Many thanks

Andy Whitfield

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25/08/2011

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