FOREWIND

DOGGER BANK
TEESSIDE A & B

March
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Environmental Statement Chapter 24 Appendix A Land Quality Phase 1 Desk Study

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Cover photograph: Indicative image showing installation of meteorological mast within the Dogger Bank Zone

Land Quality Phase I Desk Study

Dogger Bank Teesside A & B

Forewind

15 January 2014
Final Report v2
9W7904

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SUMMARY

Royal HaskoningDHV have been commissioned by Forewind to conduct a Land Quality Assessment (Preliminary Risk Assessment) in connection with the onshore components of the Dogger Bank Teesside A & B Grid connection.

The onshore works are described as all infrastructure required landward of the Mean High Water Mark (MHWM) to distribute the electricity generated by the offshore wind turbines to the electricity transmission system.

A preliminary risk assessment has been undertaken to identify whether or not there are potentially unacceptable risks to human health or the environment posed to or by onshore development works, which warrant further investigation.

The majority of the project boundary (shown on **Figure 2.1**) is underlain by superficial deposits comprising Till. The nature and thickness of the clay represents a significant barrier for the vertical and / or horizontal migration of contaminants. Some small areas in the west of the project area (west of Lackenby) are underlain by outcrops of Glaciofluvial Deposits and Glaciolacustrine Deposits. It is likely that this material is highly permeable and will permit the transmission of contaminants. The entire extent of the study area is underlain by the Redcar Mudstone Formation.

A number of historical potentially contaminative land uses have been identified within the project boundary. Many industrial land uses can store and use various potentially contaminative materials and products. GIS data from Envirocheck (November 2012) on manufacturing, industrial and public land uses has identified a number of sites with potential activities that may represent a significant source of contamination.

Contamination sources can include neighbouring land uses and historical activities both on and off the site. Within this assessment a number of features have been identified to represent a potential risk and therefore are included within the conceptual site model.

Contamination is described within Part2A of The Environment Act 1990 as a substance or substances that can be introduced to the land where they would not normally be. These substances are often associated with industrial processes or activities that have now ceased, but where remnant waste products or residues may present a hazard to the general environment.

In accordance with the above approach, a conceptual model of the site has been produced and a risk assessment undertaken to assess the potential for source-pathway-receptor linkages to occur at the site as a result of the proposed onshore infrastructure.

Based on the data assessment presented in this report a number of potential pollutant linkages may be present in relation to the proposed onshore infrastructure. These potential pollutant linkages vary in risk and require varying degrees of further work.

It is considered that the sources classified as Very Low Risk require no further work.

All of the sources classified as Low risk should be investigated further if located within the final alignment of the cable route, the converter station site footprint or within a distance that contaminants could migrate from. It is recommended that this is done by

contacting the site operators to understand if there has been any record of breakdown or contamination event. Further information that would be useful in understanding the risks include maintenance records, installation records and where relevant decommissioning dates. It is likely that if these facilities have been well maintained and pollution events have been recorded, that these sources will not require any further consideration.

All of the sources with risk ratings of Moderate/Low and Moderate will require further investigation if located within the final alignment of the cable route, the converter station site footprint or within an influencing distance. Considering the industrial nature and likely licenced activities undertaken at these sites, it is likely that there are records detailing the more specific land uses. Records may also exist for previous ground investigation and risk assessment that may help in understanding the risks form these land uses. If such information is not available, further site investigation may be required.

Any excavated material should be handled, managed and disposed of in accordance with current waste management guidance and legislation and detailed in a Site Waste Management Plan or Materials Management Plan.

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1 INTRODUCTION

Royal HaskoningDHV have been commissioned by Forewind to conduct a Land Quality Assessment (Preliminary Risk Assessment) in connection with the onshore infrastructure of Dogger Bank Teesside A & B.

Key Objectives

The primary objective of this Preliminary Risk Assessment (PRA) is to undertake an assessment of the potential risks to human health and controlled waters[1].

This document has been prepared for the sole benefit of Forewind Ltd. Limitations are described in **Appendix E**.

Report Format

This report presents the findings of the PRA. The report comprises the following principal sections:

- **Section 2 –** Development Description;
- **Section 3** – Site Location, Land Use and Environmental Setting;
- **Section 4** – Preliminary Conceptual Site Model and Risk Evaluation; and
- **Section 5** – Conclusions and Recommendations.

Methodology

The PRA has been completed in general accordance with the recommended approach in Contaminated Land Report 11 (DEFRA, Environment Agency (2004) Model procedures for the Management of Contaminated Land, R & D Publication CLR11) and CIRIA 552 (2001), Contaminated Land Risk Assessment, A Guide to Good Practice.

The PRA is a desk based study and forms the initial step in the assessment of potentially contaminated land and precedes, if required, subsequent intrusive investigation, risk assessment, options appraisal, remedial design, implementation planning and completion reporting.

The main purpose of the PRA is to identify whether or not there are potentially unacceptable risks to human health or the environment posed by the site and the proposed onshore development works, which warrant further investigation. The following desk-based information sources have been reviewed in undertaking the PRA:

- GIS Envirocheck Data comprising historical maps, environmental sensitivity data and permitting records;
- British Geological Survey (BGS) Online Geology Viewer and BGS 1:50,000 Guisborough solid and drift map 1998;

[1] The Preliminary Risk Assessment (PRA) has been completed in accordance with the recommended approach in Contaminated Land Report 11, (*DEFRA, Environment Agency (2004). Model procedures for the Management of Contaminated Land, R & D Publication CLR11).*

- Consultation with Tees Valley RIGS Group regarding Regionally Important Geological and Geomorphological Sites (RIGS);
- Redcar and Cleveland Borough Council Draft Local Plan Policies Map (September 2013);
- Historical borehole logs for the surrounding area from the BGS historical borehole database;
- Environment Agency website 'What's in my Backyard'[2]; and
- Multi Agency Geographic Information for the Countryside (MAGIC)[3].

For the purpose of this assessment the following terminology has been used to describe the development and study areas under consideration:

- Project Boundary – refers to the land within the planning boundary within which permanent and temporary works may be undertaken. The project boundary area is shown on all drawings.
- Study area – this refers to the land within the project boundary and a 500m buffer around the project boundary within which data searches have been undertaken.

[2] http://www.environment-agency.gov.uk/homeandleisure/37793.aspx
[3] http://magic.defra.gov.uk/

2 DEVELOPMENT DESCRIPTION

Dogger Bank Teesside is Forewind's second stage of development of the Dogger Bank Zone. Teesside Projects A & B will each have a maximum installed capacity of 1.2GW.

Dogger Bank Teesside A & B will connect into an existing National Grid substation at Lackenby, near Redcar and the cables are anticipated to come onshore between Redcar and Marske-by-the-Sea. Dogger Bank Teesside A is located within the eastern part of Tranche B, with a size of 560km^2 and with closest point from shore at 196km and Dogger Bank Teesside B which straddles Tranche A and Tranche B, with the majority of the project located in Tranche B. It is 593km^2 and is 165km from shore at its closest point.

The onshore infrastructure for Dogger Bank Teesside A & B will comprise the following:

- A preferred landfall location between Redcar and Marske-by-the-Sea;
- Two buried High Voltage Direct Current (HVDC) cable systems (one per project);
- Two converter station site and associated development (converting High Voltage Direct Current (HVDC) to High Voltage Alternating Current (HVAC); and
- Two buried HVAC cable systems (one per project) connecting to existing National Grid substation at Lackenby.

The onshore Project Boundary is shown on **Figure 2.1**. This encompasses the cable corridors, convertor stations and construction compounds required to construct the onshore components.

2.1 Onshore Transition Pit

An onshore transition pit will be required close to the shoreline. This allows each offshore export cable to be jointed to an onshore cable which is then connected to the onshore converter station site (the onshore cable route).

The transition pit size and design will be determined through detailed design. The pit will be located below ground level and will need to be accessible throughout the life time of the project and as such the immediate area around it is likely to have restricted access. It is assumed that the maximum depth of excavation for the transition pit is 2m below ground level.

2.2 Cable System

2.2.1 Cable Components

Dogger Bank Teesside A & B comprises two buried HVDC cable systems, one for each project. In addition, there are two HVAC cable systems, one for each project. A cable system is the installed infrastructure in a single trench, including cables, safety markers, fibre optics, jointing pits, ducts and any other material other than natural vegetation surrounding the underground cables. The chosen cable route is likely to be approximately 9km long.

Cables will be buried in one trench which is anticipated to be around 1.5m wide and approximately 1.5m deep, with an indicative working width during construction of up to 39m wide.

During the construction phase in areas where trenching is proposed the material for backfilling around the cable will require demonstration that it is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.

2.2.2 Cable Installation Techniques

The two main cable construction techniques proposed are trenching and horizontal direction drill (HDD). HDD will be used to cross significant obstacles such as rivers, streams and major roads where trenching cannot be achieved. During HDD tunnels are bored under the structure and the cables pulled through the underlying geology.

2.3 Onshore Converter Station Site

Forewind has accepted a grid connection offer made by National Grid to connect 2 GW of the Dogger Bank Teesside project into the existing Lackenby substation, to the south west of the Wilton Complex (Chemical Works). Two new converter station site will be constructed which represent the main permanent, visible, aspect of the onshore project infrastructure.

The design and layout of the new converter station site has been progressed in parallel with the development process. The final locations have taken into consideration feasibility studies on land availability, environmental and technical constraints; and landowner negotiations. The locations of the onshore converter station site are shown on **Figure 2.1**.

The converter station site is required to be accessed by operational and maintenance personnel on an intermittent basis and will incorporate a cover of hard standing.

3 LAND QUALITY AND ENVIRONMENTAL SENSITIVITY

This section summarises the environmental setting for the project to the support the development of the conceptual site model (CSM) identifying potential sources, pathways and receptors of contamination. The Geological Online Viewer provided by the British Geological Survey[4] has been reviewed and the findings summarised below.

3.1 Geology

The superficial deposits overlay the solid geology which is described below. The units identified are shown on **Figure 3.1** and **Figure 3.2** and described below.

3.1.1 Superficial Geology

The majority of the project boundary is underlain by superficial deposits comprising Till as shown on Figure 3.1 Superficial Geology. The Till is described as a group of sediments laid down by the direct action of glacial ice with variable lithology, usually sandy, silty clay with pebbles, but can contain gravel-rich, or laminated sand layers; and of varied colour and consistency. Borehole records[5] in the area indicate the Till to be approximately 10m in thickness and comprising predominantly of clay. The clayey nature and thickness of the clay represents a significant barrier for the vertical migration of contaminants. Borehole locations are shown on **Figure 3.1**.

An outcrop of Glaciofluvial Deposits is shown underlying the project boundary around Yearby and Lackenby. Glaciofluvial Deposits are described as sand gravel formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions. These are likely to be permeable and may permit the vertical migration of contaminants.

The north western corner of the project boundary in the vicinity of Grangetown is underlain by Glaciolacustrine Deposits. Glaciolacustrine Deposits are described as clay and silt. Again the Superficial Deposits formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions. These are likely to be permeable and unlikely to retard the vertical migration of contaminants.

Outside of the project boundary other superficial deposits are present. These are described below;

Tidal Flat Deposits

Tidal Flat Deposits are shown to the north of the project boundary. These are described as consolidated soft silty clay, with layers of sand, gravel and peat. These are likely to be permeable in nature and have the capacity to hold groundwater and transmit contaminants. The general permeability is dependent on the local composition.

[4] http://mapapps.bgs.ac.uk/geologyofbritain/home.html

[5] http://mapapps.bgs.ac.uk/boreholescans/boreholescans.html. Copies of a selection of representative Borehole Record sheets are included in **Appendix B** – Borehole Record Sheets and the locations shown on **Figure 3.1**

Blown Sand
Outcrops of Blown Sand deposits are shown to be present adjacent to the eastern extent of the project boundary along the coastline. Blown Sand deposits are described as pale brown, fine-grained and uncemented. It is likely that this material is highly permeable and will permit the transmission of contaminants.

3.1.2 Solid Geology

The entire extent of the project boundary is underlain by the Redcar Mudstone Formation as shown on **Figure 3.2** Bedrock Geology. The Redcar Mudstone Formation is described as predominantly grey, well bedded, laminated, marine calcareous mudstone and silty mudstone over 200m in thickness.

3.1.3 Geological Sites of Special Scientific Interest

A desk based review identified one (RIGS) known as Red Howles and one geological Site of Special Scientific Interest (SSSI), known as Redcar Rocks, located 150m and 2km to the north of the project boundary, respectively. The location of the designated sites is shown on **Figure 3.6**.

Red Howles is located on the foreshore between the high and low mean water mark, north of the landfall, at National Grid Reference NZ6266-2374 and NZ6273-2377 to NZ6277-2374. This site was officially designated in December 2012 and is shown on the Redcar and Cleveland Borough Council Draft Local Plan Policies Map, September 2013. A meeting was held with the Tees Valley RIGS Group on the 26th November 2013 to discuss the sensitivity of this area.

Red Howles forms part of the Redcar Rocks succession and comprises calcareous shales from the oldest part of the Jurassic era. The site is designated as regionally important for its index fossils, its depiction of the environment in which the rocks were formed and evidence of anticlinal folding.

Redcar Rocks, 2km to the north, are hailed as one of the finest exposures of Lower Lias rocks (within the Lower Jurassic era) in north east England comprising abundant bivalve and ammonite fossils.

3.2 Hydrogeology

The majority of the project boundary is underlain by strata designated as being an unproductive aquifer (refer to **Table 3.1**). However the Glaciofluvial Deposits underlying the project boundary around Yearby and Lackenby and the Glaciolacustrine deposits underlying the project boundary in around Grangetown are considered to be a Secondary A aquifers.

Table 3.1 Summary of Underlying Geology and Aquifer Properties

	Stratum	Aquifer properties	Groundwater vulnerability
Drift	Till	Defined as unproductive strata. Deposits are low permeability, with negligible significance for water supply or base flow to rivers.	None
	Glaciofluvial and Glaciolacustrine deposits	Defined by the Environment Agency as Secondary A aquifer. Deposits with permeable layers with the capability to support water supplies at a local rather than strategic scale and provide an important source of base flow to rivers.	Minor Aquifer Low
Solid	Redcar Mudstone Formation	Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers	N/A

The groundwater sensitivity within the project boundary is dictated by the presence of the Glacial Till Deposits described above which are not expected to hold considerable quantities of water and are likely, where clay is dominant, to significantly retard the transmission of mobile contaminants. Evidence from borehole records indicates that the Till is of a clayey composition and of considerable thickness. Where the project boundary is underlain by Till, groundwater is not considered to be a sensitive receptor.

Where the Glacial Till is replaced by the Glaciofluvial and lacustrine deposits (ie, Till is not present), in the west of the project boundary around Yearby, Lackenby and Grangetown, as shown on **Figure 3.3** Groundwater Vulnerability, the groundwater is considered to be a sensitive receptor.

There are no Source Protection Zones (SPZ) within the study area.

3.3 Hydrology

A single watercourse within the study area appears in the Local River Basin Management Plan (Roger Dikes). This is considered to be a moderately sensitive receptor.

The following surface water features have also been identified within the study area.

- Long Beck;
- Kettle Beck; and
- Surface Water Drains

All of these features are relatively small and likely to have very localised catchments. There are sensitive to only very localised sources of contamination. As such the sensitivity of these surface water features is considered to be low.

The site is not within an area subject to flooding from rivers or sea without defences with the exception of land on the seaward side of the flood defences that borders the beach at the landfall.

3.4 Current Industrial Land Use

Many industrial land uses can store and use various potentially contaminative materials and products. GIS data from Envirocheck on manufacturing, industrial and public land uses has been screened to identify potential activities that may represent a significant source of contamination. The data has been screened to identify those land uses that are significant geographically and are likely to form a potentially significant source of contamination. A full list of the manufacturing, public and commercial activities identified in the GIS is provided in Table 3.2.1 in **Appendix C**.

To screen the data for its geographic significance, the following assumptions have been made:

- Where industrial and commercial land uses are situated within the project boundary, these are considered significant in the context of the CSM and have been discussed further; and
- Where potential industrial land uses are situated either within the project boundary or within the study area and are within an area of Glaciofluvial sand and gravel or Glaciolacustrine sand, clay or silt, these are considered significant in the context of the conceptual site model and have been discussed further.

Following the above screening exercise the remaining land uses have been further screened based upon; the likely activities undertaken and the potential for these activities to represent a significant source of contamination.

Following both the above screening exercises, none of the remaining industrial and commercial land uses are considered further in the conceptual site model.

3.5 Historical Potential Sources of Contamination

A GIS database of Historical Data provided by Envirocheck has been used to identify potential historical sources of contamination. This data has been corroborated with 1:10,000 scale Ordnance Survey Historical Mapping. A number of historical potentially contaminative land uses have been identified within the project boundary. A table including all of the Historical Potential Sources identified within the Envirocheck GIS database is included in Table 3.2.3 in **Appendix C**.

The data has been screened to identify those historical land uses that are significant geographically and for their likely significance as sources of contamination.

To screen the data for its geographic significance, the following assumptions have been made:

- Where industrial and commercial land uses are situated within the project boundary, these are considered significant in the context of the CSM and have been discussed further; and
- Where potential industrial land uses are situated either within the project boundary or within study area and are within an area of Glaciofluvial sand and gravel or Glaciolacustrine sand, clay or silt, these are considered significant in the context of the CSM and have been discussed further.

Following the above screening exercise the remaining land uses have been further screened based upon;

- The likely activities undertaken and the potential for these activities to represent a significant source of contamination; and
- The age of the source and subsequent likely standard of working practices and context of environmental legislation is considered.

Following both the above screening exercises, the remaining industrial and commercial land uses have been listed in **Table 3.2** and are considered further in the CSM. These potential sources are shown on **Figure 3.4**.

Table 3.2 Historic Potentially Contaminative Sites

GIS Source ID	Historical Land Use	Date first shown on maps	Underlying Superficial Geology	Likely Contaminants	Potential Hazard
Within Project boundary					
006	Electrical Sub Station	1983	Till	Hydrocarbons, PCB's	Low
057	Mineral railway	1895	Glaciofluvial deposits, Devensian - sand and gravel	Hydrocarbons, PAHs, PCB's, Metals	Low
085	Railways	1857	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
086	Railways	1895	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
087	Railways	1920	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
088	Railways	1938	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
089	Railways	1953	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
090	Railways	1994	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
091	Railways	1938	Till	Hydrocarbons, PAHs,	Low

GIS Source ID	Historical Land Use	Date first shown on maps	Underlying Superficial Geology	Likely Contaminants	Potential Hazard
				PCB's, Metals	
092	Railways	1953	Till	Hydrocarbons, PAHs, PCB's, Metals	Low
093	Electricity production & distribution [inc large transformers]	1992	Glaciolacustrine deposits, Devensian - clay and silt	Hydrocarbons, PCB's	Low to Medium
100	Factory or works - use not specified	1992	Glaciolacustrine deposits, Devensian - clay and silt	Hydrocarbons, PAHs, Metals, Asbestos	Medium to High
101	Factory or works - use not specified	1992	Till	Hydrocarbons, PAHs, Metals, Asbestos	Medium
102	Factory or works - use not specified	1992	Till	Hydrocarbons, PAHs, Metals, Asbestos	Medium
113	Historic landfill (CLE141)	1984	Till	Various	Medium*
114	Historic landfill (CLE165)	19/4/86-15/4/88	Till	Various	Medium*
115	Historic landfill (CLE ST16)	1984	Till	Various	Medium*
117, 118	Licensed landfill (Wilton Perimeter Mounds)	1954	Till	Various	Medium
Outside the Project boundary					
001	Quarrying of sand & clay, operation of sand & gravel pits	1895	Glaciofluvial deposits, Devensian - sand and gravel	Hydrocarbons, Other	Medium
111	Historic landfill	Unknown	Glaciolacustrine deposits, Devensian - clay and silt	Various	Medium
119, 120	Historic landfill (Wilton Perimeter Mounds)	1954	Glaciolacustrine deposits, Devensian - clay and silt	Various	Medium

*Reduced potential hazard based on information provided by Local Authority detailed in Section 3.2.5

3.6 Landfill Sites

GIS data from Envirocheck and review of the Environment Agency website[6] identify three historic landfills within the project boundary. Consultation in October 2012 with Redcar & Cleveland Borough Council provided detailed information on these and is provided below. The location of the landfills within the project boundary are shown on **Figure 3.6**.

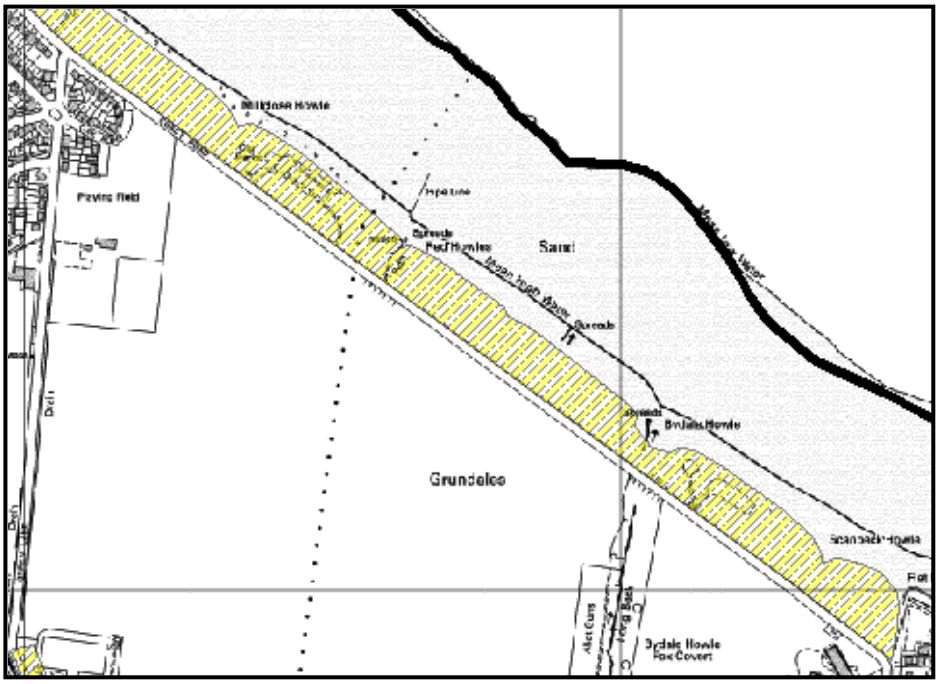
[6] http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=357683.0&y=355134.0&scale=1&layerGroups=default&ep=map&textonly=off&lang=_e&topic=waste

CLE 141, Coastal Protection Works. The Stray, Redcar, Cleveland, NZ 613 162

- Operator - Langbaurgh Borough Council Engineer; and
- Permitted Wastes - Wastes from the construction industry

This licence was issued to Langbaurgh Borough Council Engineers in April 1984 and permitted the deposit of waste from the construction industry. The licence was returned to the Agency in December 1990. The Environment Agency has no gas monitoring results for this site. The landfill site CLE141 is shown on **Plate 1** below.

Plate 1 CLE 141, Coastal Protection Works

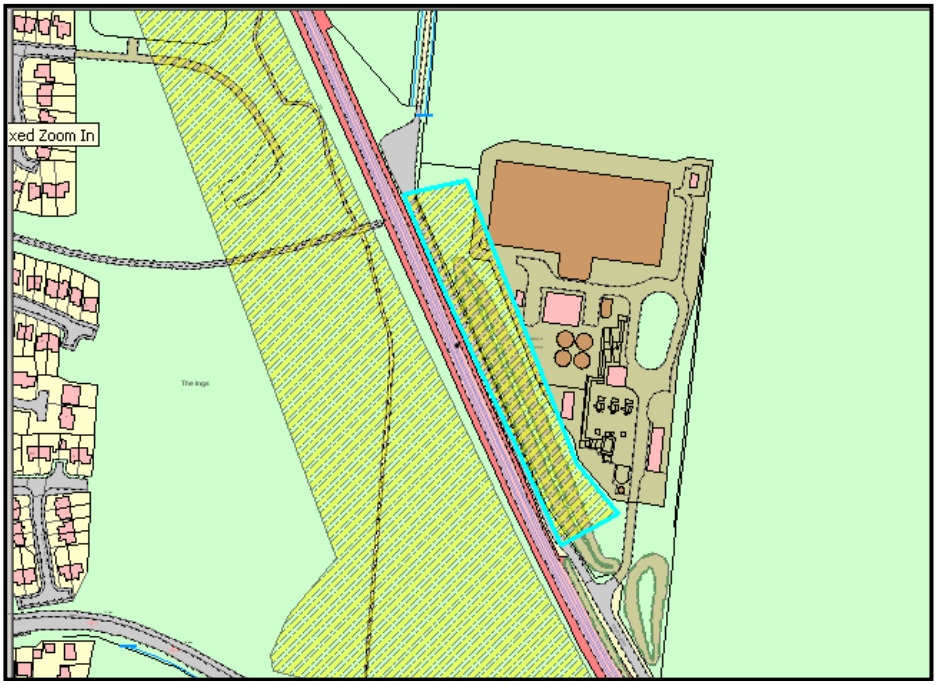


CLE ST16 Marske Treatment Works, Green Lane, Marske, North Yorkshire NZ 621 227

- Operator - Northumbrian Water Authority; and
- Permitted Wastes - Wastes from the construction industry

This licence was issued to Northumbrian Water Authority in August 1984 and permitted the deposit of waste from the construction industry. The licence was subsequently returned to the Agency on completion of operations. The Agency has no monitoring records from this site. The landfill site CLEST16 is shown on **Plate 2**.

Plate 2 CLEST16, Merske Treatment Works

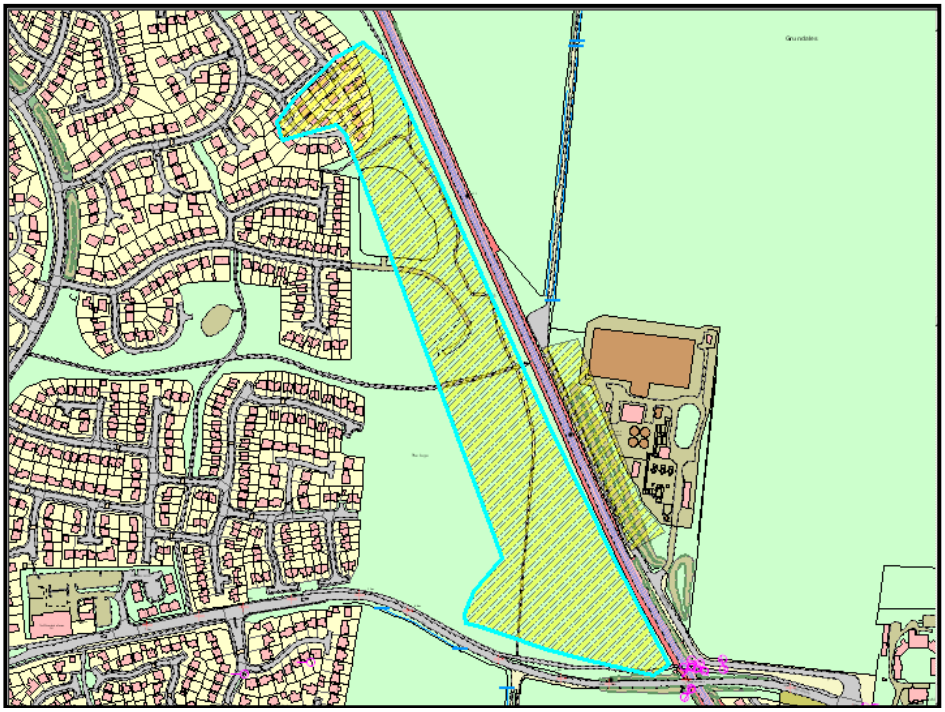


CLE 165, The Ings Residential Development, NZ 619 227

- Operator- Moorhead Sutton & Laing;
- Life of site- 19/4/86-15/4/88;
- Wastes -General Household skip waste and construction industry waste; and
- Other Points- only wastes deposited were from site operations.

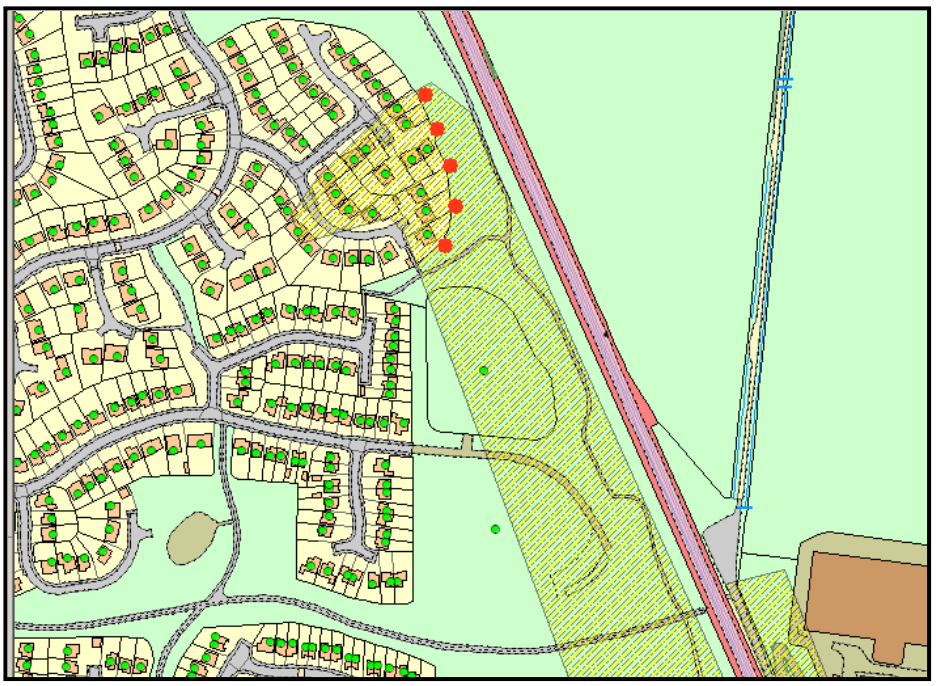
This licence was issued to Leech Holmes Ltd in November 1989 and permitted the deposit of waste from the construction industry and general household waste. However, only materials arising from on-site excavations were deposited. Operations at this site ceased in November 1989 and the licence was subsequently returned to the Agency. The Agency does not have any records of gas monitoring at this site. The landfill site CLEST16 is shown on **Plate 3**.

Plate 3 CLEST16, Ings Residential Development



The Local Authority (2011-2012) has carried out limited hand augered gas sampling (3 rounds) at locations shown on the map below. The nature of the arisings were clayey sandy soil with stones, and Pulverised Fuel Ash (PFA). Results to date indicate no flow and no landfill gas generation, and show Gas Characteristic Situation 1. The hand auger locations are shown on **Plate 4**.

Plate 4 Hand Auger Locations



Historical Potential Source – 111, 119, 120

A number of historic landfills are shown on the Environment Agency website in the proximity of the Wilton Chemical Works in the West of the project boundary. These are marked as Wilton Perimeter Mounds. It is likely that these were constructed from locally won surplus material from the Wilton works. These may contain contaminated soils and construction waste including asbestos.

No further information is available on the permitted wastes at this time.

Due to the nature of the waste deposited in all of the landfills discussed above, some biodegradable material may have been deposited within these landfills. Therefore, the possibility of landfill gas generation/ migration should not be excluded.

3.7 Licenced Landfills

Historical Potential Source – 117, 118

A number of historic landfills are shown on the Environment Agency website in the proximity of the Wilton Chemical Works in the West of the project boundary. These are marked as Wilton Perimeter Mounds. It is likely that these were constructed from locally won surplus material from the Wilton works. These may contain contaminated soils and construction waste including asbestos.

Again, due to the nature of the waste deposited in all of the landfills discussed above, some biodegradable material may have been deposited within these landfills. Therefore, the possibility of landfill gas generation/ migration should not be excluded at this stage.

3.8 Sensitive Land Use

The Multi Agency Geographic Information for the Countryside tool (MAGIC) and the RCBC Draft Local Plan Policies Map (September, 2013) have been reviewed for Statutory[7] and non-Statutory[8] sensitive land uses within the study area.

There are no statutory land use designations identified within the study area with the exception of a Local Wildlife Site (LWS). The LWS is shown adjacent to and extending into the study area along the eastern boundary as shown on **Figure 3.7** Sensitive Land Uses as presented within **Appendix A**.

There are three non-statutory designations within the study area for:

- A Community Forest;
- Red Howles Regionally Important Geological Site; and
- An Objective 2 Area designated by the Department for Business, Enterprise and Regulatory Reform.

[7]http://magic.defra.gov.uk/website/magic/opener.htm?startTopic=magotherrural&xygridref=459556,521505&startScale=45920
[8]http://magic.defra.gov.uk/website/magic/opener.htm?startTopic=magstatrural&xygridref=459556,521505&startScale=45920

Neither of the Community Forest or the Objective 2 Area land uses are considered to be significantly sensitive in terms of Land Quality Risk Assessment when the footprint of the project infrastructure is considered against the size of the designated land uses. However if any project infrastructure is situated within any forested area then an ecological risk assessment should be undertaken.

The Red Howles RIG site is considered to be a sensitive area which lies approximately 150m north of the project boundary at the landfall, but within the 500m study area buffer. The site will be affected by direct impact and disturbance, refer to Section 3.1.3 for details of the designation.

4 PRELIMINARY CONCEPTUAL SITE MODEL AND RISK EVALUATION

In accordance with the Environmental Protection Act 1990, for contaminated land to exist there should be a source of contamination, a receptor where 'significant harm' or 'significant possibility of harm' may be caused or significant pollution of controlled waters is being or is likely to be caused, and a pathway which connects the two. Should any element of this contaminant linkage not be present (or be severed) then the land may not be regarded as contaminated land, as defined in Part 2A of the Environmental Protection Act 1990.

Contamination is described within Part2A as a substance or substances that can be introduced to the land where they would not normally be. These substances are often associated with industrial processes or activities that have now ceased, but where remnant waste products or residues may present a hazard to the general environment.

In accordance with the above approach, a conceptual model of the site has been produced and a risk assessment undertaken to assess the potential for source-pathway-receptor linkages to occur at the site as a result of the proposed development.

As more information becomes available the conceptual model should be updated. The conceptual model is limited at this stage to the identification and assessment of potential sources, potential receptors, and the anticipated pathways to those receptors identified as result of the documentary research.

4.1 Potential Sources

Contamination sources can include neighbouring land uses and historical activities both on and off the site. Within this assessment and based on the discussions in Section 3.2.2 and 3.2.3 all of the features listed in **Table 3.1** and **Table 3.2** have been identified to represent a potential risk and therefore are included within the conceptual site model. Identified sources include the following:

- Railways;
- Hospitals;
- Sewage Works;
- Electrical Sub Stations;
- Tanks;
- Factories;
- Landfills; and
- Quarries.

4.2 Potential Pathways

Direct contact – ingestion and physical contact with contaminants which are present at or near the surface. This pathway is viable during the construction phase (cable trenching etc.) and at the eventual converter station site locations where access and maintenance is required. During the construction phase and where cable trenching is proposed the material used for backfilling around the cable will need to be proven suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.

- Any risks of exposure to construction workers should be mitigated through Personal Protective Equipment (PPE). Exposure during the operation phase at the converter station site is significantly reduced due to the design including concrete hardstanding at the converter stations sites and the infrequent and short time, workers are likely to be on-site.
- ***Inhalation*** – from airborne particles, ground gasses and vapours that may be present. This pathway is viable at the eventual converter station site locations where access and maintenance is required. However likelihood of exposure is significantly reduced due to the designed concrete hardstanding at the converter station sites. In areas where the cable trenching is to occur, backfilling will be with clean material. Any risks of exposure to construction workers will be mitigated through PPE.
- ***Permeable ground*** – As discussed in Section 3.1, the sections of the project boundary that are not underlain by Glacial Till may allow contaminants (if present) to migrate to surface water and off-site groundwater where in continuity.
- ***Deep groundwater*** – the bedrock aquifer beneath main project boundary is classed as a Secondary A Aquifer of intermediate vulnerability, and may allow contaminants (if present) to migrate to surface water, off-site groundwater and water abstractions where in continuity.
- ***Surface water*** – The site comprises a number of small, localised drainage ditches and dykes. These may transmit contaminants laterally across the project boundary.
- ***Drains and Underground Services (including the buried cable systems proposed as part of this development) –*** without mitigation, permeable gravel surrounds of cable systems and ducting may allow the lateral migration of contamination.

4.3 Potential Receptors

- ***Human health (construction workers)*** - Construction workers are considered to be a sensitive receptor due to the close proximity in which they are required to work with the soils. However, this assessment is for long term health risks and further assessment is required by the contractor[9]. Special attention and planning will be required where construction activities occur in the proximity of landfill sites.
- ***Human health (future site users / land owners) –*** Future site users / land owners will only have access to the cable route post construction, therefore, assuming that the soils are placed appropriately during construction works, the risk to human health is not considered to be significant.
- ***Human health (converter station site operators) -*** The converter station site are required to be accessed by operational and maintenance personnel. However the facilities will incorporate a cover of hard standing and will only be accessed intermittently, therefore, assuming that the soils are placed appropriately during construction works, the risk to human health is not considered to be significant.
- ***Shallow and Deep groundwater*** - The bedrock aquifer beneath the main study area is classed as a Secondary A of intermediate vulnerability. The parts of the

[9] In this document the assessment of risk to human health from potential contaminants of concern is based on long term rather than short term exposure, the latter being more typical of that experienced by construction workers. It is generally considered that the potential risk to construction workers can be mitigated / managed through appropriate working practices and personal protective equipment. Relevant information should be made available to the contractor undertaking the works such that they are able to make their own assessment of risks, and develop appropriate methods of working

study area where the superficial geology is not Glacial Till the shallow and deep aquifers are considered to be sensitive receptors.

- ***Sensitive geological features* –** The Red Howles RIG site is considered to be a highly sensitive receptor that would be affected by direct impact or disturbance at the surface. The RIG site lies approximately 150m outside of the project boundary and is unlikely to be directly affected by the development works. As such the development is not considered to pose a risk to this receptor and is not discussed further.
- ***Local drainage ditches and dykes*** - The Rogers Dike is a water body identified in the regional catchment management plan and is considered to be a moderately sensitive receptor.
- **Project Infrastructure (Buildings, Structures and Construction Materials) –** The proposed cabling and associated infrastructure are considered to be moderately sensitive. Where interactions with any identified potential source is likely, consideration of the impact is required.

Table 4.1 Summary of Conceptual Site Model

Sources	Pathways	Receptors						
		Surface water (Local Drainage Ditches and Dykes)	Groundwater (Shallow and Deep)	Human health			Sensitive Ecological Receptors (i.e. Flora and fauna)	Structures and buildings
				Construction Workers	Future Site Users / Land Owners	Convertor Station Site Operatives		
Contaminated Soil / Groundwater / Ground Gas from Identified historical and present land uses	Direct Contact	No	No	Yes	No	No	No	Yes
	Inhalation	No	No	Yes	No	No	No	Yes
	Permeable Ground	Yes	Yes	Yes	No	No	No	Yes
	Groundwater	Yes	Yes	Yes	No	No	No	Yes
	Surface Water	Yes	Yes	Yes	No	No	No	Yes
	Drains and Underground Services	Yes	Yes	Yes	No	No	No	Yes

4.4 Risk Evaluation

4.4.1 Methodology

The risk evaluation methodology is a qualitative assessment and is based on CIRIA C552 'Contaminated Land Risk Assessment'. The process involves the classification of the following:

- Magnitude of the potential consequence which takes into account both the potential severity of the hazard and the sensitivity of the receptor; and
- The magnitude of the probability (likelihood) which takes into account both the presence of the hazard and the receptor and the integrity of the pathway.

The resultant risk categories are shown in **Table 4.2**.

Table 4.2 Contamination Risk Categories

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	**Very High Risk**	**High Risk**	**Moderate Risk**	Moderate / Low Risk
	Likely	**High Risk**	**Moderate Risk**	Moderate / Low Risk	Low Risk
	Low Likelihood	**Moderate Risk**	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

Within this assessment the terminology presented in **Table 4.3** has been used.

Table 4.3 Contamination Risk Rating Terminology

Risk rating	Description
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm to a designated receptor is currently happening. The risk, if realised is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term
Moderate Risk	It is possible that, harm could arise to a designated receptor from an identified hazard. However it is either relatively unlikely that any such harm would be severe, or if any harm were to occur, it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that at worst this harm if realised would at worst normally be mild
Very Low Risk	There is a low probability that harm could arise to a receptor, in the event of such being realised it is not likely to be severe

4.4.2 Risk Evaluation Assumptions

Based on the following assumptions all of the sources identified in Section 3.2.2 and 3.2.3 have been assessed as to the viable pollutant linkages that may be associated. These pollutant linkages are then assessed for the likely significance and risk.

Assumptions from the CSM carried forward to the risk assessment.

- Human health (Future Users/ Land Owners) is not considered to be a significant receptor due to the negligible exposure potential;
- Project infrastructure placed in areas of the potential sources of contamination identified in Section 3 may expose construction workers to contamination, appropriate assessment and mitigation will be required;
- Groundwater is not considered to be a significant receptor where the underlying superficial geology is Glacial Till;
- Groundwater is considered a sensitive receptor where the superficial deposits of glaciofluvial or glaciolacustrine are present, however it should be noted there are no groundwater abstractions for drinking water purposes;
- Surface waters are considered to be a potential pathway for contaminant migration and mitigation techniques will be implemented (such as Horizontal Directional Drilling and good site working practices) to ensure that these receptors are not exposed to contaminative activities;
- Project infrastructure placed in areas of the potential sources of contamination identified in Section 3 may be susceptible to aggressive ground conditions and appropriate assessment and mitigation will be required;
- Sensitive locally important geological features will be affected by direct impact or disturbance from both permanent and temporary works but are currently outside of the project boundary area and therefore are not at risk;
- Where cabling passes through any in areas of the potential sources of contamination identified in Section 3 appropriate mitigation must be used to ensure that the gravel surrounds will not permit the lateral migration of contaminants; and
- Where cable trenching passes through any of the potential sources of contamination identified in Section 3 all backfilling and spoil material will require demonstration that it is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.

4.4.3 Risk Evaluation Summary

The full risk evaluation of all identified sources of contamination and viable contaminant linkages is presented in **Appendix D**. **Table 4.4** overleaf summarises those viable linkages with a risk classification greater than low.

Table 4.4 Viable Pollutant Linkages

Source ID	Land Use	Pathway	Receptor	Consequence of Risk being realised (Severity)	Probability of Risk being realised (likelihood)	Risk Classification	Risk Management	Residual Risk
100	Factory or works - use not specified large transformers	Shallow Groundwater	Shallow and deep aquifers	Medium	Likely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
101, 102, S13	Factory or works - use not specified	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
111, 113, 114, 115, 119, 120	Historic landfill	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments. Where possible Horizontal Directional Drilling (HDD) should be used to avoid contaminated areas	Moderate / Low Risk
117, 118	Licenced landfill	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments. Where possible Horizontal Directional Drilling (HDD) should be used to avoid contaminated areas	Moderate / Low Risk

5 CONCLUSIONS AND RECOMMENDATIONS

Based on the data assessment presented in this report a number of potential pollutant linkages may be present in relation to the proposed onshore infrastructure for Dogger Bank Teesside A & B.

It is considered that the sources classified as Very Low Risk require no further work.

All of the sources classified as Low Risk should be investigated further if located within the final alignment of the cable route, the converter station site footprint or within a distance that contaminants could migrate from. It is recommended that this is done by contacting the site operators to understand if there has been any record of breakdown or contamination event. Further information that would be useful in understanding the risks include maintenance records, installation records and where relevant decommissioning dates. It is likely that if these facilities have been well maintained and pollution events have been recorded, that these sources will not require any further consideration.

All of the sources with risk ratings of Moderate/Low and Moderate will require further investigation if located within the final alignment of the cable route, the converter station site footprints or within an influencing distance. Considering the industrial nature and likely licenced activities undertaken at these sites, it is likely that there are records detailing the more specific land uses. Records may also exist for previous ground investigation and risk assessment that may help in understanding the risks form these land uses. If such information is not available, further site investigation may be required.

Any excavated material should be handled, managed and disposed of in accordance with current waste management guidance and legislation and detailed in a Site Waste Management Plan or Materials Management Plan.

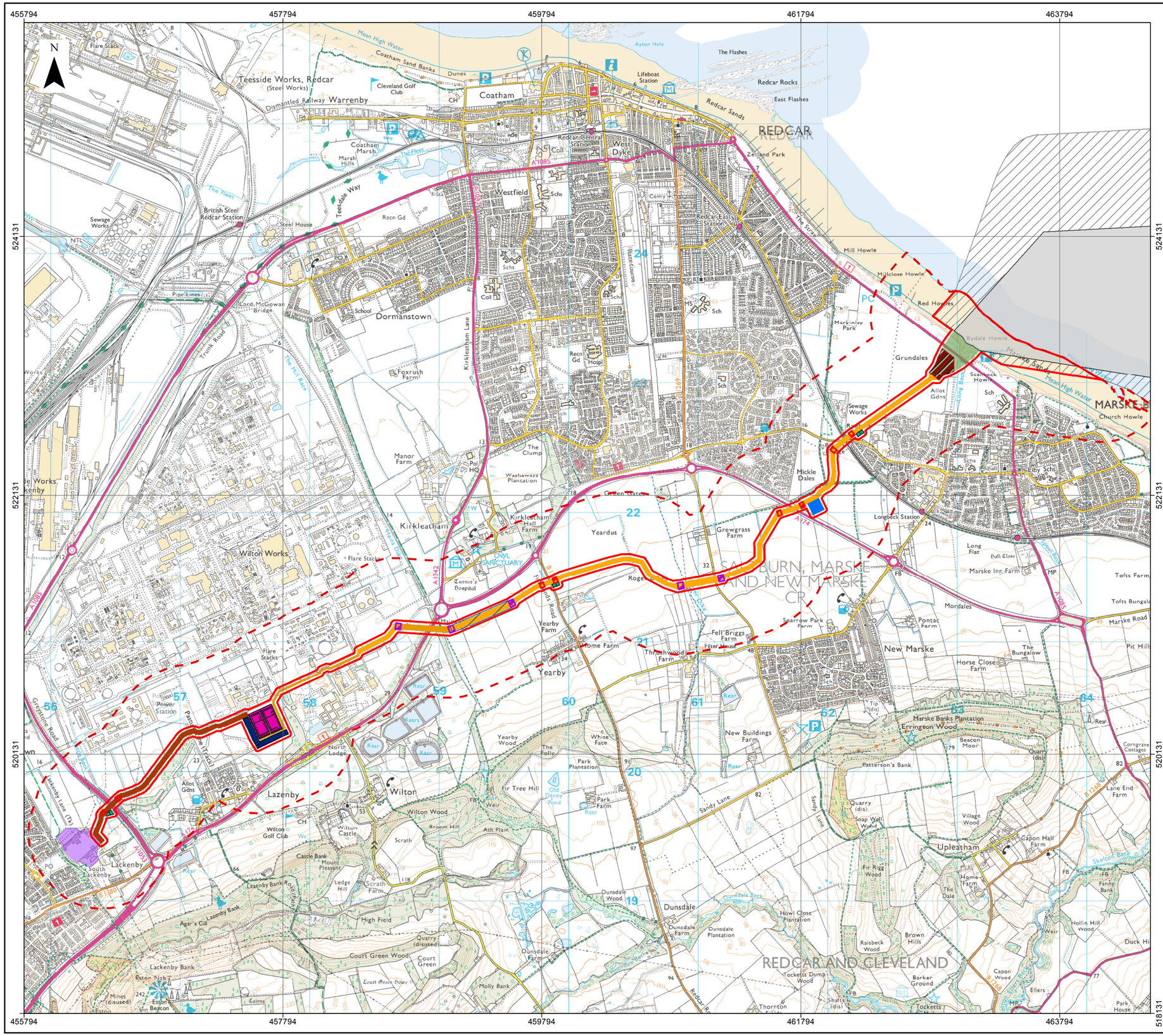
5.1 Recommendations

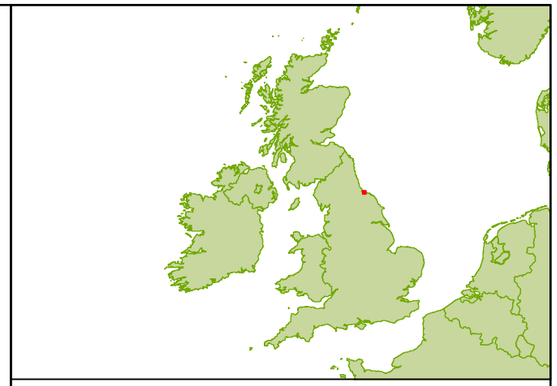
Recommendations for managing risks associated with land quality and materials management are presented in **Table 5.1**.

Table 5.1 Recommendations

Aspect of Scheme	Concern	Recommendation
Construction Phase Health and Safety - potential exposure of construction workers to contaminants in soil or water and gas risk including but not limited to confined spaces.	Compliance with Health and Safety Legislation including the Health and Safety at Work Act 1974 and Construction (Design & Management) Regulations 2007	• Good site practice and hygiene in addition to the use of appropriate Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE), where necessary. • Method statements and risk assessments should be developed for all site works to aid identification of such risks (including gas risk) and appropriate risk avoidance and reduction measures. The works should be undertaken in accordance with the requirements of the Construction (Design & Management) Regulations 2007 where appropriate.
Materials Reuse	Compliance with the CL:AIRE Code of Practice entitled 'The definition of waste: Development Industry Code of Practice'.	• Complete a Materials Reuse Risk Assessment. • Use the results of the Materials Reuse Risk Assessment to complete a Materials Management Plan. • Complete a Site Waste Management Plan.
Disposal of unsuitable materials and importation of clean fill	Compliance with waste management legislation including the Landfill Regulations 2002 (as amended) and the Hazardous Waste Regulations 2005	• Waste should be disposed of in-line with the waste hierarchy. • Characterisation of any material excavated and disposal off site of any materials demonstrated not to be suitable for reuse. • Pre-treatment prior to disposal to either reduce the volume of hazardous waste requiring disposal or to reduce the hazardous nature of the material. • Testing and verification of any soils imported to the site to ensure that they do not pose a risk to human health or controlled waters. They will also need to be accompanied by all relevant Duty of Care documentation.
Control of groundwater. Potential for environmentally damaging materials or fuels to pollute controlled waters (surface water and groundwater) during construction phase.	Best practice for construction site management. Avoidance of pollution incidents.	• If dewatering of excavations is undertaken as part of the proposed scheme these should be contained and disposed of appropriately. • Best practice guidance should be followed (for example, Pollution Prevention Guidance Note (PPG) 5: Works in, near or liable to affect watercourses and PPG6: Working at construction and demolition sites).

Appendix A - Figures





LEGEND

- Study Area
- Dogger Bank Teesside A & B Project
- Dogger Bank Teesside A & B offshore cable
- Offshore temporary works area
- Cable landfall envelope
- Landfall horizontal directional drill compound and joint transition bay
- Direct current cable route (agricultural setting, 36m working width)
- Direct current cable route (industrial setting, 18m working width)
- Alternating current cable route (39m working
- Minor horizontal directional drill entry or exit locations (1,200m²)
- Major horizontal directional drill entry or exit locations (2,000m²)
- HDD or open trench to be confirmed
- Primary construction compound (10,000m²- 5,000m² per project)
- Intermediate construction compound (784m²)
- Converter stations (one per project)
- Converter station construction compounds (10,000m², one per project)
- Lackenby 400kV substation

0 0.5 1

Kilometres

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 2.1: Dogger BankTeesside A and B Onshore Study Area

VER	DATE	REMARKS	Drawn	Checked
2	06/12/2012	Draft	LW	DW
3	15/01/2013	Submit PEI3	LW	DW
4	21/01/2014	Pre-DCO submission review	LW	DW

DRAWING NUMBER:

9W7904_Fig2.1

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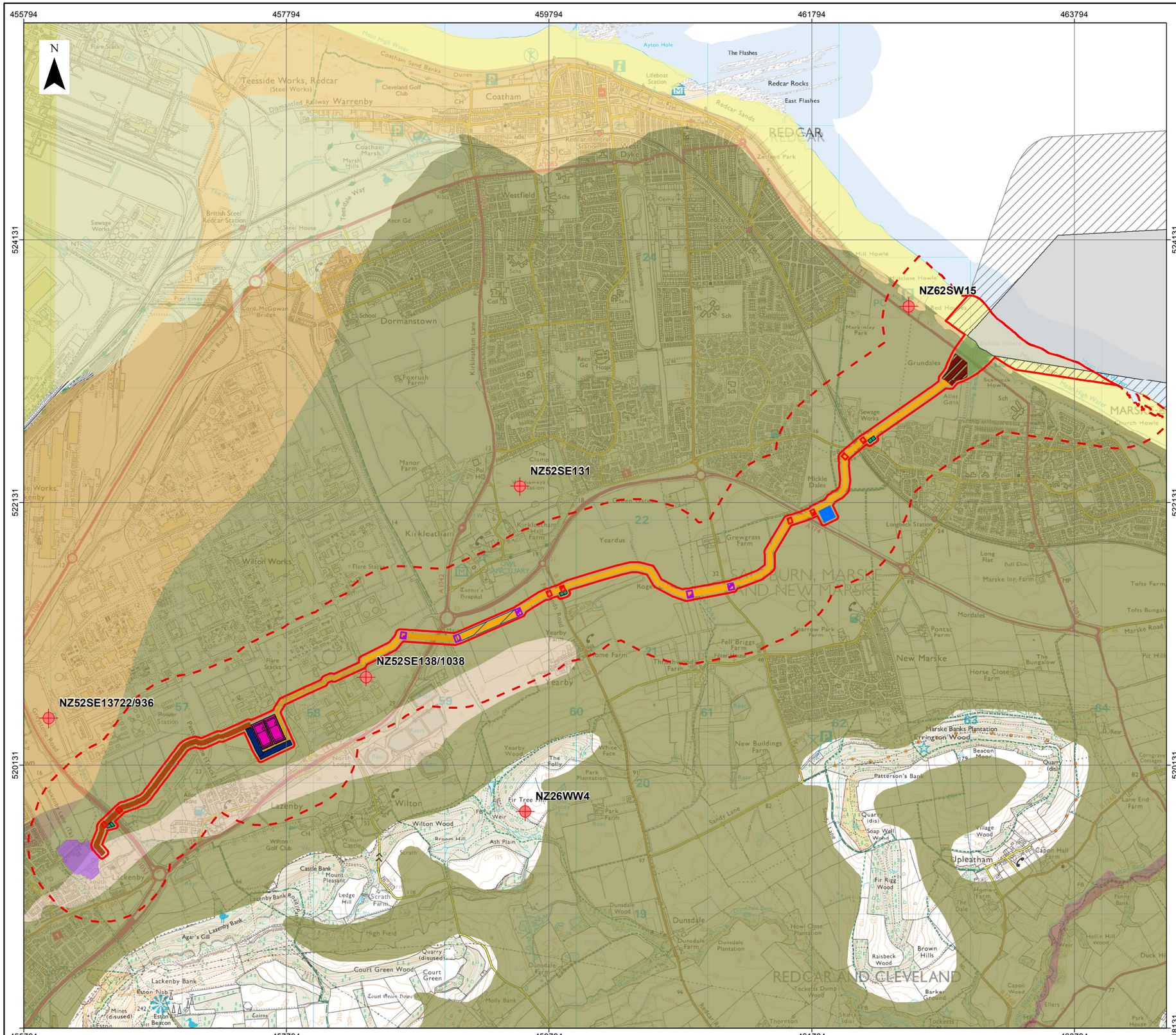

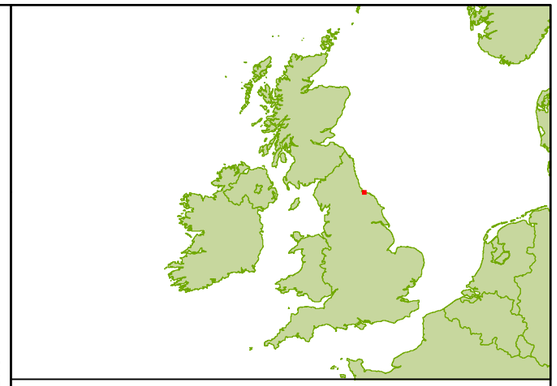

LEGEND

- Study Area
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- Lackenby 400kV substation

Superficial Geology

- Alluvium - CLAY, SILT, SAND AND GRAVEL
- Beach and Tidal Flat Deposits (Undifferentiated) - SAND
- Blown Sand - SAND
- Glaciofluvial Deposits, Devensian - SAND AND GRAVEL
- Glaciolacustrine Deposits, Devensian - SAND
- Glaciolacustrine Deposits, Devensian - CLAY AND SILT
- Tidal Flat Deposits - SAND AND SILT
- Tidal Flat Deposits - SAND, SILT AND CLAY
- Till, Devensian - DIAMICTON
- Borehole

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PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 3.1: Superficial Geology

VER	DATE	REMARKS	Drawn	Checked
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3	15/01/2013	Submit PEI3	LW	DW
4	21/01/2014	Pre-DCO submission review	LW	DW

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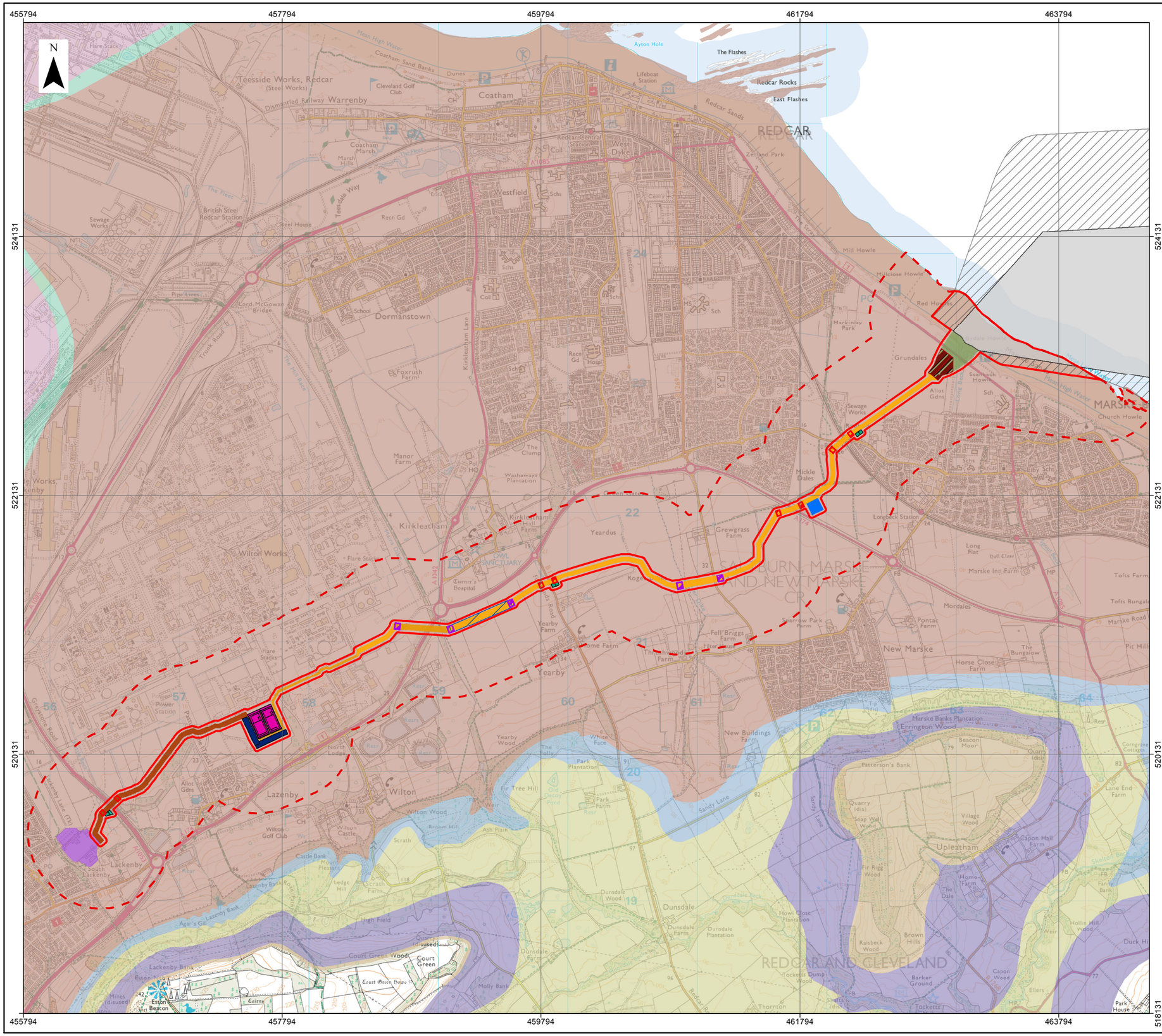

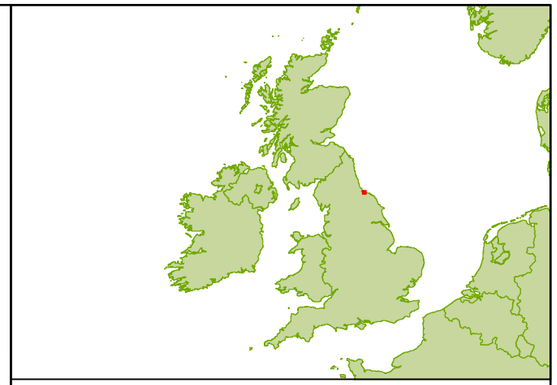

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ROCK_NAME

- Cleveland Ironstone Formation
- Dogger Formation
- Mercia Mudstone Group
- Penarth Group
- Redcar Mudstone Formation
- Saltwick Formation
- Staithes Sandstone Formation
- Whitby Mudstone Formation

0 0.5 1
Kilometres

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

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Figure 3.2: Bedrock Geology

VER	DATE	REMARKS	Drawn	Checked
2	06/12/2012	Draft	LW	DW
3	15/01/2013	Submit PEI3	LW	DW
4	21/01/2014	Pre-DCO submission review	LW	DW

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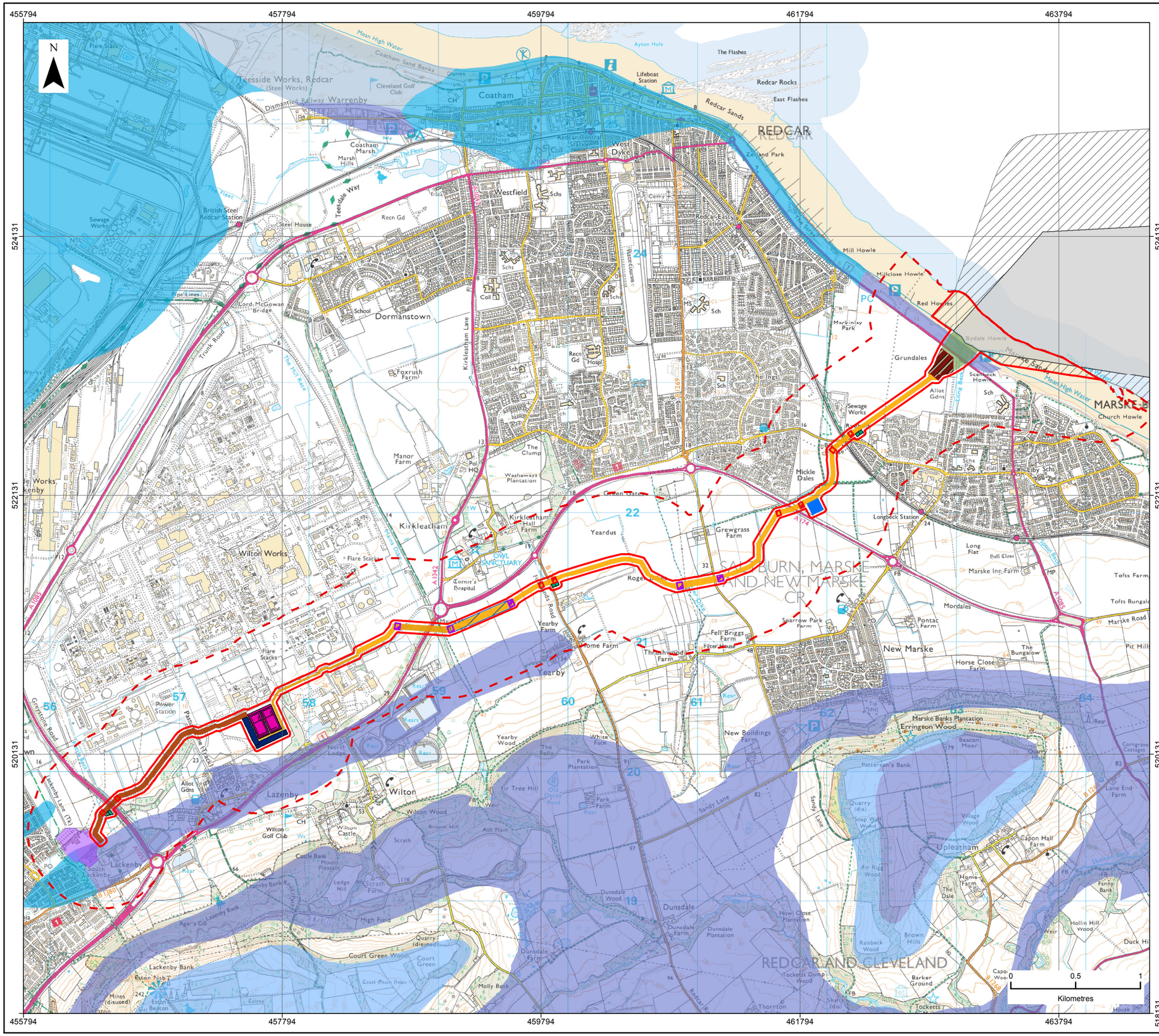

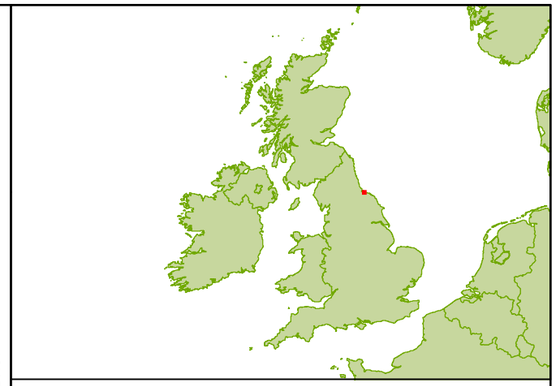

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- Converter station construction compounds (10,000m², one per project)
- Lackenby 400kV substation

Groundwater Vunerability

- Variably permeable groundwater high leaching potential. Coarse textured or moderately shallow soils which readily transmit non -adsorbed pollutants and liquid discharges but have some ability to attenuate adsorbed pollutants because of their clay or organ
- Variably permeable groundwater high leaching potential. Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential
- Variably permeable groundwater high leaching potential. Soil information for urban areas and restored mineral workings
- Variably permeable groundwater with low leaching potential.

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 3.3: Groundwater Vulnerability

VER	DATE	REMARKS	Drawn	Checked
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3	15/01/2013	Submit PEI3	LW	DW
4	21/01/2014	Pre-DCO submission review	LW	DW

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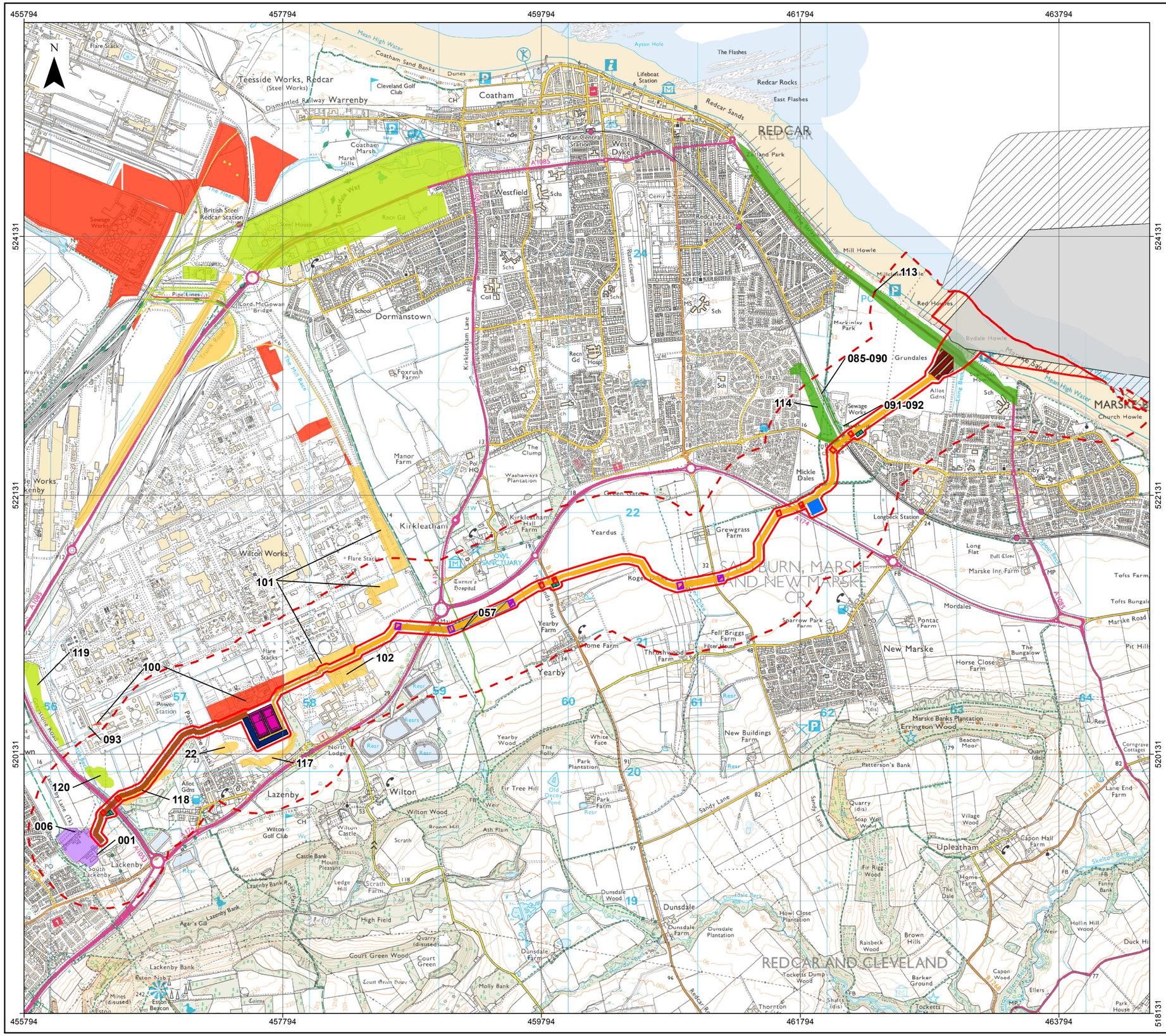

LEGEND

- 🟥 Study Area
- 🟥 Dogger Bank Teesside A & B Project Boundary
- ⬜ Dogger Bank Teesside A & B offshore cable corridor
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- ▨ Landfall horizontal directional drill compound and joint transition bay
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- 🟫 Alternating current cable route (39m working width)
- 🟪 Lackenby 400kV substation

Historical Contaminated Sites

Risk Rating

- 🟥 Medium to High
- 🟨 Medium
- 🟩 Low to Medium
- 🟩 Low

0 0.5 1
Kilometres

Data Source:
Ordnance Survey © Crown copyright, All rights reserved. 2012 Licence number 0100031673

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

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Figure 3.4: Historical Sources

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4	21/01/2014	Pre-DCO submission review	LW	DW

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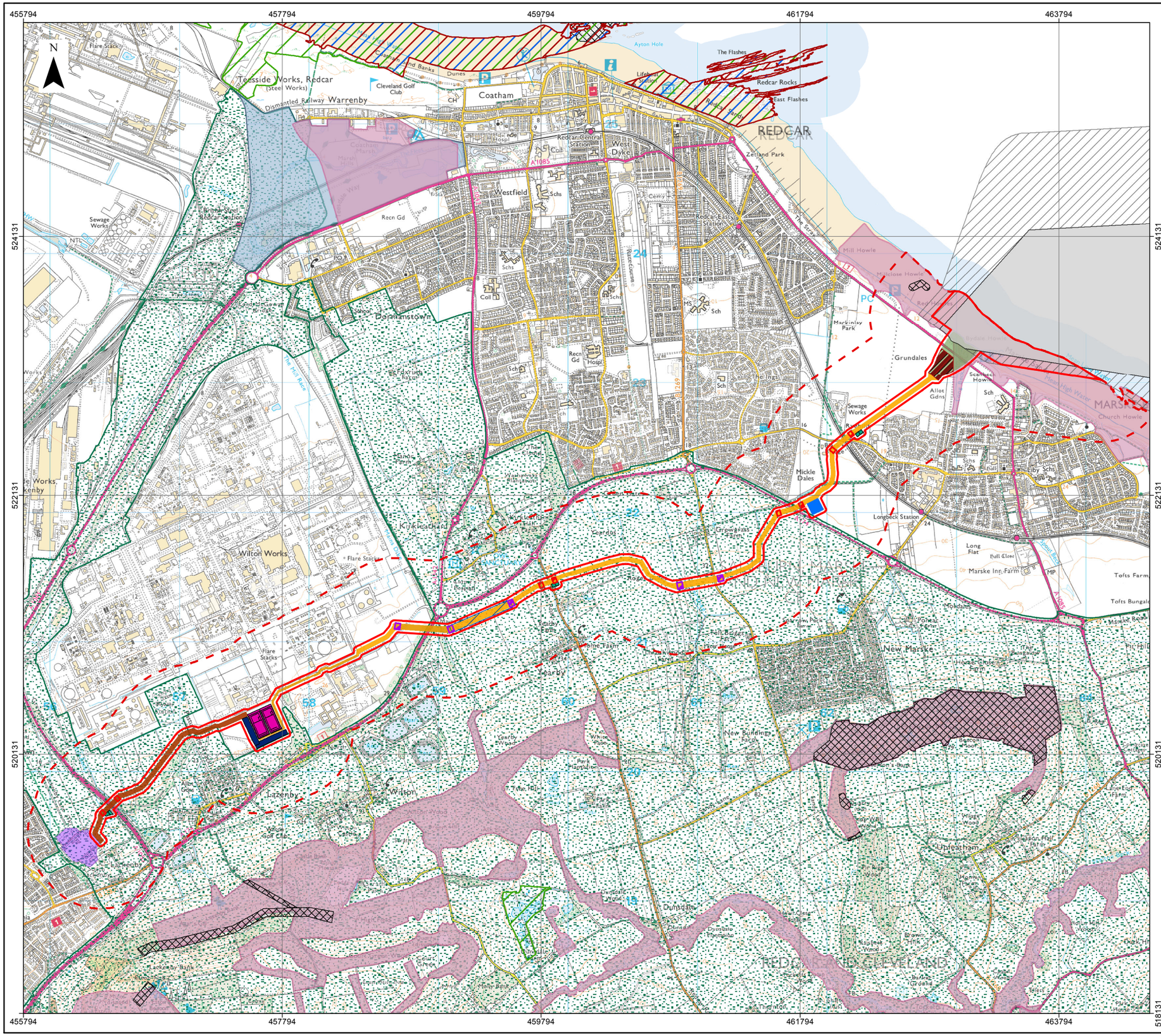

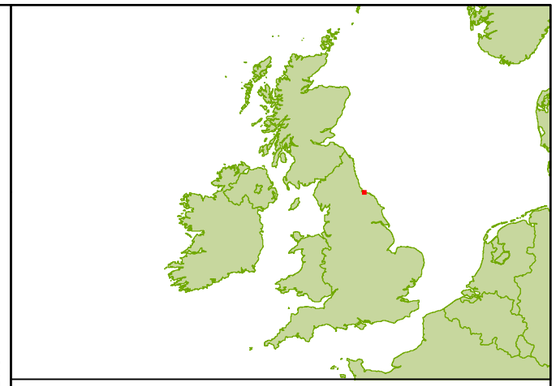

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Statutory Designations

- Ramsar
- SPA
- Site of Special Scientific Interest (SSSI)

Non-statutory Designations

- Local Wildlife Site (LWS)
- Wildlife Trust Reserve (WTR)
- Community Forest - Groundwork North East
- Local Geological Site (LGS)

0 0.5 1

Kilometres

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 3.5: Sensitive Land Uses

VER	DATE	REMARKS	Drawn	Checked
2	06/12/2012	Draft	LW	DW
3	15/01/2013	Submit PEI3	LW	DW
4	21/01/2014	Pre-DCO submission review	LW	DW

DRAWING NUMBER:

9W7904_Fig3.6

SCALE	1:30,000	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG

FOREWIND

Appendix B – Borehole Records

NZ52 NE/ NZ52|36

GROUND EXPLORATIONS LIMITED

BOREHOLE SECTION SHEET

NZ 5954 2216 Date July 1952.

CONTRACT NAME

Bored for :

Address : Borough Engineer, Borough of Redcar, Ridley House, Redcar.

Address of Site :

ORDER No.

SITED ON 6" SITE MAP. YORKS 7SW/E

RC 7/10/70

District or Town : Redcar. County : Yorks.

Standing Water Level : Below Surface Dia. of Borehole : 6 Inches.

Water Struck (1) : 6'6" Ft. B.S. (2) : Ft. B.S. (3) : Ft. B.S.

Boring Commenced : 29. 5. 52. Boring Completed : 30 5. 52.

Special Remarks :

Jar Samples :

Core Samples :

DESCRIPTION OF STRATA

Clients are requested to examine the samples of the Strata submitted, as the descriptions employed below are general terms and responsibility is not accepted for their application to commercial purposes.

No. Boring. 1

DESCRIPTION OF STRATA	Thickness Feet	Thickness Inches	Depth Below Surface Feet	Depth Below Surface Inches
Fill (Slag)	1	6	1	6
Clay and stones.	10	3	11	9
Shale	4	3	16	0
TOTAL FROM SURFACE ...	16	0	16	0

This form is to be returned to Head Office immediately the borehole is finished.

Holst Soil Engineering Limited

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 73346 Telex 557357

SOFT GROUND DRILLING RECORD

DATE +TIME OF START 8.4.76 0800
DATE +TIME OF FINISH 8.4.76 1330

TOWN WILTON
SITE ICI
BOREHOLE No. 936
BOREHOLE DIAM. 8"
CASING INSERTED 7.50
EQUIPMENT IN USE EDECO S.15
VEHICLE No. JAR 615

DESCRIPTION OF STRATA	Depth to Base of Stratum	Depth of Casing When Sampling	Type No. of Sample	Penetration of Sampler From	Penetration of Sampler To	SAMPLING 0" to 3"	3" to 6"	6" to 9"	9" to 12"	12" to 15"	15" to 18"	18" to 24"	REMARKS
TOP SOIL.			U	.75	1.20								
			U	1.60	2.05								
	.20		U	2.65	3.10								
			U	4.45	4.90								
			U	5.90	6.35								
			U	7.50	7.95								
FIRM STIFF RED BROWN STONEY CLAY.			U	9.30	9.75								
	1.80												
			D	1.20									
			D	2.05									
FIRM STIFF RED BROWN BOULDER CLAY.			D	3.10									
	9.20		D	4.90									
			D	6.35									
			D	7.95									
			D	9.20									
STIFF SILTY DARK GREY CLAY WITH SHALE + GRAVEL.			D	9.78									
	9.30												
FIRM STIFF RED BROWN BOULDER CLAY.													
	10.00												

SHOW SAMPLES THUS:

4 in. dia. undisturbed Sample ....U	Disturbed Sample ....D
Standard Penetration Test .....S	Bulk Sample .....B
Cone Penetration Test C	Water Sample .....W

FULL DETAILS OF DELAYS, OBSTRUCTIONS ETC. (INCLUDING TIMES):

WATER

OBSERVATION	DEPTH	DATE	TIME	CASING DEPTH
BH dry.				

OBSERVATIONS e.g. 'Water Struck', 'Final Standing Level', 'Sealed' etc. Note Rate of Flow

DRILLERS SIGNATURE ....

CLIENTS SIGNATURE .....

WEATHER: Fine/Sunny/Warm/Dry/Wet/Overcast/Drizzling/Raining Windy/Gales/Still/Thundery/Stormy/Snow/Freezing

Norwest Holst Soil Engineering Ltd.

Borehole No. 1038

BOREHOLE LOG

Contract No. F5160
Location Wilton-Semi Technical Building
Client I.C.I.
Method of Boring Percussion
Diameter of Borehole 150mm

Sheet 1 of 2
Chainage
Ground Level 24.893 m.A.O.D.
Date 11/6/82

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TOPSOIL		0.10	24.8				
MADE GROUND: Firm brown clay.		0.90	24.0		0.50		
Brown clayey GRAVEL.		2.00	22.9		1.30		
Loose brown clayey fine to medium SAND with occasional fine gravel.		3.10	21.8		2.00	8	
Soft to firm brown silty CLAY with occasional fine gravel.		4.10	20.8		3.15		
Stiff brown silty stony CLAY.					4.15		
					5.65		
					7.20		
					8.70		

Type of Sample

- Is S.P.T.
- Ic. C.P.T.
- O Jar
- ● Bulk
- ■ Undisturbed
- × Vane
- Δ Water
- Piezometer

Remarks (Observations of Ground Water etc.)

Water seepage from 2.60m to 3.20m.
Sealed by casing at 3.50m.
Seepage at 5.00m.
Sealed by casing at 5.50m.
Water struck at 10.00m.
Sealed by casing at 10.50m.
Seepage at 13.75m (not sealed).

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Institute of Geological Sciences

Name and Number of Shaft or Borehole:

Northumbrian Water Authority Redcar Outfall LD2

6-in or 1:10 000 Map Registration No.

NZ62SW/15

National Grid Reference

NZ 6244 2367

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
	Mudstone, dark grey, calcareous, smooth fracturing.	0.42	15.82
	Mudstone, medium grey, silty, with bioturbated patches of very silty limestone with ammonites	0.30	16.12
	Mudstone, dark grey, calcareous, smooth fracturing, micaceous	0.36	16.48
	Mudstone, medium grey, silty, with occasional lyophoda bearing patches of bioturbated silty limestone. Below 16.80 less silty Below 16.83 very silty, core much broken	0.59	17.07
	Mudstone, dark grey, rather calcareous and silty, smooth fracturing	0.20	17.27
	Mudstone, medium grey, very silty, core much broken above 17.60, patches of silty bioturbated limestone between 17.60 and 17.82.	0.55	17.82
	Siltstone, medium grey, very muddy, slightly calcareous, hard, bioturbated, massive, with ammonites	0.58	18.40
	Mudstone, very silty, non-calcareous, with patches of siltstone, calcareous below 18.75	0.38	18.78
	Limestone, pale grey, very hard, crystalline, slightly ferruginous, massive, sharp base	0.15	18.93
	Siltstone, medium grey, hard, calcareous, bioturbated, gradually becoming softer downwards	0.13	19.06
	Mudstone, medium grey, very silty, brownish coated 45° joint face at 19.40, possibly very slightly slickensided,		

Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No. NZ 62 SW/15

National Grid Reference NZ 6244 2367

1-in or 1:50 000 New Series Map No. 34

Enter 'C' if Confidential

Name and Number of Shaft or Borehole: Northumbrian Water Authority Redcar Outfall LD2

For whom made Northumbrian Water Authority

Town or Village Redcar *County* Cleveland

Exact site (reference to a fixed point on 1-in or 1:50 000 Map) 1,100m @ 004° from Ryehills Farm

Purpose for which made site investigation

Ground level at shaft/bore relative to O.D. +9.62 *m. If not ground level give O.D. of beginning of shaft/bore* ______ *m.*

Made by ______ *Date of sinking* ______

Information from examination of cores *Examined by* RJBull

Specimen Numbers and Additional Notes

Cores 12 – 24.6m examined

Samples collected for micropalaeontology at 2m intervals

fossils registered HL 1011 – 1037

all boundaries are gradational unless otherwise stated

Geological Classification	Description of Strata	Thickness metres	Depth metres
	NO CORE		
	CORING STARTS, 100% recovery	12.00	12.00
QUATERNARY BOULDER CLAY	CLAY, brown to reddish brown, calcareous with ice-scratched erratics of sandstones, igneous rocks, Lias, and Bunter Sandstone	0.28	12.28
	CLAY, medium grey, disturbed Lias silty mudstones, reworked by ice	1.51	13.79
JURASSIC LOWER LIAS	Mudstone, dark grey, non-calcareous, splintery, smooth-fracturing, with pyrite (frambroidal nodules), and sporadic shelly laminae. Calcareous below 14.80	1.48	15.27
	Mudstone, as above, but rather more silty	0.13	15.40

Appendix C – GIS Source Data

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
38881077.00	Cash Machines	Cash Machine (YCASH)	Redcar Road, Redcar, TS10 2TB	461460.8522609.3	Legal and Financial
38921806.00	Cash Machines	Cash Machine (Bank of Ireland)	Whale Hill Post Office 254, Birchington Avenue,	455894519271	Legal and Financial
50166257.00	Cash Machines	Cash Machine (Bank Machine Limited)	10, Gurney Street, New Marske, Redcar, TS11 8E	462221521256	Legal and Financial
62539006.00	Building Contractors	M A T Leat Builders	84, Oak Road, Redcar, TS10 3PS	461833.9523986	Construction Services
62540174.00	Building Contractors	Marske Fabrication & Engineering Ltd	Unit 9 Ryan Row, Longbeck Estate, Marske-by-th	462648.5522275.9	Construction Services
62540989.00	Building Contractors	R J Fabrications	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462779.9522032.1	Construction Services
62555273.00	Building Contractors	K Brunskill	5, Coquet Close, Redcar, TS10 2QJ	461614523044.5	Construction Services
62555309.00	Building Contractors	McGuiness Builders	23, Studland Road, Redcar, TS10 2RE	461579.1522730.7	Construction Services
62567892.00	Building Contractors	Emmerson Commissioning Services Ltd	10, Needles Close, Redcar, TS10 4SJ	459953.7522426.3	Construction Services
62569363.00	Building Contractors	Rosemount Construction	4, Rosemount Road, New Marske, Redcar, TS11	461870.3520583.7	Construction Services
62576214.00	Electrical Contractors	Contech Electrical	17, Whitby Crescent, Redcar, TS10 3QN	461860.3523882.2	Construction Services
62582092.00	Construction Completion Services	Paul Henderson	20, Longbeck Road, Marske-by-the-Sea, Redcar,	462914.3522178.1	Construction Services
62595196.00	Plumbing and Heating Services	John Ayton	85, Cleveland View, Marske-by-the-Sea, Redcar,	462243.5522496.4	Construction Services
62602663.00	Roofing and Chimney Services	Acorn Roofing Services	45, Birkdale Road, New Marske, Redcar, TS11 8J	462260.9520765.3	Construction Services
62610872.00	Roofing and Chimney Services	Redcar Roofing Services	26, Green Lane, Redcar, TS10 3RW	462026.2523628.2	Construction Services
62640599.00	Glaziers	Crombi Smith	11, Holyhead Drive, Redcar, TS10 2QS	461550.9522996.2	Construction Services
62642355.00	Plumbing and Heating Services	Cleveland Installers	195, High Street, Marske-by-the-Sea, Redcar, TS	463560522649.1	Construction Services
62644621.00	Plumbing and Heating Services	Richard Henson	4, Worset Grove, Redcar, TS10 2XE	461058.2522396.4	Construction Services
62650119.00	Roofing and Chimney Services	Ken Bashford	8, Acacia Court, Redcar, TS10 2TY	461221.3522329.9	Construction Services
62650894.00	Plumbing and Heating Services	E Towell Plumbing & Heating	3, Brabazon Drive, Marske-by-the-Sea, Redcar, T	462730.4522480.3	Construction Services
62670167.00	Contract Cleaning Services	Gleam Cleaning Services	299, Birchington Avenue, Middlesbrough, TS6 8H	455925.4519124.5	Contract Services
62676399.00	Plumbing and Heating Services	Calibration Services Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	Construction Services
62728715.00	Precision Engineers	Allendale Components Ltd	28, Allendale Tee, New Marske, Redcar, TS11 8H	461751.1520587.3	Engineering Services
62742129.00	Industrial Engineers	Prestbridge Ltd	16, Barnes Wallis Way, Marske-by-the-Sea, Redc	462740.2522576.9	Engineering Services
62765241.00	Barbers and Hairdressers	Shades	145, Oak Road, Redcar, TS10 3RE	462083.1523804.3	Personal, Consumer and other Services
62771130.00	Fundraising Services	Russell Race Nites	17, Abridge Close, New Marske, Redcar, TS11 8H	461583.6520649.4	Legal and Financial
62773575.00	Solicitors, Advocates and Notaries Public	Atha Strong & Co	18, The Wynd, Marske-by-the-Sea, Redcar, TS11	463504.7522327.7	Legal and Financial
62830010.00	Photographic Services	Macgregor Photographics	7, Brackenberry Crescent, Redcar, TS10 2PP	461450.3523229.9	Personal, Consumer and other Services
62832816.00	Photographic Services	Your Day Your Way Wedding Photography	60, Torcross Way, Redcar, TS10 2RU	461109.5522793.8	Personal, Consumer and other Services
62844484.00	Estate and Property Management	Coatham Investments Ltd	33, Woodside, Redcar, TS10 4NG	460611.1522809.9	Property and Development Services
62861750.00	Barbers and Hairdressers	Serenity Health & Beauty	23-25, The Wynd, Marske-by-the-Sea, Redcar, TS	463509.1522285	Personal, Consumer and other Services
62869647.00	Barbers and Hairdressers	James & Co	4, Redcar Road, Marske-by-the-Sea, Redcar, TS1	463403.4522318.6	Personal, Consumer and other Services
62885499.00	Lock, Key and Security Services	Alpha Mobile Locksmiths	29, Larkswood Road, Redcar, TS10 4SD	460215.8522281.9	Personal, Consumer and other Services
62908048.00	Vehicle Repair, Testing and Servicing	Bob Rose	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462668522072.9	Repair and Servicing
62939008.00	Electrical Equipment Repair and Servicing	East Cleveland Domestics	129A, High Street, Marske-by-the-Sea, Redcar, T	463415.7522403.3	Repair and Servicing
62942018.00	Estate and Property Management	The Guinness Northern Countys	Langley House, Langley Close, Redcar, TS10 4JF	460409522540.6	Property and Development Services
62942697.00	Scrap Metal Merchants	European Metal Recycling	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462752.4522151.5	Recycling Services
62952412.00	Vehicle Repair, Testing and Servicing	Car Care of Marske	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462781522080	Repair and Servicing
62957496.00	Vehicle Repair, Testing and Servicing	Campbells Tyre & Exhausts	103-105 Redcar Road, Marske-By-The-Sea, Redc	462811.9522321.8	Repair and Servicing
62962956.00	Scrap Metal Merchants	A Robinson Auto Spares	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462715522086.2	Recycling Services
62974506.00	Vehicle Repair, Testing and Servicing	Marske Autotech	Zetland Building, Longbeck Estate, Marske-by-th	462793.3522101.6	Repair and Servicing
62984828.00	Vehicle Hire and Rental	Errington Travel	85, Longbeck Lane, New Marske, Redcar, TS11 8	461577.9520946	Hire Services
62984992.00	Advertising Services	The Local Answer Ltd	48, Cranbourne Drive, Redcar, TS10 2SP	461590.1522351.7	IT, Advertising, Marketing and Media Services
63004220.00	Barbers and Hairdressers	Tan Shop	155, High Street, Marske-by-the-Sea, Redcar, TS	463460.1522600.9	Personal, Consumer and other Services
63008905.00	Shoe Repairs	Traditional Shoe Repairs	160, High Street, Marske-by-the-Sea, Redcar, TS	463450.6522438.1	Repair and Servicing
63017522.00	Design Services	Welhams Kitchens Ltd	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462793.3522101.6	Research and Design
63044260.00	Vehicle Repair, Testing and Servicing	Fernwood Auto Services	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462735522074.6	Repair and Servicing
63059965.00	Barbers and Hairdressers	Jay B's	4, Kilbridge Close, New Marske, Redcar, TS11 8D	462095.1520799.9	Personal, Consumer and other Services
63079851.00	Electrical Contractors	K D Electrical	1, Azalia Grove, Redcar, TS10 2UA	461289.8522465.4	Construction Services
63094014.00	Vehicle Repair, Testing and Servicing	Mike Rigg Motor Engineers Ltd	21, Beverley Road, Redcar, TS10 3RH	461906523721.5	Repair and Servicing

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
63120565.00	Barbers and Hairdressers	Contemporary Hair & Beauty	2, The Wynd, Marske-by-the-Sea, Redcar, TS11 7	463457.7522330	Personal, Consumer and other Services
63122134.00	Vehicle Repair, Testing and Servicing	Marske Car Body Repairs	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462788.2522132.8	Repair and Servicing
63124050.00	Financial Institutions	Halifax	18, The Wynd, Marske-by-the-Sea, Redcar, TS11	463504.7522327.7	Legal and Financial
63156172.00	Distribution and Haulage	Containerships UK Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	Transport, Storage and Delivery
63161271.00	Electrical Equipment Repair and Servicing	Cleveland Mobile Computer Repair	10, Pasture Lane, Middlesbrough, TS6 8EG	457288.5519919.3	Repair and Servicing
66312648.00	Cash Machines	Cash Machine (InfoCash Ltd)	Redcar Road, Marske-by-the-Sea, Redcar, TS11 6	462879.5522377.9	Legal and Financial
74702001.00	Cash Machines	Cash Machine (TRM Corporation)	Longbeck Road, Marske-By-The-Sea, Redcar, No	462865522107	Legal and Financial
74704526.00	Business-Related Consultants	Rosedene Cattery Ltd	Rosedene, Old Lackenby, Middlesbrough, TS6 8D	456442.3519362.1	Consultancies
74713582.00	Civil Engineers	Design Research & Development Company Ltd	The Wilton Centre, Wilton, Redcar, TS10 4RF	458097520411.3	Engineering Services
74718031.00	Financial Advice Services	Edenbrow Financial Advisors	24, Wheatlands Park, Redcar, TS10 2PD	460834.8522666.6	Legal and Financial
74722257.00	Building Repairs	Platinum Plastering Services	15, Meadowgate, Middlesbrough, TS6 9JP	456343.4518993.4	Repair and Servicing
77965449.00	Metalworkers Including Blacksmiths	Cleveland Wrought Iron Furnishings Ltd	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462781.6522121	Construction Services
80219788.00	Container and Storage	Depot	TS6	457174519935	Transport, Storage and Delivery
80606988.00	Scrap Metal Merchants	Scrap Metal Yard	TS11	462740522132	Recycling Services
82673002.00	Vehicle Cleaning Services	Car Wash	Gurney Street, New Marske, Redcar, Cleveland,	462185521125	Personal, Consumer and other Services
82674973.00	Vehicle Cleaning Services	Car Wash	Longbeck Road, Marske-By-The-Sea, Redcar, Cle	462865522222	Personal, Consumer and other Services
90962523.00	Accountants and Auditors	Quill Computer Systems	The Wilton Centre, Wilton, Redcar, TS10 4RF	458097520411.3	Legal and Financial
90973632.00	Paypoint Locations	Sainsbury's	2, The Wynd, Marske-by-the-Sea, Redcar, TS11 7	463457.7522330	Legal and Financial
90977194.00	Paypoint Locations	A & S General Store	142, Birchington Avenue, Middlesbrough, TS6 7L	455635.4519851.1	Legal and Financial
90977196.00	Paypoint Locations	Lazenby Village Stores	23, High Street, Lazenby, Middlesbrough, TS6 8D	457279.8519780.4	Legal and Financial
90977630.00	Paypoint Locations	Sainsbury's	Larkswood Road, Redcar, TS10 4SD	460171522437	Legal and Financial
90984562.00	Paypoint Locations	Jay's News	294, Birchington Avenue, Middlesbrough, TS6 8B	455935.6519228.4	Legal and Financial
90984573.00	Paypoint Locations	McColl's	10, Gurney Street, New Marske, Redcar, TS11 8E	462220.7521255.9	Legal and Financial
90994971.00	Slimming Clubs and Services	Slimming World	Goathland Road, Middlesbrough, TS6 8AW	455881.9519292.1	Personal, Consumer and other Services
91000772.00	Employment Agencies	Techconsult UK Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	Employment and Career Agencies
91009786.00	Painting and Decorating Services	Terry Jackson & Son	8, Gleneagles Road, New Marske, Redcar, TS11 8	462132.2520993.4	Construction Services
91023842.00	Electrical and Electronic Engineers	N H Electrical	43, Grange Estate, Middlesbrough, TS6 8EL	457328.5520002.8	Engineering Services
91031882.00	Vehicle Hire and Rental	Elliotts Chauffeur Services	17, Crestwood, Redcar, TS10 4NN	460653522447.1	Hire Services
91040248.00	Marketing Services	Business Service Finder	The Old Ici Centre, The Wilton Centre, Wilton, Re	458097520411	IT, Advertising, Marketing and Media Services
94240868.00	Plumbing and Heating Services	Tucker D J	Zetland Building, Longbeck Estate, Marske-by-th	462793.3522101.6	Construction Services
94243956.00	Plumbing and Heating Services	Climate Control	96, Churchill Drive, Marske-by-the-Sea, Redcar, T	463217.8522630	Construction Services
94244980.00	Industrial Engineers	Cleveland Profiles Ltd	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462752.4522151.5	Engineering Services
94251813.00	Metalworkers Including Blacksmiths	Atkinsons	Unit 2 Zetland Building, Longbeck Trading Estate	462799522187	Construction Services
94266101.00	Cleaning Services	Smart Cleaners	59, Winchester Road, Redcar, TS10 3QW	461754.6523717.2	Personal, Consumer and other Services
94266840.00	Building Contractors	Aj Design & Construction	55, Torcross Way, Redcar, TS10 2SQ	461096.9522757.1	Construction Services
94272389.00	Business-Related Consultants	Medac Health Care	Wilton, Redcar, TS10 4RF	458097520411.3	Consultancies
96250739.00	Recycling, Reclamation and Disposal	UK Wood Recycling Ltd	Wilton Works, Trunk Road, Middlesbrough, TS6	456352.2520460.4	Recycling Services
96255033.00	Design Services	Eco Property Services	31, Meadowgate, Middlesbrough, TS6 9JP	456314.9518929	Research and Design
96258615.00	Architectural and Building-Related Consultants	D D Design Ltd	2, Stoupe Grove, Redcar, TS10 2QN	461596.9523161.5	Consultancies
96264411.00	Electrical Contractors	Apec Electrical Services	16, Hauxley Close, Redcar, TS10 2QT	461759.9523111.6	Construction Services
96264663.00	Design Services	David Price Landscape & Design	27, Crestwood, Redcar, TS10 4NN	460693.7522480.5	Research and Design
96288999.00	Testing and Analysis Services	Intertek Group Plc	Wilton, Redcar, TS10 4RF	458097520411.3	Research and Design
96297799.00	Cash Machines	Cash Machine (YCASH)	Wilton, Redcar, TS10 4RF	458097520411.3	Legal and Financial
96302969.00	Building Contractors	Ian Fenton Property Repairs & Maintenance	31, Chester Road, Redcar, TS10 3PZ	461734.1523931.3	Construction Services
97565463.00	Vehicle Repair, Testing and Servicing	Marske Auto Centre	4 Hudson Buildings Ryans Row, Longbeck Estate	462642.3522227.4	Repair and Servicing
97566633.00	Vehicle Hire and Rental	Auto Executive	Wilton, Redcar, TS10 4RF	458097520411.3	Hire Services
97567602.00	Electrical Contractors	Steven Magor Electrical Ltd	2, Lulworth Close, Redcar, TS10 2SN	461294.4522602.3	Construction Services
97582892.00	Road Construction Services	Eco Paving Services	31, Meadowgate, Middlesbrough, TS6 9JP	456314.9518929	Construction Services
97583462.00	Estate and Property Management	Sir William Turner's Hospital	1, Sir William Turners Court, Kirkleatham, Redca	459323.1521613.8	Property and Development Services
97589205.00	Cash Machines	Cash Machine (Sainsbury's Bank)	113-115 High Street, Marske, Redcar, Cleveland,	463410522345	Legal and Financial

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
97589206.00	Cash Machines	Cash Machine (Sainsbury's Bank)	Larkswood Road, Redcar, TS10 4SD	460171522437	Legal and Financial
##########	Vehicle Repair, Testing and Servicing	K & S Motor Engineers	Unit 2 Zetland Buildings, Longbeck Estate, Marsk	462799.2522187	Repair and Servicing
##########	Cash Machines	Cash Machine (Sainsbury's Bank)	Larkswood Road, Redcar, TS10 4SD	460171.4522436.8	Legal and Financial
##########	Cash Machines	Cash Machine (Sainsbury's Bank)	113-115, High Street, Marske-by-the-Sea, Redca	463409.9522344.9	Legal and Financial
##########	Plumbing and Heating Services	Trevor Hill Plumbing & Heating	33, Wilton Green, Middlesbrough, TS6 8DP	456990.2519653	Construction Services
##########	Architectural and Building-Related Consultants	Violet Light Consultants Ltd	19, Sandmoor Road, New Marske, Redcar, TS11	461950.3520703.8	Consultancies
##########	Financial Institutions	NatWest	17-19, The Wynd, Marske-by-the-Sea, Redcar, TS	463501.9522276.3	Legal and Financial
##########	Plumbing and Heating Services	Mick's Plumbing	31, Meadowgate, Middlesbrough, TS6 9JP	456314.9518929	Construction Services
##########	Financial Institutions	Yorkshire Building Society	2, Redcar Road, Marske-by-the-Sea, Redcar, TS1	463410.3522319.5	Legal and Financial
##########	Cash Machines	Cash Machine (YCASH)	23, High Street, Lazenby, Middlesbrough, TS6 8D	457279.8519780.4	Legal and Financial
##########	Vehicle Hire and Rental	Millennium Limousines	Hall Close, Marske-by-the-Sea, Redcar, TS11 6AB	463349.4522353.1	Hire Services
##########	Computer Systems Services	Tad Web Solutions Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	IT, Advertising, Marketing and Media Services
##########	Vehicle Repair, Testing and Servicing	Barry Walker Motor Engineer	Zetland Building, Longbeck Estate, Marske-by-th	462793.3522101.6	Repair and Servicing
##########	Distribution and Haulage	Agility Logistics	The Wilton Centre, Wilton, Redcar, TS10 4RF	458097520411.3	Transport, Storage and Delivery
66468000.00	Electrical Features	Electricity Sub Station	TS6	455530519934	Infrastructure and Facilities
40265803.00	Gas Features	Gas Valve Compound	TS6	457847520123	Infrastructure and Facilities
40272632.00	Gas Features	Gas Governor Station	TS10	460749522409	Infrastructure and Facilities
40272643.00	Waste Storage, Processing and Disposal	Outfall	TS11	463668522932	Infrastructure and Facilities
40527392.00	Waste Storage, Processing and Disposal	Sewage Works	TS11	462068522807	Infrastructure and Facilities
40639432.00	Gas Features	Gas Offtake Station	TS10	458945520862	Infrastructure and Facilities
40679810.00	Electrical Features	Pylon	TS6	457731.39520989.97	Infrastructure and Facilities
40679811.00	Electrical Features	Pylon	TS6	457733.91520984.53	Infrastructure and Facilities
40679821.00	Electrical Features	Pylon	TS6	456464.96519012.05	Infrastructure and Facilities
40680298.00	Electrical Features	Pylon	TS11	460882.59521710.2	Infrastructure and Facilities
40684268.00	Electrical Features	Pylon	TS11	460940.7520643.17	Infrastructure and Facilities
40685651.00	Railway Stations, Junctions and Halts	Longbeck Halt	TS11	462707522001	Public Transport, Stations and Infrastructure
40691084.00	Electrical Features	Pylon	TS6	456317.6519544.6	Infrastructure and Facilities
40691086.00	Electrical Features	Pylon	TS6	457785.3520948.7	Infrastructure and Facilities
40691107.00	Electrical Features	Pylon	TS11	460825.15522230.75	Infrastructure and Facilities
40691110.00	Electrical Features	Pylon	TS6	456421.08520158.97	Infrastructure and Facilities
40691111.00	Electrical Features	Pylon	TS6	456097.8520410.7	Infrastructure and Facilities
40691144.00	Electrical Features	Pylon	TS6	456372.72519260.74	Infrastructure and Facilities
40698294.00	Electrical Features	Pylon	TS6	456426.77519872.14	Infrastructure and Facilities
40698295.00	Electrical Features	Pylon	TS6	456347.21519751.2	Infrastructure and Facilities
40698726.00	Electrical Features	Pylon	TS11	460915.86521408.27	Infrastructure and Facilities
40698749.00	Electrical Features	Pylon	TS6	456334.15519405.3	Infrastructure and Facilities
40698750.00	Electrical Features	Pylon	TS6	456664.48519937.95	Infrastructure and Facilities
40702685.00	Electrical Features	Pylon	TS6	456264.3519555.2	Infrastructure and Facilities
40747544.00	Electrical Features	Pylon	TS11	461025.06521120.1	Infrastructure and Facilities
40747545.00	Electrical Features	Pylon	TS11	460981.23520872.14	Infrastructure and Facilities
40747591.00	Electrical Features	Pylon	TS6	456105.8519425.35	Infrastructure and Facilities
40752604.00	Electrical Features	Pylon	TS6	456629.77519681.2	Infrastructure and Facilities
40752617.00	Electrical Features	Pylon	TS6	456229.61520065.09	Infrastructure and Facilities
40752622.00	Electrical Features	Pylon	TS6	456544.32519035.02	Infrastructure and Facilities
40752628.00	Electrical Features	Pylon	TS11	460849.6522012.2	Infrastructure and Facilities
40752629.00	Electrical Features	Pylon	TS6	456709.25520289.55	Infrastructure and Facilities
66441423.00	Electrical Features	Electricity Sub Station	TS10	458982522039	Infrastructure and Facilities
66449767.00	Electrical Features	Electricity Sub Station	TS6	457181519746	Infrastructure and Facilities
66451148.00	Electrical Features	Electricity Sub Station	TS6	457444519895	Infrastructure and Facilities
66451150.00	Electrical Features	Electricity Sub Station	TS6	456111519130	Infrastructure and Facilities

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66451153.00	Electrical Features	Electricity Sub Station	TS10	461468522395	Infrastructure and Facilities
66458402.00	Electrical Features	Electricity Sub Station	TS6	455757519701	Infrastructure and Facilities
66458403.00	Electrical Features	Electricity Sub Station	TS6	456191519527	Infrastructure and Facilities
66458883.00	Electrical Features	Electricity Sub Station	TS11	463014522705	Infrastructure and Facilities
66458887.00	Electrical Features	Electricity Sub Station	TS11	463086522506	Infrastructure and Facilities
66458889.00	Electrical Features	Electricity Sub Station	TS11	459968521037	Infrastructure and Facilities
66458891.00	Electrical Features	Electricity Sub Station	TS10	461712523923	Infrastructure and Facilities
66458899.00	Electrical Features	Electricity Sub Station	TS11	461916520813	Infrastructure and Facilities
66459504.00	Electrical Features	Electricity Sub Station	TS11	462316521268	Infrastructure and Facilities
66461291.00	Electrical Features	Electricity Sub Station	TS10	460238522582	Infrastructure and Facilities
66461293.00	Electrical Features	Electricity Sub Station	TS11	463021522193	Infrastructure and Facilities
66462604.00	Electrical Features	Electricity Sub Station	TS6	455948519040	Infrastructure and Facilities
66467927.00	Electrical Features	Electricity Sub Station	TS6	456175518860	Infrastructure and Facilities
66467944.00	Electrical Features	Electricity Sub Station	TS10	461447522965	Infrastructure and Facilities
66467999.00	Electrical Features	Electricity Sub Station	TS6	455908519550	Infrastructure and Facilities
66481662.00	Electrical Features	Electricity Sub Station	TS11	462401522383	Infrastructure and Facilities
66482033.00	Electrical Features	Electricity Sub Station	TS10	460808522665	Infrastructure and Facilities
66485047.00	Electrical Features	Electricity Sub Station	TS10	461815523646	Infrastructure and Facilities
66491203.00	Electrical Features	Electricity Sub Station	TS11	463492522637	Infrastructure and Facilities
66491461.00	Electrical Features	Electricity Sub Station	TS6	456557519228	Infrastructure and Facilities
66494914.00	Electrical Features	Electricity Sub Stations	TS10	460355522417	Infrastructure and Facilities
66507263.00	Electrical Features	Electricity Sub Station	TS11	462383520845	Infrastructure and Facilities
66507826.00	Electrical Features	Electricity Sub Station	TS11	463353522924	Infrastructure and Facilities
66511845.00	Electrical Features	Electricity Sub Station	TS10	460537522586	Infrastructure and Facilities
66550441.00	Electrical Features	Electricity Sub Station	TS10	459233521724	Infrastructure and Facilities
66564906.00	Electrical Features	Electricity Sub Station	TS11	462793522270	Infrastructure and Facilities
66573763.00	Electrical Features	Electricity Sub Station	TS6	456674520343	Infrastructure and Facilities
66580558.00	Electrical Features	Electricity Sub Station	TS11	459781521591	Infrastructure and Facilities
66583525.00	Electrical Features	Electricity Sub Station	TS6	456476519344	Infrastructure and Facilities
66592651.00	Electrical Features	Electricity Sub Station	TS6	455838519314	Infrastructure and Facilities
66619084.00	Electrical Features	Electricity Sub Station	TS6	456265519320	Infrastructure and Facilities
66619085.00	Electrical Features	Electricity Sub Station	TS6	456136519426	Infrastructure and Facilities
66628141.00	Electrical Features	Electricity Sub Station	TS6	456730519233	Infrastructure and Facilities
66635095.00	Electrical Features	Electricity Sub Station	TS10	461055522619	Infrastructure and Facilities
66637933.00	Electrical Features	Electricity Sub Station	TS11	462967522432	Infrastructure and Facilities
66641135.00	Electrical Features	Electricity Sub Station	TS11	462614522402	Infrastructure and Facilities
66641139.00	Electrical Features	Electricity Sub Station	TS10	460438522752	Infrastructure and Facilities
66651190.00	Electrical Features	Electricity Sub Station	TS6	456202520401	Infrastructure and Facilities
66651193.00	Electrical Features	Electricity Sub Station	TS10	460032522324	Infrastructure and Facilities
66651203.00	Electrical Features	Electricity Sub Station	TS11	462193520627	Infrastructure and Facilities
66651204.00	Electrical Features	Electricity Sub Station	TS11	463360522633	Infrastructure and Facilities
66651255.00	Electrical Features	Electricity Sub Station	TS11	462063521014	Infrastructure and Facilities
66655559.00	Electrical Features	Electricity Sub Station	TS6	456378520210	Infrastructure and Facilities
66656768.00	Electrical Features	Electricity Sub Station	TS11	461629520657	Infrastructure and Facilities
66656769.00	Electrical Features	Electricity Sub Station	TS11	462869522092	Infrastructure and Facilities
66656890.00	Electrical Features	Electricity Sub Station	TS10	461435522671	Infrastructure and Facilities
66656892.00	Electrical Features	Electricity Sub Station	TS11	463237522751	Infrastructure and Facilities
80678975.00	Petrol and Fuel Stations	Brighton Motor Services	Gurney Street, New Marske, Redcar, Cleveland,	462185521125	Road And Rail
83294311.00	Gas Features	Gas Governor	TS10	460749522410	Infrastructure and Facilities
83295189.00	Gas Features	Flare Stack	TS10	458276521652	Infrastructure and Facilities

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83299575.00	Gas Features	Gas Offtake Station	TS10	458916520859	Infrastructure and Facilities
83299649.00	Gas Features	Gas Valve Compound	TS6	457844520123	Infrastructure and Facilities
83301503.00	Gas Features	Flare Stack	TS6	457779520947	Infrastructure and Facilities
##########	Petrol and Fuel Stations	Top Spot Services Marske Ltd	Longbeck Road, Marske-By-The-Sea, Redcar, Cle	462865522222	Road And Rail
37999900.00	Tanks (Generic)	Tanks	TS6	456559520754	Industrial Features
38026900.00	Tanks (Generic)	Tank	TS6	457669521168	Industrial Features
38029200.00	Tanks (Generic)	Tank	TS10	458231521697	Industrial Features
37999880.00	Tanks (Generic)	Tanks	TS6	457908521023	Industrial Features
37999885.00	Tanks (Generic)	Tanks	TS6	456601520436	Industrial Features
37999886.00	Tanks (Generic)	Tanks	TS6	456614520544	Industrial Features
37999887.00	Tanks (Generic)	Tanks	TS6	456659520993	Industrial Features
37999888.00	Tanks (Generic)	Tank	TS6	456752520922	Industrial Features
37999892.00	Tanks (Generic)	Tank	TS10	458404521284	Industrial Features
37999893.00	Tanks (Generic)	Tank	TS10	458444521384	Industrial Features
37999894.00	Tanks (Generic)	Tank	TS10	458472521314	Industrial Features
37999895.00	Tanks (Generic)	Tanks	TS6	456590520857	Industrial Features
37999898.00	Tanks (Generic)	Tanks	TS6	456519520728	Industrial Features
37999899.00	Tanks (Generic)	Tanks	TS6	456511520779	Industrial Features
37999901.00	Tanks (Generic)	Tanks	TS6	456749520766	Industrial Features
37999903.00	Tanks (Generic)	Tanks	TS6	456505520752	Industrial Features
37999904.00	Tanks (Generic)	Tanks	TS6	456620520860	Industrial Features
37999934.00	Tanks (Generic)	Tanks	TS6	456222520805	Industrial Features
38000834.00	Tanks (Generic)	Tank	TS6	456493520786	Industrial Features
38000854.00	Tanks (Generic)	Tanks	TS6	456657520871	Industrial Features
38000855.00	Tanks (Generic)	Tanks	TS6	456382520695	Industrial Features
38000871.00	Tanks (Generic)	Tank	TS6	456183520809	Industrial Features
38000879.00	Tanks (Generic)	Tank	TS6	456283520727	Industrial Features
38001597.00	Tanks (Generic)	Tank	TS6	457591521191	Industrial Features
38002090.00	Tanks (Generic)	Tank	TS6	456564520844	Industrial Features
38002109.00	Tanks (Generic)	Tank	TS6	457578521185	Industrial Features
38002112.00	Tanks (Generic)	Tanks	TS10	458340521874	Industrial Features
38002113.00	Tanks (Generic)	Tank	TS10	459186521812	Industrial Features
38002235.00	Tanks (Generic)	Tanks	TS6	457873521064	Industrial Features
38002236.00	Tanks (Generic)	Tank	TS6	457978521006	Industrial Features
38002257.00	Tanks (Generic)	Tanks	TS6	457660521191	Industrial Features
38002258.00	Tanks (Generic)	Tanks	TS6	457826521134	Industrial Features
38002545.00	Tanks (Generic)	Tanks	TS6	457856521042	Industrial Features
38002550.00	Tanks (Generic)	Tank	TS6	457992521022	Industrial Features
38002567.00	Tanks (Generic)	Tanks	TS6	457720521236	Industrial Features
38002569.00	Tanks (Generic)	Tanks	TS6	457861521005	Industrial Features
38002570.00	Tanks (Generic)	Tank	TS6	457987521116	Industrial Features
38002574.00	Tanks (Generic)	Tank	TS6	457245521041	Industrial Features
38016224.00	Lighting Towers	Lighting Tower	TS6	456677520909	Industrial Features
38016227.00	Lighting Towers	Lighting Tower	TS6	456258520711	Industrial Features
38016228.00	Lighting Towers	Lighting Tower	TS6	456315520752	Industrial Features
38016229.00	Lighting Towers	Lighting Tower	TS6	456343520811	Industrial Features
38016230.00	Lighting Towers	Lighting Tower	TS6	456419520846	Industrial Features
38016231.00	Lighting Towers	Lighting Tower	TS6	456662520949	Industrial Features
38016232.00	Lighting Towers	Lighting Tower	TS6	456694520803	Industrial Features
38016233.00	Lighting Towers	Lighting Tower	TS6	456726520979	Industrial Features

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
38016234.00	Lighting Towers	Lighting Tower	TS6	456395520673	Industrial Features
38016235.00	Lighting Towers	Lighting Tower	TS6	456051520649	Industrial Features
38016236.00	Lighting Towers	Lighting Tower	TS6	456434520797	Industrial Features
38016237.00	Lighting Towers	Lighting Tower	TS6	456768520824	Industrial Features
38016239.00	Lighting Towers	Lighting Tower	TS6	456581520871	Industrial Features
38016759.00	Lighting Towers	Lighting Tower	TS6	456413520548	Industrial Features
38016760.00	Lighting Towers	Lighting Tower	TS6	456457520655	Industrial Features
38017275.00	Lighting Towers	Lighting Tower	TS10	458280521258	Industrial Features
38017276.00	Lighting Towers	Lighting Tower	TS10	458140521277	Industrial Features
38017278.00	Lighting Towers	Lighting Tower	TS6	457954520865	Industrial Features
38017288.00	Lighting Towers	Lighting Tower	TS10	458282521194	Industrial Features
38017291.00	Lighting Towers	Lighting Tower	TS6	456471520698	Industrial Features
38026901.00	Tanks (Generic)	Tank	TS6	457851521059	Industrial Features
38026904.00	Tanks (Generic)	Tank	TS6	457980521066	Industrial Features
38026907.00	Tanks (Generic)	Tanks	TS6	457986521042	Industrial Features
38026908.00	Tanks (Generic)	Tanks	TS6	458008521110	Industrial Features
38026910.00	Tanks (Generic)	Tank	TS10	458190521582	Industrial Features
38026914.00	Tanks (Generic)	Tank	TS10	458388521816	Industrial Features
38026921.00	Tanks (Generic)	Tanks	TS11	462688521082	Industrial Features
38026992.00	Tanks (Generic)	Tanks	TS10	458393521911	Industrial Features
38026993.00	Tanks (Generic)	Tank	TS6	456196520784	Industrial Features
38026997.00	Tanks (Generic)	Tanks	TS6	456451520718	Industrial Features
38028654.00	Tanks (Generic)	Tank	TS6	457893521086	Industrial Features
38028655.00	Tanks (Generic)	Tanks	TS6	457976521095	Industrial Features
38028656.00	Tanks (Generic)	Tank	TS10	458134521725	Industrial Features
38028658.00	Tanks (Generic)	Tank	TS6	458035521226	Industrial Features
38028659.00	Tanks (Generic)	Tank	TS6	458045521108	Industrial Features
38028660.00	Tanks (Generic)	Tank	TS6	458048521084	Industrial Features
38028662.00	Tanks (Generic)	Tanks	TS10	458215521455	Industrial Features
38028663.00	Tanks (Generic)	Tanks	TS10	458216521480	Industrial Features
38028664.00	Tanks (Generic)	Tanks	TS10	458291521498	Industrial Features
38028665.00	Tanks (Generic)	Tanks	TS10	458310521463	Industrial Features
38028667.00	Tanks (Generic)	Tanks	TS6	458017521138	Industrial Features
38028668.00	Tanks (Generic)	Tanks	TS6	458077521208	Industrial Features
38028669.00	Tanks (Generic)	Tanks	TS10	458093521214	Industrial Features
38028670.00	Tanks (Generic)	Tanks	TS10	458114521231	Industrial Features
38028680.00	Tanks (Generic)	Tanks	TS6	457815520995	Industrial Features
38028685.00	Tanks (Generic)	Tanks	TS6	457875520983	Industrial Features
38028688.00	Tanks (Generic)	Tanks	TS6	457933520930	Industrial Features
38028689.00	Tanks (Generic)	Tanks	TS10	458194521746	Industrial Features
38028690.00	Tanks (Generic)	Tank	TS10	458470521910	Industrial Features
38028698.00	Tanks (Generic)	Tank	TS6	457828521006	Industrial Features
38028699.00	Tanks (Generic)	Tanks	TS6	456633520828	Industrial Features
38028701.00	Tanks (Generic)	Tank	TS10	458221521532	Industrial Features
38028703.00	Tanks (Generic)	Tanks	TS6	457909520989	Industrial Features
38028706.00	Tanks (Generic)	Tanks	TS10	458125521692	Industrial Features
38028711.00	Tanks (Generic)	Tank	TS10	458147521809	Industrial Features
38029198.00	Tanks (Generic)	Tanks	TS10	458346521540	Industrial Features
38029199.00	Tanks (Generic)	Tanks	TS10	458316521862	Industrial Features
38029203.00	Tanks (Generic)	Tank	TS10	458352521565	Industrial Features

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
38029211.00	Tanks (Generic)	Tank	TS10	458274521816	Industrial Features
38029212.00	Tanks (Generic)	Tank	TS10	458205521691	Industrial Features
38029213.00	Tanks (Generic)	Tanks	TS10	458149521780	Industrial Features
38029214.00	Tanks (Generic)	Tank	TS10	458261521873	Industrial Features
38029217.00	Tanks (Generic)	Tanks	TS10	458318521880	Industrial Features
38029218.00	Tanks (Generic)	Tanks	TS10	458095521708	Industrial Features
38029220.00	Tanks (Generic)	Tanks	TS10	458158521752	Industrial Features
38029715.00	Tanks (Generic)	Tank	TS6	456406520574	Industrial Features
38030865.00	Tanks (Generic)	Tank	TS11	461423520989	Industrial Features
38030867.00	Tanks (Generic)	Tank	TS10	460323522474	Industrial Features
38031872.00	Lighting Towers	Lighting Tower	TS6	456384520612	Industrial Features
38031876.00	Lighting Towers	Lighting Tower	TS6	457764521107	Industrial Features
38075504.00	Chimneys	Cooling Tower	TS6	456660520439	Industrial Features
38080667.00	Conveyors	Conveyor	TS11	462708522113	Industrial Features
38087452.00	Chimneys	Cooling Tower	TS6	458121520954	Industrial Features
38088581.00	Chimneys	Cooling Tower	TS10	458246521783	Industrial Features
38088582.00	Chimneys	Cooling Tower	TS10	458283521577	Industrial Features
38105298.00	Water Pumping Stations	Pumping House	TS6	456633520481	Industrial Features
38110380.00	Chimneys	Cooling Tower	TS6	456439520605	Industrial Features
38135079.00	Pipelines	Pipeline	TS10	458742521561	Industrial Features
38145007.00	Tanks (Generic)	Tank	TS6	456093520798	Industrial Features
38145008.00	Tanks (Generic)	Tanks	TS6	456262520792	Industrial Features
38145074.00	Tanks (Generic)	Tank	TS10	458467521922	Industrial Features
38145667.00	Tanks (Generic)	Tanks	TS6	457892521073	Industrial Features
38145677.00	Tanks (Generic)	Tank	TS6	457948521112	Industrial Features
38145684.00	Tanks (Generic)	Tank	TS6	457609521189	Industrial Features
38146119.00	Tanks (Generic)	Tank	TS6	458030521121	Industrial Features
38146121.00	Tanks (Generic)	Tanks	TS10	458242521480	Industrial Features
38146123.00	Tanks (Generic)	Tanks	TS6	458042521043	Industrial Features
38146130.00	Tanks (Generic)	Tanks	TS6	457419520481	Industrial Features
38146134.00	Tanks (Generic)	Tank	TS10	458238521865	Industrial Features
38146135.00	Tanks (Generic)	Tanks	TS6	456669520852	Industrial Features
38146136.00	Tanks (Generic)	Tanks	TS6	458016521056	Industrial Features
38146137.00	Tanks (Generic)	Tanks	TS6	456629520932	Industrial Features
38146148.00	Tanks (Generic)	Tank	TS10	458337521572	Industrial Features
38146149.00	Tanks (Generic)	Tanks	TS10	458182521719	Industrial Features
38146152.00	Tanks (Generic)	Tanks	TS10	458116521761	Industrial Features
38149282.00	Tanks (Generic)	Tank	TS6	456663520498	Industrial Features
38150749.00	Lighting Towers	Lighting Tower	TS6	456238520600	Industrial Features
38150750.00	Lighting Towers	Lighting Tower	TS6	456340520643	Industrial Features
38150751.00	Lighting Towers	Lighting Tower	TS6	456687520963	Industrial Features
38150752.00	Lighting Towers	Lighting Tower	TS6	456143520768	Industrial Features
38150753.00	Lighting Towers	Lighting Tower	TS6	456519520832	Industrial Features
38151347.00	Lighting Towers	Lighting Tower	TS10	458179521185	Industrial Features
38174115.00	Tanks (Generic)	Tanks	TS6	456626520794	Industrial Features
38174117.00	Tanks (Generic)	Tanks	TS6	456706520823	Industrial Features
38174118.00	Tanks (Generic)	Tanks	TS6	456736520847	Industrial Features
38174127.00	Tanks (Generic)	Tanks	TS6	456393520745	Industrial Features
38174131.00	Tanks (Generic)	Tank	TS6	456324520638	Industrial Features
38175063.00	Tanks (Generic)	Tank	TS6	456231520772	Industrial Features

Table 3.2.1 - Land Use GIS Data Royal

38175077.00	Tanks (Generic)	Tank	TS10	458226521742	Industrial Features
38184812.00	Sheep Dips and Washes	Sheep Dip	TS11	462696521164	Farming
38198504.00	Pipelines	Pipeline	TS6	458181520685	Industrial Features
38198731.00	Tanks (Generic)	Tanks	TS10	458219521545	Industrial Features
38200490.00	Energy Production	Power Station	TS6	456554520415	Industrial Features
38221454.00	Hoppers and Silos	Hoppers	TS6	457755521266	Farming
38221455.00	Water Pumping Stations	Pump	TS11	459905520931	Industrial Features
38221899.00	Pipelines	Pipeline	TS6	456741520680	Industrial Features
38222086.00	Tanks (Generic)	Tank	TS6	456645520541	Industrial Features
38227349.00	Lighting Towers	Lighting Tower	TS6	457849520901	Industrial Features
38227371.00	Tanks (Generic)	Tank	TS10	458241521499	Industrial Features
38227374.00	Tanks (Generic)	Tank	TS10	458331521864	Industrial Features
38227377.00	Tanks (Generic)	Tanks	TS10	458165521819	Industrial Features
38227987.00	Tanks (Generic)	Tanks	TS6	456641520767	Industrial Features
38227989.00	Tanks (Generic)	Tanks	TS6	456591520752	Industrial Features
38228028.00	Tanks (Generic)	Tank	TS6	457945521005	Industrial Features
38228054.00	Lighting Towers	Lighting Tower	TS6	456173520678	Industrial Features
38231693.00	Chimneys	Cooling Tower	TS10	458217521415	Industrial Features
38231695.00	Chimneys	Cooling Tower	TS10	458311521589	Industrial Features
38231696.00	Chimneys	Cooling Tower	TS10	458282521447	Industrial Features
38242175.00	Tanks (Generic)	Tank	TS6	456244520752	Industrial Features
38242183.00	Tanks (Generic)	Tank	TS10	458217521564	Industrial Features
38243301.00	Pipelines	Pipeline	TS11	462661523663	Industrial Features
38246254.00	Tanks (Generic)	Tanks	TS6	456284520783	Industrial Features
38248020.00	Tanks (Generic)	Tank	TS10	458203521542	Industrial Features
38248027.00	Tanks (Generic)	Tank	TS6	458204521069	Industrial Features
38248033.00	Tanks (Generic)	Tanks	TS6	457422520668	Industrial Features
38248035.00	Tanks (Generic)	Tanks	TS10	458186521460	Industrial Features
38248036.00	Tanks (Generic)	Tanks	TS6	456690520879	Industrial Features
38248039.00	Tanks (Generic)	Tank	TS10	458285521565	Industrial Features
38249113.00	Tanks (Generic)	Tanks	TS11	460935520842	Industrial Features
38255462.00	Tanks (Generic)	Tank	TS6	456611521005	Industrial Features
38255463.00	Tanks (Generic)	Tanks	TS6	457847521148	Industrial Features
38257535.00	Tanks (Generic)	Tanks	TS10	458286521516	Industrial Features
38260759.00	Tanks (Generic)	Tanks	TS6	456492520725	Industrial Features
38261352.00	Tanks (Generic)	Tanks	TS10	458231521521	Industrial Features
38263611.00	Tanks (Generic)	Tanks	TS6	456730520861	Industrial Features
66132737.00	Agricultural Machinery and Goods	GB UK	Unit 5 Zetland Buildings, Longbeck Estate, Marsk	462744.8522035.8	Industrial Products
66153316.00	Curtains and Blinds	Marske Furnishings	21, The Wynd, Marske-by-the-Sea, Redcar, TS11	463501.5522286.4	Consumer Products
66153909.00	General Construction Supplies	Pipeline Profile Company Ltd	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462753.3522268.2	Industrial Products
66177972.00	Mixed Or Unspecified Farming	G & S Towers	Turners Arms Farm, Yearby, Redcar, TS11 8HH	460046.9521332.8	Farming
66178947.00	Mixed Or Unspecified Farming	Kand T Wilson	Pontac Farm, Longbeck Lane, New Marske, Redc	462658.8521137.8	Farming
66182273.00	Furniture	Falklands Pine	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462848.8522113.9	Consumer Products
66183619.00	Livestock Farming	J A Pybus	Grewgrass Farm, Grewgrass Lane, Marske-by-th	461086.2521830.3	Farming
66188259.00	Animal Breeders (Not Horses)	W A Wardman	Thrushwood Farm, Grewgrass Lane, Yearby, Red	460885.3520858.5	Farming
66191118.00	Furniture	Upholstery-art Ltd	The Forge, Fishpond Road, Yearby, Redcar, TS11	460097.2521018.7	Consumer Products
66214601.00	Electronic Equipment	Marske Alarms	8, Halifax Close, Marske-by-the-Sea, Redcar, TS1	462838.9522406.6	Industrial Products
66219625.00	General Construction Supplies	Kastle Engineering Ltd	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462645.2522258.5	Industrial Products
66222303.00	General Construction Supplies	Holmes Joinery & Manufacturing Co Ltd	2, Redcar Avenue, Marske-by-the-Sea, Redcar, T	462755522307.8	Industrial Products
66259420.00	Measurement and Inspection Equipment	Saintedge Ltd	83, Wheatlands Park, Redcar, TS10 2PF	460718522820	Industrial Products

UNIQUE_ID	CLASS	NAME	LOC	GRIDS	SUB_CAT
66260548.00	Measurement and Inspection Equipment	Martin Control Systems Ltd	49, Cranbourne Drive, Redcar, TS10 2SP	461544.5522266.6	Industrial Products
66271331.00	Livestock Farming	J & R Bullock	Oldhall Farm, Old Lackenby, Middlesbrough, TS	6456488.4519367.9	Farming
80226872.00	Unspecified Works Or Factories	Works	TS11	462061522808	Industrial Features
80227934.00	Unspecified Works Or Factories	Wilton Works	TS10	458267521707	Industrial Features
80229703.00	Unspecified Works Or Factories	Works	TS11	462829522283	Industrial Features
80229704.00	Unspecified Works Or Factories	Works	TS11	462677522063	Industrial Features
80229712.00	Unspecified Works Or Factories	Works	TS11	462842522139	Industrial Features
80229713.00	Unspecified Works Or Factories	Works	TS11	462708522257	Industrial Features
80229714.00	Unspecified Works Or Factories	Works	TS11	462792522176	Industrial Features
80229715.00	Unspecified Works Or Factories	Works	TS11	462716522207	Industrial Features
80229724.00	Unspecified Works Or Factories	Works	TS11	462851522174	Industrial Features
80229725.00	Unspecified Works Or Factories	Works	TS11	462760522261	Industrial Features
80230674.00	Unspecified Works Or Factories	Wilton Works	TS10	458243521232	Industrial Features
80238075.00	Unspecified Works Or Factories	Wilton Works	TS10	458706521322	Industrial Features
80239033.00	Unspecified Works Or Factories	Works	TS11	462779522028	Industrial Features
80241513.00	Unspecified Works Or Factories	Wilton Works	TS6	456805520859	Industrial Features
80241520.00	Unspecified Works Or Factories	Wilton Works	TS6	456257520804	Industrial Features
80244203.00	Unspecified Works Or Factories	Wilton Works	TS6	456218520319	Industrial Features
80252238.00	Unspecified Works Or Factories	Wilton Works	TS6	455957520417	Industrial Features
80260365.00	Unspecified Works Or Factories	Wilton Works	TS6	457450520735	Industrial Features
80260371.00	Unspecified Works Or Factories	Wilton Works	TS6	458087520680	Industrial Features
80270974.00	Unspecified Works Or Factories	Factory	TS11	462792522106	Industrial Features
80629876.00	Colours, Chemicals and Water Softeners and Supplies	Nepic Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	Industrial Products
80633210.00	Chimneys	Chimney	TS10	458355521517	Industrial Features
80633543.00	Chimneys	Chimney	TS6	456563520683	Industrial Features
80634005.00	Chimneys	Chimney	TS10	458185521400	Industrial Features
80634087.00	Chimneys	Chimneys	TS6	457909521173	Industrial Features
80634452.00	Chimneys	Chimney	TS6	456677520832	Industrial Features
80634453.00	Chimneys	Chimney	TS6	457248521056	Industrial Features
80634454.00	Chimneys	Chimneys	TS6	457827520930	Industrial Features
80634465.00	Chimneys	Chimney	TS10	458184521577	Industrial Features
80635625.00	Chimneys	Cooling Tower	TS10	458280521450	Industrial Features
80636196.00	Chimneys	Cooling Tower	TS6	456439520600	Industrial Features
80638492.00	Chimneys	Cooling Tower	TS10	458315521592	Industrial Features
80638660.00	Chimneys	Cooling Tower	TS10	458292521578	Industrial Features
80638662.00	Chimneys	Cooling Tower	TS10	458246521783	Industrial Features
80638663.00	Chimneys	Cooling Tower	TS10	458201521403	Industrial Features
80638673.00	Chimneys	Chimney	TS6	457929521192	Industrial Features
80638676.00	Chimneys	Cooling Tower	TS6	456646520438	Industrial Features
91072713.00	Furniture	Flintoff Bespoke Cabinet Maker	Longbeck Estate, Marske-by-the-Sea, Redcar, TS	462828.2522088.4	Consumer Products
91073547.00	Conservatories	Room in a Garden	45, Durham Road, Redcar, TS10 3SB	461866.2523662.7	Consumer Products
91075723.00	Colours, Chemicals and Water Softeners and Supplies	Sembcorp Utilities UK Ltd	The Wilton International Site, Wilton, Redcar, Cl	458097520411	Industrial Products
94291263.00	Animal Breeders (Not Horses)	W A Moore & Son	Grange Farm, High Street, Lazenby, Middlesbrou	457550519863	Farming
94296470.00	Packaging	Returnable Packaging Services Ltd	Wilton, Redcar, TS10 4RF	458097520411.3	Industrial Products
##########	Measurement and Inspection Equipment	Ribble Enviro Ltd	130 The Wilton Centre, Ici Wilton Works, Wilton	458097520411	Industrial Products
##########	Colours, Chemicals and Water Softeners and Supplies	Lotte Chemical UK Ltd	Artenius UK, Wilton Works, Middlesbrough, Clev	458096520616	Industrial Products
##########	Electrical Components	Ecom Instruments UK Ltd	The Wilton Centre, Wilton, Redcar, TS10 4RF	458097520411.3	Industrial Products
##########	Furniture	C N C Interiors	1, Redcar Road, Marske-by-the-Sea, Redcar, TS1	463419.1522321.9	Consumer Products
##########	Chimneys	Chimney	TS6	457275521043	Industrial Features

8457221.000000000000000	106	106	Factory or Works	Factory or works - use not specified	1953	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8457059.000000000000000	102	102	Factory or Works	Factory or works - use not specified	1992	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8457177.000000000000000	105	105	Factory or Works	Factory or works - use not specified	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8185206.000000000000000	093	093	Electricity	Electricity production & distribution [inc large transformers]	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
0.000000000000000	116	116	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	117	117	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	118	118	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	119	119	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	120	120	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	121	121	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	122	122	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	123	123	Licensed Landfill	Licensed Landfill	1954	Redcar Mudstone Formation	
0.000000000000000	124	124	Licensed Landfill	Licensed Landfill	Active	Redcar Mudstone Formation	
0.000000000000000	108	108	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	109	109	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	110	110	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	111	111	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	112	112	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	113	113	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	114	114	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	
0.000000000000000	115	115	Historic Landfill	Historic Landfill	Unknown	Redcar Mudstone Formation	

9744584.000000000000000	051	051	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
1744571.000000000000000	038	038	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597556.000000000000000	015	015	Tanks	Tanks	1954	Redcar Mudstone Formation	BLOWN SAND - SAND
19744582.000000000000000	049	049	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744580.000000000000000	047	047	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597566.000000000000000	025	025	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597561.000000000000000	020	020	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597569.000000000000000	027	027	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744574.000000000000000	041	041	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597549.000000000000000	009	009	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597565.000000000000000	024	024	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744591.000000000000000	054	054	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597557.000000000000000	016	016	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597647.000000000000000	029	029	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1991	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19597573.000000000000000	028	028	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597562.000000000000000	021	021	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744714.000000000000000	056	056	Tanks	Tanks	1991	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19597452.000000000000000	007	007	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1983	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19744579.000000000000000	046	046	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597553.000000000000000	012	012	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597567.000000000000000	026	026	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744592.000000000000000	055	055	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1973	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597451.000000000000000	006	006	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1983	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19744576.000000000000000	043	043	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744570.000000000000000	037	037	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744587.000000000000000	053	053	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597559.000000000000000	018	018	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744569.000000000000000	036	036	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597558.000000000000000	017	017	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744577.000000000000000	044	044	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744581.000000000000000	048	048	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744572.000000000000000	039	039	Tanks	Tanks	1954	Redcar Mudstone Formation	BLOWN SAND - SAND
19597563.000000000000000	022	022	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597554.000000000000000	013	013	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744578.000000000000000	045	045	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597690.000000000000000	030	030	Tanks	Potential Tanks	1971	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19744562.000000000000000	032	032	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1985	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597560.000000000000000	019	019	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744575.000000000000000	042	042	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744563.000000000000000	033	033	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1985	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597555.000000000000000	014	014	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8457176.000000000000000	104	104	Factory or Works	Factory or works - use not specified	1992	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8244805.000000000000000	097	097	Metal Casting/Foundries	Metal casting/foundries	1938	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8244804.000000000000000	096	096	Metal Casting/Foundries	Metal casting/foundries	1919	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8244803.000000000000000	095	095	Metal Casting/Foundries	Metal casting/foundries	1895	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8407349.000000000000000	099	099	Sewage	Sewage	1994	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8457222.000000000000000	107	107	Factory or Works	Factory or works - use not specified	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8457037.000000000000000	100	100	Factory or Works	Factory or works - use not specified	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8185214.000000000000000	094	094	Electricity	Electricity production & distribution [inc large transformers]	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8457040.000000000000000	101	101	Factory or Works	Factory or works - use not specified	1992	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8457175.000000000000000	103	103	Factory or Works	Factory or works - use not specified	1982	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351704.000000000000000	098	098	Railways	Railways	1992	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT

Table 3.2.2 - Historical GIS Data

UNIQUE_ID	RH_ID	RH_ID_1	TITLE	CLASS	PUB_DATE	BEDROCKGEO	SUPERGEO
8351555.000000000000000	068	068	Railways	Railways	1938	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351605.000000000000000	072	072	Pipelines (Transport Via)	Pipelines [transport via]	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8351554.000000000000000	067	067	Railways	Railways	1919	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351615.000000000000000	076	076	Railways	Railways	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8352272.000000000000000	086	086	Railways	Railways	1895	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351678.000000000000000	078	078	Railways	Railways	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8351685.000000000000000	080	080	Railways	Railways	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8076866.000000000000000	061	061	Mineral Railway	Mineral railway	1919	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351697.000000000000000	084	084	Railways	Railways	1953	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8351695.000000000000000	082	082	Railways	Railways	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351675.000000000000000	077	077	Railways	Railways	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8351680.000000000000000	079	079	Railways	Railways	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8352273.000000000000000	087	087	Railways	Railways	1920	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351694.000000000000000	081	081	Railways	Railways	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8074655.000000000000000	057	057	Mineral Railway	Mineral railway	1895	Redcar Mudstone Formation	GLACIOFLUVIAL DEPOSITS, DEVENSIAN - SAND AND GRAVEL
8351696.000000000000000	083	083	Railways	Railways	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8076864.000000000000000	059	059	Mineral Railway	Mineral railway	1857	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351612.000000000000000	073	073	Pipelines (Transport Via)	Pipelines [transport via]	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8352274.000000000000000	088	088	Railways	Railways	1938	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351588.000000000000000	070	070	Railways	Railways	1992	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8352319.000000000000000	092	092	Railways	Railways	1953	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8074656.000000000000000	058	058	Mineral Railway	Mineral railway	1895	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8076889.000000000000000	064	064	Mineral Railway	Mineral railway	1919	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351556.000000000000000	069	069	Railways	Railways	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8352318.000000000000000	091	091	Railways	Railways	1938	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351553.000000000000000	066	066	Railways	Railways	1895	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351603.000000000000000	071	071	Railways	Railways	1992	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8076865.000000000000000	060	060	Mineral Railway	Mineral railway	1895	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351552.000000000000000	065	065	Railways	Railways	1857	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8351613.000000000000000	074	074	Pipelines (Transport Via)	Pipelines [transport via]	1992	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
8352271.000000000000000	085	085	Railways	Railways	1857	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8352276.000000000000000	090	090	Railways	Railways	1994	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8076887.000000000000000	062	062	Mineral Railway	Mineral railway	1857	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8076888.000000000000000	063	063	Mineral Railway	Mineral railway	1895	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8351614.000000000000000	075	075	Railways	Railways	1992	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
8352275.000000000000000	089	089	Railways	Railways	1953	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8074664.000000000000000	001	001	Quarrying	Quarrying of sand & clay, operation of sand & gravel pits	1895	Redcar Mudstone Formation	GLACIOFLUVIAL DEPOSITS, DEVENSIAN - SAND AND GRAVEL
8501799.000000000000000	004	004	Hospitals	Hospitals	1938	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8407355.000000000000000	003	003	Sewage	Sewage	1953	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8407354.000000000000000	002	002	Sewage	Sewage	1938	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
8527260.000000000000000	005	005	Former Marshes	Former Marshes	1953	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744585.000000000000000	052	052	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744564.000000000000000	034	034	Tanks	Tanks	1985	Redcar Mudstone Formation	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
19744573.000000000000000	040	040	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597564.000000000000000	023	023	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19597552.000000000000000	011	011	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744565.000000000000000	035	035	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744583.000000000000000	050	050	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT
19744245.000000000000000	031	031	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1971	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19597455.000000000000000	008	008	Electrical Sub Station Facilities	Electrical Sub Station Facilities	1968	Redcar Mudstone Formation	TILL, DEVENSIAN - DIAMICTON
19597551.000000000000000	010	010	Tanks	Tanks	1954	Redcar Mudstone Formation	TIDAL FLAT DEPOSITS - SAND AND SILT

Appendix D – Conceptual GIS Source Data

Source ID	Land Use	Pathway	Receptor	Consequence of Risk being realised (Severity)	Probability of Risk being realised (likelihood)	Risk Classification	Risk Management	Residual Risk
001	Quarrying of Clay and Sand	Shallow groundwater	Shallow and deep aquifers	Mild	Low Likelihood	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
008, 031, 007, 006	Electrical Substation	Shallow groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure /	Future Site	Medium	Likely	Moderate / Low	Ensuring the material for backfilling around the cable is	Low

		Inhalation	Users			Risk	suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
002, 003, 004, 099	Sewage Works	Shallow groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Drains and Underground Services (including the buried cable	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low

		systems proposed as part of this development)						
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
004	Hospitals	Shallow groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
008, 029,	Historical Electrical Sub Stations	Shallow groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure /	Future Site	Medium	Likely	Moderate / Low	Ensuring the material for backfilling around the cable is	Low

		Inhalation	Users			Risk	suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
030, 056, S1, S2, S3, S6,S7,	Tanks	Shallow groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low

		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
057, 059, 060, 061, 062, 063, 064, 085, 086, 087, 088, 089, 090, 091, 092,	Railways	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments. Where possible Horizontal Directional Drilling (HDD) should be used to avoid contaminated areas	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low

057,	Railways	Shallow Groundwater	Shallow and deep aquifers	Medium	Likely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
093	Electricity production & distribution [inc large transformers]	Shallow Groundwater	Shallow and deep aquifers	Medium	Likely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low

		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
100	Factory or works - use not specified	Shallow Groundwater	Shallow and deep aquifers	Medium	Likely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low

		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
101, 102, S13	Factory or works - use not specified	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
111, 113, 114, 115, 119,120	Historic Landfill	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk

		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments. Where possible Horizontal Directional Drilling (HDD) should be used to avoid contaminated areas	Moderate / Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
117, 118	Licenced Landfill	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments. Where possible Horizontal Directional Drilling (HDD) should be used to avoid contaminated areas	Moderate / Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low

		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S4, S16	Cooling Tower	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low

		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S5, S10	Pump House	Shallow groundwater	Shallow and deep aquifers	Low	Unlikely	Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S8	Pipeline	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low Risk

		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S9	Power Station	Shallow Groundwater	Shallow and deep aquifers	Medium	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low

		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S11, S12	Farming	Shallow Groundwater	Shallow and deep aquifers	Mild	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low

S14, S15	Wilton Works	Shallow Groundwater	Shallow and deep aquifers	Severe	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Moderate / Low Risk
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low Risk
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low
S14, S15	Colours, Chemicals and Water Softeners and Supplies	Shallow Groundwater	Shallow and deep aquifers	Mild	Unlikely	Moderate / Low Risk	Further information should be gathered into the specific history of this facility including maintenance and monitoring activities	Low
		Dermal Exposure / Inhalation	Construction Workers	Medium	Likely	Moderate / Low Risk	Appropriate Personal Protective Equipment PPE and Risk Assessments	Low
		Dermal Exposure / Inhalation	Future Site Users	Medium	Likely	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low

		Aggressive ground conditions	Project Infrastructure	Medium	Low Likelihood	Moderate / Low Risk	Ensuring the material for backfilling around the cable is suitable for use as per the Contaminated Land: Applications in Real Environments (CL:AIRE) Development Industry Code of Practice.	Low
		Surface Waters	Off Site Receptors	Mild / Medium	Low Likelihood	Moderate / Low Risk	Good site working practices to prevent contaminant release to surface waters	Low
		Drains and Underground Services (including the buried cable systems proposed as part of this development)	Off Site Receptors	Mild	Likely	Moderate / Low Risk	Impermeable barriers to be used where any infrastructure interacts with source	Low

Appendix E – Report Limitations

Report Limitations

The direct assessments and judgements given in this report are limited by both the finite data on which they are based and the proposed works to which they are addressed. The acquisition of data is constrained by both physical and economic factors and, by definition, is subject to limitations. Conditions at the site will change over time due to natural variations and may be affected by human activities.

This document has been prepared for the titled project and should not be relied upon or used for any other project. Royal HaskoningDHV accepts no responsibility or liability for the consequences of this document being used for a purpose other than that purpose for which it was commissioned. The assessments and judgements contained herein should not be relied upon as legal opinion.

The findings and opinions are relevant to the dates of the site visit and information reviewed and should not be relied upon to represent conditions at substantially later dates. The opinions included herein are based on the information obtained from the assessments undertaken at the site and from the experience of the reviewers. If additional information becomes available which may alter the conclusions, Royal Haskoning requests the opportunity to review the information, re-assess the potential concerns and modify its opinion, if warranted.

This Phase 1 Desk Study has utilised data within an Envirocheck report provided by Landmark and other publicly available sources such as the Environment Agency database and Local Authority databases. Therefore, the study is limited by the age and limitations inherent in the data described.